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Poverty dynamics among families with children in Europe

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Abstract

While child poverty is a well-examined topic both in country level analyses and cross-country comparisons as well, panel analyses of this notion, especially in European context is far less common. The present paper intend to provide a both longitudinal and cross-country analysis of children's poverty, focusing on people living in families with children. A comparison of Western and Eastern European countries is also an aim of the paper. For analyses paper uses data from the CHER database, a longitudinal harmonised dataset for 16 European countries. Examinations cover the middle period of 1990s, namely four years that between 1994 and 1997, inclusive. A group of seven countries, that includes Hungary, East Germany, Germany (included East Germany), France, United Kingdom, Italy and Denmark, was selected, as representative of different welfare regimes.

The analysis consists of two main parts: a descriptive one and an explanatory one. Transition matrices were used as main methodological tools in the first part, using income groups. Income dynamics of persons living in families with children (PFC) is analysed both in absolute and relative terms. Number of PFCs executing a given movement were expressed as a ratio of all PFCs and all persons facing the same change in their income position. Binary logistic regression models were used at the explanatory part of the paper to evaluate the main determinants of poverty dynamics of PFCs. Two events were used as a dependent variable: leaving and entering poverty.

Income mobility among PFCs was higher than among overall population during the middle of the 1990s. Looking at poverty spells, one can observed that those never poor are more likely to be members of childless households, while the likelihood of PFCs to be permanently poor is considerably higher than the population average. PFCs are more likely to fall into poverty than overall population and they have a higher risk of remaining poor as well. While main cross-country differences in income dynamics among PFCs should be expected between Eastern and Western European countries, the results presented in this paper do not support this assumption. Activity of the main breadwinner and change of the person of main breadwinner in the household are the most important determinants of poverty dynamics that characterise all countries. Number of children, education of main breadwinner, change in family related transfers share and change in number of active members also play significant role.

Keywords: Poverty, Families with Children, Children, Family Related Transfers, Europe

JEL-Codes: I32, I38, J13, P51

1. Introduction

Poverty is one of the major issues on the agenda both of social researches and policy evaluations. Researches, discussions, action plans or implemented policies are carried out at national and international level as well. The focus is increasingly directed toward the developing nations, however poverty is widely debated in the developed countries also. The multidimensional nature of deprived status come more and more to the front, but the construction of a complex set of indices still proceed while an official EU set was defined.[1] However, the improvement in the quality of income data sources in the last decades allowed for more comprehensive analyses of monetary poverty. The use of relative concept of poverty dominates much of these works.

The profile of poverty in developed countries is drawn to a large extent by demographic settings, labour market characteristics and regional dimension.[2] Among demographic characteristics, the age and the household structure are the more relevant ones. Looking at either of them, children and people living in families with children are strongly affected by poverty. One common findings of these papers carried out in this research field, is that the poverty risk of children is generally higher compared to the population average. Immervoll at al (2001) stated at the European level the poverty rate was slightly higher for the children than for the population average. At the same time they find that children are less likely to be poor in countries with low overall poverty rates, meaning Scandinavian countries and Luxembourg.[3]

Analyses focusing on well-being of children report a deterioration of the economic situation of them in several developed countries during the 1990s in many aspects. Oxley et al (2001) found that disposable income of children increased in real terms between the middle of 1980s and the middle of 1990s, but their position relative to the working age population deteriorated in this period in much of the countries. The second trend was lead by changes in the household structure and increasing differences in incomes before taxes and transfers, while the welfare system compensated for relative losses.[4]

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[1] See for example World Bank (2001) for multidimensional nature of poverty, Förster, Tarcali and Till (2002) for empirical contibution to this discussion, Atkinson et al (2002) for official EU set of indicators. World Bank (2000) provides a detailed analysis of poverty in transitional countries.
[2] See World bank (2000).
[3] Immervoll et al (2001: 410).
[4] See Oxley et al (2001: 374-378). For inequality and poverty trend of the overall population in OECD countries see Förster (2003).

An other common finding of these studies was that institutional framework, including cash and in-kind provisions of the welfare state, as well as the tax system, also influence poverty risks, while income redistribution patterns differentiate across countries.[5] Classification of welfare regimes has a wide literature, started with the most cited paper of Esping-Andersen (1990). Esping-Andersen distinguished three main and one rudimentary types of welfare regimes in developed nations, based on some characteristics, like social policy spending, structure and instruments. *Social-democratic* regimes are described as providing cash and in-kind benefits through universal eligibility. Scandinavian countries are included in this group. *Conservative-corporatist* regimes are characterised by social insurance based provisions, eligibility being related to the employment status in this way. Continental European countries, like France, Germany, Belgium, The Netherlands, Luxembourg or Austria, constitute this cluster. *Liberal* regimes, like United Kingdom or Ireland, prefer means-tested benefits, thus relatively low, but well-targeted expenditures. A fourth type of regime (*rudimentary* or *Mediterranean*) was defined, including Mediterranean countries, that did not fit none of previously listed three types. A similar typology was constructed by Leibfried (1992). Although several alternative typologies are available in the literature, using other characteristics when clustering national social policies[6], the classic one of Esping-Andersen is used in this paper to define country coverage of analysis.

No references to the inclusion of Eastern European countries into any of welfare regime typologies were found in the literature. The shortness of time since the commencement of the transition as well as hectic changes in the institutional framework and the regulation of social policy, can explain the lack of these countries in regime typology. At the beginning of the 1990s these countries experienced a structural crisis due to the fast change of economical environment. The process concluded in a considerably fall of GDP and had a negative impact on redistribution patterns. Although similarities in the nature of transition process, considerable differences in treatments and consequences characterised Eastern European countries. It is important to note also that social policies of these countries, included family support systems, were divergent is many aspects even before changes in the political system.[7]

While child poverty is a well-examined topic both in country level analyses and cross-country comparisons as well (Vleminckx, 2001), panel analyses of this notion, especially in

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[5] See Oxley et al (2001), Imervoll et al (2001).
[6] See Siaroff (1996), Künzler (2000).
[7] See Förster-Tóth (2001).

European context is far less common (Spéder, 2002). The present paper intend to provide a both longitudinal and cross-country analysis of children's poverty, focusing on people living in families with children. A comparison of Western and Eastern European countries is among the aims of the paper. Two main parts are distinguished. After some methodological remarks (Section 2), a descriptive analysis of poverty risk and poverty dynamics among persons living in families with children (referred as PFCs hereafter) is done, using mainly transition matrices (Section 3.1 – 3.3). In the second part of the paper a binary logistic regression is conducted to disclose the main factors explaining poverty dynamics among PFCs (Section 3.4). Paper concludes (Section 4) with summary and some research consideration.

2. Methodological issues

Current analysis uses data from the CHER database, a longitudinal harmonized dataset for 16 European countries, included two East European ones, Hungary and Poland. Our examination covers the middle period of 1990s, namely four years that between 1994 and 1997, inclusive. A group of seven countries, that includes Hungary, East Germany, Germany (included East Germany), France, United Kingdom, Italy and Denmark, was selected. Our consideration was to have at least one country from each welfare regime type discussed in the previous section.

The population in the analysis consists of persons living in families with children (PFCs). A child is defined as a person aged 16 or less. Members of households including at least one child were considered as PFCs.

