

ThE Papers

**Dpto. Teoría e Historia Económica
Universidad de Granada**

Working Paper n. 13/02

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on poverty in Europe**

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January 25, 2013

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Abstract

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

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

JEL Codes: J16, I32, O57

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1. Introduction

Since 2005, the average rate of poverty risk in the enlarged European Union has been nearly stable, varying between 16 and 17 percent. Related literature suggests that poverty is not gender neutral; in fact, the incidence of poverty is larger for women than for men in many countries due to the systematic discrimination females face in education, employment, wages and control of assets. As Carlos Gradín, Coral del Río and Olga Cantó (2010) pointed out, women with same qualifications and same working hours than men are paid less; women are segregated into low paying occupations; women spend more time providing unpaid care giving than men; and pregnancy affects women's work and educational opportunities more than men's. Using data from the Luxembourg Income Study (LIS), Pamala Wiepking and Ineke Maas (2005) found that single women in most of these countries are more likely to become poor than single men, especially in the United States, Australia, Spain, and Italy. Randy Albelda (1999) argued that in the United States, this phenomenon is particularly large in comparison to Europe due to an inadequate social welfare system regarding families' needs. Therefore, we can expect the gender gap to be a consequence not only of the personal characteristics of the population, but also of the deprivation of capabilities and gender biases present in both societies and governments.

According to some estimates, women account for 70 percent of the world's poor. The International Labor Organization estimates that the economic downturn has led to 22 million more unemployed women in 2009. In many countries, however, the impact goes far beyond the loss of formal jobs as most women tend to work in the informal sector. Economic policies and institutions still mostly fail to take gender disparities into account.

Consequently, the prevalence of women living below the poverty level is not a mere circumstance or coincidence, nor is it just a women's issue. This paper explores some key explanations and implications of the feminization of poverty, identifying issues that need to be raised with government; and sharing knowledge, resources and expertise on the situation of women in poverty.

In the existing literature, two distinct approaches have been considered to explain why female-headed households face, across different countries, a comparatively larger poverty risk than male-headed households: the micro level and the macro level. The former approach effectively scrutinizes the precise mechanisms of individual poverty, but omits information on country characteristics, although as David Brady, Andrew S. Fullerton, and Jennifer Moren-Cross (2009) pointed out, 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 (John H. Goldthorpe 2000). Moreover, macro-level studies can only control for individual characteristics such as family structure at the aggregate level. There are reasons to think that studying the micro- and macro-perspective at the same time may be helpful for understanding the feminization of poverty and for designing policies to combat the feminization of poverty because institutions, social context and the composition of the population can affect the proportion of women with low income.

In this sense, the first contribution to the literature of gender poverty gap is to explicitly add the macro-level dimension to the predominantly individually-oriented field of poverty, taking advantage of multilevel techniques. To our knowledge, the only studies on poverty-related issues that consider both micro- and macro-level effects simultaneously are those of Wiepking and Maas (2005); Brady, Fullerton and Moren-Cross (2009); and Marc Callens and Christophe Croux (2009). These studies chiefly

differ from ours in terms of either the estimation methodology they use or the inclusion of gender considerations. Multilevel analysis allows us to investigate whether country differences concerning the gender effect on the risk of being poor can be explained by differences between countries' population composition (micro-level or individual perspective) or by their structural characteristics (macro-level or structural context perspective).

The second contribution to the existing research is to consider the dynamic dimension, that is, we also investigate to what extent gender differences in the risk of exiting and entering poverty can be explained by micro- and macro-level characteristics.

The analysis is carried out in seventeen EU countries making use of data drawn from the European Union Survey on Income and Living Conditions (EU-SILC hereafter) for the years 2007-2008¹.

We are aware that estimating gender gap in poverty is far from an accurate issue. First, poverty analyses usually examine economic resources at the household level. However, poverty is a household concept and we do not completely know how resources are allocated within households². A specific level of household income may mask many situations in which the members of the household do not share the same amount of income. A second problem arises because gender is an individual

¹ We are conscious that with only two years, the dynamic dimension is limited. The reasons for that short period are: (i) dataset (panel) spans only four years; and (ii) for larger than two period transitions, the number of countries drops significantly, an important problem when using multilevel techniques. The implications of the findings can be extrapolated (albeit with caution) since some previous works suggest that while relatively few persons are continuously poor for an extended period of time (transitions are more frequent the longer the period), many of those observed in poverty in a given year are permanent-income poor (OECD,2001 and Elena Bárcena-Martín and Frank A.Cowell, 2006).

² There are some literature that analyzes the intra-household distribution of resources (see for example Kristen R. Heimdal and Sharon K. Houseknecht, 2003, Jan Pahl, 1983 and 1995; Judith Treas, 1993)

characteristic, and therefore the relationship between gender and poverty encompasses two concepts defined at different levels (individual and household).

Consequently, there are two types of ambiguities in multi-person households. First, we do not know whether resources are shared evenly within the household, but such an (arbitrary) assumption is required when assigning one income to several household members. Secondly, the gender attached to each household is not clear: we can attach a gender to each member or the gender of the head of the household to each household.

The approach that considers the household as the unit of analysis does not allow gender effects to be properly evaluated in the study of poverty. Indeed, the related literature has already questioned the ‘unitary household assumption’ (see for example, Lawrence Haddad and Ravi Kanbur, 1990; Shelly Lundberg, Robert Pollak and Terence Wales, 1997; and Jane Falkingham and Angela Baschieri, 2009).

Given the main goals of this paper we attempt to avoid the assumption of equal distribution of resources in the household. For this reason, we find it instructive to study the relationship between poverty and gender in the context of single person households and restricting our analysis to households whose gender characteristics and intrahousehold allocation of resources are clearly identifiable. Following Wiepking and Maas (2005), we consider “single adult households”, that is, households where there is only one adult, which allows us to consider gender differences³. The notion of “single” includes individuals whose marital status is either “never married”, “widow/widowed” or “divorced”, regardless of whether the individual lives with children or not. Therefore,

³ One adult household accounts for 25.4% of the total sample. From the total sample 47.8% of individuals live in households with the same number of adult women and men. Therefore, they do not contribute to the gender gap. Consequently, if we study one adult household, we are focusing on the main identifiable source of gender gap.

the choice of only single person households makes more accurate the match between reported household income and the gender of the household than in a multi-person household.

