ISER Working Paper Series

Poverty Permanence Among European Youth

Daria Mendola, Annalisa Busetta

Department of Quantitative Methods for Human Sciences
University of Palermo, Italy

and Arnstein Aassve

Institute for Social and Economic Research
University of Essex, UK

No: 2008-04
January 2008

INSTITUTE FOR SOCIAL & ECONOMIC RESEARCH

E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL

www.iser.essex.ac.uk

NON-TECHNICAL SUMMARY

The fact that young individuals in Social Democratic countries (i.e. Scandinavian) face a higher poverty risk compared other European countries is unexpected. With generous and universal welfare benefits, one would expect youth poverty to be much lower in these countries. The rather recent literature on youth poverty demonstrate that out of the many events that take place in young individuals' lives - such as completion of education, entering the labour force, getting married and having children - it is the event of leaving the parental home that is by far the most important driver behind youth poverty. One important answer for why youth poverty rates are so high in Scandinavia lies in the very fact that compared to other countries, young Scandinavians tend to leave home at a much earlier age. However, the poverty experience of young Scandinavians is generally short lived, implying that poverty by itself may not be a good measure of youth disadvantage.

In this paper we construct an alternative measure of young adult's poverty experience, which we argue is a better measure of social disadvantage among youth. The measure is based on the number of periods an individual is recorded to be below the poverty line. Using observed poverty spells from the European Community Panel Survey (ECHP) we construct a three group classification as follows: 1) never poor, 2) socially vulnerable, and 3) persistently poor. On the basis of this definition we implement a generalized ordinal logit model from which we assess the various factors associated to the permanence in poverty, including education, living arrangements and labour market status.

The analysis shows that high rates of poverty do not necessarily translate into stronger permanence of poverty. For instance, there is little evidence to suggest that poverty permanence is higher in Scandinavian countries, despite them having higher poverty rates. Thus, the poverty experience resulting from leaving home at an early age, does not translate to any long term youth disadvantage. Thus, generous welfare provision and an effective labour market is able to stave off youth disadvantage.

Whereas previous studies have reported significant gender differences in poverty rates, our analysis shows that such differences are much weaker when it comes to poverty permanence. On the contrary, controlling for a range of background factors, young women are less likely to experience poverty permanence and hence youth disadvantage.

Generally speaking, higher levels of education are strongly associated with lower levels of persistent poverty. By comparing different welfare regimes, it is apparent that the importance of education is greater in Conservative and Mediterranean countries.

Poverty Permanence Among European Youth

Daria Mendola, Annalisa Busetta

Department of Quantitative Methods for Human Sciences
University of Palermo, Italy

and Arnstein Aassve

Institute for Social and Economic Research
University of Essex, UK

January 2008

ABSTRACT

Previous studies suggest that Scandinavian countries are the ones with the highest rates of youth poverty in Europe. This somewhat unexpected finding prompts the question whether the incidence of poverty is an appropriate measure of youth disadvantage. Instead of considering poverty rates we define here youth disadvantage in terms of the number of periods an individual is recorded to be below the poverty line. Using the European Community Household Panel, individuals are classified into different groups of poverty permanence, each reflecting severity of social disadvantage. Based on these categories we implement a generalized ordinal logit model to assess the various factors associated with social disadvantage among youth. In contrast to previous research, we find little evidence to suggest that young individuals in Scandinavian countries suffer higher levels of social disadvantage. Moreover there is no significant gender difference in Conservative and Social Democratic welfare regimes, but significant difference in Mediterranean and Liberal countries. As previous studies suggests, young individuals' living arrangements matter.

Key words: permanence of poverty, youth, comparative analysis, panel data, Partial Proportional Odds Ordered Logit Model

JEL codes: I32, J13, C23, O57

Contact: Daria Mendola, Dipartimento di Metodi Quantitativi per le Scienze Umane, Università di Palermo, Viale delle Scienze, ed. 13 - 90128 Palermo, Italy;
tel. +39(0)91-6626303; email: mendola@unipa.it

Acknowledgements:

This paper is based on work carried out during two visits to ECASS (European Centre of Analysis in the Social Sciences), University of Essex (UK), in 2006 and 2007, and to IRISS at CEPS/INSTEAD in Differdange (LU) during 2006. The ECHP data used in the analysis were made available by ECASS and IRISS. The visit to ECASS was supported by Access to Research Infrastructure Action under the EU Improving Human Potential Programme. The visit to IRISS was supported by the European Commission under 6th framework Programme's Research Infrastructures Action (Trans-national Access contract RITA 026040).
Dr Annalisa Busetta and Dr Daria Mendola wish to thank most heartily all the staff of the Institute for Social and Economic Research at the University of Essex and the ECASS and IRISS staff for their precious technical support and warm reception.
Special thanks to Maria Iacovou, who provided precious help with databases and suggestions in a preliminary version of this paper. All errors and inconsistencies in the paper are our own.

1. Introduction

There is now a well-developed literature on household poverty, including specific subgroups such as children and older people. In contrast, the literature on *youth* poverty is emerging only now (Iacovou and Berthoud, 2001; Aassve *et al*. 2005a; 2006; Iacovou *et al.*, 2007). One of the most remarkable findings from these recent studies is that youth poverty in Social Democratic countries (measured by Denmark and Finland) are much higher than in any other European country. This is not only the case from a cross-sectional point of view, but also in the dynamic perspective: young individuals in Social Democratic countries are considerably more likely to enter poverty than is the case in any other European country. The studies also demonstrate that out of the many events that take place in young individuals' lives, such as completion of education, entering the labour force, getting married and having children, it is the event of leaving the parental home that is by far the most important driver behind youth poverty.

The fact that young individuals in Social Democratic countries face a higher poverty risk than in other countries is certainly somewhat unexpected. With generous and universal welfare benefits, one would expect youth poverty to be much lower in these countries. Why then are youth poverty rates so high in Social Democratic countries? One important answer lies in the very fact that young individuals in these countries tend to leave home at a much earlier age than young adults in other countries. This raises another question, is youth poverty a reflection of a real disadvantage? In some countries there are good reasons to believe that it is not. Two other important questions have to be answered here. The first concerns the way economic disadvantage is measured. It seems clear that in terms of youth poverty the use of poverty prevalence or simple poverty dynamics may not reflect a true or realistic measure of youth disadvantage. Is it really a fact that young individuals in Social Democratic countries face stronger hardship than their European counterparts? The answer is probably no. However, what is clearly needed is a more representative measure of economic disadvantage. The second question is: does leaving home lead to higher disadvantage; is this equal across all welfare regimes? and do young people leave home at an earlier age because they know that any experience of poverty will be short-lived, given the strong social protection and excellent work prospects? Aassve *et al.* (2007) give some answers to this question: they argue that young individuals in Social Democratic countries are able to leave home earlier because they are somehow aware that any decline in their economic wellbeing is likely to be of a temporary nature.

In this paper we argue that a more appropriate measure for economic disadvantage can be provided by constructing a measure of persistent poverty. That is, experiencing poverty in any given time period may not represent a severe disadvantage if it is unlikely to ever happen again. In

contrast, an extended spell of time spent below the poverty line will for most individuals be considered as economic disadvantage and drive them to social exclusion. The distinction is of course important from a social policy perspective, especially if patterns of temporary poverty diverge significantly from patterns of persistent poverty. Thus, our interest lies in whether high youth-poverty rates (from a cross-sectional point of view) are mirrored by higher rates of persistence. Moreover, do temporary and persistent poverty have the same determinants? These questions are of paramount interest to policy makers, since those experiencing several spells of poverty in a persistent manner are the ones that are most vulnerable, and therefore need policy makers' attention most.

