Country differences in the gender effect on poverty in Europe.

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Abstract

This paper evaluates to what extent differences between countries in the composition of their population and in structural characteristics can explain country differences with respect to the gender effect on poverty. Our study aims to advance research on the structural dimension to the predominantly individually oriented study field of poverty. To facilitate an integrated approach of individual and structural context dimensions we took advantage of multilevel techniques to test differences among a large number of countries in the gender gap in the risk of being poor, entering into poverty and exiting from poverty. We make use of the European Union Survey on Income and Living Conditions for the years 2007-2008. From our analyses, we can conclude that structural effects seem to be more relevant than individual effects to explain country differences in the gender poverty gap.

Keywords: Gender, Poverty, Poverty Dynamics, Multilevel Analysis, European Union Survey on Income and Living Conditions.

JEL Codes: J16, D31, E25, I32, O57

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1. Introduction

Since 2005, the risk of poverty rate in the enlarge European Union has been nearly stable, varying between 16% and 17%. The highest at-risk-of-poverty rates in 2008 were found in Latvia (25.4%), Romania (23.3%), and Bulgaria (21.4%), and the lowest in the Czech Republic (9.1%), the Netherlands and Slovakia (both 11%) (EUROSTAT, 2010). Related literature suggests that poverty is not gender neutral; in fact, in many countries the incidence of poverty is larger for women than for men. The evidence also shows that one of the most persisting gender differences is that of poverty rates.

The first aim of this paper is to examine the extent of the gender gap in the risk of being poor, in the risk of entering into poverty and in the risk of exiting from poverty in a large number of countries. The second aim is to investigate whether the country differences concerning gender effect in the risk of being poor, of entering and of exiting from poverty, can be explained by differences between the countries in the composition of their populations (micro-level or individual perspective) or by structural characteristics of the countries (macro-level or structural context perspective). To that end, we use the European Union Survey on Income and Living Conditions (EU-SILC from now on) for the years 2007-2008.

Usually, in the poverty analyses the economic resources are considered at the household level, assuming that all individuals in one household are equally poor or rich. That approach, that considers the household as the unit of analysis, does not allow to properly evaluating gender effects in the study of poverty. The related literature has already questioned the 'unitary household assumption'; see for example, Haddad and Kanbur (1990), Lundberg et al. (1997), and Baschieri and Falkingham (2009). Given the main goals of this paper, we restrict our analysis to those households whose gender-specific characteristics are known. Following Wiepking and Maas (2005), we consider "single adult household", that is, those households where there is only one adult, which allows us to consider gender differences. The notion of "single" includes individuals whose marital status is either "never married" or "widow" or "divorced", living or not with children.

In the existing literature, two distinct approaches have been considered to explain poverty across different countries: micro and macro-level approaches. The former approach effectively scrutinizes the precise mechanisms of individual poverty, but omits the information for the country characteristics, although, as pointed out by Brady et al. (2009) such macro-level differences manifest at the individual level. Alternatively, macro-level studies may suffer from a black-box problem of causal inference because micro-level mechanisms are unobserved (Goldthorpe, 2000). Moreover, macro-level studies can only control for individual characteristics such as family structure at the aggregate level (e.g., the rate of single motherhood). Given these considerations, there is a clear need for research that combines micro and macro-level. In this sense, the first contribution to the literature of poverty is to explicitly add the macro-level dimension to the predominantly individually oriented study field of poverty. Our analysis method took advantage of multilevel techniques especially suited for the analysis of such mixed-level data. To our knowledge, the existing studies that also consider simultaneously both effects, micro and macro-level, to study poverty related issues are Wiepking and Maas (2005), Brady et al. (2009) and Callens and Croux (2009). The main differences of those studies with ours are either the estimation methodology or the inclusion of gender considerations.

The second contribution to the existing research is to consider not only a static dimension, where we analyse gender differences on the risk of being poor; but the dynamic dimension, where we investigate gender differences in the risk of exiting poverty and in the risk of entering into poverty. The paper is structured as follows: next section revises some significant papers on the study of gender poverty gap. Section 3 reviews important hypothesis from the individual and structural context perspectives on static and dynamic poverty. Section 4 describes the data used and the variables introduced in the study. The method of analysis is explained in section 5. Section 6 presents and discusses the results of our analysis. The final section concludes.

2. Background

There is considerable literature on cross-national differences in poverty between men and women, but very little has been published on cross-national gender differences in the risk of making transitions into poverty or out of poverty. Most of the studies dealing with the gender differences in poverty are concentrated in industrialized countries.

As pointed out in the introduction, the existing literature has followed two different approaches: the micro and macro-level of the analysis. Concerning those works that focus on the analysis of country differences in the effect of gender on poverty from a micro-level perspective, the most extended in the literature, we would like to mention the following studies. One of the first publications on the gender differences in the risk of being poor was by Smeeding et al. (1990). They pay special attention to single-parent households that are assumed to be largely female headed. He finds that social welfare systems fail to alleviate these single-parent families from poverty. Casper et al. (1994) examine gender differences in the relative poverty of men and women in eight industrialized countries. They conclude that the relative importance of demographic characteristics differs by country and that factors such as religion, culture, and government policies also play a role in determining the gap between women's and men's poverty rates. Wright (1996) studies nine industrialized countries and finds that women are over-represented amongst the poor in some countries, but under-represented in others. He states that the latter part of this conclusion is in sharp contrast with conventional views about the relationship between gender and poverty in industrialized countries, which is that women are more often poor than men. Christopher et al. (2002) examine gender gaps in poverty in U.S. and seven other Western nations analyzing the effect of single motherhood, markets earnings and welfare states on gender inequality in poverty. They use separate logistic regressions for the countries analyzed. In a study of developed and transitional economies using the Luxembourg Income Study (LIS), Pressman (1998, 2002, 2003) finds that female-headed households suffer relatively greater poverty in some countries, but not in others. He concludes that there is no single reason for gender differences in poverty, but country-specific tax and social security measures influence on gender differences in poverty. Schnepf (2010) uses individual data on subjective well-being to examine the extent of gender differences in welfare transition countries. She finds that relatively little of the gender gap can be attributed to gender differences in socio-economic position in transition countries, but certain attributes, such as higher education and unemployment, impact differently on reported well-being for women and men.

Concerning the studies from the macro-level perspective on poverty, a few works analyze a cross-section of affluent democracies and show a negative correlation between welfare state generosity and poverty (Korpi and Palme 1998; Smeeding et al. 2001). Recently, scholars have incorporated cross-national and historical variation and demonstrate a robust negative effect of welfare state generosity on poverty (Brady 2005; Brady and Kall 2008; Moller et al. 2003).

The need for research that combines micro and macro-levels becomes evident. Wiepking and Maas (2005) describe and explain country differences in the effect of gender on the risk of being poor, using data from the Luxembourg Income Study on 22 industrialized countries. They conclude that both composition and country effects explain a substantial part of country differences in the poverty gap. They finally end up with country effects seeming somewhat more important than composition effects. They use six separate logistic regressions to obtain these results. Very recently, a few innovative studies have established routines for estimating multi-level models with international data (e.g., Mandel and Semyonov 2005; Pettit and Hook 2005). The studies that follow their lead in aiming to integrate the micro- and macro-level studies of poverty are scarce. Brady et al. (2009) analyze how political context, embodied by the welfare state and Leftist political actors, shapes individual poverty but they do not analyse gender differences. Using the Luxembourg Income Study, they conduct a multi-level analysis of working-aged adult poverty across 18 affluent Western democracies and find that poverty is shaped by individual characteristics and the political context in which the individual resides. They use generalized estimating equation model with logit link but do not have a gender approach. While we use a different estimation technique, we follow their lead in aiming to integrate the micro- and macro-level studies of gender poverty gap.