The question of external validity raises: to what extent can results for single person households be extrapolated to the population of all households? On the one hand, while single person households are clearly chosen according to a number of factors (such as age, and possibly also income), it is a-priori unclear why the relationship between poverty and gender should be different for such persons. On the other hand, our results can be extrapolated to the population in a more realistic way without assuming the unitary assumption.

Despite the limitations of our static, dynamic and spatial approach, we believe that undertaking this exercise gives us a rough measure of how relevant population composition and the structural context of the country are in explaining current levels of gender poverty gap in the EU. This measure will eventually provide hints on how equal opportunity policies may help in combating the feminization of poverty in different socioeconomic and demographic contexts.

The paper is structured as follows: the next section reviews some significant papers on the study of gender poverty gap. Section 3 reviews important hypotheses 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 or out of poverty. Most of the studies dealing with gender differences in poverty focus on industrialized countries.

As pointed out in the introduction, the existing literature has followed two different approaches: the micro- and macro-level of analysis. Among the works that analyze country differences in the effect of gender on poverty from a micro-level perspective (the most extended in the literature), we highlight the following. Timothy M. Smeeding, Lee Rainwater, Martin Reid, Richard Hauser and Gaston Schaber (1990) using single-parent households that are largely female headed, found that social welfare systems fail to alleviate these single-parent families from poverty. Lynne Casper, Sara S. McLanahan and Irwin Garfinkel (1994) concluded 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. Robert E. Wright (1995) studied nine industrialized countries and, in contrast with conventional views, found that women-headed households are over-represented amongst the poor in some countries, but under-represented in others. Karen Christopher, Paula England, Timothy M. Smeeding and Katherin Ross (2002) examined gender gaps in poverty in the United States and seven other Western nations, analyzing the effect of single motherhood, market earnings and welfare states on gender inequality in poverty. These authors used separate logistic regressions for the countries analyzed. In a study on developed and transitional economies using LIS, Steven Pressman (1998, 2002, and 2003) found that female-headed households suffer relatively greater poverty in some countries, but not in others. The idea is that country-specific tax and social security measures influence gender differences in poverty.

As regards studies on poverty from the macro-level perspective, a few works analyze a cross-section of affluent democracies and show a negative correlation

between welfare state generosity and poverty (Walter Korpi and Joakim Palme, 1998; Timothy M. Smeeding, Lee Rainwater and Gary Burtless, 2001). Recently, scholars have incorporated cross-national and historical variation and demonstrated a robust negative effect of welfare state generosity on poverty (Stephanie Moller, David Bradley, Evelyne Huber, Francois Nielsen and John D. Stephens, 2003; David Brady, 2005; David Brady and Denise Kall, 2008). Evelyne Huber, John D. Stephens, David Bradley, and Stephanie Moller (2009) considered single mothers, and using LIS and OLS with cluster found that welfare state generosity and women's labor force participation are powerful determinants of women's economic position in advanced industrial societies.

The need for research that combines micro- and macro-levels is therefore evident. Using data from LIS on 22 industrialized countries, Wiepking and Maas (2005) finally argued that country effects seem somewhat more important than composition effects using six separate logistic regressions to obtain these results. The studies that integrate the micro- and macro-level studies of poverty are scarce. Brady, Fullerton and Moren-Cross (2009) analyzed working-aged adult poverty across 18 affluent Western democracies using LIS, finding that poverty is shaped by individual characteristics and the political context in which the individual resides. They did not incorporate gender considerations.

With respect to the dynamic dimension of the study, the literature in general is more focused on income mobility, therefore there is scarce evidence on gender gap transitions into and out of poverty. Deepa Narayan and Patii Petesch (2007) presented a review of the existing evidence on moving out poverty. They pointed out that poverty dynamics measured as movements relative to an income poverty threshold are, in that sense, simply income changes occurring in a particular part of the distribution. In Chapter 3 of Stefan Dercon and Josef S. Shapiro (2007) some evidence is presented of

micro-level determinants of poverty dynamics in developing countries. They found that there is a considerable degree of poverty mobility, and there are noticeable differences in country-by-country experience. Their general finding is that those moving out of poverty tend to be able to rely on good endowments (land and livestock, human capital, and infrastructure). Education and/or the nature of jobs that one has access to appear to matter more in urban settings. Shocks and risk make and keep people poor. In Chapter 4 of Brian Nolan and Robert Erikson (2007), some descriptive analyses of both macro- and micro-level determinants are presented, but separately. They found that, mostly, countries with high cross-sectional poverty rates tended to have low escape rates and vice versa. Among micro-level characteristics, they found that changes in the labor market situation of household members and in household structure are critical in “driving” poverty entries and escapes, with the latter being more important in the United States than in European countries. They showed that exit rates were affected most by the education of the household head, whereas the risk of persistent poverty was affected most by the number of workers in the household. Among the macro-level determinants they found that the character of the welfare regime – social democratic, corporatist, liberal, and “southern” – does not provide a consistent explanation for differences in poverty transition patterns in the EU. However, for the case of the United States and Canada they reported that less-developed liberal welfare regimes lead to very high levels of poverty persistence.

As regards dynamic studies that are more closely related to ours insofar as they integrate the micro- and macro-level analysis, it is worth mentioning the one of Didier Fouarge and Richard Layte (2005), although they did not analyze gender differences. They evaluated 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) used multilevel recurrent discrete-time hazard analysis, separately for men and women, to simultaneously model the impact of life cycle events and structural context processes on poverty entry and exit across European regions. One of their 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. .

Using the LIS database, Joya Misra, Stephanie Moller and Michelle J. Budig (2007) incorporated a multilevel analysis of work-family oriented policies that reflects gendered assumptions about the roles of men and women within families in order to determine which of these strategies is most effective for alleviating poverty for both partnered and single mothers. The main difference with our study is that they considered only individual and country variables related to these specific work-family policies on poverty rates.. They found that such policies that reinforce women's caregiving roles (family benefits and child care for young children) lead to a greater risk of poverty, particularly for single-mother families. Long parental leaves have more ambivalent effects.

