

**Collegio Carlo Alberto**



Home-leaving Decision of Daughters and Sons

Maria Concetta Chiuri

Daniela Del Boca

**No. 136**

**December 2009**

**Carlo Alberto Notebooks**

[www.carloalberto.org/working\\_papers](http://www.carloalberto.org/working_papers)

© 2009 by Maria Concetta Chiuri and Daniela Del Boca. Any opinions expressed here are those of the authors and not those of the Collegio Carlo Alberto.

# Home-leaving Decision of Daughters and Sons<sup>1</sup>

Maria Concetta Chiuri<sup>2</sup>

Daniela Del Boca<sup>3</sup>

December 5, 2009<sup>4</sup>

<sup>1</sup>We thank Anna Laura Mancini and Salvatore Nunnari for excellent research assistance and three anonymous referees for useful suggestions on a previous draft. The paper was presented at Centro Dondena at Bocconi University and the Conference "The Household and the Labor Market" AIEL-CHILD-Labor. Collegio Carlo Alberto 2009.

<sup>2</sup>University of Bari and CHILD

<sup>3</sup>Collegio Carlo Alberto University of Turin and CHILD

<sup>4</sup>©2009 by Daniela Del Boca and Maria Concetta Chiuri. Any opinions expressed here are those of the authors and not those of the Collegio Carlo Alberto

### **Abstract**

In spite of relevant differences between countries, a common international pattern emerges: daughters leave parental homes earlier than sons. Drawing upon the European Community Household Panel, we explore the impacts of various factors that affect daughters' and sons' home-leaving decisions. Results show that the decisions of daughters appear to be more responsive to environmental factors than sons'. This implies that policies aiming to speed up the transition to adulthood might have important economic impact on the existing gender differences in family formation and household responsibilities and income inequality across young men and women..

**Keywords:** Living Arrangements, Gender, Social Policies.

**J.E.L Subject Codes:** J2, C3, D1

# 1 Introduction

A general feature of transitions to adulthood in contemporary developed societies is that, young adults tend to study longer, enter the labor market later, leave the parental home, cohabit, marry, and become parents later. Recent data show striking differences in the timing of leaving home for adult children across Europe. Figure 1 shows that in Finland and Denmark, children leave the household between 18 and 22 and after that age a very negligible proportion still cohabit with their parents. At the other end of the spectrum, in Southern countries, a negligible proportion leaves the household between 18 and 22 and most of them remain home until 30.

The so called “latest-late” pattern of transition to adulthood (Billari et al. 2002) is linked to a rising age at which young adults complete their education and enter the labor market, leave home, form union and first give birth. In spite of the differences between countries, a common pattern emerges across countries studied: young women leave home earlier than men.

While several papers have noticed these differences no research to our knowledge has specifically explored the difference between the impacts of household and institutional factors on daughters and sons’ cohabitation across various countries.

In order to analyze this issue, we use the European Community Household Panel (ECHP henceforth), a large international dataset on households. We complement this information with indicators of local marriage and labor markets and control for other potential effects, such as differences in financial markets imperfections and social expenditures directed youth.

We find that personal and household characteristics and institutional settings are important determinants of co-residence patterns and the size and sign of their impact, moreover differs significantly by gender. Daughters’ home-leaving decisions are more responsive to changes in the family structure as well as in the characteristics of the environment and these impacts are stronger and more significant in Southern European countries. Given the slower transition of boys to independent living in these contexts, these results are potentially important for policy implications

In Section 2 we review the recent literature and discuss the objectives and implications of our research. In Section 3 we describe the data set and the characteristics of the sample. In Sections 4 and 5, we present our econometric strategy and discuss the empirical estimates. Section 6 provide conclusive remarks and discussions of policy implications.

## 2 Recent literature

A large number of studies analyzing adult children living arrangements have explored the factors affecting the transition towards independent living. The seminal paper of Mc Elroy (1985) and other research has emphasized the role of the family as an insurance mechanism against employment risk. Thus, youth live with parents longer in order to gain insure against unemployment, that the market does not provide. Parent's income can support children either by supplying space and support within the parental house. They can also support by transferring resources to allow them to achieve an independent leaving. Parents' resources appear to be an important factor which affects the tradeoff between living at home and living independently. Le Blanc and Wolff (2006) show positive effects of both parents' and children income on leaving home decision.