With respect to the gender gap in transitions into and out of poverty, the related literature, as mentioned before, is almost nonexistent. There are papers on transitions that do not treat differences by gender. Among those that integrate the micro and macro-level analysis we would like to mention the one of Fouarge and Layte (2005). They study poverty transitions into and out of poverty in eleven European countries, but they do not analyse gender differences. They evaluate how well the different welfare states of Europe perform in terms of preventing recurrent and persistent income poverty and what household and individual characteristics influence poverty duration. Callens and Croux (2009) also analyse poverty in a dynamic perspective. They use multilevel recurrent discrete-time hazard analysis to simultaneously model the impact of life cycle events and structural context processes on poverty entry and exit across European regions. One of the main findings is that regional structural factors only have a slight or no influence on poverty transitions, but the welfare regime turns out to be highly significant for poverty entry. The statistical modelling was done for men and women separately.

Further systematic analyses integrating micro and macro-level factors, considering a joint model that at the same time allows the random country effects to differ for both men and women and involving a more comprehensive sample of countries could offer new insights into the associations between and covariates of these dimensions of poverty.

3. Theory

As pointed out in the introduction, in the related literature, there exist two alternatives to explain gender differences in poverty and its dynamics. Among those factors that are included into the individual perspective, we present some hypotheses that are commonly considered.

- Human Capital Hypothesis. This hypothesis assumes that, first, women not only build up less human capital due to more often interrupts, but also they are less willing to accumulate human capital due to the lower expected returns. Additionally, it also includes the idea that employers are also less willing to invest in training for women. Since the possession of human capital leads to better jobs and more financial security, we can derive that women have higher poverty risks than men. Therefore, cross-national gender differences in poverty can partly be explained by country level gender differences in human capital. This hypothesis is also considered by Wiepking and Maas (2005) and Callens and Croux (2009).

- Age Hypothesis. This hypothesis relies on the demographic composition of the population, that is, while we can find women and men being young singles and middle age divorcees, the majority of old widows and divorcees are women. On the one hand, poverty rates are larger among older singles than among middle singles because the older ones do not accumulate more human capital, do not participate in the profits of emancipation. On the other hand, poverty rates are higher among younger singles than among middle ones, because they are incorporating to the labour market. Therefore, country level differences in age can partly explain cross-national gender differences in poverty. See for example Wiepking and Maas (2005).

- Employment Status Hypothesis. This hypothesis assumes that there exists occupational sex segregation, that is, women are systematically excluded from higher-paying occupations (e.g. Pressman, 2003). Additionally, this hypothesis could also reflect the idea, that women are more likely to have a non-paid job. This idea is called in Wiepking and Maas (2005) the Paid-work Hypothesis. Callens and Croux (2009) include it to analyze the likelihood of poverty entry and exit. Thus, we expect that the employment status will partly explain cross-national gender differences in poverty.

- Household Structure Hypothesis. This hypothesis, related to the Human Capital Hypothesis, is based on the idea that some features of parenthood leads to lower earnings for women, that is, (i) female parents will take care of children, an activity that takes away from earning incomes; (ii) it also prevents women for taking some kinds of jobs (time demanding ones) which usually are highly paid; and (iii) besides, families headed by a single mother are likely to have only one adult earner (not only reducing income but also increasing risk about income). See for example Pressman (2003). Additionally, as pointed out by Wiepking and Maas (2005) that call it Children Hypothesis, this hypothesis can reflect the fact that single women more often take care of children than men, either the group of women were never married or cohabited, or the group of divorced women. Children rearing is costly in time, then single women with children are more likely not to work or to work part-time, and even in the case of working full time, the choice of jobs is restricted to those not being time demanding. Finally, it could be important to explain the dynamic of the poverty to consider the fact that, changes in marital status or any other demographic events has a larger impact for women, due to their dependence on partners' income. This idea is included in Callens and Croux (2009). Consequently, we would expect, first, that those individuals with dependent children exhibit more probability to be poor, stay poor and becoming poor. Secondly, that those individuals who have never been married or cohabited exhibit more probability to be poor, stay poor and becoming poor as those divorced or separated could receive some income through payment alimentation, or widow payments.

In the existing literature, some other hypotheses, that are either based on those presented above, or mix some of the arguments, are presented. For example, Callens and Croux (2009) proposed the life cycle hypothesis that assumes that workers are not poor during their whole life, but only during specific moments (children, divorcing, retirement, etc.).

To sum up, as pointed out by Schnepf (2010), women experience more frequently those characteristics that are generally associated with poverty (single-parenthood, unemployment, less access to high paid job, returns to education larger for men, etc.).

Rather than aggregate poverty, a multilevel analysis assesses the effect of both, individual and structural context characteristics, on an individual's odds of poverty (being poor, exiting from poverty or entering into poverty). We present some hypotheses that are commonly considered in the literature that cover the structural context perspective.

- Labour Market Flexibility Hypothesis. Structural context could influence poverty by shaping the opportunities and rewards for employment, which could influence poverty even net of individual employment. We expect that the risk of poverty is smaller in countries with higher number of temporary employees or more labour flexibility (better to have temporary employment than unemployment). Additionally, temporary contracts usually affect more to women. Consequently, we expect the poverty gap between men and women to be smaller in those countries with flexible labour markets.

- Welfare State Hypothesis. This hypothesis is based on the idea of welfare state generosity, in particular, the higher the social security benefits, the more likely women and men will cross the poverty line. Welfare states reduce the cost of unfortunate life events and risks, and distribute economic resources more favourable to the poor. This idea appears for example in Wiepking and Maas (2005), Brady et al. (2009) and Callens and Croux (2009). This latter study considers different types of welfare state, based on the idea that policy systems and market institutions might have a different impact on poverty. They consider that if poverty transitions are dominated by labour income dynamics, the social democratic government leads to higher poverty dynamics.

- Gross Domestic Product Hypothesis. Based on the evidence that industrialized countries with high economic growth, also display less income inequality (last part of Kuznets' U) and that poverty is more likely to occur when income inequality is larger, this hypothesis assumes that economic growth influence the risk of being poor; see Wiepking and Maas (2005). However, as pointed out by Brady et al. (2009), the role of long term economic development for expanding welfare states and reducing inequality and relative poverty can be neglected by sampling only affluent countries. Therefore, we consider, rather than the rate of growth of gross domestic product, the relationship between the gross domestic product of one specific country and the gross domestic product of the other countries. We expect that those countries with a higher GDP present an smaller risk of poverty.

- Educational Hypothesis. This hypothesis is based on the idea, pointed out among others by Wiepking and Maas (2005), that in countries where emancipation of women is generally high, the poverty gap should be lower. Additionally, this hypothesis could also reflect that in those countries where there are high rates of individuals with upper secondary and tertiary education, women participate more of this higher education and therefore we expect the gender gap in those countries to be smaller.

To sum up, in this paper we analyze the causes of the different gender effect on the risk of being poor, entering poverty and exiting poverty between European countries. Consequently, our goals are:

- To analyze whether there are country differences with respect to the gender effect on the risk of being poor, of entering and exiting poverty.

- To study whether differences in the composition of population affect those country differences in the gender effect on the risk of being poor, of entering and exiting poverty (individual perspective or micro-level). This goal consists of testing the Human Capital Hypothesis, Age Hypothesis, Employment Status Hypothesis and Household Structure Hypothesis.

- To determine whether differences in country characteristics influence those country differences in the gender effect on the risk of being poor, of entering and exiting poverty (structural perspective or macro-level). This goal consists of testing the Labour Market Flexibility Hypothesis, Welfare State Hypothesis, Gross Domestic Product Hypothesis and Educational Hypothesis.

4. Data and measurement issues

To reach our goals, we use European Union Survey on Income and Living Conditions (from now on EU-SILC), that is an international database that consists of country specific comparable data. Specifically, to perform our analysis, we work with data for years 2007 and 2008. As pointed out in the introduction, due to the limitations of the "unitary household analysis", we restrict our analysis to "single adult household".

The static analysis, based on year 2008, is carried out over 57,804 observations of individuals living in households with one adult from 27 different countries. The dynamics analysis is based on the information of the years 2007 and 2008 for 32,855 observations of individuals living in households with one adult spread over 21 countries[1].