Further systematic analyses integrating micro- and macro-level factors, which consider a joint model that simultaneously allows random country effects to differ for both men and women and involve a more comprehensive sample of countries, could offer new insights into the associations between the covariates of these dimensions of poverty. As pointed out in the introduction, the related literature proposes two alternatives for explaining gender differences in poverty and the dynamics of this phenomenon. Among the factors included in the individual perspective, we present some widely-held hypotheses.

- Human Capital Hypothesis. This hypothesis assumes that, first, women not only build up less human capital due to more frequent interrupts, but are also less willing to accumulate human capital due to the lower expected returns. Additionally, it holds that employers are 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 are at a higher risk of poverty than men. Therefore, cross-national gender differences in poverty can partly be explained by country-level gender differences in human capital. Wiepking and Maas (2005) and Callens and Croux (2009) also consider this hypothesis.
- Age Hypothesis. This hypothesis relies on the demographic composition of the population by age. Whereas we can find young and middle-aged women and men, the majority of old singles are women. On the one hand, poverty rates are higher among older singles than among middle-aged singles because older singles do not accumulate more human capital and do not participate in the profits of emancipation. On the other hand, poverty rates are higher among younger singles than among middle-aged singles because younger singles are in the process of joining the labor 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 (see Pressman, 2003 and Gradín, del Río and Cantó, 2010). Additionally, this hypothesis also reflects the idea that women are more likely to have a non-paying job (Wiepking and Maas, 2005). Callens and Croux

(2009) included it in their study to analyze the likelihood of poverty entry and exit. Thus, we expect that 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 lead 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 from taking certain kinds of jobs (time demanding ones) which are usually highly paid; and (iii) families headed by a single mother are likely to have only one adult earner and therefore not only reduce income, but also increase income risk (Pressman, 2003). Additionally, Wiepking and Maas (2005) point out that this hypothesis may reflect the fact that single women more often take care of children than men, regardless of whether they have never cohabited, been married or divorced. Because child rearing is costly in terms of time, single women with children are more likely not to work or to work only part-time, and even in the case of working full time, their choice of employment is restricted to jobs that are not time demanding. Finally, in explaining the dynamics of poverty, it is important to bear in mind that, changes in marital status or any other demographic event have a larger impact on women due to their dependence on partners' income; an idea that is discussed in Callens and Croux (2009). Consequently, we would first expect that individuals with dependent children are more likely to be poor, stay poor or become poor. Secondly, individuals who have never been married or cohabited are more likely to be poor, stay poor and become poor than divorced or separated individuals who may receive some income through alimony payments or survivor benefits.

- Immigrant Hypothesis. Being an immigrant increases the likelihood of being poor as Alberto Alesina and Edward Glaeser (2005) pointed out. However, in some countries such as the United States, Jeff Chapman and Jared Bernstein (2003) found that poverty rates fell much more quickly for immigrants than for nationals during the 1994-2000 period. We expect that being an immigrant increases the likelihood of being poor and entering poverty, but also exiting poverty.

A multilevel analysis assesses the effect of both individual and structural context characteristics on an individual's odds of poverty. We present some hypotheses commonly found in the literature and which cover the structural context perspective.

- Welfare State Hypothesis. Ruud Muffels and Didier Fouarge (2003), Christopher T. Whelan, Brian Nolan and Bertrand Maitre (2008), and Caroline Dewilde (2008) introduce welfare regime type effects in their analyses. They distinguish between liberal, socio-democratic and southern regimes. In this paper, rather than evaluating the impact of welfare regimes on poverty, we estimate the influence of so-called 'domain-specific' institutional measures⁴. As the transfer system is an important component of the welfare regime, this hypothesis is based on different measures of welfare state generosity (indicators of income replacement, specifically the prevention of poverty. In particular, welfare states reduce the cost of unfortunate life events and risks, and distribute economic resources in a manner that is more favorable to the poor. Therefore we hypothesize that the higher the

⁴ As Dewilde (2008) states, the reasons for this are twofold. First, most authors point to the considerable variations among countries belonging to the same regime cluster, leading them to conclude that it may be essential to incorporate country-specific features into the analysis (Bertrand Maitre, Brian Nolan and Christopher T. Whelan. 2005). Secondly, in order to formulate meaningful policy recommendations, we need to know what policies are related to which individual outcomes, preferably controlling for other possible explanations such as compositional differences among countries. Therefore, we need to study specific indicators of the welfare state.

benefits, the more likely women and men are to cross the poverty line (Wiepking and Maas, 2005; Brady, Fullerton and Moren-Cross, 2009; and Callens and Croux, 2009). We expect to find a negative relationship between variables concerning welfare support of any type and the probability of being poor. This relationship is expected to be positive for exiting poverty and negative for entering poverty. In terms of gender gap, since women are more likely to be the recipients of benefits, we expect that they will help women more intensively.

- Labor Market Flexibility Hypothesis. Structural context could influence poverty by shaping the opportunities and rewards for employment, independently of the individual's employment status. Following Dewilde (2008)⁵, we have included some indicators from the policy perspective and the outcome perspective. Our first indicator of labor market flexibility strictly refers to policies. The OECD employment protection legislation index summarizes the strictness of regulations concerning regular employment, temporary employment and collective dismissal. However, given that inflexibility in some countries leads to the development of informal arrangements by employers and individuals, we also include an outcome-indicator as a macro-level determinant: the percentage of employees with temporary contracts. It should then follow, a priori, that the risk of poverty is higher in countries with less strict employment protection legislation and a lower number of employees with temporary contracts. However, according to the results

⁵ Dewilde (2008) points out the link between the different parts of the welfare regime, where the strongest could be represented by the relationship between the welfare state (*sensu stricto*) and the labor market. As he describes, the labor market is generally quite flexible in the liberal welfare regime, but this is much less so in continental Europe. In social-democratic countries, the bargaining process between unions, employers and governments has resulted in a certain amount of 'controlled' flexibility. However, this is not the case in conservative and southern European countries. Moreover, due to strict labor market regulations in these areas, there has been an increase in 'informal' flexibility, namely illegal employment (Gøsta Esping-Andersen, 1999).

of Dewilde (2008), certain amounts/certain types of labor market flexibility do not necessarily result in higher poverty levels, especially when having a temporary job provides people with more resources than being unemployed or when stricter employment regulations are a barrier to exiting unemployment status or when the use of temporary workers in some countries is a low-paid path strategy. Therefore, we expect labor market flexibility to have an ambiguous effect not only on the probability of being poor, but also on the probability of entering or exiting poverty. In terms of gender gap, what we expect is that since temporary contracts usually affect women more, and policies are designed to protect those at higher risk (policies which principally women benefit from), the effect of labor market flexibility should be higher for women.