This paper addresses the issue of measuring disadvantage explicitly by using information from the European Community Household Panel (ECHP) Survey. The survey is longitudinal and contains rich information about incomes, labour force behaviour, and other demographic characteristics of the respondents. In contrast to the previous literature on youth poverty we construct here a measure of permanence in poverty, which is based on a summary measure of the number of time periods an individual is recorded as poor and of the observed *sequences* of poverty (and non-poverty) spells and we explain the main factors associated to its patterns. Given this measure, the analysis provides detailed information about dissimilarities across countries and different groups.

The paper is structured as follows. We first discuss the issue of poverty among youth, which forms the contextual framework of our analysis. We undertake a brief review of the literature concerning the permanence of poverty and its determinants. Next we introduce the ECHP and explain our definitions of permanence of poverty. The empirical analysis is then undertaken by implementing a Partial Proportional Odds Ordered Logit Model (PPOOM) emphasizing the relationship between our measure of persistency in poverty and demographic characteristics, living arrangements, employment status, and other relevant individual dimensions. The analyses are carried out using a classification of eleven countries according to their social welfare regime typology.

Not unexpectedly we find that low education, living without a partner, leaving the parental home and being without work are important risk factors for permanence in poverty. However, comparing countries, we find that the Dutch and Danish (Social Democratic) welfare systems are those best able to smooth out any detrimental effects from these sources. In the Mediterranean welfare regime countries, there is no significant association between leaving the parental home and the experience of long-run poverty. Here, living with parents is likely to be an important factor in avoiding persistent poverty. An important finding is that economic disadvantage measured in terms of persistence does not reflect the high rates of youth poverty in Social Democratic countries as reported in the previous literature. Whereas simple tabulations show that

women are more likely to experience persistent poverty, and therefore economic disadvantage, this effect disappears in our statistical modelling where we control for a range of background variables.

2. Background

The rather limited literature on youth poverty is comprehensively surveyed in Iacovou and Berthoud (2001) and Aassve et al. (2005a and 2005b; 2006). We start by giving a brief summary of the main findings. The great majority of existing studies are based on either the cross-sectional Luxembourg Income Study (LIS) or the longitudinal ECHP. Iacovou and Berthoud (2001), using data from the ECHP, find that across Europe the risk of poverty falls with age over the age range 17-30 years. They find that a range of factors - being in employment, having a working partner, and living in one's family of origin - protect against poverty, and that the risk of poverty is highest for people for whom none of these protective factors is present. Young people in the Social Democratic group of countries are most likely to have no protective factors present and most likely to be poor, given the absence of these protective factors.

Kangas and Palme (2000) use LIS data to study variations in poverty rates over the life cycle in eight OECD countries. They first analyse poverty rates by age group alone, and find high poverty rates among those under 25. They then consider a life-stage typology, based on four groups: "youth", "family", "empty nest", and "old age". Childless young adults under 25, defined as "youth", are found to be at a higher risk of poverty – though at a varying degree across countries.

Smeeding and Phillips (2002), also using LIS data from France, Germany, Italy, Sweden, the UK, the US, and the Netherlands, analyse the economic sufficiency of young people's earnings and the incidence of poverty. They find that in all countries only a minority of young people in their late teens and early twenties are able to support themselves with their own earnings. Also, when social transfers are taken into account, a significant proportion of young people remain unable to support themselves – and even less so if they started a family before their mid- to-late twenties. Although income sufficiency increases markedly through the early twenties, poverty rates decline much more slowly over this age group, indicating that young people with low earnings are protected from poverty to a certain degree because many of them keep living with their families of origin.

Fahmy (2002), using data from the 1999 *Poverty and Social Exclusion Survey of Britain*, finds that on a range of five poverty measures, people aged 16-24 years are more likely to be poor than those aged 25-34. For example, using a standard measure of poverty based on 60% of median income and the OECD equivalence scale, 33% of those in the 16-24 age group were poor, compared with only 16% of those aged 25-34. The European Commission report on poverty

(Eurostat, 2002), based on ECHP data, reports that across Europe the incomes of young people under age 24 are below national averages: the only groups poorer than young people are children and older people over age 65. Using an alternative approach which assesses the risk of poverty as a function of an individual's position in income distribution, young people appear at even greater risk of poverty relative to other groups: this relative risk is particularly high in Scandinavian countries. Young people are also at higher risk of non-monetary deprivation than older groups – though the differentials in risks are less marked, which may be related to the fact that many young people continue to rely on support from parents through transfers-in-kind. Smeeding *et al.* (1999) and Berthoud and Robson (2003) confirm that in most Anglo-Saxon nations single parenthood is a strong risk factor for youth poverty. In both the US and the UK, former teen mothers are markedly more likely than women who first gave birth in their twenties not to be in work and to be in the bottom fifth of income distribution. Teenage motherhood is much less common in continental Europe, but it still holds that former teen mothers fare much less well on average in later life.

Labour market factors such as unemployment and low pay are also important risk factors for poverty among young people. Canto and Mercader-Prats (1999) study entry level jobs held by new school leavers (aged 16 to 29) one year after leaving education in different selected European countries, and find that the labour market varies markedly between countries. The key role of education has also been highlighted by Pavis *et al*. (2000), who point out that simply getting a job is not enough to avoid social exclusion: even if they find a job, those with low educational levels may remain trapped in poorly paid low-quality employment.

The distinction between static and dynamic dimensions of poverty is important. Whereas the static dimension relates to the household income at a certain point in time, and is useful to generate poverty maps, the dynamic aspect concerns how poverty evolves over time. For instance, analysing the determinants behind why some households can escape poverty while others cannot requires a dynamic approach based on longitudinal data. Similarly, analysis of poverty entry, stability of households' income situation, and whether poverty is a repeated phenomenon or not all require a dynamic perspective. The dynamic aspects are consequently the medium within which poverty occurs and shapes the experience of being poor (Walker and Ashworth, 1996; Muffels *et al.*, 2000). Needless to say, the time dimension is of crucial importance. "In the short run households may be able to make ends meet by drawing on their savings and reduce their expenditures, but for the longer run these strategies are often insufficient to cope with the income shortfall." (Muffels *et al*., 2000).

It is well established in the literature that households' poverty differs substantially across the European countries; this is also the case for youth poverty (Aassve *et al*., 2006). It is argued that country institutions and regulations play an important role in a country's income distribution and therefore its experience of poverty (Fouarge and Layte, 2003). Consequently comparative

poverty analyses are often carried out by clustering countries into similar groups. Esping-Andersen (1990) argues that welfare states are grouped into typologies and that countries might be treated as belonging to a limited set of welfare regime types. The term "regime" represents in this view a particular mode of policy intervention, a particular set of intervention strategies, policy tools, and a particular design of the regulatory or institutional framework (Muffles and Fourage, 2003). Clearly, these regimes must be interpreted as ideal-types and there is not likely to be any country that fits perfectly in one type: in this sense the recourse to Esping-Andersen's classification does not imply that each country must belong to one particular regime. Each country constitutes a 'hybrid' case belonging not to one particular cluster but to several clusters. The country clustering used in this paper builds on Esping-Andersen and consists of Social Democratic, Liberal, and Conservative regimes. The first is characterized by high levels of state support and an emphasis on the individual rather than the family. This group contains the Scandinavian countries, Denmark, and the Netherlands; the Conservative regime, characterized by an emphasis on insurance-based benefits providing support for the family rather than the individual (the Continental European States of France, Germany, Austria, Belgium, and Luxembourg); and the Liberal group of welfare states characterized by a modest level of welfare state provision and a reliance on means-tested benefits (US, and to a lesser extent the UK and Ireland). Ferrera (1996) proposes a separate fourth category for the Southern European countries, which contrasts with Esping-Andersen's original three group typology: the Southern or Mediterranean group of 'residual' welfare states, typified by low levels of welfare provision, and a reliance on the family as a locus of support – comprehending Italy, Spain, Portugal, and Greece.