Table 1 includes the gender composition of individuals living in households with one adult for the static and dynamic analysis. In both cases, we observe that the percentage of single women is larger than half of the total singled households, except in Belgium and Hungary for the static analysis and Italy in the dynamic analysis.

-------------- Insert Table 1 about here ------------

Definition of poverty

Among the different options, proposed in the literature, to define poverty we have chosen an objective, relative definition. Individuals are counted as poor if their disposable equivalent income[2] (y_i^e) falls below 60% of the contemporary median equivalent income of the country where the individual lives.

We define q_j as the individual equivalent coefficients determined by member j's age and role in the household. We use the modified-OECD equivalence scale[3]. We also define y_i^j as each individual member's total annual monetary income. Given that definitions,

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[1] We have fewer countries in the dynamic analysis due to missing information on some variables used. We only analyse transitions in and out of poverty between 2008 and 2007 in order to get the greatest number of countries as possible.

[2] Disposable income does not include in-kind transfers, such as health care, housing, and child care, all of which improve economic welfare and vary considerably by country.

[3] This scale assigns a value of 1 to the first adult in the household, 0.5 to each remaining adult, and 0.3 to each person younger than 14.

the total household equivalent income is defined by the following expression:

$$y_i^e = \frac{\sum_{j=1}^{k_i} y_i^j}{\sum_{j=1}^{k_i} q_j}$$

where $\sum_{j=1}^{k_i} q_j$ is the number of equivalent members for each household *i* with k_i members, and $\sum_{j=1}^{k_i} y_i^j$ is the total household income. In Table 2 we present the poverty rates. We find that, on average, 23.7% of all single men are poor, against 31.6% of all single women. By country, we also find that poverty rate is larger for women singled headed households, except for Finland, Hungary, Netherlands and Poland. Moreover, the gender differences[4] in poverty ranges from 28.3 percentage points in Bulgaria to differences smaller than 1 percentage point. Finally, notice that there is a huge concentration of countries below 15 percentage points of difference.

--------------- Insert Table 2 about here ------------

Dynamics of poverty

The exit rates at time *t* refer to persons that are at risk of exiting, so they are in poverty at time *t-1*. Exit rates are calculated dividing the number of persons ending a spell at time *t* by the total number with low income at time *t-1*. Entry rates are calculated following the equivalent reasoning.

As suggested in the literature, e.g Jenkins and Riggs (2001), in our analysis, we do not treat any income movement across the poverty line as a poverty transition. Some previous research has attempted to distinguish between "genuine" transitions (where movements into and out of poverty represent a significant difference in terms of access to resources), and smaller income variations which may arise from income volatility and/or misreporting, and, could be arguably less significant. To ensure that transitory and modest income variations are not counted, a threshold for the variation should be chosen. We consider a poverty transition if the income variation moves individuals to an income at least ten per cent above the poverty line (for poverty exits) or at least ten per cent below the poverty line (for poverty entries). In Table 3 we include all the statistics for exit rates by gender, and those for entry rates are in Table 4.

--------------- Insert Table 3 and 4 about here ------------

[4] We have tested whether those differences are statistically significant.

Using these definitions, we get that, on average, the exit rate for single men is larger than for single woman (24.6% against 17.9%). Entry rate is greater for single women (7.9%) than for single men (5.7%). That is, single women not only have higher poverty rate, but also have higher poverty entry rates and smaller exit rates. By country, we mostly observe those findings. For exit rates the exceptions are Netherlands, that display no difference, and Finland, Hungary, Ireland, Latvia and Slovakia, where probability of exiting is larger for women. For entry rates the exceptions are Finland, Hungary, Netherlands, Poland and Slovakia, where probability of entering is larger for men.

Gender differences in exit rates (when smaller for women) go from 15 percentage points in Luxemburg to 1 pp in Austria, Lithuania and Belgium. Four more countries do not reach differences larger that 5 pp. For entry rates (when larger for women), those gender differences ranges from 14 pp in Ireland to 1 pp in Sweden, Czech Republic and Belgium. As before, note that for seven more countries differences are smaller than 5 pp.

Definition of explanatory variables

The key variable in this analysis is *Woman*; coded 1 if the adult in the household is a woman and 0 otherwise. Obviously there are more women than men in the data. This is mainly due to an over-representation of women among older singles, both in the longitudinal and in the cross sectional files.

To test the group of hypothesis that correspond to factors from the individual perspective (micro-level analysis) we choose the following variables. For the *Human Capital Hypothesis*, we consider the variable *Tertiary*, coded 1 if the first stage of tertiary education (not leading directly to an advanced research qualification) or second stage of tertiary education (leading to an advanced research qualification) has been attained and 0 otherwise. Recall that in EU-SILC, the educational attainment of a person is the highest level of an educational programme the person has successfully completed and the study field of this programme. The educational classification to be used is the International Standard Classification of Education (ISCED 1997) coded according to the seven ISCED-97 categories. In 2008, 29% of all single men had tertiary education compared with 22.4% of single woman.

To include the idea behind the *Age Hypothesis*, we include two variables related to age:

Young, if below 20 years of age and *Old*, if above 65 years of age. Therefore the age reference group is composed by individuals between 20 and 65 years of age. We find that 60.7% of young singles are women and 55.4% of middle singles are women, while 73.6% of old singles are women. As expected, due to life expectancy, we find that the majority of individuals older than 65 are women.

To capture the effects behind the *Employment Status Hypothesis*, we define the variable *Work*, based on the self-declared main activity status, in principle, determined on the basis of the most time spent. Variable *Work* is coded 1 for those working full time for pay or profit, and 0 otherwise. The distinction between full-time and part-time work should be made on the basis of a spontaneous answer given by the respondent. In 2008, 48.4% of all single men worked full time, compared with 25.7% of single woman.

The *Household Structure Hypothesis* is modelled through the variable *Children,* that represents the number of household members aged 13 or less. Having children is less common among single men (3%) than among single women (18%). In 2008, the mean number of dependent children for single men was 0.06 against 0.28 for single woman. We also include information about marital status, that is, the variable *Marital_Status* is coded 1 if women were never married, and 0 otherwise.

Similarly, to include the country characteristics, as described before through the structural context hypothesis, as explanatory factors of the gender differences in poverty by country, we consider the following variables. The *Labour Market Flexibility Hypothesis* is modelled through the variable *Temporary*, which measures the percentage of temporary employees (not fixed contract) as percentage of the total number of employees. The smallest rate corresponds to Romania (1.3%) while the highest belongs to Spain (29.3%).

To cover the *Welfare State Hypothesis,* we use information on expenditure on social protection in the countries analysed, provided by the statistical office of the European Union (EUROSTAT). The variable *Socialprot*, by country, measures the ratio of the total expenditure on social protection and the gross domestic product. Latvia, Estonia and Romania show the smallest ratios (around 12%) while in France, Sweden and Belgium the amount of expenditure on social protection is relatively large compared to the gross domestic product (around 30%).

To test the *Gross Domestic Product Hypothesis*, we include the variable *GDP*, which is expressed in Purchasing Power Standard as a percentage of the EU27 average and obtained from records of EUROSTAT. *GDP* varies between 40 (Bulgaria) and 275 (Luxembourg).

Finally, variable *Secte_ed*, which measures the percentage of the population with upper secondary or tertiary education attainment, captures the *Educational Hypothesis*.

5. The model

As presented in previous sections, our dependent variables will reflect the risk of being poor, entering and exiting poverty among European countries. Thus, we will consider binary dependent variables reflecting whether or not poor, exiting or not from poverty, and entering or not into poverty. The logistic regression model is typically utilized to estimate that type of variables.

However, as pointed out by Brady et al. (2009), due to the clustering of individuals within countries and the inclusion of country-level variables, the standard logistic regression model violates the assumption of the independence of errors[5]. A natural way to analyse such a hierarchical data structure is to use contextual regression models. Contextual regression models integrate variables at several levels of a hierarchy in one analysis. Kreft and de Leeuw (1998) notice three different approaches in contextual regression modelling: traditional non-hierarchical extensions (e.g. separate regressions by country), classical contextual models (e.g. analysis of covariance) and modern multilevel models (random components). Clearly, in separate regressions no country-level explanatory variables can be included in the analysis. A major drawback of analysis of covariance is that the effects of country-level explanatory variables are confounded with the effects of country dummies. In a multilevel model, these effects can be separated out by specifying country membership as an unobserved random effect.