- Empowerment Hypothesis. This hypothesis, which is supported by Wiepking and Maas (2005) and others, is based on the idea that in countries where the emancipation of women is generally high, the poverty gap should be lower. That is, cross-national gender differences in poverty can partly be explained by country-level differences in terms of women's emancipation. We consider some indicators of empowerment that measure how females perform in some dimensions compared to men. These indicators are expressed as female to male ratios in dimensions such as involuntary part-time work, tertiary education, employment and tenure. We therefore expect that the probability of being poor (entering and exiting) is lower (lower and higher respectively) in countries with higher female to male shares of involuntary part-time work among part-time workers, with lower female to male tertiary educated individuals, with higher female to male employment rates, and higher female to male average tenure in years.

- Inequality Hypothesis. We consider that in comparing countries with relatively similar income levels, highly unequal societies have a greater probability of presenting a higher number of individuals with hardships to access basic needs. Consequently, we expect that households in countries with higher inequality levels are associated to higher risk or poverty. We also want to reflect the idea pointed out in Francisco Ferreira (2010) that economic growth and inequality are uncorrelated and that the negative effect of growth on poverty decreases in the presence of inequality.
- Gross Domestic Product Hypothesis. Based on the evidence that industrialized countries with high level of GDP 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 the level of GDP influences the risk of being poor (see Wiepking and Maas, 2005). However, as pointed out by Brady, Fullerton and Moren-Cross (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. Moreover, as the general level of economic welfare in a society (measured through the above institutional indicators) is correlated with the GDP per capita, we estimate the impact of institutions on poverty controlling for GDP⁶ as an alternative to all the other hypotheses.

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

⁶ The GDP of each country is measured as GDP per capita in Purchasing Power Standards (PPS) of each country in relation to the European Union (EU-27) average set to equal 100.

- Analyze whether there are country differences with respect to the gender effect on the risk of being poor, of entering poverty, and of exiting poverty.
- Study whether differences in population composition affect country differences regarding the gender effect on the risk of being poor, of entering poverty, and of exiting poverty (individual or micro-level perspective).
- Determine whether differences in country characteristics influence country differences regarding the gender effect on the risk of being poor, of entering poverty, and of exiting poverty (structural or macro-level perspective).

4. Data and measurement issues

To achieve our goals, we use the EU-SILC data set, which is an international database consisting of country specific comparable data. Specifically, to perform our analysis, we work with data for the 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 households”.

The static analysis is based on year 2008 and carried out over 39,945 observations of individuals living in households with one adult from 17 different countries⁷. The dynamic analysis is based on data from 2007 and 2008 for 27,903 observations of individuals living in households with one adult spread over 16 countries⁸.

⁷ We drop some countries in the dataset as information on some of the variables used is missing (mainly the marital status and level of education), or the number of observations is limited. We drop Bulgaria, Cyprus, Estonia, Greece, Iceland, Lithuania, Latvia, Romania, Slovenia, Slovak republic

⁸ The reasons for limiting the analysis of transitions into and out of poverty to 2008 and 2007 will be discussed in greater detail below.

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

----- Insert Table 1 about here (middle of page) -----

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 (y_i^e) falls below 60 percent⁹ of the contemporary median¹⁰ equivalent income of the country where the individual lives¹¹. Disposable household income is defined as the sum, for all household members, of gross personal income components¹² plus gross income components at the household level¹³.

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 scale¹⁴. We also

⁹ We have followed the EUROSTAT recommendations in choosing the poverty line. A sensitivity analysis using the 50% poverty line obtained similar results.

¹⁰ We consider the whole population, not only singles, to measure the median income, and therefore the poverty line.

¹¹ Income or/and consumption can be used as an indicator of welfare, but the EU-SILC only provides income data and not expenditure of any type of needs.

¹² Gross employee cash or near cash income, company car, gross cash benefits or losses from self-employment (including royalties), unemployment benefits, old-age benefits, survivor benefits, sickness benefits, disability benefits, and education-related allowances.

¹³ Income from rental of a property or land; family/children-related allowances, social exclusion not elsewhere classified, housing allowances, regular inter-household cash transfers received; interest, dividends, profit from capital investments in unincorporated business; income received by people aged under 16) minus regular inter-household cash transfer paid; regular taxes on wealth; tax on income and social insurance contributions.

¹⁴ 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 member younger than 14.

define y_i^j as each individual member's total annual disposable income. As a result, 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, 22.9 percent of all single men are poor versus 30.1 percent of all single women. By country, we also find that the poverty rate is larger for single female-headed households, except for Finland, Hungary and Poland. Moreover, the gender differences¹⁵ in poverty range from 15.3 percentage points in Italy to differences smaller than 1 percentage point. Finally, notice that Italy and Spain double the mean gender difference in poverty for the countries analyzed.

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Dynamics of poverty

The exit rates at time t refer to individuals that are at risk of exiting, so they are in poverty at time $t-1$. Exit rates are calculated dividing the number of individuals 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.