The income position of people in the analysis is defined by disposable net income of the household from the previous year. Modified OECD equivalence scale was applied to create equivalent incomes from household total incomes[8]. Five income groups were defined as percentage of the median income: lower than 50 per cent of median income, 51-75 per cent, 76-100 per cent, 101-150 per cent, higher than 150 per cent. Those belonging to the first group were considered poor. Consequently the half of median household equivalent income was chosen as poverty threshold. Family related transfers were included in the analysis in order to analyze the effect of welfare regimes on income dynamics of PFCs.

Our analysis consists of two main parts: a descriptive one and an explanatory one. Transition matrices were used as main methodological tools in the first part, using income

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[8] Modified OECD scale in this paper means a weight of 1.0 for the first adult member, a weight of 0.5 to each additional adult member (aged 16 or more) and a weight of 0.3 to each children (aged 15 or less). This scale follows the definition of children applied in our paper and slightly differs from that used by Eurostat, where the shift of the age is 14 years instead of our 16.

groups as defined above. The construction of income groups was based on all persons from the sample. We mainly focused on movements or transitions between the beginning and the end of the period, thus from year 1994 to year 1997, however year by year matrices were also constructed and are presented in the Appendix. Income dynamics of PFCs is analyzed both in absolute and relative terms. Number of PFCs executing a given movement were expressed as a ratio of all PFCs and all persons facing the same change in their income position. People being member of a household with children in one of the years in the matrix were considered as PFCs.

Binary logistic regression models were used at the explanatory part of the paper to evaluate the main determinants of poverty dynamics of PFCs. Two events were used as a dependent variable: leaving and entering poverty from year *t* to year *t+1*. Two major group of explanatory variables were considered: *status* variables and *event* variables. Events are cases in the working file instead of persons. The method of clustered standard residuals was applied to avoid autocorrelation by household members and years.

3. Empirical results

3.1. Poverty status

Cross-sectional poverty rates are presented as a first puzzle of the picture. The results fit the expectations concerning to the link between welfare regime types and poverty (see Table 1). People living under a liberal welfare regime (United Kingdom) face the highest risk of poverty, while those being clients of a social-democratic type (Denmark), the lowest one. The Mediterranean regime included in the analysis (Italy) shows similar rates to the liberal one. Conservative-corporatist regimes' headcount rates are intermediary ones (France and Germany). Diametrically opposed patterns characterize transitional countries. Hungarian figures lie between conservative-corporatist and liberal ones, while East German rates are located between conservative-corporatist and social-democratic ones.

The highest rates are measured for United Kingdom, and Italy (both around 14-15 per cent), while lowest headcount rates were registered for Denmark (5 per cent). Intermediate figures can be observed for France and Germany (10-11 per cent).

No significant changes in the extension of poverty took place during the middle of 1990s. The only exception is Hungary, where a significant increase in overall poverty rates was observed between 1994 and 1997. Hungarian rates were close to German and French,

thus to conservative-corporatist ones at the beginning of the period (10 per cent), while close to British (liberal) at the end of the period (13 per cent). No similar dynamics were observed for East Germany. There are a lot of similarities between these two countries, but there are important differences also. Both were hit by the transition crisis and economic restructuring, which had an impact on social spendings. While the hardest part of the economic transition in East Germany passed off at the beginning of the nineties, Hungary faced a sustained crisis due to a gradually transition. The most dramatic step of this crisis was the stability measures from 1995, which caused a 12 percent decrease in that year in real wages, for example. Another important differences between the two countries derived from the opposite tendencies of income development in the 1990s. Habich and Spéder (2000) found that while East Germany and Hungary showed similar mobility patterns in the first years of the 1990s, a significant hang took place in East Germany, which could not been observed for Hungary.

Table 1.
Poverty rates for countries in the analysis (per cent)

	Hungary		East Germany		Germany		France		UK		Italy		Denmark	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
1994	10.4	11.3	7.2	9.1	9.7	11.0	11.0	11.9	14.4	20.1	14.7	18.9	5.1	4.3
1995	11.0	14.0	7.5	9.6	10.8	13.9	11.0	13.7	13.7	19.2	13.5	18.6	4.5	3.7
1996	12.1	15.5	7.5	7.9	10.8	14.1	11.2	15.6	14.4	21.2	13.6	17.8	4.8	3.8
1997	13.1	18.2	8.8	9.5	10.2	12.9	11.0	13.6	14.8	20.9	14.3	18.8	4.8	3.9

(1) overall population
(2) persons living in families with children (PFC)

Many papers dealing with income inequalities and poverty in the last few years highlighted that income position of persons living in families with children (PFCs) was worse than population average.[9] Our results strengthen these findings, since calculated poverty rates of PFCs were higher than overall poverty rates in all countries during the period of analysis, except Denmark. Highest rates and largest differences relative to overall rates were measured in United Kingdom. 19-21 per cent of British PFCs were poor, what means these are about 40 percent higher scores than measured for the overall population. Relatively low rates among PFCs can be observed in East Germany. These results suggest that the transition process did not go hand in hand with increased income inequalities and a pronounced impoverishment of

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[9] See Förster (2003) for a survey.

PFCs as was observed for other Eastern European countries.[10] The Danish case differs from all other countries. Far the smallest rates that are even lower than overall ones, characterize the income position of families with children in Denmark. This result are however completely in line with of Immervoll at al (2001) cited earlier.

3.2. Income and poverty dynamics

First, the income dynamics of PFCs will be presented, while analyzing special movements inside the transition matrix. Entries into and exits from particular income groups will be examined. Indices used below includes proportion of PFCs making a given movement relative to all PFCs in the sample as well as ratios of probabilities related to PFCs and overall population. Same tools will be used to describe poverty dynamics and poverty spells of PFCs.

3.2.1. General income dynamics

Persons in the main diagonal of transition matrixes do not leave the original income group which they belonged to. One can say that these people are not mobile in the given period. Other cells outside the main diagonal includes people moving from one income group to an other, can be considered as mobile. Overall income mobility or mobility of PFCs for a country will be established considering percentage of persons located outside the main diagonal.

The general income mobility among PFCs was the highest in Hungary between 1994 and 1997. Three fifth of Hungarian PFCs changed their income position during this period. A considerable majority of these mobile PFCs experienced a downward mobility, moreover on fifth of them moved at least two groups down. Income mobility among PFCs was also high in Italy (56 per cent) as well as in United Kingdom and Denmark where more than half of PFCs belonged to another income group in 1997 compared to 1994. The lowest mobility was measured for conservative-corporatist countries, France and Germany. (see Table 2) No significant differences were measured across countries among rates of PFCs moving in only one direction inside the income structure during the period in the analysis. (see third section of Table 2)

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[10] See Förster and Tóth (2001), World Bank (2000).

Table 2.
Income dynamics among PFCs, 1994/97 – persons belonging to a particular group as a percentage of those living in families with children (per cent)

	HU	EGE*	GE	FR	UK	IT	DK
Remaining in the same group	39.6	50.1	51.1	52.9	47.3	44.5	47.5
Moving up at least one group	24.7	24.1	24.6	20.9	25.9	25.4	23.4
Moving down at least one group	35.6	25.8	24.3	26.2	26.8	30.1	29.1
Moving up at least two groups	6.4	5.3	5.2	5.7	6.3	9.2	4.1
Moving down at least two groups	12.7	5.8	5.5	5.2	7.7	8.8	6.1
Moving at least once up and never down	13.0	18.8	17.4	14.9	18.9	16.7	16.0
Moving at least once down and never up	24.5	19.4	18.0	19.1	19.3	20.2	21.4

*In this table and hereafter EGE refers to East Germany.