While parental resources are important to determine the tradeoff between living at home or living independently, the institutional characteristics of the environment also play a role. The most important institution which may affect the independence of youths is the labor market. Card and Lemieux (2000) and Rosenzweig and Wolpin (1993) show that the probability of living with parents is higher among unemployed and low-income groups in Canada and the US. The insurance mechanism is particularly important in Southern Europe where unemployment rates are higher and the welfare state offers less protection to the unemployed or less support to young job seekers (Fogli, 1999, and Becker et al.,2004)

Another important institution affecting the cost of adult children leaving the parental home has to do with the housing market. Since housing is a major item in the expenditures of young households and is also one major potential source of economies of scale in consumption, one expects that local housing prices faced by young households, play a role on the cohabitation decisions of young adults. This influence has been highlighted empirically by several authors who find that higher housing prices discourage living independently, essentially by raising the value of joint consumption of housing in the parental dwelling. Martins and Villanueva (2006) show that limited access to credit markets explains why young adults live with their parents and differences in credit market imperfections within Europe can explain up to 20 percent of the cross- country variance of establishing a new household. Similar results emerge in individual countries 'research: Ermisch (1999) for the UK, Martínez-Granado and Ruiz-Castillo (2002) for Spain and Giannelli and Monfardini (2003) for Italy.

But being independent can have different meanings: agents can choose to

live alone, live with a friend or to get married. Another strand of literature investigates the important role of the marriage market. As follows from theoretical models of marriage when women are scarce relative to men, i.e., the higher the sex ratio, there is an impact on labour supply, marriage, and divorce (i.e. Grossbard and Amuedo Dorantes, 2007).

Other research has included directly and indirectly the role of cultural differences, Giuliano (2007) uses a sample of second-generation immigrants in the US to disentangle the cultural effects from contemporaneous economic factors and finds that youth of Southern European origin live longer and happier in their parents' homes. Manacorda and Moretti (2007) also provide evidence on the positive association between parental happiness and coresidence in Southern Europe. Using data from the World Value Survey, co-residence with children has a high and positive effect on parental happiness in Italy, Spain and Portugal; while co-residence with children is negatively associated with parental happiness in France, Great Britain and West Germany. Consistently with this, Mazzucco (2006) compares the causal impact of children leaving home on parents (measured through subjective life satisfaction and health status) and finds that when Italian children leave the parental home, the well-being of parents (their mothers in particular) worsens, while the opposite is true in other countries.

Another way to explore the impact of culture is to group countries with similar welfare states which implicitly or explicitly may favor various types of living arrangements: Esping Andersen (1999) and Mayer (2001). While in Northern European countries (liberal and social democratic regimes) an early age of leaving home is the norm, in the Southern European ones, a very late age prevails<sup>1</sup>. Each of the welfare regimes are strongly intertwined with culture and family ties (Dalla Zuanna and Micheli 2004, Chiuri and Del Boca, 2008)<sup>2</sup>. Aasve et al (2002) show that a meager welfare state in the South is compensated by strong family ties, while a generous one in the North is associated with weak intergenerational ties

---

<sup>1</sup>This may depend also on the schooling system, in the South of Europe less children are enrolled in universities and obtained a degree (the proportion of graduated among 24-34 years old is 12% against 34% in France and 35- 39% in Belgium, Denmark) while the universities are widely diffused and mostly publicly provided reducing the incentive to move for achieving a good education..

<sup>2</sup>According to Reher (1998) these differences have historical roots. The Northern European pattern of "weak family ties" and early transition to adulthood is linked to the medieval habit of leaving the parental home early for agricultural work or to become a servant. On the contrary, in Southern Europe, the "strong family ties" pattern was characterized by extensive periods of co-residence parents and adult children, in some areas extending to the whole life.

### 3 Gender differences in leaving home

The difference in age- young adults leave parental homes by gender has been mainly attributed to the difference in age at first marriage (2-3 years) while factors determining the cohabitation decision are not expected to affect daughters and sons in a different way. Given the similarities of human capital accumulation, one could expect that young women's transition to adulthood would not be different from young men. Recent analysis of education attainment by gender in Italy and Southern Europe have shown that while women finish school earlier than men and in large proportion find a job immediately after school, they often end up accepting worse jobs both in terms of pay and contract type (Cammelli 2007).