In our dataset, we have to restrict to two (subsequent) years (2007 and 2008) only. Although this could be seen as limitation of the study, there are several reasons for including only two years. First, the dataset (panel) spans only four years (you can only follow a household during this short period). Secondly, not all countries provide data for

¹⁵ We have tested whether the differences are statistically significant.

the four years. Hence, we can only obtain a sufficient number of countries in the sample for purposes of comparison by limiting our analysis to two subsequent years. We have decided to restrict our analysis to the two most recent years as they provide information on more countries. When transitions span more than two years the number of countries drops significantly. Moreover, when using multilevel techniques, the lack of a sufficiently large number of groups leads to important problems of validity. In our case, considering a larger period would involve dropping more countries. Thirdly, Narayan and Petesch (2007) pointed out in several chapters, poverty persistence can simply be described according to the portion of households that are always, sometimes, or never poor across a survey's waves. Loosely speaking, this tends to be interpreted as suggestive evidence for people who are facing "transient" poverty processes, while other people are "always" and therefore "chronically" poor. This dichotomy bears a close resemblance to the concepts of chronic and transient poverty introduced (more carefully) by Jyotsna Jalan and Martin Ravallion (2002). Because our dataset only follows individuals over a four year period, the classification must be made taking this time frame into account. Moreover, as not all the countries have data for the last four years and we need a balanced panel in order to consider the same period of time for all countries, we would have to drop many countries, when the specific aim of this paper is to compare as large a number of countries as possible.

The implications of the findings obtained in the transitions between two consecutive years can be extrapolated (albeit with caution) as we would expect more movements across the poverty line the longer the period of time covered. Some previous works suggest that while relatively few persons are continuously poor for an extended period of time, many of those observed in poverty in a given year are permanent-income poor (OECD (2001)).

Finally, as suggested in the literature (Stephen Jenkins and John Rigg, 2001), 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, while the statistics for entry rates are shown in Table 4.

----- Insert Table 3 and 4 about here (half page) -----

Using these definitions, we get that, on average, the exit rate for single men is larger than for single woman (24.9 percent against 18.7 percent). Entry rate is greater for single women (7.5 percent) than for single men (5.6 percent). That is, single women not only have higher poverty rates, but also have higher poverty entry rates and smaller exit rates. By country, we mostly observe these findings. For exit rates the exceptions are the Netherlands, which displays no difference; and Denmark, Finland, Hungary and Ireland, where the likelihood of exiting is larger for women. For entry rates the exceptions are Denmark, Finland, Hungary, Netherlands and Poland, where the probability of entering is larger for men.

Gender differences in exit rates (when smaller for women) go from 16 percentage points in Luxembourg to 1 percentage point in the Netherlands, Austria, and Portugal. Four more countries reach differences above 10 percentage points. For entry

rates (when larger for women), gender differences range from 14 percentage points in Ireland to 1 percentage point in Sweden, the Czech Republic and Belgium. It is interesting to note that the differences are smaller than 5 percentage points for seven additional countries.

Among others, Joachim Merz and Dagmar Kirsten (1998) also found significant changes across the poverty line. They define the poverty line using market income only with data from the German Socio-Economic Panel from 1985 to 1994, finding that more than 70% are able to escape from poverty during this period. They also defined extended income (which includes paid and unpaid work), finding that mobility is significant with most movements occurring from the lowest and highest welfare positions.

Definition of explanatory variables

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

To test the group of hypotheses corresponding to factors from the individual perspective (micro-level analysis) we chose the following variables. For the *Human Capital Hypothesis*, we consider the variable *Tertiary*, which is 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, an individual's educational attainment is the highest level of an educational program the person has successfully completed and the study field of this program. For the educational classification we used the International Standard Classification of Education (ISCED 1997) which is

coded according to the seven ISCED-97 categories. In 2008, 29.9 percent of all single men had tertiary education compared to 23.0 percent of single woman.

To capture 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 comprises individuals between 20 and 65 years of age. We find that 59.9 percent of young singles are women and 54.9 percent of middle-aged singles are women, while 72.5 percent 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, which is, in principle, determined on the basis of most time spent. The 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, 48.9 percent of all single men worked full time compared to 26.3 percent of single woman.

The *Household Structure Hypothesis* is modeled through the variable *Children*, which represents the number of household members aged 13 or younger. Having children is less common among single men (3.7 percent) than among single women (19.2 percent). In 2008, the mean number of dependent children for single men was 0.06 compared to 0.31 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.

To capture the effects of the *Immigrant Hypothesis* we have defined the variable *Immigrant* as a proxy of ethnicity due to the lack of information regarding this aspect in the dataset. This variable is coded 1 if the individual was born in a non-European Union

country (EU25). In 2008, the proportion of immigrants among single men was similar to the proportion of immigrants among single women (around 6 percent). However, the proportion of poor immigrants among single women is smaller than among single men. Unfortunately, information about where individuals were born is not available in the dataset for the longitudinal file. Therefore we only include this hypothesis in the static analysis.

Similarly, to include the country characteristics as described above in the structural context hypothesis, we consider the following variables as explanatory factors of gender differences in poverty by country. Following Dewilde (2008), to cover the *Welfare State Hypothesis* we use some indicators of the transfers system, which is an important component of the welfare regime. A first indicator is the OECD ‘summary’ unemployment replacement rate (*Net_replacement*), which measures the fraction of current or potential income which the social system provides to a person if he or she does not work. In particular, we consider the overall average of net replacement rates over 60 months of unemployment for families receiving social assistance. The second indicator specifically concerns the percentage of total social benefits that represents social exclusion benefits (named *Soc_exc_benefits*)¹⁶. This indicator was provided by the statistical office of the European Union (EUROSTAT).

One of the variables to proxy the *Labor Market Flexibility Hypothesis* is *Protection*. This OECD synthetic indicator of employment protection measures the procedures and costs involved in dismissing individuals or groups of workers and the

¹⁶ They include income support: periodic payments to people with insufficient resources. Conditions for entitlement may be related not only to the personal resources but also to nationality, residence, age, availability for work and family status. They also include other cash benefits: support for destitute and vulnerable persons to help alleviate poverty or assist in difficult situations. These benefits may be paid by private non-profit organizations.

procedures involved in hiring workers on fixed-term or temporary work agency contracts. This index summarizes the strictness of regulations concerning regular employment, temporary employment and collective dismissal. As Dewilde (2008) pointed out, in some countries inflexibility (as measured in the previous index) leads to the development of informal arrangements by employers and individuals. Therefore, as she proposes, it is necessary to include an outcome-indicator regarding the percentage of employees on a fixed-term contract through the variable *Temporary*. This variable measures the percentage of temporary employees (not fixed contract) as a percentage of the total number of employees.