As well as providing a convenient and theoretically-motivated way to simplify the interpretation of our analyses, this kind of welfare-regime analysis also prompts considering the links between the welfare state and the youth's permanence in poverty. In particular, to what extent can persistent youth poverty be relieved by welfare state benefits, or state intervention in the labour market? We would expect that "social democratic regimes would lead to fewer poverty entries and greater exits than corporatist regimes as although levels of payment in the latter may be relatively high, entitlements tend to be restricted to 'core' groups with a history of employment. The higher levels of active labour market policy in Social Democratic regimes should also have a negative impact on the probability of experiencing poverty and the spell duration" (Fouarge and Layte, 2003). On the contrary Corporatist and Social democratic regimes should have more effective anti-poverty policies than Liberal or Southern European type regimes where appears to be a low-level universal benefit system (liberal regime) or a non-existent benefit system (Southern European regimes) (Fouarge and Layte, 2005).

Some studies on poverty permanence in Europe have been undertaken. In their comparative study on Netherlands, Germany, and the UK, Muffels *et al*. (2000) find that young

Netherlander heads of households are much more prone to persistent poverty than older ones as also that male heads of households are less likely to be persistently poor than female ones. They also notice that the living arrangement situation has a *great* impact on permanence of poverty. The number of children, as well as separation during the observation period, strongly influences the likelihood of persistent poverty. Labour market variables appear to exert an even stronger impact on persistent poverty, but it is also interesting to look at the impact of human capital variables. A low educational level has a positive impact on the permanence in poverty, in the sense that the lower the education the higher the permanence in poverty. Education, even at the lower layers of the labour market, pays in terms of saving people from persistent poverty.

More recent studies on poverty permanence (Fourage and Layte, 2005) provide evidence on the extent to which EU welfare states promote their citizen's welfare, on the efficiency of labour market mechanisms in terms of reducing the risk of long-term poverty, and on the effect of the (changing) household context on poverty risk. They illustrate that the national welfare regime strongly influences long-run poverty, and it is the Social Democratic countries that are found to do a better job of preventing poverty and long-term poverty. On the contrary Liberal tradition and Southern European countries display much higher rates of poverty and longer durations of poverty spells. Jobless households are not only more likely to become persistently poor, but they are also less likely to exit from poverty. The more generous Social Democratic regimes, with their higher level of benefits, are associated with a lower risk of income poverty, though once in poverty, weaker incentives and greater income stability may actually mean that poverty spells are lengthened. On the contrary in Liberal and Southern regimes less generous and proactive welfare systems may be less effective at initially moving people out of poverty, but higher levels of incentives may induce higher exit rates (Fouarge and Layte, 2005). Previous research examining the influence of welfare regimes on poverty dynamics shows that in Social Democratic welfare regimes (such as Denmark and Netherlands), individuals are far less likely to experience poverty than in Liberal or Southern European welfare regimes. Layte *et al.* (2003) also observe that the experience is more equal across the population if it is viewed from a longitudinal perspective. In our study we focus on the pattern of the poverty spells and their relation to the personal characteristics across seven consecutive years.

3. Data and measurement of poverty permanence

The data we use for our analysis come from the ECHP, a set of comparable and large-scale longitudinal studies set up and funded by the European Union. The first wave of the ECHP was collected in 1994 for the original twelve countries in the survey[1], and then three other countries were late joiners to the project: Austria joined in 1995, Finland in 1996, and Sweden in 1997.

Each individual is asked about his or her income from earnings, private and state pensions and benefits, and other sources. Additionally, information is collected about any other income of the household. All the answers collected about income are retrospective, and they cover the calendar year prior to the survey interview, while other variables pertain to the respondent's situation at the time of the interview. This means that there is a temporal mismatch between incomes and other variables, including the household composition, which presents a problem when computing household equivalent income. In order to overcome this issue we take the approach followed by Heuberger (2003)[2].

Given that household income is lagged we end up with a panel of seven waves at most. As in most studies on this topic, we define the poverty threshold to be 60 percent of the net equivalised household income[3] as specified above: when the household income falls below this threshold all its members are defined as poor. This relative poverty measure facilitates comparisons between countries, even in the case of countries with different per capita incomes. We include in the study only those countries (eleven) that participated in the panel from the beginning. The dataset so defined is a balanced panel including all the individuals participating in 7 waves across all countries for whom the household income is available. The results presented here are at the individual level[4]. The final sample consists of 11,792 individuals ranging from 16 to 29 years at the first wave of interview; these are the age thresholds we fixed to accomplish a period of life which is between childhood and adulthood, and which seems to be an appropriate compromise for all the countries considered.

Our measure of poverty permanence considers the length of recorded poverty spells, taking into account explicitly the temporal sequencing of the episodes of poverty. We include only

[1] Germany, Denmark, the Netherlands, Belgium, Luxembourg, France, the UK, Ireland, Italy, Greece, Spain and Portugal

[2] See Aassve *et al*. (2006) for further details on how this is done.

[3] We adjust the information using the OECD modified equivalence scale to take into account the differences among size and composition of the household in which individual lives. In this scale a weight of 1 is given to the first adult, a value of 0.5 to each additional adult, and a value of 0.3 to each child.

[4] The data of the descriptive statistics are first weighted on a cross-sectional basis to make them representative for the population of their own country. In particular, to take into account that individuals participate at the survey in different years and for different periods, a cross-sectional weight of the last year of his/her interview has been applied to each individual.

complete sequences, discarding individuals with missing information on income and individuals leaving the panel due to attrition.

A poverty sequence consists of a string of ones and zeroes. A long sequence of ones represents a long-run poor individual. A string of zeroes obviously represents an individual with no poverty experience. However, given that an individual may have any combination of zeroes and ones, the sample consists of a rather heterogeneous collection of possible poverty strings or sequences; in total we have 128 different poverty sequences.

We consider different ways to group the 128 poverty sequences, but as yet, there is no easy way to provide an intuitive meaning and interpretation to the obtained groups and to arrange them in an ordinal way. For the sake of simplicity we construct three groups of poverty profiles: 1) "never poor", 2) "socially vulnerable", and 3) "permanently poor", which constitute the categories of our variable of interest (response variable). Young individuals who are never poor belong to the first group. In the second group we include those who experience at maximum two consecutive years of poverty and those who experience three consecutive years in poverty but have no others episodes of poverty along the seven waves[5]. Finally, people experiencing at least four consecutive years of poverty, or only three consecutive periods of poverty, but in addition to other occasional spells of poverty, belong to the third group[6]. This creates a simple but effective response variable that captures multiple spells of poverty taking into account either the most significant sequence of years in poverty and the possibility of having multiple episodes of poverty during the period, even if not consecutively. The measure is not directly related to the severity of the poverty but rather depends on how long poverty spells last. In essence this means that we study the factors associated with persistency in the state of poverty, distinguishing between those who have short spells in poverty and those who experience a protracted poverty spell.

Table 1 reports the percentage distribution of these groups and shows that the majority of people are never poor (63.6%), a significant proportion is classified as socially vulnerable (25.5%), and a small proportion is persistently poor (10.9%). Nevertheless, the permanence of poverty is clearly considerable in all countries, though the magnitude differs. More than 70 per cent of all the young people in Belgium, Germany, and Portugal are never poor while in Italy, Greece and Ireland this percentage is less than 60 per cent. The prevalence of poverty is therefore much higher than the annual statistics on poverty show. In Italy more than one person out of five experiences some extent of severe long-run poverty while in Germany, Denmark, and Belgium it affects only one out of 20.

[5] Examples of this poverty patterns are (0011010), (0000110), (1010011), (0011100) or (1110000) or (0001110).

[6] Belongs to this group the following sequences: (011101) or (1110101) so that they are poor more than half the observed period. Note that the following two poverty sequences gives a poverty hit rate of 3/7: (0101010) and (0001110). However, in the terms of poverty persistence, the first sequence is classified under "Socially vulnerable", whereas the second sequence is classified as someone in group "Permanently poor".