In most of the literature on coresidence, the gender dimension has been measured by a dummy variable which in most cases appears to be correlated positively with the likelihood of leaving home. However, when analyzing daughters and sons separately, some relevant differences emerge. Aasve et al (2001), for example, have shown that individual as well household resources have different impacts for men and women and these impacts are different across countries. While in Social Democratic welfare states income and employment play a insignificant role for both daughters and sons, in Southern European are more important for daughters .In order to explore these issues further, we analyze also important institutional factors which characterize the different welfare states.

Why is this important? The analysis of the cohabitation decision of adult children by gender has several important implications. While some of the implications are relevant for the entire population, others are more crucial for women and others more crucial for men. The delayed transition to adulthood has key implications for the age structure of the population and for the labor force, on the dependency ratio, and through these channels on aggregate productivity. A late transition into adulthood reduces the lifetime economic opportunities for individuals. Even if a prolonged co-residence with parents might relax liquidity constraints and encourage the accumulation of more human capital, if the transition is delayed for too long, learning abilities and motivation may be impaired, and the individual may get used to depend on others for his economic well being and security. More specifically, prolonged co-residence with parents might raise the reservation wage and delay entry into stable jobs.(Billari and Tabellini 2008)

For women a late transition to adulthood implies delay in independence related to a delay in cohabitation, marriage and fertility. This late transition has a negative effect of birth rate in the case which in turn influences the

speed at which population ages. Southern European countries have the highest median age at leaving home as well as the highest median age at parenthood, while fertility is among the lowest, with a clear trend towards further postponement<sup>3</sup>. The average age at first birth is also important because it influences the total number of children a woman might have as well as the population's size and future growth. If a first child is born to a mother in her thirties there is not much time left to have a large family, while mother's age is also a factor affecting birth weight and birth defects.

Finally, for men a slower transition to adulthood may be critical also for the household division of labour, implying that they would accumulate little experience of sharing household chores with partners with potential effect on their wives's labour supply, career and the likelihood of having a child especially in countries where child care services are less widespread and/or more expensive (Esping Andersen et al ,2007). Recent time use data show that Southern European husbands contribute less to housework and the excessive burden on women can be considered an important cause of Southern European low fertility.(Dalla Zuanna 2004 pg 118).

## 4 Data description

In our empirical analysis we use the ECHP, a longitudinal survey coordinated and supported by EUROSTAT. The survey involves a representative sample of households and individuals interviewed for eight years (1994-2001) in each of the 15 European countries (EU-15) . The standardized methodology and procedure in data collection yield comparable information across countries, making the ECHP a unique source of information for cross-countries analyses at the European level. The aim of the survey, in fact, is to provide a comparable information on EU population, representative both at the longitudinal and the crosswise level. The data collected cover a wide range of topics on living conditions (income, employment, poverty and social exclusion, housing, health, migration, and other social indicators). The unit of analysis of the ECHP are the family and, within the households, all individuals older than 16, even if it is possible to retrieve information (mainly demographic information) also on children under 16. The ECHP has many advantages: it covers the whole population, including non-working persons; as a household data set, it includes a lot of useful and harmonized information (for example

---

<sup>3</sup>An increasing tendency to postpone births emerge in Italy where children live longer with their parents: mean age of women at childbirth was 28.5 years in 1996 and 31.0 in 2006 (Eurostat 2008)

number and age of children, or marital status). Moreover, it is possible to link household-level information to individual data to study, for instance, the labor supply decisions of the female partner in a couple accounting for her own personal characteristics but also for those of her partner. A great deal of effort was devoted to harmonize the survey characteristics, but these may vary across countries.

The main question is how to carry out valid inference about population's parameters of interest when data subject to unit nonresponse. Nicoletti and Peracchi (2002) find three main causes of survey nonparticipation in the ECHP: the refusal to cooperate, the contact failure and the ineligibility. Their analysis of cross-country differences in survey participation rates tries to identify the role played by differences in the socio-demographic composition of national populations and in the characteristics of the data collection process. They find that several individual and household characteristics such as number of children, the length of residence at the current address, home ownership and household income have good predictive power

For our empirical analysis we select fourteen countries of the dataset, representative of the different geographical areas of Europe. For the fourteen countries we consider all available waves, creating an unbalanced panel. We also select all households in which adult children are in the age range 18-34 and are observed living with parents for at least one wave<sup>4</sup>.