To measure the level of *Empowerment* in a country we use four indicators. These indicators are: female to male shares of involuntary part-time work among part-time workers (*F-M_part-time*), female to male employment rate (*F-M_employment*), female to male tertiary educated individuals (*F-M_tertiary*), and female to male average tenure in years (*F-M_tenure*). The *Empowerment Hypothesis* is modeled as interactions of the country characteristics and being a woman. These interactions express that women profit more (or less) from these country characteristics than men.

To cover the idea of the *Inequality Hypothesis*, we include the variable *s80s20*. This variable is the income quintile share ratio that is a measure of the inequality of income distribution. It is calculated as the ratio of total income received by 20% of the population with the highest income (the top quintile) to income received by 20% of the population with the lowest income (the bottom quintile).

Finally, 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 EUROSTAT records. *GDP* varies from 54 (Poland) to 275 (Luxembourg). Given that the previous variables of the other hypotheses are correlated

with GDP, we estimate the impact of institutions on poverty controlling for GDP as an alternative to all the other variables as stated above.

5. The model

As presented in previous sections, our dependent variables will reflect the risk of being poor, entering poverty, 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 this type of variables.

However, as pointed out by Brady, Fullerton and Moren-Cross (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 errors¹⁷. A natural way to analyze 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. Ita G. Kreft and Jan de Leeuw (1998) report three different approaches in contextual regression modeling: 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 to analysis of covariance is that the effects of country-level explanatory variables are confounded with the effects of country dummies. In a multilevel model,

¹⁷ Ignoring clustering leads to underestimation of standard errors, particularly for predictors measured at the 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 the 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.

these effects can be separated out by specifying country membership as an unobserved random effect.

According to Callens and Croux (2009), the nested nature of data has traditionally been ignored in non-hierarchical models. In classical contextual models and in modern multilevel models, individual and country-level variables can be introduced simultaneously. These methods can adequately split the variation into a between-individual level and a within-country level, but each in their own way. Classical 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. To do so, we introduce random intercepts and random coefficients. 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” approach¹⁸.

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

Let us consider a two level structure where individuals, i , are nested into countries, c . By y_{ic} we denote the response for individual i in country c , and x_{ic} is an

¹⁸ 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 assess the degree of between-group variation. We could also have estimated a GEE (generalized estimating equation) model. However, 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. For this reason, we propose the random effects model as its robustness is comparable to the above alternatives and we explicitly specify a hierarchical structure, obtain correct standard errors and an estimate of between-group variance.

explanatory variable. y_{ic} is dummy variable which takes the value of 1 if the individual is poor. A random intercept and random slope model can be written as follows:

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

where ξ_{0c} designates the random intercept and ξ_{1c} designates 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 additional parameters to be estimated. If they are significantly different from zero, then we can say that country differences are present. In order to test our hypotheses we propose four models.

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

$$\log(P_{poor,ic} / (1 - P_{poor,ic})) = \beta_0 + \beta_1 x_{ic} + \xi_{0c} + \xi_{1c} x_{ic} \quad (2)$$

where $P_{poor,ic} = \Pr(y_{ic}=1)$, and y_{ic} is the response for individual i in country c .

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

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

Model A 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 test if the response level varies over the clusters or countries and if the effect of *Woman* varies over countries.

In order to analyze whether 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 (Z_{ic}).

$$\text{Log} (P_{poor,ic}/(1-P_{poor,ic})) = \beta_0 + \beta_1 \times Woman_{ic} + \beta_2 \times Z_{ic} + \xi_{0c} + \xi_{1c} \times Woman_{ic} \quad (\text{B})$$

We also propose Model C, which incorporates the country-level explanatory variables (W_{ic}).into Model A.

$$\text{Log} (P_{poor,ic}/(1-P_{poor,ic})) = \beta_0 + \beta_1 \times Woman_{ic} + \beta_3 \times W_{ic} + \xi_0 + \xi_{1c} \times Woman_{ic} \quad (\text{C})$$

If the country-level intercept variance (ξ_0) is not statistically significantly different from zero, then it is said that the country-level variables capture the country variation and there is no significant country heterogeneity left. In the same line, if the slope variance (ξ_1) is not statistically 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 *Woman*. Alternatively to Model B, we estimate a model (Model D) where all the country-specific variables are replaced by a *GDP* variable that is correlated to all of them.

To test whether context effects have an effect on the differences among countries with respect to the poverty gap after controlling for salient individual predictors of poverty, we propose Model E, which incorporates both micro-level variables (Model B) and macro-level variables (Model C).

We also consider the equivalent four models for the risk of entering into or exiting from poverty. We define $P_{exit, ic} = Pr(Poor_t=1 | Poor_{t-1}=0)$ for the risk of entering poverty and $P_{entry, ic} = Pr(Poor_t=0 | Poor_{t-1}=1)$ for the probability of exiting poverty.

6. Empirical results

We present the estimation results in Table 5, 6 and 7. We show the estimates for the β_i coefficients, for the intercept and slope variance, $\sigma_{\xi_0}^2$ and $\sigma_{\xi_1}^2$, respectively, and for the covariance between the slope and the intercept, $\sigma_{\xi_0\xi_1}$. Given the large size of the 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, thus indicating the robustness of the estimation procedure. A general finding for all the models proposed, is that the random intercept variance ($\sigma_{\xi_0}^2$) is statistically different from zero. This means that, even after introducing country-level explanatory variables, a significant part of the unexplained variance still remains due to country differences. This unexplained variance is picked up by the random intercept.

----- Insert Table 5, Table 6 and Table 7 about here (middle of page) -----

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. According to the estimated coefficient for variable *Woman*, the 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 D and E). In particular, we observe that women have about 6.33 times higher odds of being poor than men, controlling for individual and country specific variables.

Moreover, we also find that this gender gap differs across countries. The random slope variance ($\sigma_{\xi_1}^2$) being statistically different from zero implies that the effect of gender on poverty varies over countries. This is our case when we only include micro-level variables (Model B). Therefore we can also say that this variation across countries

cannot be fully explained by the micro-variables. However, when we consider only macro-variables (Model C), the random slope variance ($\sigma_{\xi_i}^2$) is not statistically different from zero, meaning that such variables can explain differences among countries. Finally, in the case that includes both micro- and macro-variables (Model D), the random slope variance ($\sigma_{\xi_i}^2$) is only statistically different from zero at a 10% significance level. Therefore we can conclude that by introducing macro-variables the variations across countries vanish.