Callens and Croux (2009) point that, traditionally, in non-hierarchical models the nested nature of the data has been ignored completely. In classical contextual models and in modern multilevel models, individual and country-level variables can be introduced simultaneously. These methods adequately can split the variation into a between-individual level and a within-country level, but each in their own way. Classical

[5] Ignoring clustering leads to underestimation of standard errors particularly for predictors measured at group level. There are methods to adjust standard errors for design effects. Another approach is to model dependency between observations in the same group using marginal model. Both methods yield correct standard errors but treat clustering as a nuisance rather than a feature of substantive interest in its own right. Therefore, they are useful to control for clustering if you are not interested in exploring clustering.

contextual models let the intercept and/or the coefficients vary in a fixed way, while modern multilevel models allow the intercept and/or the coefficients to vary randomly.

We prefer to model the nesting of individuals, i, within countries, c, using random effects. We make random effects to take the form of both, random intercepts and random coefficients, and the grouping structure of the data consist of multiple levels of nested groups (individuals nested into countries). The random effects are summarized according to their estimated variances and covariances. Finally, it is worth mentioning that the random effects model is a “unit specific” rather than “population averaged” approach[6].

We would like to point out that this methodological approach is the proper one to answer the type of proposed goals. The alternative approaches yield also correct standard errors, but treat clustering as a nuisance. Since for us, country differences are of substantive interest, we need a model in which we can explore information behind clustering.

Consider a two level structure where individuals, *i*, are nested into countries, *c*. We denote by y_{ic} the response for individual i in country c, and x_{ic} is an explanatory variable. A random intercept and random slope model can be written as follows:

$$y_{ic} = \beta_0 + \beta_1 x_{ic} + \xi_{0c} + \xi_{1c} x_{ic} + \varepsilon_{ic} \tag{1}$$

where ξ_{0c} designate the random intercept and ξ_{1c} designate the random slope. The random effects, ξ_0 and ξ_{1c}, and the individual level residuals, ε_{ic}, are assumed to be independent and to follow normal distributions with zero mean. The random effects variances are extra parameters to be estimated. If they are significantly different from zero, then we can say that country differences are present.

Formally, model (1) for the logit transformed hazard rate for individual *i* belonging to country *c* becomes accordingly:

$$\log(p_{ic}/(1 - p_{ic})) = \beta_0 + \beta_1 x_{ic} + \xi_{0c} + \xi_{1c} x_{ic} \tag{2}$$

[6] There are reasonable multilevel modelling alternatives. We could estimate a model with robust-clustered errors. The standard errors would be properly adjusted but we would be unable to asses the degree of between group variation. We could also have estimated a GEE (generalised estimating equation) model but in this type of model no information about higher level variation is provided and it is only useful for making inferences about average population effects. We propose random effects model is defensible with comparable strength to these alternatives as we explicitly specify a hierarchical structure, obtain correct standard errors and an estimate of the between group variance.

where p_{ic} =Pr(y_{ic}=1), y_{ic} being the response for individual i in country c.

In order to test our hypothesis we propose four models. We define *Poor* as a dummy variable, which takes value 1 if the individual's disposable equivalent income falls below 60% of the contemporary median equivalent income of the country where the individual lives.

We use four different versions of (2). Model A, a random effect (random intercept and random slope) model with only one explanatory variable *Woman*, given by:

$$Log\ (P_{poor,ic}/(1-P_{poor,ic}))= \beta_0+ \beta_1 \times Woman_{ic} + \xi_{0c} +\xi_{1c} \times Woman_{ic} \quad \text{(A)}$$

which allows us to investigate if there are indeed differences between countries with respect to the effect of gender on the risk of poverty. In this way we will test if the level of the response varies over the clusters or countries and if the effect of *Woman* varies over countries.

In order to analyze whether the gender differences in poverty among countries can be explained by compositional differences (individual perspective) of their population we propose Model B, which incorporates individual-level explanatory variables.

$$Log\ (P_{poor,ic}/(1-P_{poor,ic}))= \beta_0+ \beta_1 \times Woman_{ic} + \beta_2 \times Tertiary_{ic} + \beta_3 \times Young_{ic} + \beta_4 \times Old_{ic} +$$
$$+\beta_5 \times Work_{ic} + \beta_6 \times Children_{ic} + \beta_7 \times Marital\_Status_{ic}+ \xi_{0c} +\xi_{1c} \times Woman_{ic} \quad \text{(B)}$$

We also propose Model C, which incorporates to Model A the country-level explanatory variables.

$$Log\ (P_{poor,ic}/(1-P_{poor,ic}))= \beta_0+ \beta_1 \times Woman_{ic} + \beta_8 \times GDP_{ic} + \beta_9 \times Temporary_{ic} +$$
$$+\beta_{10} \times Socialprot_{ic} + \beta_{11} \times Secter\_ed_{ic} + \beta_{12} \times Temporary_{ic} \times Woman_{ic} +$$
$$+\beta_{13} \times Socialprot_{ic} \times Woman_{ic} + \beta_{14} \times Secter\_ed_{ic} \times Woman_{ic}+ \xi_0 + +\xi_{1c} \times Woman_{ic} \text{(C)}$$

If the country-level intercept variance (ξ_0) is not statiscally significantly different from zero, then it is said that the country-level variables capture the country variation and there is not significant country heterogeneity left. In the same line, if the slope variance (ξ_1) is not statiscally significantly different from zero, then it is said that the country-level variables capture the country variation in the gender gap. We also introduce some interactions between country level variables and the variable *Women.*

To test whether context effects have an effect on the differences among countries with respect to poverty gap after controlling for salient individual predictors of poverty, we propose Model D, which extents Model B incorporating the country level variables:

$$Log\ (P_{poor,ic}/(1-P_{poor,ic})) = \beta_0 + \beta_1 \times Woman_{ic} + \beta_2 \times Tertiary_{ic} + \beta_3 \times Young_{ic} + \beta_4 \times Old_{ic} + \\ + \beta_5 \times Work_{ic} + \beta_6 \times Children_{ic} + \beta_7 \times Marital\_Status_{ic} + \beta_8 \times GDP_{ic} + \\ + \beta_9 \times Temporary_{ic} + \beta_{10} \times Socialprot_{ic} + \beta_{11} \times Secter\_ed_{ic} + \\ + \beta_{12} \times Temporary_{ic} \times Woman_{ic} + \beta_{13} \times Socialprot_{ic} \times Woman_{ic} + \\ + \beta_{14} \times Secter\_ed_{ic} \times Woman_{ic} + \xi_0 + \xi_{1c} \times Woman_{ic} \qquad (D)$$

We also consider the equivalent four models for the risk of entering into or exiting from poverty. We define dependent variables $p_{ic}=Pr(Poor_t=1 \mid Poor_{t-1}=0)$ for the risk of entering and $p_{ic}=Pr(Poor_t=0 \mid Poor_{t-1}=1)$ for the probability of exiting from the poverty.

6. The empirical results

We present the estimation results for the risk of being poor, for the risk of exiting and entering poverty in Table 5, 6 and 7, respectively. We show the estimates for the β_i coefficients, for the intercept and slope standard deviation, σ_{ξ_0} and σ_{ξ_1} respectively, and for the covariance between the slope and the intercept, $\sigma_{\xi_0\xi_1}$. Given the large sample, the odds ratios and significance levels are fairly stable across models. The estimated coefficients in B and C are close to those of D, indicating robustness of the estimation procedure. A general finding for all the models proposed, not only for the risk of being poor but also for the risk of exiting and entering poverty, is that the random intercept standard deviation (σ_{ξ_0}) is statistically different from zero. It means that, even after introducing country level explicative variables, there is still a significant part of the unexplained variance due to the country differences. This unexplained variance is indeed, picked up by the random intercept.