The general experience is that mobility is higher among PFCs than among overall population. The largest difference was measured for Hungary, where ratio of immobile people between PFCs and overall population is 92 per cent. Same result (93 per cent) was found for United Kingdom, while ratios indicating weaker relationship in France and Italy. Is the higher mobility of PFC a general one, or does it derive from one-way movements only? Mobility of PFCs is higher compared to the overall population in both directions in Germany, United Kingdom and Denmark, while higher mobility of Hungarian, French and Italian PFCs derives from the downward movements. This unidirectional mobility is the strongest in Hungary, where the likelihood of a downward movement is higher by 20 per cent among PFCs compared to the overall population. People living in families with children are less mobile than average in East Germany. (see Table 3)

Table 3.
Income dynamics among PFCs, 1994/97 – ratio between PFC and overall population

	HU	EGE	GE	FR	UK	IT	DK
Remaining in the same group	**0.92**	**1.05**	**0.96**	**0.97**	**0.93**	**0.98**	**0.96**
Moving up at least one group	**0.90**	0.94	**1.05**	0.98	**1.10**	**0.95**	1.03
Moving down at least one group	**1.20**	0.97	**1.06**	**1.09**	**1.04**	**1.08**	**1.05**
Moving up at least two groups	0.98	0.88	**0.91**	0.95	1.00	*0.96*	0.89
Moving down at least two groups	**1.22**	0.91	0.96	0.98	*1.07*	**1.07**	0.92
Moving at least once up and never down	**0.77**	**0.96**	1.04	0.98	**1.16**	0.99	1.01
Moving at least once down and never up	**1.23**	1.04	**1.09**	**1.09**	**1.05**	**1.10**	*1.05*

Notes. Bold cells mean that for those categories the difference between PFC and those not living in families with children differs at a level of significance 0.05, while italic cells at a level of 0.1 (chi^2 test was conducted).

3.2.2. Poverty spells and poverty dynamics

Many empirical studies concluded for people living in families with children that they have higher than average risk of being poor. Our finding was similar. However for the advanced policy formulation not only the usual information on poverty level and poverty profile are relevant, but length of the period spent in poverty is also important. A more detailed picture can be obtained looking at the dynamics of poverty. Poverty spells and a few indicator of poverty dynamic will be presented below.

Number of years spent in poverty by a person during a given period can be seen as an indicator of the gravity of poverty. Higher than average mobility of PFCs together with their higher than average poverty rate could have as a result temporary (short-term) poverty "carrier". There are significant differences in poverty spells of PFCs across countries. The results show again relevant differences in the capacity of alleviating poverty of different regime types. About one third of PFCs in UK and Italy experienced poverty between 1994 and 1997, while only one tenth of them in Denmark and less than one fifth in East Germany and Germany. One fifth of British PFCs were at least twice poor in this period, while only 2 per cent of them in Denmark. (see Table 4)

Table 4.
Poverty spells among PFC, 1994-1997 (per cent)

	HU	EGE	GE	FR	UK	IT	DK
Never poor	74.1	83.4	79.5	77.6	69.1	67.3	88.3
Once poor	13.3	9.6	11.2	12.1	10.4	14.2	9.6
Twice poor	6.7	3.2	4.0	4.4	8.2	7.7	1.3
Three times poor	3.8	1.9	2.6	2.9	5.7	6.5	0.5
Four times poor	2.2	1.8	2.7	2.9	6.6	4.3	0.3

In all countries, except East Germany, poverty spells of PFCs differs from the average figures. (see Table 5) Those never poor are more likely to be members of childless households, specially in United Kingdom and Italy. The likelihood of PFCs to be permanently poor is 1.2-1.5 times greater than the population average. Highest scores are registered in United Kingdom, lowest for Hungary and East Germany. These result indicate that PFCs are likely to be long-term poor in all countries, except East Germany and Denmark.

Movements in income distribution like leaving or entering poverty give us a snapshot about the dynamics of poverty. For those leaving poverty from year *t* to year *t+1* base of

calculation are people being poor in year *t*. Similarly, the fraction of people entering poverty from year *t* to year *t+1*, has as denominator number of persons being not poor in year *t*.

Table 5.
Poverty spells among families with children, 1994-1997 - ratio between PFC and overall population

	HU	EGE	GE	FR	UK	IT	DK
Never poor	**0.95**	1.00	**0.97**	**0.98**	**0.92**	**0.93**	**1.01**
Once poor	**1.13**	0.97	**1.11**	**1.04**	**1.06**	1.03	0.97
Twice poor	**1.29**	1.19	**1.14**	1.05	**1.24**	**1.28**	**0.72**
Three times poor	**1.15**	0.86	**1.18**	**1.16**	**1.33**	**1.41**	**0.63**
Four times poor	**1.22**	1.29	**1.35**	**1.32**	**1.50**	**1.34**	1.50

Notes. Bold cells mean that for those categories the difference between PFC and those not living in families with children significantly differs (adjusted residuals were analysed).

Hungarian, Italian and British PFCs are most likely to enter poverty. About one tenth of those being not poor entered poverty by the end of the period in this countries. Only 4 per cent of Danish PFCs did the same route, and similar figures were obtained in East Germany as well. Conservative-corporatist countries scored intermediate results. On the other hand, 58 per cent of poor PFCs in Germany left the lowest income group from 1994 to 1997, while only 44 per cent of British PFCs managed to quit poverty in the same period. In Denmark more than four fifth of the poor could leave deprived position during the period, which means that in this country the poverty seems to be a temporary experience for most of the families.

Table 6.
Poverty dynamics among PFC, 1994/97 – people belonging to a particular group as a percentage of those living in families with children (per cent)

	HU	EGE	GE	FR	UK	IT	DK
Remaining poor (base: poor at 1994)	48.5	41.5	42.5	43.2	55.8	46.0	12.5
Leaving poverty (base: poor at 1994)	51.5	58.5	57.5	56.8	44.2	54.0	87.5
Entering poverty (base: poor at 1997)	12.6	4.5	7.1	7.2	10.3	10.3	3.8

PFCs are more likely to fall into poverty than overall population, except East Germany and Denmark. Highest risk were measured for Hungary. Hungarian PFCs are one third time more likely to enter poverty than an randomly chosen person from the overall population.

Similarly, PFCs have a higher risk of remaining poor compared to the overall population, except Denmark, Germany and East Germany too.

Considering these results, one can observe that cross-country differences in poverty dynamics are related to the welfare regime types. Denmark, as a social-democratic regime type country, is characterized by low risk of entering poverty and good odds for a temporary income deprivation. Contrary to the Danish case, PFCs from the liberal regime type United Kingdom face high risk of becoming and staying poor, while relatively low chances of leaving poverty. The expectations of PFCs in the conservative-corporatist regimes are better than of those from the liberal one, but are far worse than of those from social-democratic regimes. Italy shows headcount rates of leaving poverty closer to corporatist-conservative countries and the same likelihood of entering poverty as United Kingdom. Looking at the poverty dynamics in the transitional countries, Hungary behaves like a liberal regime, while East Germany like a conservative-corporatist one.

Table 7.
Poverty dynamics among families with children, 1994/97 – ratio between PFC and overall population

	HU	EGE	GE	FR	UK	IT	DK
Remaining poor (base: poor at 1994)	1.08	0.95	**0.90**	**1.10**	1.08	1.09	0.78
Leaving poverty (base: poor at 1994)	0.94	1.04	**1.08**	**0.94**	0.91	0.94	1.04
Entering poverty (base: poor at 1997)	**1.34**	*0.85*	**1.20**	**1.13**	1.21	1.26	*0.86*

Notes. Bold cells mean that for those categories the difference between PFC and those not living in families with children differs at a level of significance 0.05, while italic cells at a level of 0.1 (chi^2 test was conducted).