The prevalence of this form of persistent poverty varies therefore quite substantially across the European countries. Persistent poverty seems to be only slightly higher in Greece, Spain, Ireland, UK, and above all in Italy (21.6%).

Table 1 - The response variable for the persistence model

Group	*Frequency*	*Percent*
Never poor	7,502	63.6
Socially vulnerable (In & out poor)	3,011	25.5
Permanent poor	1,279	10.9
Total	11,792	100.0

Figure 1: ***Poverty permanence by country***

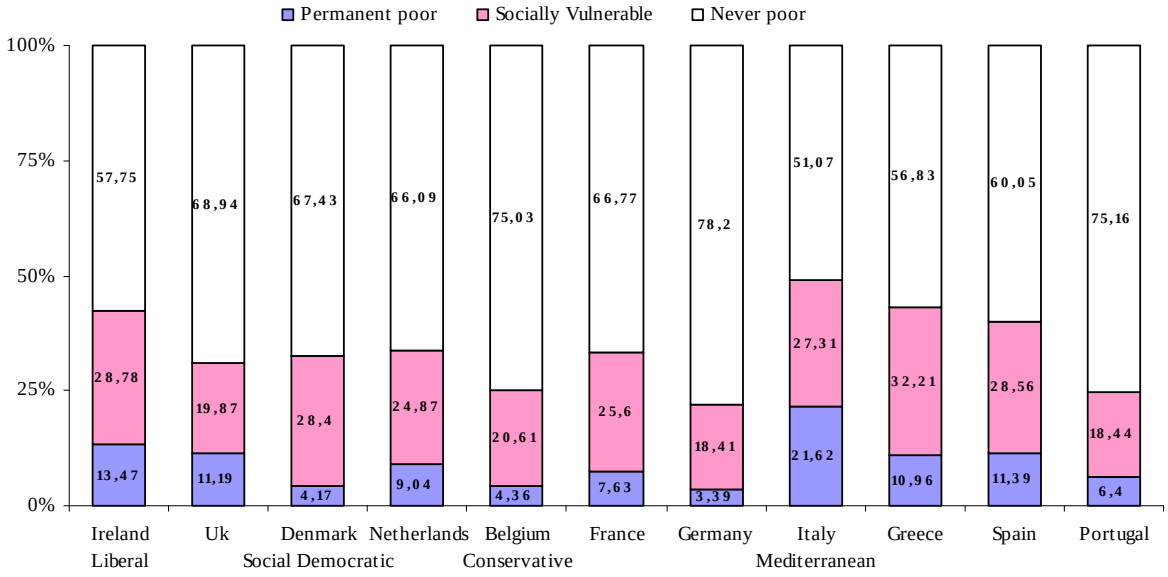
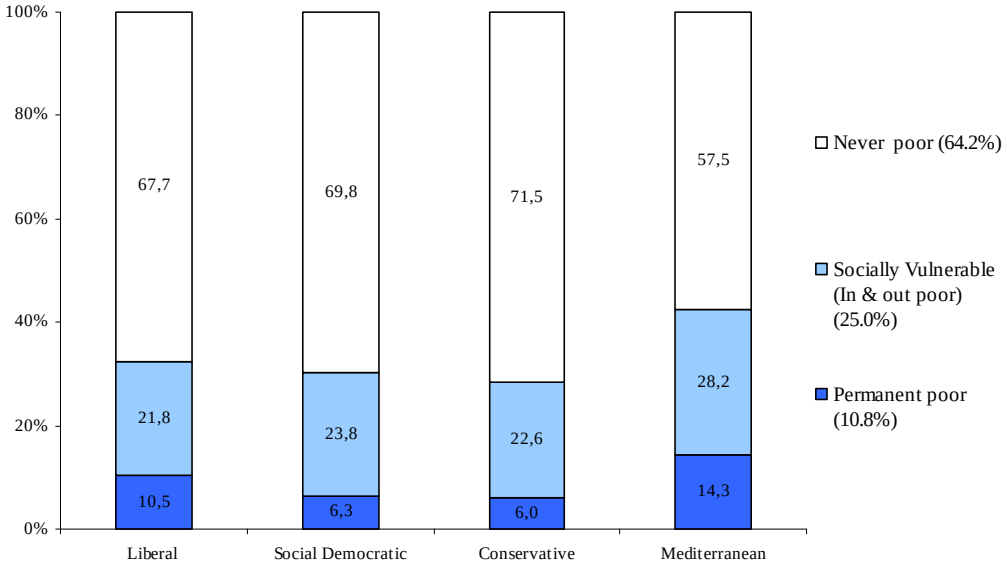


Figure 2 shows the percentages of permanently poor and socially vulnerable youth by different welfare regimes. The Conservative welfare regime performs best within the group of never poor, whereas the Mediterranean welfare system performs particularly poorly: one out of seven young individuals is permanently poor and more than one out of four is socially vulnerable.

Figure 2: ***Poverty permanence and welfare states***



The ECHP gives rich information at individual and household levels potentially related to poverty and its persistence. Age and gender are important individual characteristics whereas marital status, cohabitation and having left the parental home are key household characteristics. Also, the ECHP provides information on education and activity status whereas the latter includes student, working, and unemployed[7].

4. Modelling poverty permanence

4.1 Statistical model

Our primary aim is to identify factors associated to the patterns of the permanence of poverty. We do so by specifying a statistical model using the three poverty permanence categories (profiles) defined previously. Whereas some studies have used multinomial logistic regression (e.g. Muffels *et al.*, 1999; Okrasa, 2000), we recognize here that the poverty permanence profiles are intrinsically *ordered*. However, the Independence of Irrelevant Alternatives (IIA) assumption of the classical ordinal logistic regression is unlikely to hold in this setting[8]. Examples of applications where the dependent variable is ordinal include Fouarge (2002) and Fouarge and Layte (2005). However, an important drawback of these approaches is that an ordinal logit model imposes the rather restrictive assumption of proportional odds ratios (also termed the parallel regression assumption), which requires the effects of the covariates on the log-odds of observing a value on the dependent variable to be invariant to the cut-point parameters (Long, 1997). The

[7] For technical details see table A in the Appendix.

main problem is that some coefficients could differ greatly across equations, which is reasonable considering the very different experiences of the individuals in the three groups defined over their pattern of poverty permanence. The assumption can be tested easily by the Brant test (Brant, 1990). In our case, a global test and a test for each variable show that the parallel lines assumption is sometimes clearly violated.

In order to overcome this shortcoming we specify instead a model in the class of the *Generalized Ordered Logit Models.* In particular we use the *Partial Proportional Odds Model for Ordinal Dependent Variables* (PPOOMs), which allows variables not fulfilling the proportional odds assumption to have different effects on the dependent variable (Peterson and Harrell, 1990; Kang Fu, 1998; Williams, 2006). We might thus find that some explanatory variables are statistically significant for certain persistency profiles (and of different magnitudes) but not statistically different for others.

The *Partial Proportional Odds Model* can be written as a generalized ordered logit model:

$$P(Y_i > j) = g(X\beta_j) = \frac{exp(\boldsymbol{\alpha}_j + \mathbf{X}\boldsymbol{\beta}_j)}{1 + exp(\boldsymbol{\alpha}_j + \mathbf{X}\boldsymbol{\beta}_j)}, j = 1,2,...,M-1$$

where M is the number of categories of the ordinal dependent variable, and β_j is specific for each j in so far the parallel lines assumption is violated otherwise $\beta_j=\beta$. In particular, this model implies that the reference group for the log-odds interpretation is different from one value to the other (cut-points) on the dependent variable, as shown by the following expression[9]:

$$ln\left[\frac{P(Y > j)}{P(Y \leq j)}\right] = \boldsymbol{\alpha}_j + \mathbf{X}\boldsymbol{\beta}_j \qquad \text{with} \quad j=1,2,\ldots,\text{M-1} \qquad (1)$$

The *Partial Proportional Odds Model* in our case is estimated to model the factors related to the permanence in poverty. The response variable is defined over a decreasing degree of poverty permanence. In other words, Y=1 for *permanent poor*, Y=2 for *socially vulnerable*, and Y=3 for *never poor*. Consequently, the first cumulative logit model (let us say *logit 1*) compares "socially vulnerable and never poor" vs. "permanent poor", while the second logit model (let us say) *logit 2*) refers to "never poor" vs. "permanent poor & socially vulnerable". In this manner each group is compared to a poorer group.