--------------- Insert Table 5, Table 6 and Table 7 about here ------------

Concerning our first aim, that is, to test whether there exist country differences with respect to the gender effect, our results show the following findings. On the one hand, according to the estimated coefficient for variable *Women*, gender gap exists not only for the risk of being poor but also for the risk of exiting and entering poverty. The highest effect appears mostly in models where structural or country specific variables are included (Model C and D). In particular, we observe that women have odds of being poor about 5.42 times higher than men, controlling for individual and country specific variables.

Moreover, we also find that this gender gap differs among countries. The fact that the random slope standard deviation (σ_{ξ_1}) is statistically different from zero, implies that the effect of the gender over the risk of being poor and the risk of entering or exiting poverty varies over countries; and, it is not fully explained by the micro or macro level variables introduced in the models.

Moreover, we can also explore the implications behind this latter result. The analysis of the estimated parameter of ξ_1 gives evidence on which countries have higher poverty gaps[7]. For the sake of simplicity, we will only comment for Model A for the risk of being poor, exiting and entering poverty. Results show that chances of being poor for women are the highest in Latvia and Estonia, while in Czech Republic and the Netherlands are the lower[8]. Concerning exit rates, Latvia and Slovenia exhibits the greatest gender gaps against women. On the other hand, the chance of entering into poverty for women is the highest in Latvia, Estonia and Finland. Women experiment less exit rates and more entries rates in Latvia. Therefore, in this country and in the long term, if all stays the same, we expect the gender gap to increase against women.

Concerning our second general aim, that is, to test if the composition of population (micro-level variables) affect those country differences in the gender effect on the risk of being poor, of entering and of exiting poverty, we find the following results. In terms of the probability of being poor, and according to the odds ratio reported in Table 5, those individuals with more than secondary education are less likely, around 50% less, to be poor, as the *Human Capital Hypothesis* predicts.

Younger singles have odds of being poor about 7.7 times higher than middle age singles (evidence for *Age Hypothesis*). Contrary to the implication of *Age Hypothesis,* elderly singles have around half the odds of being poor than middle aged singles. Due to the higher impact of poverty among elderly, it is important to emphasize that, this effect is net of labour market characteristics. In sensitivity analyses, we estimated a reduced form model – omitting the variable *Work* – and the odds of being poor were significantly

[7] Estimation results for random slope are available upon request from authors.
[8] These results are not completely comparable with the ones in Table 2 because in this case we take into account the level of poverty in a country. This means that a difference of 10 per cent counts more if poverty is relatively rare (e.g. Luxembourg) than if poverty is common (e.g. Latvia). As a result small gender poverty gaps may even appear to be in the opposite direction (e.g. Spain or Italy).

greater for elderly singles[9]. But, perhaps unsurprisingly, greater poverty among elderly can be accounted for by labour market status variable introduced in the model.

Those with a paid job have an 85.8 % reduction in the odds of being poor compared to those without job (evidence in favour of *Employment Status Hypothesis*). Those singles with children have more chances to be poor than those that do not have them; in particular, with each additional child the odds of being poor increase by 26%. The fact that the singles were never married increases the probability of being poor by around 38%, related to the ones that although being singles they were married once. These two results give support to the *Household Structure Hypothesis*.

We now turn to the results on poverty exit, reported in Table 6. Higher education increase, about 60%, the probability of exiting from poverty (*Human Capital Hypothesis*). As predicted by *Employment Status Hypothesis*, having a job implies 5.5 times more probability of exiting poverty. Those with children and those never married have lower odds of exiting poverty (in line with *Household Structure Hypothesis*). Age has not a significant effect on the odds of exiting poverty (except being old in model B)[10].

Finally, in Table 7 the results for poverty entry are shown. As in the rest of cases, the empirical findings support first, the *Human Capital Hypothesis,* since having higher education reduces the probability of entering poverty; secondly, the *Age Hypothesis*, since being younger and old increases and decreases respectively the odds of entering povery; thirdly the *Employment Status Hypothesis,* as having a job reduce the probability of entering poverty, and finally, the *Household Structure Hypothesis*, as having children and never married increase the odds of entering poverty.

To sum up, we find evidence in favour of the four specific hypotheses: *Human Capital Hypothesis, Age Hypothesis*, *Household Structure Hypothesis* and *Employment Status Hypothesis*.

However, to give an answer to our second aim, needs additional analysis. First, we test the relevance of including the random slope in the model. We compare the fit of model B for the risk of being poor, with the fit of a version of model B excluding the random

[9] In this case the odd is 1.23 and it is statistically significant.
[10] We estimated the models in the case in which any income movement across the poverty line transition is considered as an exit or entry. In that case, being young has a significant effect ($p<0.1$) on the chance of exiting poverty. This can be due to the instability of incomes of young people, which are not reflected in the case of "genuine" transitions.

slope. We carry out a likelihood ratio test to assess the null hypothesis of no country variation in the difference of gender in poverty. We find that there exists strong evidence that gender effect differs across countries once we control by individual effects. The same results are obtained in the model for exits from poverty and in the model of entries into poverty.

Secondly, we focus on σ_{ξ_1}. In this sense, we measure the change in the variance of the random slope, comparing the estimated variance in Model B to Model A. The addition of individual variables has increased the variation at the country level[11]. This increment is about 10% in the case of the risk of being poor, an insignificant 0.8% and 0.7% in the model for exits and entries into poverty respectively.

Thus, all these finding lead us to conclude that the composition of population affect those country differences in the gender effect on the risk on the risk of being poor, of entering and exiting poverty.

Additionally, the positive covariance between the intercept and the slope implies that countries with a large positive intercept (high poverty rate) tend to have a steep slope (strong positive relationship between poverty and being a woman) once we control by individual effects. In our case, it happens in Model B for the risk of being poor. The correlation is 0.42 and it is statistically significant. The intercept-slope covariance can also be seen in a plot of the intercept residuals (horizontal axis) versus slope residuals (vertical axis) in Figure 1. Once we control by individual effects, those countries at the bottom left of the plot have smaller poverty rates and smaller poverty gaps.

--------------- Insert Figure 1 about here ------------

Concerning our third general hypothesis, that is, country characteristics influence those country differences in the gender effect on the risk of being poor, of entering and exiting poverty, we describe our results. Estimation results confirm neither, the *Gross Domestic Product Hypothesis* nor the *Labour Market Flexibility Hypothesis* nor the *Educational Hypothesis.* Only variables concerning welfare states impact on the odds of being poor exiting and entering into poverty in the expected way. In particular, higher expenditures in social protection (variable *Socialprot)* reduces the chances of being poor between

[11] This increment is caused by the correlation between individual level effects and country level errors, something that does not occur in classical regression (Gelman and Hill, 2007).

4.4.% and 5.9% and increases the probability of existing from poverty in 5.5%. This effect vanishes when dealing the probability of entering into poverty.

The gender considerations over the country specific variables give us different insight. When the model includes individual and country specific variables (Model D), women get more advantage of welfare state. For example, the reduction on the probability of being poor is 3.4% larger than for men and the increase in the odds of exiting from poverty is 3.2% larger than for men. This effect comes from the interaction of variables *Socialprot* and *Women*. Moreover, when the model includes country specific variables (Model C y D), living in a country with larger proportion of higher education makes women reduce the probability of entering into poverty about 2.3% compared to men. The magnitude of this reduction is given by the estimated coefficient of the interaction variable S*ecter_ed* and *Women*.

As before, to answer the third goal, some extra analysis is in order. We compare the fit of model C with a version of C excluding the random slope. We carry out a likelihood ratio test to test the null hypothesis of no country variation in the difference of gender in poverty once we control by country variables. We conclude that there exists strong evidence that gender effect differs across countries once we control by context effects. The same results are obtained in the model for exits from poverty and in the model of entries into poverty.