3.3. Family related transfers and poverty dynamics

A considerable and markedly robust correlation between welfare regime types and income dynamics of PFCs was found so far. A more direct relationship is looked for when analyzing the link between the family support system and income dynamics of PFCs. Family related transfers (FRT), as important part of the redistributed incomes, may affect income distribution patterns. Consequently, an influence of family benefit system on income dynamics of PFCs can be expected. The magnitude of this relationship is supposed to be dependent of the regime type. CHER database do not allow to make distinction among benefits of family support system, while all transfers are aggregated into one. Present analysis is using this variable,

which includes child raising benefits as well as maternity benefits[11]. First we examine the importance of FRT in returns of households with children, then the relationship between transfers and income dynamics of PFCs will be presented. FRT share is measured for the starting year *t* in this second case.

Family related transfers (FRT) gives the majority of public transfers toward PFCs in all countries, except Italy. (see Table 8) The highest share of FRT relative to (non-pension) transfer incomes are scored in Germany and United Kingdom. More than 80 per cent of social transfer incomes in German and British households with children is given by cash family benefits. For other countries rates around 70 per cent were measured. A significant increase in FRT share relative to other transfers could been observed in East Germany between 1994 and 1997. The importance of FRT also rose in Italy, but the share of FRT did not exceed 50 per cent even at the end of the period.

Share of FRT relative to the total disposable income is far the largest in Hungary. Hungarian families with children gained between 1994 and 1997 one fifth of their total income from benefits provided by the family policy system. This rate is twice as largest as in France, Germany, East Germany or Denmark and tree time greater than the British one. Extremely low FRT share characterizes the Italian welfare system. (see first panel of Table 8)

Various patterns can be observed when analyzing associations between FRT share relative to PFC average and income mobility. PFCs from the main diagonal have lower than average part of their income from family benefits in Hungary, East Germany, Germany and Denmark. Rates are close to one, showing no relationship for this particular group, in Italy, United Kingdom and France.

Higher than average shares for downward mobile groups were found in all countries except Italy. For example, Hungarian PFCs moving down at least one income group from 1994 to 1997, had one tenth highest than average FRT share at the base year. Highest rate was found for Denmark, where FRT share was half times higher for downward mobile PFCs. Lower than average score was measured for Italy. We have the same picture if we looked at those moving down at least two groups, however results from Hungary and France weaken somehow our findings. Inverse associations across countries were found for upward mobile groups.

Poverty and higher than average FRT shares are going together among PFCs in all countries. Very high rates were found among those remaining poor during the period and for

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[11] More details and country specific information http://www.ceps.lu/Cher.

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those many times poor. For example FRT share of PFCs remaining poor from 1994 to 1997 in France was 3.33 time higher than average, but rates close to French one can be observed for Hungary (2.48) and Germany (2.37). Contrary, PFCs leaving poverty from 1994 to 1997 had lower than average or close to average FRT share of their income in all countries.

Positive relationship between FRT share and entering poverty was found in all countries, except Italy. PFCs having FRT share higher than average were more likely to enter poverty than others. Denmark (2.95) and Germany (2.58) had the highest rates, while United Kingdom the lowest one. Italy behaves differently again. The likelihood of become poor was lower if the household had higher than average share of FRT in the period between 1994 and 1997.

Table 8.
The role of FRT in income and poverty dynamics of families with children, 1994/97 - FRT as a share of disposable income relative to the PFC average

	HU	EGE	GE	FR	UK	IT	DK
Share of FRT relative to transfer incomes – 1994	**0.712**	**0.654**	**0.805**	**0.708**	**0.826**	**0.380**	**0.696**
Share of FRT relative to transfer incomes – 1997	**0.727**	**0.766**	**0.844**	**0.701**	**0.842**	**0.467**	**0.742**
Share of FRT among PFC – 1994	**0.211**	**0.069**	**0.074**	**0.127**	**0.065**	**0.011**	**0.101**
Share of FRT among PFC – 1997	**0.198**	**0.117**	**0.117**	**0.115**	**0.070**	**0.010**	**0.108**
Remaining in the same group	0.70	0.75	0.80	0.99	1.00	1.02	0.80
Moving up at least one group	0.46	0.72	0.67	0.91	0.86	1.16	0.63
Moving down at least one group	1.10	1.04	1.31	1.03	1.12	0.71	1.48
Moving up at least two groups	0.36	0.62	0.56	0.86	0.74	0.68	0.70
Moving down at least two groups	0.89	1.38	1.78	0.97	1.12	0.62	2.06
Moving at least once up and never down	0.49	0.84	0.77	1.01	0.89	1.27	0.62
Moving at least once down and never up	1.15	1.19	1.25	0.96	1.11	0.57	1.50
Remaining poor (base: poor at 1994)	2.48	1.62	2.37	3.33	1.74	2.08	1.73
Leaving poverty (base: poor at 1994)	0.78	1.09	1.08	1.33	1.26	0.93	0.95
Entering poverty (base: poor at 1997)	1.82	1.76	2.58	1.77	1.50	0.42	2.95
Never poor	0.59	0.82	0.71	0.75	0.77	0.93	0.91
Once poor	1.32	1.95	1.43	1.48	1.29	0.97	1.62
Twice poor	1.51	1.53	2.67	1.89	1.51	0.77	1.52
Three times poor	1.85	2.48	2.31	2.22	1.26	2.13	3.83
Four times poor	3.19	0.75	2.50	3.51	2.16	1.08	1.84

The main rule describing relationship between poverty spells and FRT share is the same as it was describe for entering and leaving poverty. Higher FRT share increases the risk

of PFCs to be poor for a longer time. Family related transfers plays a considerably weaker role in income structure of households with children never poor between 1994 and 1997, regardless which country we are looking at. The number of years spent in poverty increase linearly with FRT share in Hungary and Germany, while various patterns characterize the other countries.

General conclusions of this section are clear. Benefits provided by the family support system represent an important part of poor PFCs' income. Higher FRT share at household level in the base year is related to higher risk of entering poverty and smaller chances of leaving poverty. Long-term poverty is also associated with higher than average FRT shares. Otherwise the lack of obvious patterns between the relative importance of family related transfers to the disposable household income provided by different welfare regimes and income dynamics of PFCs is also observed.

3.4. Determinants of poverty dynamics: a binary logistic regression model

Using a cross-sectional dataset, one can analyze determinants of poverty status. Longitudinal micro data, as CHER dataset is, allow us to examine dynamic nature of poverty, as well as the effects of events on poverty status. A draft picture was provided so far on the tendencies characterizing poverty dynamics among PFCs in Europe during the middle of 1990s. Hereinafter we are concentrating on effects of some variables on two important aspects of poverty dynamics, namely on leaving and entering poverty. The results will be presented after the short description of model specification.

3.4.1. Specification of the model

A binary logistic regression model was used to evaluate the effects of some selected variables on poverty dynamics. Leaving and entering poverty from year *t* to year *t+1* are dependent variables in the models. The definition of poverty used in the construction of dependent variables differs from that applied in our analysis so far. Those belonging to the lowest quintile were considered as poor in the regression model. Our decision aimed to eliminate the effect caused by the shift of the poverty threshold.