---

[8] Applications of the multinomial logit model (e.g.), find that the variables explaining membership to the various recurrent poverty categories are the same for all the groups and that the magnitude of the effects is larger for the most recurrent than for the other poor categories.

[9] Note that some well-known models such as the ordinal logit or multinomial logit are special cases of the *Generalized Ordered Logit* model. When M = 2, the gologit model is equivalent to the logistic regression model. When M > 2, the gologit model becomes equivalent to a series of binary logistic regressions where categories of the dependent variable are combined according to sliding cut-points. E.g. in equation (1) if M = 4, then for j = 1 category 1 is contrasted with categories 2, 3 and 4 pooled together; for j = 2 the contrast is between categories 1 and 2 versus 3 and 4; and for j = 3, it is categories 1, 2 and 3 versus category 4.

The main issue in defining relevant covariates is how to best represent a dynamic context within a static approach. Poverty permanence is conceptually longitudinal since repeated measures are needed in order to generate the response variable. However, there is only one value of the response variable for each individual across the seven waves. Nevertheless, the factor to be associated to the response variable may or may not be of a dynamic nature. Some explanatory variables are clearly time-invariant (e.g. gender), whereas others are time-variant since changes might have occurred during the period in which the sequence of poverty spells was recorded (e.g. the respondent's age or marital status). In the models explained in the next section we check for both types of variables, but obviously expressed in a static way. We also include the values of the time-varying variables measured at the initial time period. These variables will control the initial state (we will refer to them as *initial conditions*) whereas their time varying version will capture the effects of changes during the spell in which the poverty sequence was measured (in the following *transition variables*). In this sense variables such as education, marital status, and activity status are included twice: first in their initial state in the first wave, and secondly through any changes taking place during the panel.

We construct the transition variables as the proportion of years staying in a specific status along the seven waves; so that for instance the "duration as student" is a variable corresponding to the number of years spent as a student within the seven years of observation, while for the "increase of level of education" we build a dummy variable which records 1 only if there is at least one upgrade in educational level.

4.2 Results

As previously outlined we construct poverty permanence from the actual length of time spent as poor in a sequence of seven consecutive annual observations. Individuals are divided into three ordinal groups accordingly and we apply the Partial Proportional Odds model to estimate the factors associated with the permanence of poverty. Considering that some country specific samples are rather small, we group countries according to their welfare regime typology. Thus estimates are not provided for each country but are given for each welfare regime.

Before discussing the results, it is important to explain the meaning of the parameter estimates. We report here the odds ratios, meaning that values above 1 refer to a positive effect, whereas a value less than 1 refers to a negative effect. Importantly, the effects refer to the reference group, which is different in the two models assessed. In the first model the reference group is the one where individuals experience the worst form of persistent poverty; while in the second model it is the group of individuals who experience poverty to some extent (persistent poor and socially vulnerable people). Thus, a positive effect (i.e. an odds ratio larger than 1)

implies a higher likelihood of belonging to this reference group, whereas a negative effect refers to a lower likelihood of belonging to the complementary group.

The estimates of the model give in some instances different results from those one would expect from the descriptive statistics. One example concerns age. Whereas the descriptive results suggest a negative relationship with age – i.e. persistent poverty goes down with age - such a pattern is not evident from our model. Descriptive analysis also suggests that the permanence in poverty is stronger for women than for men. The model in contrast, controlling for all covariates, suggests in fact that young women are less likely to experience persistent poverty. We discuss this issue in more detail below.

Education, not unexpectedly, is a key factor but not for all the welfare state typologies. General speaking, higher levels of education are strongly associated to lower levels of persistent poverty: this is the case independently of whether education is measured at the beginning of the period (as an initial condition) or through any increments taking place during the time the person is observed. Considering the results by welfare regimes it is evident that the importance of education is greater in Conservative and Mediterranean countries, but less so (and often not significant) in the remaining welfare groups.

Table 2a - Results of the PPOOM by welfare regime (*odds ratio estimates*)

	LIBERAL		SOCIAL DEMOCRATIC	
	Not being permanent poor (a)	Being poor to some extent (b)	Not being permanent poor (a)	Being poor to some extent (b)
	Logit 1	*Logit 2*	*Logit 1*	*Logit 2*
INITIAL CONDITIONS				
Personal characteristics				
Woman	1.8973***		1.1605	
Age at first wave	0.8984		1.0010	
Squared age at first wave	1.0046		1.0041	
Socio-economic characteristics (at first wave)				
Higher Second. School (ref. Tertiary School)	0.6269		0.8170	
Below Upper Secondary School	0.3254***		07179	
Student (ref. worker >15 hours)	0.1302***		0.3690**	
Unemployed or non labour forces	0.3159***		0.2488***	
Living arrangement characteristics (at first wave)				
Living with a partner or spouse	2.3319**		1.6341	
Leaving parental home	0.4184**		0.9266	
Mean number of children (all waves)	0.4300***		0.5610*	
TRANSITION VARIABLES				
Socio-economic changes				
Increase of level in education	1.0858		0.7703	
Duration as student (ref. <0.5)	4.7124		0.1842***	
Duration as unemployed or non labour forces (ref. <0.5)	0.3428***		0.8980	
Living arrangement changes				
Duration in cohabitation (ref. <0.5)	0.6008		0.8202	
Duration out of parental home (ref. <0.5)	0.3212***		0.0576***	
Duration as single (ref. <0.5)	0.3503***		0.4834*	

Note:
(a) socially vulnerable or never poor (vs. permanent poor)
(b) never poor (vs. permanent poor or socially vulnerable)

Table 2b - Results of the PPOOM by welfare regime (*odds ratio estimates*)

	CONSERVATIVE		MEDITERRANEAN	
	Not being permanent poor (a)	Being poor to some extent (b)	Not being permanent poor (a)	Being poor to some extent (b)
	Logit 1	*Logit 2*	*Logit 1*	*Logit 2*
INITIAL CONDITIONS				
Personal characteristics				
Woman	1.2103		1.1500*	
Age at first wave	1.0688		0.9257	
Squared age at first wave	1.0014		1.0024	
Socio-economic characteristics (at first wave)				
Higher Second. School (ref. Tertiary School)	0.5170***		0.4837***	
Below the Upper Secondary School	0.2315***		0.2058***	0.2790***
Student (ref. worker >15 hours)	0.3291***		0.4599***	
Unemployed or non labour forces	0.3568***		0.3934***	
Living arrangement characteristics (at first wave)				
Living with a partner or spouse	1.9692**		2.4375***	
Leaving parental home	0.5342**		0.9064	
Mean number of children (all waves)	0.5335***		0.4878***	
TRANSITION VARIABLES				
Socio-economic changes				
Increase of level in education	2.7662**	1.3927*	1.3387***	
Duration as student (ref. <0.5)	0.5899		0.8214	1.1264
Duration as unemployed or non labour forces (ref. <0.5)	0.6857*		0.3917***	0.5122***
Living arrangement changes				
Duration in cohabitation (ref. <0.5)	0.4119***		0.4980	
Duration out of parental home (ref. <0.5)	0.2779***		0.8583	
Duration as single (ref. <0.5)	0.2854***		0.5272***	0.7658*

Note:
(a) socially vulnerable or never poor (vs. be permanent poor)
(b) never poor (vs. be permanent poor or socially vulnerable)

Whereas education certainly protects against persistent poverty, our results show that being a student increases permanence in poverty. The pattern is not unexpected. Once individuals are enrolled at school or universities, they face a higher likelihood of persistent poverty. Once they leave education, however, they are in a better position than those having lower education and have therefore spent less time in education. Employment also shows the expected pattern: those unemployed are more likely to be poor whereas those employed, i.e. the majority, face considerably less persistent poverty. Activity status recorded at the first wave has an important impact on the duration of poverty: being a student, unemployed or out of the labour force is in all three cases more likely to lead to experiencing a protracted period of poverty. There is also a clear relationship between how long an individual occupy these states and persistent poverty. A longer time spent in unemployment, for instance, is necessarily associated with a longer spell of poverty. Likewise, the longer time is spent as a student, the stronger is the likelihood of persistent poverty according to our definitions.