The first group of variables that we consider regards personal characteristics: adult children's age and squared age, adult children's gender and a dummy variable controlling for third educational level (college degree and further). Table 1 reports coresidence rates and the proportion of children with university degrees, by single country and gender. In all countries, coresidence rates are larger for men and in some, as Denmark and Finland, the percentage of men coresiding is up to 10 percent higher than that of women. Figure 2, which plots the coresidence pattern by age and gender, for each single country, describes how gender differences in children's living arrangements distribute along their life: while for countries as Belgium, Denmark, Netherlands and UK behavioral discrepancies smooth away, in others, as Greece or Austria they still stay at their thirties. However, the proportion of third level education reported in Table 1 is greater for women in most countries. The second group of variables includes parental characteristics. Several measures of income are included in the ECHP, both for the parents and children. We focus on annual incomes, rather than monthly incomes.

---

<sup>4</sup>In the Appendix we report the age distribution of adult children coresiding for at least one wave.

All incomes relate to the year prior to the survey.<sup>5</sup> To capture non linearities we include also quadratic measure of fathers' income (See for a detailed analysis of parents and children incomes Le Blanc and Wolff , 2006).

The third group of variables includes family composition: number of siblings living in the household and presence of grandparents. These variables may indicate more caring responsibility, but also more overcrowded living conditions. Table 2 contains descriptive statistics concerning those household characteristics, regardless of the children's living arrangement. The average values reported for every selected variable show a wide heterogeneity across EU countries.

The information given by the ECHP dataset has been augmented by additional information taken from various statistical sources. In particular, we consider a labor market indicator, computed on the basis of annual female and male unemployment rates defined at the regional level and a proxy for the local marriage market, i.e. the local sex ratio computed as the probability of finding a partner of the same age band in the region of residence (they both are computed from the EUROSTAT REGIO dataset, years 1994-2001). We also examine the loan to value ratio, which measures the availability of mortgage finance by country: it refers to conventional home-purchase loans to first-time buyers. Even though the loan to value ratio might have changed during a decade, we consider the average values for two decades, i.e. the 1990s and 2000s as reported in Chiuri and Jappelli (2003) and in Maclennan et al. (1998). The country average values for the three indicators are reported in Table 3, columns 1-3.

Following the standard time invariant grouping of the countries considered (Esping Andersen 1999), we combine them in four groups: Southern European countries (Italy, Greece, Portugal and Spain), Central West-European countries (Austria, Belgium, France, Germany, Luxembourg and the Netherlands), Northern Continental European countries (Denmark and Finland) and Northern non-continental European countries (the U.K. and Ireland). The four groups of European countries identify not only geographical contiguity, but also similar culture and welfare states. We also consider an alternative and time varying measure of the country welfare state. In particular, we include the annual youth social expenditures as percentage of total public expenditures Computed on the basis of the OECD SOCX

---

<sup>5</sup>The ECHP breaks down total income in three mutually exclusive categories, referred to as public income, work income, and private (non-work) income. The first category comprises in particular social insurance receipts, family allowances, and sickness or invalidity benefits. Work income refers to wage and salary earnings or self-employment income. Non-work private income includes private transfers from other household members.

(2006), youth social expenditure includes housing, active labor market policies and policies for other contingencies related to youth such as income support programs. This proxy (Table 3 column 4) shows that Southern European welfare states are less oriented towards helping young people to start out and become economically independent when compared to Northern European countries.

## 5 Methodological Framework

In our model, the living arrangements of adult children are the outcome not only of personal and household characteristics, but also of variables related to the characteristics of the socio-economic and cultural environment in which the individual and the household live. The econometric specification of the coresidence decision rule is assumed to be a quasi-reduced form representation of the solution to the individual child's optimization problem. As is common, a latent variable structure is assumed. Let the net value of co-residence with parents for an adult child in period  $t$  be given by:

$$L_{i,t}^* = H_{i,t}\beta_1 + HH_{i,t}\beta_2 + E_{i,t}\beta_3 + I_{i,t}\beta_4 + W_i\beta_5 + u_{i,t}, \quad (1)$$

where  $H_{i,t}$  is a row vector containing the observed variables measuring child  $i$ 's human capital, age and gender at time  $t$ .  $HH_{i,t}$  is the vector of household characteristics at time  $t$  for child  $i$ , and includes variables such as the number of children in the household, the presence of grandparents, and parents' income.  $E_{i,t}$  is the vector of variables describing the socio-economic environment (labor market characteristics, marriage market, the degree of financial market development, which is proxied by the down payment ratio) that child  $i$  lives in at time  $t$ . The vector  $E_{i,t}$  varies by country and year, but is the same for all individuals surveyed in a particular year and country. The last group of vectors are  $I_{i,t}$  and  $W_i$ . The first one varies by the country that  $i$  lives in and time  $t$ , and contains the youth social policy expenditure as a percent of total public expenditure. The  $W_i$  vector is a set of dummy variables that delineates the four groups of countries. Finally, the term  $u_{i,t}$  is a disturbance term, the distributional properties of which will be discussed below.