The same model was constructed for both events and for all countries in analysis. Two major group of explanatory variables were considered: *status* variables and *event* variables.

Table 9. contains the description and some basic statistics of all variables included in analysis. *Status variables* in the model are as follows:

- number of children in the household

- number of children aged 6 or less in the household

- status of the main breadwinner: gender, age, education and activity.

Previous results in this paper showed that *number of children* definitely influence the poverty risk of people. The presence of one or more young (meaning not at school age yet) child may carry extra-risk of becoming or remaining poor from one year to the other. Other status variables were constructed using main characteristics of the main breadwinner of the household[12]. *Age* and *education of the main breadwinner* each have three categories. The categorization for the age variable was shaped considering the empirical distribution of the sample. The age of main breadwinner as a continuous variable and its square were used as an alternative specification, but without any improvement in the fit of overall model. The use of a three-category *education* variable was forced (imposed) by the structure of the original variable from the ECHP UDB. *Activity of the main breadwinner* was coded in a two-category variable. First category contains all persons working at least 15 hours (actives), the second one inactive or unemployed people (inactive). All status variables contain information on household for year *t*.

We rightly can assume that not only the status, but also events happened with the household have an influence on members income position. Making this assumption a set of event variables were included in our model as follow:

- change of main breadwinner

- change in number of active members in the household

- number of birth in the household

- change in FRT share.

A change in the person of the main breadwinner could be an indicator of the instability in the income position of the household. The instability caused by this kind of event is a two-way one: we would expect the improvement as much as the deterioration in the income position of the household. It is obvious to assume that a *birth* of a child – *ceteris paribus* – is likely to increase the poverty risk of household members. The event regularly cause an increase in the number of household members and a decrease (via forgone income of the mother) in the

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[12] Main breadwinner was used instead of reference person of the household because of its strict definition. The definition of the reference person differs across countries, thus comparability would have been restricted in this way.

household disposable income at the same time. Thus per capita or equivalent incomes are doubly affected by the arriving of a new born child in the family. Counterweights can be considered as well. Social transfer incomes provided by the family policy system partly replace the income loss and attempts to increase father's earnings also can be assumed.[13] *Changes in FRT share* were included partly to control for the welfare regime effect, however its own effect also would be interesting also. An at least 10 per cent change in FRT share from year t to year t+1 was considered. It is problematic to formulate any hypothesis about the effect of FRT share change on poverty dynamics. An increase in importance of family related transfers from one year to the other can be a result of an increase of benefit levels next to an unchangingness of other incomes. On the other hand it may signify a decrease of the total disposable income (i.e. due to a loss of market income). Activity is one of the most important explanatory variables in analyses dealing with poverty. Variable considering *changes the in number of active household members* is also part of our model. An effect coding was applied here, using two variables: number of active household members at year t and change in number of active members. The variable included in the model has five categories. (see Table 9)

Events are the cases instead of persons when run the logistic regression models. First, three longitudinal working files were constructed containing two consecutive years. Each of them had as cases persons being active members of the sample for both years. Secondly, these three file were merged into a single one. Thus somebody could been present three times in the working file if he/she was present all years between 1994 and 1997. The followed construction process of the working file has generated an autocorrelation problem. Since samples are not independent, residuals are correlated by year and by household. The method of clustered standard residuals was applied to avoid autocorrelation by household members and years. The White-method consisted from a robust estimation of standard residuals was also used to handle the autocorrelation and heteroskedasticity problem.

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[13] Spéder (2002:170-171).

Table 9.

Description and means of variables in the regression model (Bolded categories are reference categories in the regression model)

	Description of the variable	Categories of the variable	Means						
			HU	EGE	GE	FR	UK	IT	DK
DEPENDENT VARIABLES									
Leaving poverty	Those in the lowest quintile at year *t-1*, but not at year *t*	(0) remaining poor (1) leaving poverty	0.34	0.31	0.31	0.27	0.43	0.32	0.40
Entering poverty	Those in the lowest quintile at year *t*, but in the second or third one at year *t-1*	(0) remaining non-poor (1) entering poverty	0.18	0.14	0.13	0.15	0.13	0.16	0.13
EXPLANATORY VARIABLES									
Number of children in the household	Number of children aged 16 or less	-	1.81	1.65	1.77	1.90	1.93	1.56	1.79
Number of children aged 6 or less	Number of children aged 6 or less in the household		0.51	0.35	0.51	0.59	0.59	0.45	0.62
Gender of mbw	As in original CHER file	**(1) male** (2) female	1.38	1.32	1.20	1.26	1.37	1.18	1.40
Age of mbw	As in original CHER file	(1) 18–34 **(2) 35–39** (3) 40–	2.07	1.98	2.02	2.10	2.13	2.30	1.99
Education of mbw	As in original CHER file	**(1) primary** (2) secondary (3) tertiary	1.59	2.35	2.05	1.95	1.83	1.59	2.24
Activity of mbw	As in original CHER file	**(1) active** (working at least 15 hours) (2) unemployed or inactive	1.15	1.12	1.12	1.12	1.23	1.09	1.11
Change of mbw	As in original CHER file	**(0) main breadwinner did not change from year *t-1* to year *t*** (1) main breadwinner changed from year *t-1* to year *t*	0.26	0.16	0.12	0.13	0.10	0.14	0.24
Change in number of active members	Change in number of active members from year *t-1* to *t* and number of active members at year t	(1) decrease to max. 1 active member **(2) no change and 0-1 active member** (3) increase to max. 1 active member (4) decrease or no change to min. 2 active members (5) increase to min. 2 active members	2.83	3.37	3.16	3.09	3.20	2.95	3.44
Number of birth in the household	Number of children aged 0,1 or 2 at year *t*	**(0) no birth** (1) at least one birth	0.09	0.05	0.09	0.09	0.11	0.08	0.12
Change in FRT share	Family related transfers as a percentage of total disposable income	(1) significant (at least 10 per cent) decrease in FRT share from year *t-1* to *t* **(2) no significant change in FRT share from year *t-1* to *t*** (3) significant (at least 10 per cent) increase in FRT share from year *t-1* to *t*	1.84	2.13	2.18	1.97	1.95	2.00	1.94

3.4.2. Results of regression models

The results of our logistic regression analysis are presented below following two essential aspects: separate effects of each explanatory variable and cross-country comparison of these effects. Choosing the same model for each country allow us an easier interpretation of the whole picture, but it makes difficult the direct contrasting of regression coefficients and of overall parameters of country models. This is why we concentrate primarily on order of magnitude, the sign and the significance level of coefficients. Odds ratios and parameters of the overall models are presented in Table 10. (leaving poverty) and Table 11. (entering poverty). Table 12. gives an overview on importance of each explanatory variable across countries.

Event variables seem to play a more important role than status variables when explaining poverty dynamics. Coefficients of all event variables, except birth (!), are significant in most of countries for both leaving and entering poverty models. At the same time number of children aged 6 or less, gender and age of main breadwinner does not play an important role in poverty dynamics of PFCs.

Activity of the main breadwinner and change of main breadwinner are the most important determinants of poverty dynamics that characterize all countries for both type of events. The first variable showed itself as being significant for both models and for all countries, except Denmark, where activity of main breadwinner was significant in neither of the models. The effect of the activity status of the main breadwinner is negative on leaving poverty and positive on entering poverty. This means that the chance of leaving poverty for people belonging to households where the main breadwinner is inactive, is considerably lower than of those living in households with active main breadwinner. Similarly, the inactive status of the main breadwinner increase the chance of entering poverty opposite of an active employment status.