Living arrangements also matter. Young people living in a household with many children tend to experience longer spells of poverty, whereas living with a spouse or a partner reduces it. Marriage and cohabitation is in other words an important coping strategy against persistent poverty. In particular, excluding Social Democratic countries, the odds of experiencing the less severe forms of persistent poverty are around two times as great for people who live with a partner compared to those who do not (in Mediterranean countries the odds are even about two and a half times as great). Note that in Liberal and Conservative countries living in the family of origin or living as a couple **(**at the beginning of the panel) is associated with shorter permanence in poverty, whereas living alone has the opposite sign.

It turns out that living in the parental home is not significant with poverty permanence in both Social Democratic and Mediterranean countries. However, the reason why this is so is likely to be different for the two groups of countries. In Mediterranean countries young individuals tend to stay at home longer, partly because it takes them longer to obtain economic independence. Often they stay at home to complete university studies and/or to find stable employment. In Social Democratic countries, in contrast, young people leave home at a much younger age, but here the generous welfare state is available to assist if needed, thereby avoiding persistent poverty.

It is of interest to compare the prevalence of long-run poverty in the four welfare regimes. Whereas the Mediterranean regime has undergone a significant process of "depatriarchalization", this has not necessarily translated, as in other welfare regimes, into new family forms: the number of single-parent households and cohabitations has increased but remains very low compared to other countries. Marriage also remains the preferred way for establishing a family. In this regime persistent poverty is mainly associated with a low educational level and part-time employment (measured at the first wave). People with the lowest schooling are between three and five times more likely to experience severe forms of persistent poverty than those with tertiary schooling. Protracted spells of unemployment also increase the permanence of poverty. In sum, a traditional family composed of a couple with a small number of children seems reasonably protected in the Southern European welfare typology. In contrast, those remaining single or living in households with many children are much more likely to experience persistent poverty.

The picture is very different in the Social Democratic welfare regime. The Dutch and Danish welfare systems are to a much greater extent able to eliminate the effect of most risk factors which in other countries are associated with persistent poverty (e.g. low education, living without a partner, leaving the parental home, long-run unemployment). There is higher persistent poverty among those not working full-time in the first period and those spending longer time in education. Of course, part of this is explained by the fact that young adults spending longer time in education have lower incomes during the window when we observe them. As we know from other studies, it is highly unlikely that those with higher education will experience disadvantage in

later life. Interestingly, spells of unemployment have no impact on poverty permanence, again showing the power of the welfare state to protect and avert disadvantage for those experiencing unemployment. However, as with the Mediterranean regime, remaining single or living in a household with many children increases long-term poverty.

In the Liberal welfare regimes, here dominated by the UK, we find that persistent poverty is to a large extent associated with the *initial conditions*. In particular we find that people with a very low education, and those not in full employment – both measured at the first wave – are associated with persistent poverty. In the absence of state welfare provisions, joblessness substantially increases poverty. Young people's living arrangements show a strong link with the persistence of poverty: having a partner at the first wave is associated to less persistent poverty, whereas living alone or in a household with a high number of children increases persistence.

With regard to the Conservative countries our results show that all the personal characteristics at the first wave, such as education, activity status, and living arrangements, are all associated to longer poverty. Not having a job at the time of the first interview (because of being student, unemployed, or out of the labour force) leads to long-lasting poverty. In contrast employment has a clear protective effect. As with the Liberal countries, we find that people with a low education level at the first wave are more likely to stay poor throughout the period. In contrast, young graduates face much less persistent poverty.

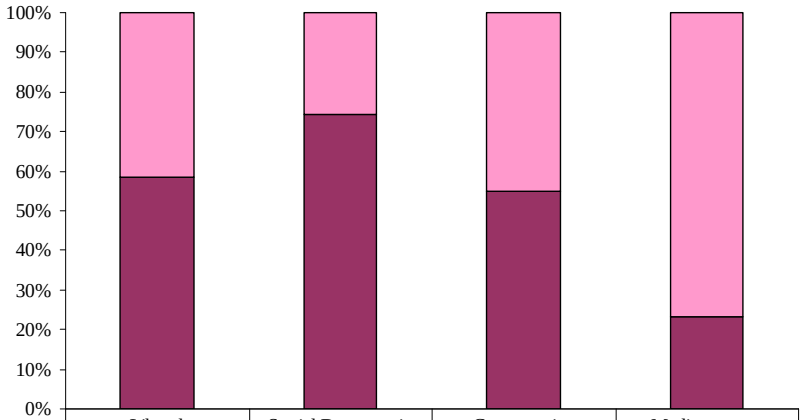
One interesting dimension of this study is that we are able to assess gender differences in the permanence of poverty. The European Commission (2006) shows that at every stage of the life course, women are more at risk of experiencing poverty than men. This is due to a range of reasons: inequality and discrimination in education and labour market opportunities, impact of family care responsibilities, and so on. Even when women obtain higher qualification levels, this does not automatically translate into higher earnings than for men with lower qualifications. Among the older cohorts it was certainly the case that women had fewer educational opportunities and lower qualification levels and were more likely to have low-paid occupations. Statistics show that the gender gap has narrowed over the past 25 to 35 years. In fact, today in most countries, the qualification level obtained by younger generations of women matches or exceeds that of their male peers. This may mean that young women are less exposed to the risks of early school leaving or youth unemployment.

From the assessment of the welfare regimes it is clear that women in the Liberal and Mediterranean countries (all other things being equal) experience lower persistence in poverty - independently on the considered persistence profile (see Busetta *et al*., 2007). However, the gender effect is evident only after controlling for all other factors, and suggests that the gender gap exists because of inequality of opportunity (including education, the labour market, and living

arrangements). The traditional view has been that the main protective factor against poverty takes place through marriage and partnership, often under the assumption that the male breadwinner model protects women from poverty, especially during family formation and child rearing. However, this picture is not necessarily supported by our findings. Quite on the contrary we find that, controlling for all other factors, there is no significant gender effect in terms of poverty permanence also in Conservative and Social Democratic regimes. This means that any remaining gender difference is due to differences in opportunities in education and work. Controlling for living arrangements, it seems that women have other successful cultural and behavioural strategies to cope with persistent poverty.

For both men and women the role of living arrangements is also of interest. Recent studies (Aassve et al., 2005b) have suggested that the risk of poverty is an important reason for delaying the transition out of the parental home. That is, young people tend to delay leaving home because their chances of entering poverty are higher if they leave. However, the age for leaving home is extremely heterogeneous across European countries and this is of course due to both economic and cultural factors. It is a well-known fact that the median age of leaving home in Mediterranean countries is much higher than in any of the other European countries. Figure 3 shows this pattern, clearly demonstrating the importance of modelling separately the group of home leavers and the group of individuals who never left the parental home during the whole period of observation.