We also study the change in the country variance for the random slope in the model for the risk of being poor (also for the model of the risk of exiting from poverty and entering into poverty), when we introduce country level variables compared to the country variance for the random slope in the model without country level variables. We conclude that country differences in the gender gap of being poor are reduced by 29.5% when we introduced context effects. In the model for exits from poverty the reduction is of 54.99% while in the model of entries into poverty this reduction amounts only 50.51%.

Given that both individual and country specific variables affect the country differences in gender effect in terms of poverty, we compare the contribution of both types of variables. Individual or micro effects unmask country differences in the gender gap, while macro or context effects explain some of the differences among countries in the gender gap in the risk of being poor and even more in the likelihood of exiting or entering into poverty. Country level variables explain 29.5% of the differences in the effect of gender in the risk of being poor among countries, while 10.1% of this variance is unmasked when introducing individual level variables. In the model for the risk of exiting poverty 0.79% of the differences in the effect of gender are unmasked by the individual level variables and 54.98% is explained by the context effect variables. Finally, in the model for risk of entering into poverty country level variances 0.67% of the variance is unmasked by the individual level variables while 50.51% of the variance is explained by the country level variables. Consequently, we conclude that country context explains more of the differences among countries in the effect of gender not only, as pointed out by Wiepking and Maas (2005), Casper et al. (1994) and Pressman (2002), in the risk of being poor, but also in the risk of exiting from and of entering into poverty and they have even more influence in the transitions in and out of poverty.

7. Conclusions

Social scientists have tended to emphasized individual characteristics to explain poverty. In recent years, there has been a call to contextualize inequality within institutions and social relations. This study answers that call by examining how the composition of the population of the countries and the context effects shapes the odds that single–adults households are poor, exit from poverty and entry into poverty. Our study aims to advance research on the structural context dimension to the predominantly individually oriented study field of poverty. To facilitate an integrated approach of individual and structural context (contextual) dimensions we took advantage of multilevel techniques especially suited for the analysis of such mixed-level data. We offer one of only a few multi-level analyses of individual poverty across affluent democracies (Wiepking and Maas, 2005, Brady et al., 2009 and Callens and Croux, 2009).

We described and attempted to explain cross-national gender differences in poverty, exits from poverty and entries into poverty in different European countries. We show that, there exist country differences in the effect of gender over the risk of being poor, exiting from poverty and entering into poverty. We also prove that cross-national gender poverty gap can be explained by both compositional and context effects. Countries population may differ in the individual characteristics that increase the likelihood for women to become poor. And secondly, the structural context may directly influence the poverty risks of men and women in different ways. We used the EU-SILC data for years 2007 and 2008 to test our hypothesis.

Concerning the explanatory power of the individual level variables, we find that, on the one hand, having a higher education and having a job prevent the individual from being poor, and entering into poverty while help individuals in exiting from poverty. On the other hand, having children and never been married increase the chances of being poor and entering into poverty, and decrease the odds of exiting from poverty. Finally, age have a particular behaviour. Older singles have lower odds of being poor, exiting and entering into poverty. The surprising behaviour of elderly concerning probability of being poor vanishes once you account for the employment status. In terms of poverty transitions, we can interpret that the stability of the elderly is due to the low variability of their income sources. Besides, younger singles have higher odds of being poor and entering into poverty. We can explain these results in the following way: young singles are in the job market with part time and /or low paid and/or unstable jobs, and, therefore, they experiment frequent enters from poverty.

Concerning the explanatory power of the structural context level variables, the evidence only supports the Welfare State Hypothesis. Expenditures on social protection impact on poverty exit and on the risk of being poor, but not on the risk of entering into poverty.

Finally, we conclude that country effects turn out to be more important than individual effects in explaining country differences in gender poverty gap in the risk of being poor, and especially in the risk of entering and exiting from poverty. Although both, individual and country specific variables, explain part of the differences in the gender poverty gap, there still exist significant variation over countries, which we capture through the random slope.

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Tables

Table 1. Number of individuals living in households with one adult in the static analysis

Countries	Static Analysis		Dynamic Analysis	
	Total	%Women	Total	%Women
AT	2145	67.51	1446	68.19
BE	2297	14.62	1612	63.46
BG	996	71.49		
CY	625	73.12	493	76.88
CZ	3644	69.13	3136	68.34
DE	4663	62.64		
DK	1376	60.54		
EE	1136	72.71	846	70.92
ES	2559	66.55	1931	67.27
FI	2771	57.70	1479	55.58
GR	1589	68.91		
HU	2704	23.50	2073	75.98
IE	2065	64.55	831	61.49
IS	548	62.59		
IT	6143	64.71	4447	16.19
LT	1266	75.43	1046	77.34
LU	1091	56.74	995	58.29
LV	1675	76.54	1203	78.22
NL	3221	63.49	201	63.43
NO	1573	52.89	1235	49.96
PL	299	73.85	2349	74.33
PT	955	77.17	685	76.50
RO	2348	67.16		
SE	1919	56.70	1199	53.71
SI	107	73.08	718	72.42
SK	1198	77.71	904	78.98
UK	3237	67.13	2217	66.17
N. obs.	57804	38483	32855	22105

Note 1:AT: Austria; BE: Belgium; BG: Bulgaria; CY: Cyprus; CZ: Czech Republic; DE: Germany; DK: Denmark; EE: Estonia; ES: Spain; FI: Finland; GR: Greece; HU: Hungary; IE: Ireland; IS: Iceland; IT: Italy; LT: Lithuania; LU: Luxembourg; LV: Latvia; NL: Netherlands; NO: Norway; PL: Poland; PT: Portugal.
Note 2: In the dynamic analysis some countries are dropped due to missing information on some variables used.

Table 2. Poverty rates of individuals living in households with one adult.

	Total			Men			Women			Δ% men-women	
Countries	N, obs,	Mean	Stand. Err.	N, obs,	Mean	Stand. Err.	N, obs,	Mean	Stand. Err.	Dif,	Stand. Err.
AT	1924	0,216	(0,009)	688	0,163	(0,014)	1236	0,248	(0,012)	-0,085	(0,026)
BE	1987	0,251	(0,010)	819	0,191	(0,014)	1168	0,292	(0,013)	-0,101	(0,027)
BG	958	0,535	(0,016)	273	0,347	(0,029)	685	0,63	(0,018)	-0,283	(0,047)
CY	564	0,402	(0,021)	166	0,224	(0,032)	398	0,494	(0,025)	-0,270	(0,057)
CZ	3366	0,216	(0,007)	1105	0,146	(0,011)	2261	0,254	(0,009)	-0,108	(0,020)
DE	4244	0,303	(0,007)	1711	0,272	(0,011)	2533	0,324	(0,009)	-0,052	(0,020)
DK	1243	0,234	(0,012)	524	0,22	(0,018)	719	0,245	(0,016)	-0,025	(0,034)
EE	1052	0,505	(0,015)	305	0,404	(0,028)	747	0,552	(0,018)	-0,148	(0,046)
ES	2382	0,312	(0,009)	843	0,212	(0,014)	1539	0,385	(0,012)	-0,173	(0,026)
FI	2549	0,318	(0,009)	1146	0,323	(0,014)	1403	0,315	(0,012)	0,008	(0,026)
GR	1530	0,24	(0,011)	490	0,213	(0,019)	1040	0,253	(0,013)	-0,040	(0,032)
HU	2519	0,175	(0,008)	648	0,213	(0,016)	1871	0,16	(0,008)	0,053	(0,024)
IE	1811	0,381	(0,011)	717	0,367	(0,018)	1094	0,389	(0,015)	-0,022	(0,033)
IS	460	0,276	(0,021)	199	0,216	(0,029)	261	0,324	(0,029)	-0,108	(0,058)
IT	5726	0,262	(0,006)	2125	0,164	(0,008)	3601	0,319	(0,008)	-0,155	(0,016)
LT	1160	0,467	(0,015)	311	0,355	(0,027)	849	0,499	(0,017)	-0,144	(0,044)
LU	959	0,192	(0,013)	462	0,152	(0,017)	497	0,219	(0,019)	-0,067	(0,036)
LV	1552	0,579	(0,013)	388	0,487	(0,025)	1164	0,617	(0,014)	-0,130	(0,039)
NL	2917	0,184	(0,007)	1144	0,183	(0,011)	1773	0,184	(0,009)	-0,001	(0,020)
NO	1391	0,278	(0,012)	694	0,224	(0,016)	697	0,323	(0,018)	-0,099	(0,034)
PL	2776	0,206	(0,008)	766	0,25	(0,016)	2010	0,187	(0,009)	0,063	(0,025)
PT	880	0,308	(0,016)	216	0,26	(0,030)	664	0,324	(0,018)	-0,064	(0,048)
RO	2273	0,331	(0,010)	760	0,249	(0,016)	1513	0,373	(0,012)	-0,124	(0,028)
SE	1738	0,255	(0,010)	767	0,224	(0,015)	971	0,279	(0,014)	-0,055	(0,029)
SI	987	0,383	(0,015)	283	0,342	(0,028)	704	0,401	(0,018)	-0,059	(0,046)
SK	1165	0,216	(0,012)	267	0,187	(0,024)	898	0,224	(0,014)	-0,037	(0,038)
UK	2740	0,332	(0,009)	1020	0,259	(0,014)	1720	0,375	(0,012)	-0,116	(0,026)
	52853	0,285	(0,002)	18837	0,237	(0,003)	34016	0,316	(0,003)	-0,079	(0,006)