Earlier we expected that the change of the main breadwinner would increase the likelihood of a movement between income groups, independently of its direction. Our results perfectly fit this assumption. Regression coefficients for both models are significantly positive. The only exception have been observed for United Kingdom in the leaving poverty model, where regression coefficient are not significant.

Number of children, education level of main breadwinner, change in FRT share and change in number of active members also play significant role. Number of children is found as significant and negative for all countries in the leaving poverty model. The more children

the family has, the less likely is for family members to leave poverty from one year to the other. No eye-catching cross-country differences among significance levels and odds ratios can be observed. Contrary, large variance of significance levels characterize countries in the case of entering poverty models. The coefficients of the variable are positive and significant at a level of 0.01 in United Kingdom, Italy and Denmark and at a level of 0.1 in Hungary, while they are no significant for conservative-corporatist countries and East Germany, however the positive sign is still observed.

Education is usually a variable with a high explanatory power. Is not the case for these models, since the results show an important variety of significance levels. In majority of cases the coefficients of secondary education are not significant, while tertiary level has stronger effect. The signs of coefficients are completely in line with our expectations. An increase in the education level of the main breadwinner increase the likelihood of family members to leave poverty and decrease that of entering poverty. Up to our results, education does not play decisive role in explaining poverty dynamics of PFCs in transitional countries, the United Kingdom and Denmark. We are amenable to set out, that the relative weakness of the education variable is partly caused by the nature of information available in the dataset. The three-category variable used in our analysis can be considered as a serious loss of information.

Both a significant increase and a decrease in FRT share of total disposable household income instead of a stagnation of that share, increase the likelihood of leaving as well as of entering poverty for families with children. The effect is stronger for the leaving poverty model and no important differences related to the sign of change were observed. Both decrease and increase in FRT share have positive effect on leaving poverty. Increase in FRT share has also a positive effect in all countries, except United Kingdom and Italy, when we explain entering poverty. Significant, but negative effect was observed for Italy and no relationship in United Kingdom. Decrease in FRT share compared to the stagnation of this share does not affect entering poverty among PFCs. The only exception is France, for which country a significant and positive regression coefficient was measured.

Number of active members in the household also influences income mobility of PFCs around poverty threshold. The case when nobody or just one member of the household was active in year t and the number of actives did not change for year $t+1$, was taken as a reference category. Any change in the number of active members, independently of the sign of that change, did not have a significant effect on poverty dynamics. This finding is true for most of the countries, however weak exceptions, like Hungary can be mentioned. Hungarian PFCs with one active member at year t and no active member at year t+1, are far less likely to

leave poverty. Contrary, PFCs in families without an active member at year *t*, but with at least one next year, have better chances to leave poverty than PFCs from reference categories. Stronger effects were measured for those categories of the variable that include PFCs living in households with at least two active members. The presence of more active members increases the likelihood of leaving poverty and lowers the risk of entering poverty. Denmark represents the only exception in this regard. No significant regression coefficients were found for the leaving poverty model.

Number of children aged 6 or less, gender and age of the main breadwinner, as well as birth do not play a role that worth to mentioning in most of countries included in analysis.

Table 10.
Leaving poverty – logistic regression model (odds ratios)

	HU	EGE	GE	FR	UK	IT	DK
Number of children in the household	*0.667*	**0.689**	**0.654**	**0.687**	**0.683**	**0.714**	*0.712*
Number of children aged 6 or less in the hh	ns (-)	*0.672*	ns (+)	ns (+)	ns (-)	ns (+)	ns (+)
STATUS OF THE MAIN BREADWINNER							
Gender (RC: male)	ns (-)	ns (-)	ns (-)	ns (-)	ns (+)	ns (-)	ns (+)
Age (RC: 35-39)							
-34	ns (+)	ns (-)	*0.735*	ns (-)	ns (-)	ns (-)	ns (-)
40-	ns (+)	ns (-)	ns (+)	ns (+)	ns (-)	ns (-)	ns (-)
Education (RC: primary level)							
Secondary	**7.153**	ns (+)	ns (+)	*1.387*	ns (+)	**1.752**	ns (+)
Tertiary	ns (+)	*3,208*	**2.420**	**4.840**	ns (+)	**4.000**	ns (+)
Activity (RC: employed)	**0.165**	**0.517**	**0.278**	**0.314**	*0.622*	**0.524**	ns (-)
Change of main breadwinner	*1.784*	**1.780**	**1.569**	**2.827**	ns (-)	**1.664**	**2.076**
Change in number of active members (RC: 0-1 active members and no change)							
Decrease to max. 1 active member	**0.314**	ns (+)	ns (+)	ns (-)	ns (+)	ns (-)	*2.538*
Increase to max. 1 active member	*2.389*	ns (+)	*1.606*	ns (+)	ns (-)	ns (-)	ns (-)
Increase to min. 2 active members or no change	*3.016*	**2.640**	**2.290**	**2.799**	*3.006*	**2.185**	ns (+)
Decrease to min. 2 active members or no change	ns (+)	**2.884**	**3.011**	*1.479*	**3.200**	**2.053**	ns (+)
Birth (RC: no birth in the household)	ns (+)	ns (+)	*1.645*	ns (+)	ns (+)	ns (+)	ns (-)
Change in FRT share (RC: no significant change)							
Decrease in FRT share from year *t-1* to *t*	**3.128**	**7.549**	**5.086**	**2.385**	**3.573**	ns (-)	**7.066**
Increase in FRT share from year *t-1* to *t*	ns (+)	**3.360**	**1.757**	**1.549**	**2.052**	**1.828**	**3.762**
MODEL PARAMETERS							
Number of cases included in analysis	1175	1494	5390	5398	2071	5418	1264
Log pseudo likelihood	-545	-784	-2742	-2595	-1186	-3233	-742
Percentage of cases correctly predicted by the model	80.0	71.6	75.2	76.8	71.2	68.4	68.2
Chi2 value of the model (df=16)	96.2 (0.000)	67.4 (0.000)	255.8 (0.000)	192.4 (0.000)	75.6 (0.000)	105.1 (0.000)	55.7 (0.000)
Perason chi2 test of goodnes of fit	814 (0.000)	1137 (0.000)	3426 (0.000)	3289 (0.000)	1518 (0.000)	2269 (0.000)	998 (0.000)
Area under ROC curve	0.839	0.773	0.781	0.769	0.755	0.674	0.740

Notes. Significance level of regression parameters: **0.01**; *0.05*; *0.1*. ns (+,-): the regression coefficient is not significant, but its sign is positive, respectively negative. RC: reference category for categorical variables in the model.