Concerning our second general aim, that is, to test if population composition (micro-level variables) affects country differences regarding the gender effect poverty, we find the following results. In terms of the probability of being poor, and according to the odds ratio reported in Table 5, individuals with a higher than secondary education are around 60 percent less likely to be poor as the *Human Capital Hypothesis* predicts.

Younger singles have about 15 times higher odds of being poor than middle-aged singles (evidence for *Age Hypothesis*). Contrary to the implication of the *Age Hypothesis*, elderly singles have around a forty percent less probability of being poor than middle-aged singles. Due to the higher impact of poverty among the elderly, it is important to emphasize that this effect is the net of labor market characteristics. Using sensitivity analyses, we estimated a reduced form model – omitting the variable *Work* – and found that the odds of being poor were significantly greater for elderly singles¹⁹. But, perhaps unsurprisingly, greater poverty among the elderly can be accounted for by the labor market status variable introduced in the model.

Individuals with a paid job are 84 percent less likely to be poor than those without a job (evidence in favor of *Employment Status Hypothesis*). Singles with children are

¹⁹ In this case the odd is 1.23 and is statistically significant.

more likely to be poor than singles without children; in particular, with each additional child the odds of being poor increase by 27 percent. The probability of being poor increases by around 48 percent for singles who have never been married compared to singles who were married once. These two results support the *Household Structure Hypothesis*. Finally, as predicted in the *Immigrant Hypothesis*, being an immigrant increases the odds of being poor by 75 percent.

We now turn to the results on poverty exit reported in Table 6. Higher education increases the probability of exiting from poverty by about 60 percent. As before, being younger or older decreases the probability of exiting poverty with respect to middle-aged individuals. As predicted by the *Employment Status Hypothesis*, having a job implies a 5 times higher probability of exiting poverty. Those with children and who have never married have lower odds of exiting poverty.

Finally, Table 7 shows the results for poverty entry. As in the rest of the cases, the empirical findings support firstly 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 the odds of entering poverty, respectively; thirdly the *Employment Status Hypothesis* as having a job reduces the probability of entering poverty; and finally, the *Household Structure Hypothesis* as having children and never having married increase the odds of entering poverty.

Before providing an answer to our second aim, an additional analysis is in order. 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 slope. We carry out a likelihood ratio test to assess the null hypothesis of no country variation in the effect of gender on poverty. We find strong evidence that the gender effect differs across countries once we control for 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 $\sigma_{\xi_1}^2$. We find that the addition of individual variables reduces the variance of the random slope in the model for the risk of being poor. However, to interpret the results the relevant concept is the change in the variance of the random slope with respect to total variance (individual and country variance). We use a ratio that is equivalent to the Variance Participation Coefficient (VPC). In particular, we calculate the ratio of between-country variance for women to total variance. This ratio, which we call VPC_f , allows us to capture the contribution of the explanatory variables to the gender gap in poverty among countries. In this sense, individual variables increase the participation of between-country variance for women in the risk of being poor by 21.3 percent (compare VPC_f for Model B and for Model A in Table 5), and by 48.0 percent for the likelihood of exiting from poverty, but the participation of between-country variance for women the likelihood of entering into poverty decreases by 16.5 percent. Thus, all these findings lead us to conclude that population composition affects country differences regarding the gender effect on the risk of being poor, the risk of entering poverty and the risk of exiting poverty.

Concerning our third general hypothesis that country characteristics influence country differences regarding the gender effect on poverty, we describe our results. In terms of the *Welfare State Hypothesis* we find that in countries with a higher net replacement rate, the odds of being poor increases slightly (about 2%) and the probability of exiting poverty decreases slightly (about 2%). Even if these effects are small, these are surprising results insofar as they reflect that certain dimensions of the welfare state may not reduce poverty. This could be due to the reverse incentives of the initial purpose, that is, if an individual receives benefits, he/she has no incentives to search for employment.

However, as expected, we find that social exclusion benefits reduce the probability of being poor (about 20%) and increase the probability of exiting from poverty (about 17%). Moreover, in countries where these benefits are higher women benefit more from them and are more likely to avoid poverty and less likely to enter into it.

As regards the *Labour Market Hypothesis*, we find that stricter employment protection legislation has a negative effect on the probability of poverty (around 25%) if individual variables are not included. This result denotes that less flexibility increases the odds of being poor. As pointed out in Dewilde (2008), certain amounts/certain types of labor market flexibility do not necessarily result in higher poverty levels, especially when such protection is a barrier to entering the labor market or leads to “informal” types of employment that reflect low-paid paths. However, stricter employment protection reduces the probability of entering poverty by 35%. This could be interpreted in the sense that once you are employed, such protection acts to avoid unemployment or low-paid paths. Misra, Moller and Budig (2007) also found that certain work-family oriented welfare policies led to a greater risk of poverty, especially for single mothers.

The percentage of employees on a temporary contract, our second indicator of labor market flexibility, has only a small effect on the probability of being poor (around 2.3%). The intuition is the same as before, more temporary contracts (or higher flexibility in the labor market) are used as a path towards low-paid jobs, or at least, this effect dominates the positive one of allowing people to avoid unemployment in the labor market.

Concerning the *Empowerment Hypothesis*, we first find that in countries where the female to male employment and job tenure ratio are higher, the risk of a woman being poor is lower. Secondly, in countries where the ratio of females to males engaging in involuntary part-time work is higher, the risk of being poor increases relatively more

for women. In transitions, only the higher female to male job tenure ratio greatly reduces the probability of a woman entering poverty. These are expected results that partially confirm the *Empowerment Hypothesis*. Surprisingly, however, we found that in countries where the female to male ratio of tertiary educated workers is higher, the probability of being poor increases more for women. One possible explanation for this is that the educational level in these countries fails to be a signal in the labor market (to get a job, to obtain a larger wage, etc.).

Concerning the *Inequality Hypothesis*, we only find evidence that inequality matters for women in exiting poverty, in the sense that the higher inequality, the lower the probability that women will exit poverty (25%).