AT: Austria; BE: Belgium; BG: Bulgaria; CY: Cyprus; CZ: Czech Republic; DE: Germany; DK: Denmark; EE: Estonia; ES: Spain; FI: Finland; GR: Greece; HU: Hungary; IE: Ireland; IS: Iceland; IT: Italy; LT: Lithuania; LU: Luxembourg; LV: Latvia; NL: Netherlands; NO: Norway; PL: Poland; PT: Portugal.

Table 3. Poverty exit rates of individuals living in households with one adult.

	Total			Men			Women			Δ% men-women	
Countries	N. obs.	Mean	St. Err.	N. obs.	Mean	St. Err.	N. obs.	Mean	St. Err.	Dif	St.Error
AT	288	0,241	(0,025)	61	0,246	(0,056)	227	0,24	(0,028)	0,006	(0,084)
BE	391	0,171	(0,019)	104	0,182	(0,038)	287	0,167	(0,022)	0,015	(0,060)
CY	218	0,061	(0,016)	30	0,092	(0,054)	188	0,056	(0,017)	0,036	(0,071)
CZ	548	0,195	(0,017)	117	0,25	(0,040)	431	0,176	(0,018)	0,074	(0,058)
EE	378	0,076	(0,014)	91	0,133	(0,036)	287	0,056	(0,014)	0,077	(0,050)
ES	548	0,231	(0,018)	111	0,33	(0,045)	437	0,191	(0,019)	0,138	(0,064)
FI	340	0,12	(0,018)	144	0,111	(0,026)	196	0,126	(0,024)	-0,015	(0,050)
HU	314	0,222	(0,023)	93	0,18	(0,040)	221	0,24	(0,029)	-0,06	(0,069)
IE	389	0,126	(0,017)	121	0,104	(0,028)	268	0,136	(0,021)	-0,032	(0,049)
IT	1012	0,19	(0,012)	208	0,269	(0,031)	804	0,164	(0,013)	0,106	(0,044)
LT	417	0,155	(0,018)	78	0,164	(0,042)	339	0,153	(0,020)	0,011	(0,062)
LU	237	0,099	(0,019)	91	0,202	(0,042)	146	0,049	(0,018)	0,153	(0,060)
LV	550	0,09	(0,012)	92	0,075	(0,028)	458	0,094	(0,014)	-0,019	(0,042)
NL	195	0,29	(0,033)	57	0,293	(0,061)	138	0,288	(0,039)	0,004	(0,100)
NO	179	0,158	(0,027)	75	0,179	(0,045)	104	0,148	(0,035)	0,031	(0,080)
PL	387	0,169	(0,019)	120	0,204	(0,037)	267	0,148	(0,022)	0,055	(0,059)
PT	216	0,191	(0,027)	49	0,232	(0,061)	167	0,179	(0,030)	0,053	(0,091)
SE	127	0,177	(0,034)	68	0,221	(0,051)	59	0,131	(0,044)	0,089	(0,095)
SI	219	0,083	(0,019)	51	0,1	(0,042)	168	0,076	(0,021)	0,024	(0,063)
SK	153	0,089	(0,023)	25	0,033	(0,036)	128	0,103	(0,027)	-0,07	(0,063)
UK	612	0,223	(0,017)	170	0,289	(0,035)	442	0,196	(0,019)	0,093	(0,054)
Total	7718	0,198	(0,005)	1956	0,246 4	(0,010)	5762	0,179	(0,005)	0,068	(0,015)

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Table 4. Poverty entry rates of individuals living in households with one adult.

	Total			Men			Women			Δ% men-women	
Countries	N. obs.	Mean	St. Err.	N. obs.	Mean	St. Err.	N. obs.	Mean	St. Err.	Dif	St.Error
AT	1041	0,081	(0,008)	346	0,05	(0,012)	695	0,099	(0,011)	-0,049	(0,023)
BE	1075	0,047	(0,006)	423	0,043	(0,010)	652	0,051	(0,009)	-0,008	(0,019)
CY	231	0,053	(0,015)	71	0,027	(0,019)	160	0,067	(0,020)	-0,04	(0,039)
CZ	2374	0,03	(0,003)	791	0,025	(0,006)	1583	0,033	(0,004)	-0,008	(0,010)
EE	368	0,12	(0,017)	116	0,081	(0,026)	252	0,139	(0,022)	-0,058	(0,048)
ES	1087	0,094	(0,009)	396	0,051	(0,011)	691	0,151	(0,014)	-0,1	(0,025)
FI	866	0,047	(0,007)	363	0,065	(0,013)	503	0,036	(0,008)	0,029	(0,021)
HU	1537	0,036	(0,005)	343	0,052	(0,012)	1194	0,03	(0,005)	0,022	(0,017)
IE	398	0,136	(0,017)	181	0,049	(0,016)	217	0,192	(0,027)	-0,143	(0,043)
IT	2964	0,058	(0,004)	1149	0,043	(0,006)	1815	0,068	(0,006)	-0,025	(0,012)
LT	532	0,137	(0,015)	135	0,086	(0,024)	397	0,155	(0,018)	-0,069	(0,042)
LU	668	0,035	(0,007)	288	0,019	(0,008)	380	0,046	(0,011)	-0,027	(0,019)
LV	475	0,244	(0,020)	117	0,164	(0,034)	358	0,287	(0,024)	-0,123	(0,058)
NL	1712	0,035	(0,004)	630	0,036	(0,007)	1082	0,034	(0,005)	0,002	(0,012)
NO	638	0,092	(0,011)	325	0,069	(0,014)	313	0,112	(0,018)	-0,043	(0,032)
PL	1689	0,038	(0,005)	399	0,058	(0,012)	1290	0,031	(0,005)	0,027	(0,017)
PT	406	0,08	(0,014)	94	0,044	(0,021)	312	0,092	(0,016)	-0,048	(0,037)
SE	932	0,044	(0,007)	410	0,039	(0,010)	522	0,048	(0,009)	-0,009	(0,019)
SI	362	0,058	(0,012)	99	0,059	(0,024)	263	0,058	(0,014)	0,001	(0,038)
SK	717	0,024	(0,006)	150	0,032	(0,015)	567	0,021	(0,006)	0,011	(0,021)
UK	1372	0,118	(0,009)	507	0,093	(0,013)	865	0,134	(0,012)	-0,041	(0,025)
Total	21444	0,071	(0,002)	7333	0,057	(0,003)	14111	0,0793583	(0,003)	-0,022	(0,005)

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Table 5. Logistic estimation results for probability of being poor