Table 11.
Entering poverty – logistic regression model (odds ratios)

	HU	EGE	GE	FR	UK	IT	DK
Number of children in the household	*1.352*	ns (+)	ns (+)	ns (+)	**1.736**	**1.331**	**1.649**
Number of children aged 6 or less in the hh	ns (-)	*1.567*	ns (+)	*1.204*	ns (-)	ns (+)	ns (+)
STATUS OF THE MAIN BREADWINNER							
Gender (RC: male)	ns (-)	ns (-)	ns (+)	ns (-)	ns (+)	**1.629**	*1.560*
Age (RC: 35-39)							
-34	ns (+)	ns (+)	**1.353**	*1.386*	*1.650*	ns (+)	ns (+)
40-	ns (+)	ns (+)	ns (-)	*1.440*	ns (-)	ns (+)	*1.818*
Education (RC: primary level)							
Secondary	ns (-)	ns (-)	**0.634**	**0.562**	ns (-)	**0.499**	ns (-)
Tertiary	ns (+)	ns (-)	**0.323**	**0.251**	*0.664*	**0.305**	*0.599*
Activity (RC: employed)	**3.254**	**2.670**	**3.108**	*1.445*	**2.337**	*1.481*	ns (+)
Change of main breadwinner	**2.469**	**1.790**	**3.027**	**1.940**	**2.251**	**2.208**	*1.604*
Change in number of active members (RC: 0-1 active members and no change)							
Decrease to max. 1 active member	*1.774*	ns (-)	ns (-)	*0.726*	*1.564*	ns (+)	ns (-)
Increase to max. 1 active member	ns (-)	*1.155*	ns (+)	*1.781*	ns (+)	*2.136*	ns (+)
Increase to min. 2 active members or no change	**0.209**	**0.223**	**0.192**	**0.152**	**0.104**	**0.406**	**0.228**
Decrease to min. 2 active members or no change	**0.101**	**0.445**	**0.348**	**0.416**	**0.146**	ns (-)	ns (-)
Birth (RC: no birth in the household)	ns (-)	ns (+)	ns (+)	ns (-)	ns (+)	ns (+)	ns (-)
Change in FRT share (RC: no significant change)							
Decrease in FRT share from year *t-1* to *t*	ns (-)	ns (-)	ns (-)	**1.676**	ns (+)	ns (+)	ns (+)
Increase in FRT share from year *t-1* to *t*	**3.454**	**4.366**	**2.451**	**2.417**	ns (+)	**0.564**	**2.949**
MODEL PARAMETERS							
Number of cases included in analysis	2360	3134	12246	9726	7046	10588	4250
Log pseudo likelihood	-761	-982	-3747	-3333	-1533	-4241	-1402
Percentage of cases correctly predicted by the model	87.6	86.7	88.6	86.6	91.6	84.7	87.4
Chi2 value of the model (df=16)	103.9 (0.000)	153.0 (0.000)	394.9 (0.000)	294.2 (0.000)	183.7 (0.000)	143.3 (0.000)	173.4 (0.000)
Perason chi2 test of goodnes of fit	1699 (0.000)	1463 (0.000)	5077 (0.000)	4490 (0.000)	4109 (0.000)	3039 (0.000)	2262 (0.000)
Area under ROC curve	0.827	0.818	0.795	0.778	0.856	0.676	0.773

Notes. Significance level of regression parameters: **0.01**; *0.05*; *0.1*. ns (+,-): the regression coefficient is not significant, but its sign is positive, respectively negative.
RC: reference category for categorical variables in the model.

Table 12.
Determinants of poverty dynamics – overview

	Leaving poverty							Entering poverty						
	HU	EGE	GE	FR	UK	IT	DK	HU	EGE	GE	FR	UK	IT	DK
STATUS VARIABLES														
Number of children aged 16 or less in the hh	– –	– – –	– – –	– – –	– – –	– – –	– –	+	0	0	0	+++	+++	+++
Number of children aged 6 or less in the hh	0	–	0	0	0	0	0	0	+	0	+	0	0	0
Status of the main breadwinner														
Gender (RC: male)	0	0	0	0	0	0	0	0	0	0	0	0	+++	++
Age (RC: 35-39)														
-34	0	0	–	0	0	0	0	0	0	+++	++	++	0	0
40-	0	0	0	0	0	0	0	0	0	0	++	0	0	++
Education (RC: primary)														
Secondary	+++	0	0	++	0	+++	0	0	0	– – –	– – –	0	– – –	0
Tertiary	0	++	+++	+++	0	+++	0	0	0	– – –	– – –	–	– – –	– –
Activity (RC: employed)	– – –	– – –	– – –	– – –	–	– – –	0	+++	+++	+++	++	+++	+	0
EVENT VARIABLES														
Change of main breadwinner	+	+++	+++	+++	0	+++	+++	+++	+++	+++	+++	+++	+++	++
Change in number of active members (RC: 0-1 active members and no change)														
0-1 active members and decrease	– – –	0	0	0	0	0	– –	+	0	0	–	+	0	0
0-1 active members and increase	+	0	+	0	0	0	0	0	+	0	+	0	+	0
2+ active members and decrease or no change	++	+++	+++	+++	+	+++	0	– – –	– – –	– – –	– – –	– – –	– – –	– – –
2+ active members and increase	0	+++	+++	+	+++	+++	0	– – –	– – –	– – –	– – –	– – –	0	0
Birth (RC: no birth in the household)	0	0	++	0	0	0	0	0	0	0	0	0	0	0
Change in FRT share (RC: no significant change)														
Decrease in FRT share	+++	+++	+++	+++	+++	0	+++	0	0	0	+++	0	0	0
Increase in FRT share	0	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	0	– – –	+++

+++, ++, +- regression parameter has a positive sign and is significant at a level of 0.01; 0.05 respective 0.1.
– – –, – –, –- regression parameter has a positive sign and is significant at a level of 0.01; 0.05 respective 0.1.
0 - regression parameter is not significant at any of previous levels.

4. Concluding summary

General remarks on income and poverty dynamics of families with children. Income mobility among PFCs was higher than among overall population during the middle of the 1990s. Poverty spells of PFCs differs from the average figures. Those never poor are more likely to be members of childless households, while the likelihood of PFCs to be permanently poor is 1.2-1.5 greater than the population average. These result indicate that PFCs are likely to be long-term poor in most of the countries. PFCs are more likely to fall into poverty than overall population and they have a higher risk of remaining poor as well. In all respects, the findings of the paper using CHER database fit the results presented in the literature and based on other data sources.

Welfare regime typology and income dynamics of PFCs. Summarizing the main findings of the paper, first some remarks to the relevance of welfare regime typology are listed. Analyzing poverty status, the results fit the expectations concerning to the link between welfare regime types and poverty. People living under a liberal welfare regime (United Kingdom) face the highest risk of poverty, while those being clients of a social-democratic type (Denmark), the lowest one. Hungarian rates increased during a period when transition from a conservative type welfare state type to a more liberal one took place.

Not only the extent of poverty, but several aspects of its longitudinal dimension seem to be related to the welfare regime type of the country. Cross-country differences in income and particularly in poverty dynamics of persons living in families with children show significant correlation with the classical welfare regime typology of Esping-Andersen. Denmark, as a social-democratic regime type country, is characterized by low risk of entering poverty and good odds for a temporary income deprivation. Contrary to the Danish case, PFCs from the liberal regime type United Kingdom face high risk of becoming and staying poor, while relatively low chances of leaving poverty. The expectations of PFCs in the conservative-corporatist regimes are better than of those from the liberal one, but are far worse than of those from social-democratic regimes. Italy shows headcount rates of leaving poverty closer to conservative-corporatist countries and the same likelihood of entering poverty as United Kingdom. Looking at the poverty dynamics in the transitional countries, Hungary behaves more like a liberal regime, while East Germany like a conservative-corporatist one.

Although, no obvious cross-country patterns was observed when between the relative importance of family related transfers to the disposable household income provided by different welfare regimes and income dynamics of PFCs was also observed.

Factors influencing poverty dynamics of PFCs. Event variables seem to play a more important role than status variables when explaining poverty dynamics. Activity of the main breadwinner and change of main breadwinner are the most important determinants of poverty dynamics that characterize all countries for both leaving and entering poverty. Number of children, education of main breadwinner, change in FRT share and change in number of active members also play significant role.