Define the (dependent) variable  $d_{i,t} = 1$  if  $i$  coresides with his/her parents at time  $t$ , and set  $d_{i,t} = 0$  if not. Then we have that

$$d_{i,t} = 1 \Leftrightarrow L_{i,t}^* > 0.$$

We assume that the disturbances can be written as follows:

$$u_{i,t} = \eta_i + \varepsilon_{i,t}.$$

where  $\varepsilon_{i,t}$  is independently and identically distributed as a logistic random variable for all  $(i, t)$ . We assume that the permanent component of each disturbance term,  $\eta_i$ , is potentially not independently distributed with respect to all of the observable characteristics included on the right hand side of its respective equation. Using the estimator that we employ, no assumptions need be made regarding  $\eta_i$  except that it be time-invariant.

Our main interest lies in examining the impacts of the institutional environment, indicators of individual and family characteristics, as well as other factors assumed unobservable to the analyst. One of the limitations of the economic analysis of coresidence is, in fact, the omission of factors such as tastes, and other individual and family-specific traits -for example conflict, strictness and other important factors in explaining the decision to stay or leave home. Many, or most, of these individual-specific factors affecting the decision are unobservable to the researcher. Under our logistic specification of the disturbance  $\varepsilon_{i,t}$ , it is well known that the probability that child  $i$  will coreside with his/her parents at time  $t$  is given by

$$p(d_{i,t} = 1 | X_{i,t}, \eta_i) = \frac{\exp(X_{i,t}\beta + \eta_i)}{1 + \exp(X_{i,t}\beta + \eta_i)}, \quad i = 1, \dots, N; \quad t = 1, \dots, T;$$

where  $X_{i,t}$  is the vector of all of the covariates associated with individual  $i$  in period  $t$  (this vector contains all of the sub-vectors discussed when we presented (1) and  $\beta$  is a (unknown) conformable parameter vector.

We use a fixed effects logit estimator to consistently estimate a subvector of  $\beta$ , which consists of coefficients associated with variables in  $X_{i,t}$  that vary over time for at least some individuals in the sample. Chamberlain (1980) defined a conditioning scheme that transforms the data in such a way that the terms  $(\eta)$  are eliminated and the simultaneity problem is avoided. The outcome of this conditioning is that coefficients associated with time invariant characteristics cannot be identified. Other parameters will be identifiable, and will be robust with respect to any form of association between the observable heterogeneity (i.e., the variation on the manner in which the unobservable heterogeneity is related to observable heterogeneity. The estimator works off of timing variability. The conditioning scheme is to look at the relative likelihood of living with parents in period  $t$  given that the individual lived with the parents in exactly one of the periods. Thus, only individuals who lived with parents in one of the periods are used to estimate

the identified subvector of  $\beta$ . The benefit of this reduction in sample size is the ability to robustly estimate the identified subvector of  $\beta$ . The estimates are invariant with respect to the dependence between  $\eta$  and the covariates.

For purposes of our analysis, this is an extremely attractive feature. We know that countries vary greatly in the proportion of adult children who live with their parents<sup>6</sup>. Some of these differences may be accounted for in terms of differences in observable characteristics of the countries. Most of the differences will be produced by differences in the distribution of  $\eta$  across countries, however. The different distributions of  $\eta$  across countries will have no impact on our estimates of the identified subvector of  $\beta$ . By contrast, if we were to estimate a cross-section logit specification of the probability of living with one's parents, all parameter estimates would be inconsistent under this scenario. Even within a country as long as selection (or attrition) is a function of unobservable factors it would not matter for the consistency of our estimates. The cost of using this rather flexible estimation method is the inability to determine the effect of variables which do not vary over time on the probability of coresiding in any given period. From the point of view of conducting policy analysis, which typically requires having access to estimates of all behavioral parameters, this may be a problem.