Figure 3 - ***Percentage of young people who left and never left the parental home in welfare system (at 1st wave)***

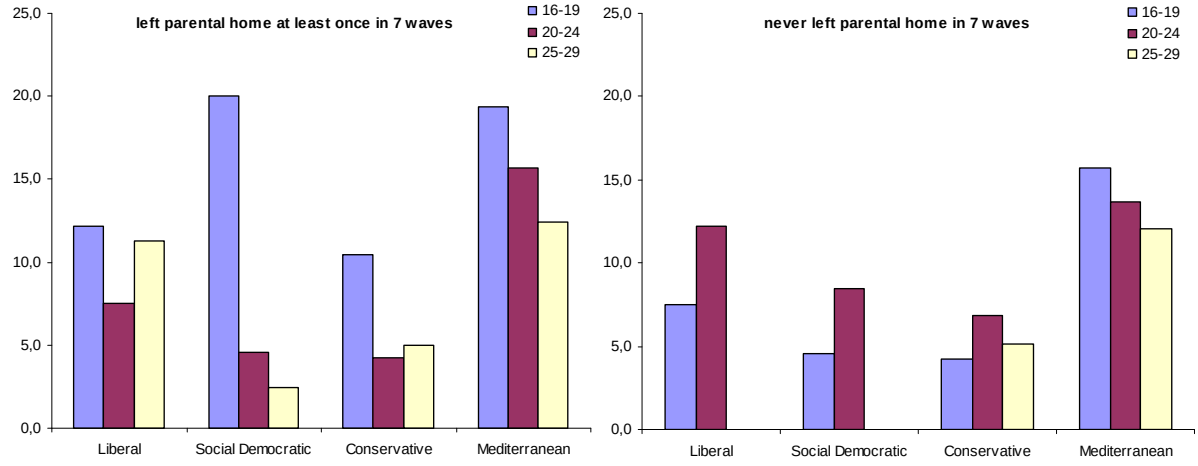


	Liberal	Social Democratic	Conservative	Mediterranean
Left parental home	41.6	25.6	45	76.8
Never left parental home	58.4	74.4	55	23.2

The extent to which leaving home is a driver behind poverty also varies extensively across European countries (see Iacovou, 2004), a feature which is confirmed in the following. Our analyses show that the prevalence of the most severe forms of persistent poverty (*permanent poor group*) is unequally distributed among age classes and welfare regime groups even if we control for leaving home (see Figure 4). Among those who left the parental home at least once during the

seven-year window, permanent poverty is highest among the youngest individuals (16-19 years old at the first wave), and this is especially true in Social Democratic and Mediterranean countries. Interestingly, this kind of persistent poverty remains high among young individuals in Mediterranean countries who did not leave home. It is less clear if young adults stay at home to help their family with their incomes or if they stay at home to be helped.

Figure 4 - ***Percentage of young people experiencing "permanent poverty" by age at first interview (according to residential status along the seven waves)***



What is clear, however, is that young adults in many scenarios are not adversely affected in terms of poverty when they live at home. For instance, the possibility of staying longer in the parental home is a strategy to avoid poverty whilst undertaking further education. It seems that the presence of effective policies directed at young people and/or families strongly facilitates young people's decision to leave the parental home. Vice versa, the lack of such policies in Mediterranean countries could be the most reliable explanation of young adults' late home-leaving.

There is no gender effect in poverty permanence among people who live with their parents. This seems to be an interesting finding because if we compare results from the model found for the never home-leavers (Table 3) and the model from welfare systems (shown in Tables 2a e 2b) we can argue that women (who live in Mediterranean and Liberal countries) experiencing less persistent poverty are mainly those who left the parental home.

Table 3 - Results of the PPOOM by residential status (*odds ratio estimates*)

	NEVER LEFT PARENTAL HOME	
	Not being permanent poor (a)	Being poor to some extent (b)
	Logit 1	*Logit 2*
INITIAL CONDITIONS		
Personal characteristics		
Woman	*n.s.*	
Age at first wave	*n.s.*	
Squared age at first wave	*n.s.*	
Socio-economic characteristics (at first wave)		
Higher Second. School (ref. Tertiary School)	0.4984**	
Below Upper Secondary School	0.3009***	
Student (ref. worker >15 hours)	0.4324***	
Unemployed or Non labour forces	0.3822***	
Living arrangement characteristics (at first wave)		
Living with a partner or spouse	*n.s.*	
Mean number of children (all waves)	*n.s.*	
Welfare regimes (ref. Conservative)		
Liberal	*n.s.*	
Social Democratic	*n.s.*	
Mediterranean	0.4351***	
TRANSITION VARIABLES		
Socio-economic changes		
Increase of level in education	1.4048***	
Duration as student (ref. <0.5)	*n.s.*	*n.s.*
Duration as unemployed or non labour forces (ref. <0.5)	0.3089***	
Living arrangement changes		
Duration out of parental home (ref. <0.5)	*(dropped)*	
Duration in cohabitation (ref. <0.5)	*n.s.*	
Duration as single (ref. <0.5)	*n.s.*	

Note:
(a) socially vulnerable or never poor (vs. permanent poor)
(b) never poor (vs. permanent poor or socially vulnerable)

5. Conclusions

This paper presents an alternative measure of young adults' poverty experience. In most studies, youth poverty is studied in terms of poverty prevalence and dynamics. In other words, poverty and consequently youth disadvantage are often studied with the aim of exploring what factors drive young adults into poverty, and, consequentially to their being poor, what makes them flee poverty. The majority of these papers conclude that youth poverty is highest among Social Democratic countries, which is somewhat unexpected. In response to this we derive here a measure of poverty permanence, which we argue is a more appropriate measure of youth disadvantage. That is, instead of considering poverty dynamics directly or the permanence in poverty, we construct a measure that considers the number of periods a person is in poverty. Using observed poverty spells we construct a measure that is summarized in three categories: 1) never poor, 2) socially vulnerable, and 3) persistently poor. On the basis of this definition we implement

a generalized ordinal logit model from which we assess the various factors associated to the permanence in poverty, including education, living arrangements, labour market status, and so on.

The analysis is based on the ECHP and we are therefore able to compare persistent poverty patterns across European countries. A key finding is that once disadvantage is defined in terms of poverty permanence, we find that cross-national patterns differ from those found in previous studies, namely that poverty is highest among young people in Social Democratic countries. As shown in previous studies, this is mainly due to the fact that young adults in these countries tend to leave the parental home at an early age, which substantially increases the poverty incidence rate. However, we find that young adults in these countries are less disadvantaged than in other countries. Thus, in Social Democratic countries, poverty rates tend to peak when young adults leave home, but fall sharply thereafter. In other words, persistent poverty is rare.

Within our study framework we considered several issues. One is the changing relationship between gender and youth poverty. A traditional view has been that the main protective factor against poverty is marriage and partnership, often under the assumption that the male breadwinner model protects women from poverty, especially during family formation and child rearing. However, this pattern is not necessarily supported by our findings. Quite on the contrary, we find that, controlling for all other factors, there is no significant gender effect in terms of poverty permanence in Conservative and Social Democratic regimes, which are typically characterized by very supportive and gender- equal welfare systems. Elsewhere, in Mediterranean and Liberal countries, it turns out that gender is a significant factor, and - in particular - that being a woman is a protective factor against long-term poverty. Unexpectedly this happens in welfare systems typologies that are well known for their low level of social protection. This means that, in general, across all European countries, any gender difference is driven by inequalities in opportunities in education and work. It seems that women from Mediterranean and Liberal countries have additional personal, cultural, and behavioural strategies for coping with persistent poverty that overcome deficiencies in welfare protection.

Education and labour market participation confirm their strategic role in coping with (i.e. reducing) longer poverty spells. In this sense the findings are consistent with previous studies that have also reported that these factors are important in reducing persistent poverty and also in reducing poverty entry and increasing poverty exit. However, surprisingly, increased educational levels reduces poverty duration only in Conservative and Mediterranean countries. A possible explanation for this could be the different characteristics of the labour markets: in countries where there is large supply of job, young adults do not need very high qualifications to find a position enabling them to escape poverty. Whilst in countries with high unemployment rates and very low mobility, characterized by keen competition between job suppliers, a higher educational level helps to reduce the risk of persistent poverty.