Poor	A	B	C	D
Woman	1.459***	1.160*	5.059***	5.420***
	[0.113]	[0.095]	[2.673]	[2.816]
Tertiary		0.412***		0.412***
		[0.010]		[0.010]
Young		7.695***		7.693***
		[1.059]		[1.059]
Old		0.612***		0.612***
		[0.013]		[0.013]
Work		0.142***		0.142***
		[0.004]		[0.004]
Children		1.264***		1.264***
		[0.021]		[0.021]
Marital_Status		1.381***		1.382***
		[0.029]		[0.029]
Temporary			0.999	0.999
			[0.013]	[0.014]
Socialprot			0.956***	0.941***
			[0.016]	[0.017]
Gdp			0.999	1.003
			[0.002]	[0.002]
Sectert_Ed			1.005	1.004
			[0.006]	[0.006]
Tempwoman			0.984	0.987
			[0.011]	[0.011]
Socialprotwoman			0.982	0.966***
			[0.013]	[0.013]
Secterwoman			0.990*	0.991*
			[0.005]	[0.005]
Constant	0.339***	0.795**	0.660	1.715
	[0.032]	[0.082]	[0.396]	[1.078]
σ_{ξ_0}	0.485***	0.518***	0.390***	0.407***
	[0.069]	[0.074]	[0.057]	[0.060]
σ_{ξ_1}	0.383***	0.404***	0.336***	0.327***
	[0.057]	[0.061]	[0.052]	[0.053]
$\sigma_{\xi_0\xi_1}$	0.014	0.087**	-0.01	0.044
	0.038	0.045	0.028	0.031
Number of groups	27	27	27	27
Log Lokelihood	-45225.618	-39980.177	-45216.906	-39970.187

**** p<0.01, ** p<0.05, * p<0.1*

Table 6. Logistic estimation results for probability of exiting from poverty

Exit	A	B	C	D
Woman	0.732***	0.937	0.349	0.340
	[0.067]	[0.089]	[0.237]	[0.235]
Tertiary		1.609***		1.614***
		[0.132]		[0.132]
Young		0.651		0.645
		[0.280]		[0.278]
Old		0.897*		0.898
		[0.059]		[0.059]
Work		5.501***		5.513***
		[0.370]		[0.370]
Children		0.780***		0.781***
		[0.030]		[0.031]
Marital_Status		0.765***		0.759***
		[0.045]		[0.045]
Temporary			1.017	1.013
			[0.015]	[0.016]
Socialprot			1.055***	1.055**
			[0.021]	[0.023]
Gdp			0.999	0.997
			[0.002]	[0.002]
Sectert_Ed			0.995	0.993
			[0.007]	[0.008]
Tempwoman			0.992	0.990
			[0.011]	[0.011]
Socialprotwoman			1.014	1.032*
			[0.016]	[0.017]
Secterwoman			1.008	1.007
			[0.006]	[0.006]
Constant	0.228***	0.152***	0.089***	0.095***
	[0.030]	[0.021]	[0.074]	[0.084]
σ_{ξ_0}	0.522***	0.530***	0.350***	0.377***
	[0.106]	[0.105]	[0.084]	[0.082]
σ_{ξ_1}	0.240***	0.241***	0.193***	0.188***
	[0.084]	[0.092]	[0.082]	[0.078]
$\sigma_{\xi_0\xi_1}$	-0.036	0.0103	-0.235	-0.018
	0.053	0.049	0.033	0.031
Number of groups	21	21	21	21
Log Lokelihood	-5541.030	-5117.306	-5532.096	-5107.177

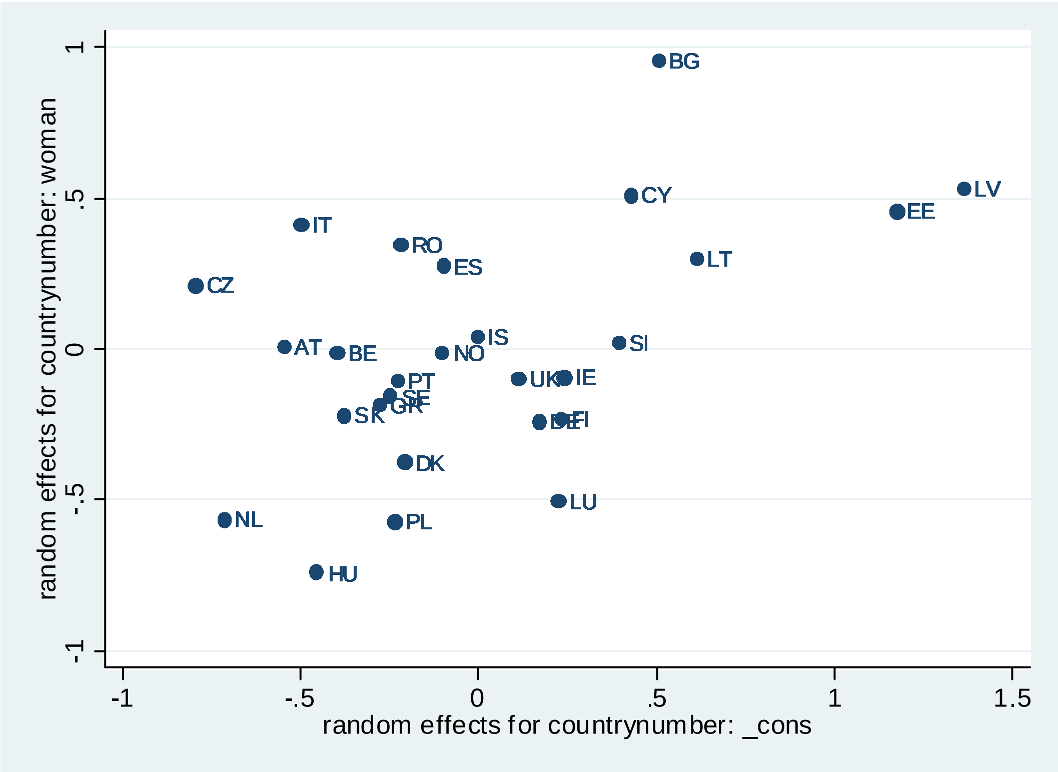
**** p<0.01, ** p<0.05, * p<0.1*

Table 7. Logistic estimation results for probability of entering into poverty

Entry	A	B	C	D
Woman	1.359***	1.040	10.910***	14.220***
	[0.156]	[0.121]	[9.526]	[11.676]
Tertiary		0.469***		0.469***
		[0.028]		[0.028]
Young		32.888***		32.820***
		[7.688]		[7.670]
Old		0.493***		0.493***
		[0.026]		[0.026]
Work		0.193***		0.193***
		[0.011]		[0.011]
Children		1.426***		1.426***
		[0.042]		[0.042]
Marital_Status		1.208***		1.211***
		[0.059]		[0.059]
Temporary			0.992	0.986
			[0.020]	[0.020]
Socialprot			0.963	0.958
			[0.027]	[0.026]
Gdp			1.000	1.000
			[0.003]	[0.003]
Sectert_Ed			1.011	1.005
			[0.011]	[0.010]
Tempwoman			0.981	0.984
			[0.014]	[0.014]
Socialprotwoman			0.987	0.960**
			[0.020]	[0.018]
Secterwoman			0.977***	0.978***
			[0.008]	[0.007]
Constant	0.072***	0.177***	0.085**	0.381
	[0.010]	[0.026]	[0.097]	[0.420]
σ_{ξ_0}	0.620***	0.608***	0.537***	0.521***
	[0.109]	[0.108]	[0.099]	[0.098]
σ_{ξ_1}	0.454***	0.455***	0.370***	0.337***
	[0.092]	[0.092]	[0.083]	[0.084]
$\sigma_{\xi_0\xi_1}$	-0.031	0.076	-0.008	0.046
	0.078	0.074	0.063	0.054
Number Of Groups	21	21	21	21
Log Lokelihood	-9567.688	-8682.638	-9561.694	-8675.412

**** p<0.01, ** p<0.05, * p<0.1*

Figure 1. Country slopes versus country intercepts in the model for risk of being poor



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