As before, to finally answer the third goal, we need some extra analysis. We study the change in between-country variance for women in the different models, when we introduce country-level variables compared to the case without country-level variables (Model C vs. Model A). We conclude that country effects reduce the participation of between-country variance for women regarding the risk of being poor by 49.4 percent. In the model for exits from poverty the reduction is 11.5 percent, while in the model of entries into poverty this reduction amounts 16.9 percent.

Given that both individual- and country-specific variables affect country differences in terms of the gender effect on poverty, we compare the contribution of both types of variables (we compare the unexplained variance of model C and D).

Individual or micro-effects unmask country differences for the risk of being poor and the likelihood of exiting poverty for women. This is not the case for the probability of entering poverty. Macro or context effects explain some of the differences observed among countries regarding the risk of being poor for women. This contribution is lower in the likelihood of exiting or entering into poverty. Country-level variables reduce the

proportion of total variance due to between-country differences regarding the risk of being poor for women by 49.4 percent, while the introduction of individual level variables increases this proportion by 21.3 percent. In the model for the risk of exiting poverty, individual-level variables increase the participation of between-country differences regarding the gender effect in the total variance by 48 percent, while the context effect variables reduce this participation by 11.5 percent. Finally, in the model for risk of entering into poverty, individual-level variables reduce the participation of between-country differences regarding the gender effect in the total variance by 16.5 percent, while the context effect variables reduce this participation by 16.9 percent. Consequently, we conclude that the country context explains more of the differences among countries not only in terms of the effect of gender on the risk of being poor as pointed out by Wiepking and Maas (2005); Casper, McLanahan and Garfinkel (1994); and Pressman (2002), but also on the risk of exiting from and entering into poverty. We also find that the country context has less influence on transitions into and out of poverty.

Finally, in the estimations for the probability of being poor, we find that there exists a positive and statistically significant covariance between the intercept and the slope once we control for individual and country effects. This means that countries with lower poverty rates also have lower gender poverty gaps, as could be expected.

7. Conclusions

In recent years, there has been a call to contextualize inequality within institutions and social relations. In this line, this study examines how the population composition of countries and contextual effects shape the odds that single adult households will be poor, exit and enter poverty. Our study aims to advance research integrating individual and contextual dimensions, by using multilevel techniques. We provided one of only a few multilevel analyses of individual poverty across affluent democracies (Wiepking

and Maas, 2005; Brady, Fullerton and Moren-Cross, 2009; and Callens and Croux, 2009).

We attempted to explain cross-national gender differences in poverty, exits and entries into poverty in different European countries. We show that there exist country differences regarding the effect of gender on poverty. We also prove that the cross-national gender poverty gap can be explained by both compositional and contextual effects.

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 individuals from being poor and entering into poverty, and help individuals in exiting from poverty. On the other hand, having children and having never been married increase the likelihood of being poor and entering into poverty, and decrease the odds of exiting from poverty.

Concerning the explanatory power of the structural context level variables, the evidence supports that expenditures on social exclusion benefits impact on poverty exit and on the risk of being poor, but not on the risk of entering into poverty.

Another finding is that country effects turn out to be more important than individual effects in reducing country differences in the gender poverty gap. We have confirmed that the gender gap is a consequence of the personal characteristics of the population. However, the characteristics of the country in which an individual lives are even more relevant in terms of gender biases present in both societies and governments.

Moreover, countries with low poverty rates also show a lower gender poverty gap. Thus it seems that policies designed to reduce poverty also work to reduce the gap. This makes sense as one of the ways to reduce poverty is to permit women greater access to education, the labor market, and better paid jobs, which at the same time reduces the poverty gap.

In the face of persistent gender poverty gap, social reformers have debated the merits of various policy initiatives. On the basis of what we have reported above, we think that two types of initiatives are important.

The first is to recognize that the best way to reduce poverty is through education and job experience. For women, this requires comprehensive educational and training programs specifically targeted at enhancing women's opportunities for high paying jobs. It also means that for young women with children, inexpensive child care and child support are essential to overcome differences in earnings. Therefore, putting an end to women's poverty and providing better economic opportunities for all women will require specific policy actions to ensure that women receive the pay they deserve, enjoy equal working conditions, and have access to higher-paying jobs. Moreover, women in the workforce must have access to quality flexible work and paid family leave, among other opportunities. Any strategy that relies on paid work as the main route out of poverty therefore has to be explicitly gendered.

The second set of reforms is to recognize that government transfers have made and can make a difference in reducing poverty. Paid work is not a panacea and may not always be the most appropriate immediate route for those living on benefits. Transfers such as social exclusion benefits have definitely helped to reduce the rate, if not the depth, of poverty among elderly women. Talk about restricting access to or reducing benefits will only serve to threaten the gains that have been made thus far. To reduce the disproportionate number of women in poverty, we recommend strengthening government transfers by targeting them more specifically at women's needs.

In sum, the best policy solutions to address women's poverty must combine a range of decent employment opportunities with a network of social services that support

healthy families. These approaches must promote the equal social and economic status of all women by expanding their opportunities to balance work and family life.

We suggest two different lines of future research. First, it would be interesting to analyze the study of the role of family and community networks in poverty. Secondly, since the related literature about the factors for moving in and out of poverty is not very abundant, it would be interesting to go further in the study of these movements to take account of other factors such as community networks, culture, ethnic background, religion and tax systems, etc.

To perform a fully fledged gender analysis of poverty, and therefore avoiding certain assumptions, it would be interesting that the European datasets include information about the intra-household allocation of resources, or at least a subjective question about the share of household income enjoyed by each member.

Finally, in terms of the gender analysis of poverty dynamics, the short length of the panel makes it not possible to analyze the effect of certain events in the past over the risk of poverty. There is a clear need for longer panels. In the meanwhile, it would be interesting to include some retrospective questions about poverty and other demographics variables (as date of marriage, time in current job, time in unemployment ...)

Acknowledgements

The financial support from Spanish Ministry of Education through grant ECO2009-11117 and Junta de Andalucía through grant P07-SEJ-03261 to Ana I. Moro-Egido is gratefully acknowledged. All errors are solely ours.

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