Birth and income dynamics of PFCs. Current research aimed to enlighten relations of one demographic event, namely birth and income dynamics of the families. The link between birth and impoverishment is not considerably strong in many countries, but attachment to the labour market, in this respect with relation to fertility, is crucial.

East and West. Hungary and East Germany represented transitional European countries in the analyse. While main cross-country differences in income dynamics of PFCs should be expected between East and West, the results presented in this paper do not support this assumption. Either looking at the incidence of poverty or at income dynamics, Hungary shows more similarities to United Kingdom or Italy than to East Germany. The income dynamic patterns of Eastern German PFCs are close to the countries having conservative-corporatist welfare regimes, like Germany or France, however in some respects they even show similarities to the social-democratic one.

Family related transfers and poverty dynamics. Benefits provided by the family support system represent an important part of poor PFCs' disposable income. Higher FRT share at household level in the base year is related to higher risk of entering poverty and smaller chances of leaving poverty. Long-term poverty is also associated with higher than average FRT shares.

Further research. Further research may incorporate information on institutional settings, which is an important contextual element. The other constraint is the period of analysis due to business cycle effects, which would be a strong determinants of income, especially in the case of East European countries.

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Appendix

Table A1.
Income dynamics among PFC – persons belonging to a particular group as a percentage of those living in families with children (per cent)

		HU	EGE	GE	FR	UK	IT	DK
Remaining in the same group	1994/95	**51,0**	59,9	**61,3**	60,4	**61,3**	**52,8**	**59,3**
	1995/96	**50,3**	61,2	**60,7**	**62,0**	**63,2**	55,8	**60,9**
	1996/97	**46,0**	61,8	**60,8**	**63,7**	59,3	57,1	**59,4**
Moving up at least one group	1994/95	24,3	17,9	*17,9*	18,8	19,0	22,5	18,0
	1995/96	20,8	**19,7**	**19,3**	17,9	18,0	20,4	19,2
	1996/97	24,1	18,3	**20,5**	17,4	**20,4**	22,3	18,0
Moving down at least one group	1994/95	**24,7**	22,2	**20,7**	20,8	**19,7**	**24,7**	**22,7**
	1995/96	**28,9**	19,1	**20,0**	**20,1**	18,8	**23,8**	**19,9**
	1996/97	**29,9**	19,8	**18,8**	**19,0**	20,3	20,6	**23,6**
Moving up at least two groups	1994/95	**6,9**	**2,4**	**2,9**	**5,0**	3,7	6,8	3,9
	1995/96	**3,7**	**2,2**	3,8	**2,7**	3,7	**5,1**	2,8
	1996/97	5,3	3,4	3,6	**2,0**	**3,6**	**4,6**	3,3
Moving down at least two groups	1994/95	6,0	3,0	3,9	**3,0**	4,7	**5,4**	3,2
	1995/96	**8,7**	3,4	**3,4**	**3,2**	*4,2*	6,1	4,3
	1996/97	7,7	3,4	3,1	3,4	3,9	**5,2**	3,9

Table A2.
Poverty dynamics among PFC - people belonging to a particular group as a percentage of those living in families with children (per cent)

		HU	EGE	GE	FR	UK	IT	DK
Remaining poor (base: poor at t)	1994/95	**56,2**	43,8	**57,7**	**49,0**	**64,0**	**54,8**	27,6
	1995/96	61,8	43,3	54,1	**55,7**	**68,2**	**60,9**	20,8
	1996/97	**59,5**	58,6	55,5	54,9	*65,6*	**57,6**	**20,6**
Leaving poverty (base: poor at t)	1994/95	**43,8**	56,3	**42,3**	**51,0**	36,0	**45,2**	72,4
	1995/96	38,2	56,7	45,9	**44,3**	31,8	**39,1**	79,2
	1996/97	**40,5**	41,4	44,5	45,1	*34,4*	**42,4**	79,4
Entering poverty (base: poor at $t+1$)	1994/95	**7,6**	**6,0**	**5,5**	5,6	**8,3**	**10,2**	2,9
	1995/96	**9,2**	4,2	**5,9**	**5,5**	7,9	**9,0**	*3,4*
	1996/97	**10,3**	3,9	**6,0**	**6,1**	**8,2**	7,8	3,5

Table A3.
Income dynamics among PFC - ratio between PFC and overall population

		HU	EGE	GE	FR	UK	IT	DK
Remaining in the same group	1994/95	**0,95**	1,02	**0,97**	1,00	**0,98**	**0,96**	**0,98**
	1995/96	**0,93**	1,01	**0,97**	**0,98**	**0,98**	0,98	**0,98**
	1996/97	**0,89**	1,00	**0,96**	**0,97**	**0,96**	1,01	**0,96**
Moving up at least one group	1994/95	1,02	0,93	*0,96*	1,02	1,01	1,01	1,01
	1995/96	0,98	**0,92**	**1,06**	0,98	1,03	0,98	1,02
	1996/97	1,02	1,02	**1,08**	1,01	**1,10**	1,00	1,00
Moving down at least one group	1994/95	**1,11**	1,02	**1,12**	1,00	**1,05**	**1,09**	**1,06**
	1995/96	**1,17**	1,05	**1,06**	**1,09**	1,03	**1,07**	**1,06**
	1996/97	**1,20**	0,97	**1,08**	**1,12**	**1,04**	0,98	**1,17**
Moving up at least two groups	1994/95	**1,11**	**0,73**	**0,76**	**0,93**	0,95	0,96	1,03
	1995/96	**0,84**	**0,76**	1,00	**0,84**	0,97	**0,86**	0,97
	1996/97	1,04	1,13	1,03	**0,77**	1,00	**0,79**	1,00
Moving down at least two groups	1994/95	0,98	0,97	0,98	**0,79**	1,07	**0,87**	0,89
	1995/96	**1,16**	1,00	**0,89**	**0,89**	*1,08*	0,98	0,98
	1996/97	1,13	0,83	0,94	0,97	0,93	**0,91**	1,05

Notes. Bold cells mean that for those categories the difference between PFC and those not living in families with children differs at a level of significance 0.05 (chi^2 test was conducted).

Table A4.
Poverty dynamics among families with children - ratio between PFC and overall population

		HU	EGE	GE	FR	UK	IT	DK
Remaining poor (base: poor at *t*)	1994/95	**1,10**	1,04	**1,07**	**1,09**	**1,09**	**1,06**	0,95
	1995/96	1,05	0,94	1,02	**1,09**	**1,08**	**1,06**	0,77
	1996/97	**1,10**	1,03	1,01	1,03	*1,03*	**1,10**	**0,66**
Leaving poverty (base: poor at *t*)	1994/95	**0,90**	0,97	**0,92**	**0,93**	**0,88**	**0,93**	1,02
	1995/96	0,93	1,05	0,97	**0,91**	**0,87**	**0,92**	1,08
	1996/97	**0,88**	0,96	0,99	0,96	*0,95*	**0,89**	1,15
Entering poverty (base: poor at *t+1*)	1994/95	**1,21**	**1,25**	**1,20**	1,06	**1,28**	**1,36**	0,91
	1995/96	**1,28**	0,91	**1,13**	**1,12**	**1,34**	**1,22**	*0,87*
	1996/97	**1,34**	0,98	**1,33**	**1,15**	**1,26**	**1,16**	0,97

Notes. Bold cells mean that for those categories the difference between PFC and those not living in families with children differs at a level of significance 0.05 (chi^2 test was conducted).