Another interesting finding is that in Liberal and Conservatives countries, remaining in the parental home makes the odds on experiencing persistent poverty about twice as low as in those not leaving home, while in the other two groups this seems to be not relevant. The group that does not leave home, in all the 7 waves, constitute 57% of the sample, mainly living in the Mediterranean countries. For these people, living with parents is an effective strategy: our results suggest that the family acts as a protective net against persistent poverty. Living in the parental home neutralizes the potential advantage for women; also, the effect of schooling and cohabitation status becomes irrelevant as regards the permanence in poverty. Equally, the number of children in the household and the presence of a partner or a spouse (as expected) have no relevance to poverty permanence. In other cases long-lasting unemployment increases the permanence in poverty.

The main conclusion to be drawn from this study is that both structural factors and the effect of welfare regimes play a significant and substantial role in explaining differences in persistent poverty levels. However, what is also clear is that a longitudinally based perspective is necessary if better policies are to be directed against youth poverty in Europe.

References

Aassve A., Iacovou M., Mencarini L. (2005a) *Youth poverty in Europe: what do we know*?, ISER Working Papers, 2005 No. 2.

Aassve A., Iacovou M., Mazzuco S., Davia M.A. (2005b), *Leaving home and poverty among youth : A cross-European analysis*, Working Paper of Institute for Social and Economic Research, paper 2005-24. Colchester: University of Essex.

Aassve A., Iacovou M., Mencarini L. (2006) *Youth poverty and transition to adulthood in Europe*, Demographic Research, Vol. 15 No. 2, 21-50.

Agresti A. (1990) *Categorical data analysis*. New York: Wiley.

Berthoud R., Robson K. (2003) *Teenage Motherhood in Europe: a multicountry analysis of socio-economic outcomes*, European Sociological Review, 19(5), 451-466.

Brant R. (1990) *Assessing proportionality in the proportional odds model for ordinal logistic regression*. Biometrics, 46(4), 1171-1178.

Busetta A., Mendola D., Aassve A., Iacovou M. (2007) *Gender differences on poverty persistence among youth: a comparative analysis using ECHP*, BHPS 2007 Conference, Colchester - University of Essex, UK

Cantó, O., Mercader-Prats M. (1999) "*Poverty among children and youth in Spain: The role of parents and youth employment status*", Document de Treball 99.07, Departament d'Economia Aplicada, Universitat Autònoma de Barcelona.

Esping-Andersen G. (1990) *The three worlds of welfare capitalism*, Cambridge: Policy Press.

European Commission (2006) *Gender inequalities in the risks of poverty and social exclusion for disadvantaged groups in thirty European countries*, Directorate-General for Employment, Social Affairs and Equal Opportunities (European Commission)

EUROSTAT (2002) Income, Poverty and Social Exclusion: second report, European Social Statistics, Luxembourg, 76 – 92.

Fahmy, E. (2002) *Youth and poverty in the UK 1999 Poverty and Social Exclusion* Survey Working Paper.

Ferrera M. (1996) The "southern model" of welfare in social Europe, *Journal of European Social Policy*, 6 (1), 179-189.

Fouarge D., Layte R. (2003) *Duration of Poverty Spells in Europe*, EPAG Working Paper 2003–47. Colchester: University of Essex.

Fouarge D., Layte R. (2005) Welfare regime and poverty dynamics: the duration and recurrence of poverty spells in Europe, *Journal of Social Policy*, 34 (3), 407-426

Heuberger, R. (2003) "*What household gets what income?*" Conference paper, EPUNET conference 2003, Essex, UK.

Iacovou M. (2004) *Patterns of family living*, in Berthoud R., Iacovou M. eds., Social Europe. Leaving standards and welfare states, Edward Elgar, Cheltenham, UK

Iacovou M., Aassve A. (2007) *Youth poverty in Europe*, Joseph Rowntree Foundation (in association with Davia M., Mencarini L., Mazzucco S., Mendola D., Busetta A.)

Iacovou M. and Berthoud R. (2001) *Young People's Lives: A Map of Europe*, Colchester: University of Essex, Institute for Social and Economic Research.

Kang Fu, V. (1998) *Estimating generalized ordered logit models*. Stata Technical.

Kangas O. and Palme J. (2000) Does Social Policy Matter? Poverty Cycles in the OECD Countries, *International Journal of Health Services* 30: 335-52.

Layte R., Whelan C., and Maitre B. (2003) *Persistent Income Poverty and Deprivation in the European Union: An Analysis of the First Three Waves of the European Community Household Panel*, Journal of Social Policy (2003), 32: 1-18, Cambridge University Press.

Long J. S. (1997) *Regression models for categorical and limited dependent variables*, Thousand Oaks: Sage.

Muffels R., Fouarge D. (2003) *The Role of European Welfare States in Explaining Resources Deprivation*, EPAG Working Paper 2003-41. Colchester: University of Essex.

Muffels R.D., Fouarge D., and Dekker R. (1999) *Longitudinal poverty and income inequality. A comparative panel study for the Netherlands, Germany and the UK*, University of Essex: European Panel Analysis Group (EPAG) Working Paper 1.

Muffels R.D., Fouarge D., and Dekker R. (2000) *Longitudinal poverty and income inequality. A comparative panel study for the Netherlands, Germany and the UK*, OSA-Working paper WP2000-6.

Okrasa W. (2000) *Who avoids and who escapes from poverty during the transition: evidence from polish panel 1993-96*, World Bank Policy Research Working Paper No. 2218

Pavis S., Platt S., Hubbard G. (2000) *Young People in Rural Scotland: Pathways to Social Inclusion and Exclusion*, JRF and York Publishing Services, York, UK.

Peterson B. and Harrell F.E. Jr. (1990) Partial Proportional Odds Models for Ordinal Response Variables. *Applied Statistics* 39(2), 205-217.

Smeeding T.M., Phillips R. K. (2002) Cross-National Differences in Employment and Economic Sufficiency, *The ANNALS of the American Academy of Political and Social Science*, 580, 103-133.

Walker R., Ashworth K. (1996) Poverty Dynamics: Issues and Examples. *Contemporary Sociology, Vol. 25, No. 3* (May, 1996), 339-340

Williams R. (2006) *Generalized Ordered Logit/ Partial Proportional Odds Models for Ordinal Dependent Variables*, The Stata Journal 6(1), 58-82.

APPENDIX

Table A: Variable description

Variable	*Description*
Information referred to first wave of interview	
Personal characteristics	
Age	Age in years registered at first wave
Squared Age	At first wave, in order to fix the nonlinear effect of age
Woman	1 if the individual is a woman, otherwise 0
Socio-economic characteristics	
Higher Second. School	1 if the individual has less than a 2nd stage of education level, 0 otherwise
Below the Upper Secondary School	1 if the individual has a 2nd stage of education level, otherwise 0
Tertiary School	0 (reference category)
Student	1 if the individual is a student, otherwise 0
Unemployed or non labour forces	1 if the individual is unemployed or out of the labour force, otherwise 0
Worker >15 hours	0 (reference category)
Living arrangement characteristics	
Living with a partner or a spouse	1 if the individual cohabit with a partner or spouse
Leaving parental home	1 if the individual lives out of parental home, otherwise 0
TRANSITION VARIABLES	
Socio-economic changes	
Increase of level in education	1 if during the 7 waves there was an upgrade of the education level attained, otherwise 0
Duration as student	1 if the individual spends as a student more than 3 out of 7 years, otherwise 0
Duration as unemployed or non labour forces	1 if the individual spends as unemployed or non labour forces more than 3 out of 7 years, otherwise 0
Duration in cohabitation	1 if the individual has cohabited more than 3 out of 7 years, otherwise 0
Duration out of parental home	1 if the individual has lived out of parental home more than 3 out of 7 years, otherwise 0
Duration as single	1 if the individual has lived as a single person more than 3 out of 7 years, otherwise 0
Mean number of children	Mean number of children (below 14 years) present in the household across 7 waves