## 6 Empirical Results

Table 4 shows the empirical results of the fixed effects logit model by gender. The negative coefficient on age appears to be larger and more significant for daughters. Having a tertiary education is positive for daughters and sons, while parental income is not statistically significant on either sex. Both variables describing the family structure, such as the number of siblings as well as the presence of grandparents in the household, increase the likelihood of cohabiting and the impacts are larger for daughters. The coefficients related to the labor market and the credit market for housing are statistically significant only for daughters while the other factors have similar effects.

In Table 5 and Table 6 we report the estimates by countries' groups. Table 5 reports the estimates for Northern countries (Continental and non Continental). Own education coefficient is statistically significant only for sons both in Northern non continental and Northern continental countries as well as fathers' income coefficient. Tertiary education increases the likelihood of cohabiting with parents, while greater family resources are associated with a greater likelihood of leaving home.

---

<sup>6</sup>See Table A in Appendix

The number of siblings increases the probability of remaining in the parental home only for daughters in both contexts, while the presence of grandparents has no significant impact, confirming the existence of weak intergenerational ties. In Northern countries where elderly coresidence with offspring encompasses a smaller proportion, the well-being of the elderly is based on residential autonomy or on private or public nursing homes, which are normally paid for by public funds, by insurance policies, or directly from the savings of the elderly themselves. In both contexts, the family plays a modest role in providing elderly care.

Being in a more favourable marriage market increases daughters' likelihood of leaving home in Northern continental countries, while facing a more difficult labor market characterized by higher unemployment rates increase the probability of remaining home. More generous social expenditure for youth increase the chances of leaving of daughters and sons in Northern non continental. In the liberal regimes, while sons' home-leaving home decisions depend more on individual and parental characteristics, daughters' decisions more on the environmental conditions. In the socio-democratic regimes where leaving home early is the norm, individual, parental as well as environmental factors are almost irrelevant.

Table 6 reports the results for Central West and Mediterranean countries. The coefficients on individual characteristics are similar (though larger in magnitude), while the impact of fathers' income is significant only Mediterranean countries. The coefficient appears to be different by gender: positive for sons and negative for daughters. More family resources encourage daughters to leave and sons to remain home. Another peculiarity in Mediterranean countries concerns the relationship with family structure. Both the presence of siblings and grandparents are significant and imply a greater chance of coresidence for daughters and for sons. This result, indicating stronger family ties, is in line with Bettio et al. (2006) which have shown that in Southern Europe the responsibility of elderly parents rests upon their children especially their adult daughters.

All environmental factors are more statistically significant for daughters in both contexts. The coefficient related to youth social expenditure is not significant, probably due to the lower levels of expenditures.

For each of the specifications estimated, we also conducted a log likelihood ratio test to determine the degree to which the impact of individual and institutional characteristics on the rate of home leaving differs by gender. Given the large sample size, it may be expected that statistically significant differences are likely to be found. However, if gender differences are only reflected in the constant term of the index function upon which the

conditional logit estimator is based, this effect should be eliminated by the pseudo-differencing upon which the estimator is based. We found that in all specifications tested, there were significant gender differences. This indicates that there are significant, both statistically and behaviorally, differences in the effects of covariates on the home-leaving decisions of sons and daughters. Gender filters the impacts of all of the covariates, even the commonly shared ones, on the likelihood of cohabitation.

### **6.0.1 Are daughters and sons coresiding are worse off?**

We will now provide some explorative evidence on the relationship between living arrangements and economic well-being. In this simple descriptive analysis we compare the situation of those who have left home to the situation of those who have not left home. Figure 3a and 3b show poverty rates by whether a young person is still living in the parental home. Poverty rates among sons are indicated by the dark lines, and the lighter lines for daughters who have or have not left home at the age of 25. An individual in a given country is considered to be poor if his household's income is less than 60% of the contemporary median income of that country.

We notice that women who live independently are on average poorer than men, while men are poorer when they live in the parental home. This is coherent with empirical evidence indicating that women in order to leave earlier accept worse jobs than men. The differences across countries are consistent with the actual choices. In Southern European countries women do worse when live independently and leave home later. The exception is Denmark where also women do relatively worse when living independently but leave earlier than in other contexts. However, as discussed above, leaving home early is here basically the norm, and economic factors do not play an important role (Aasve and Iacovou and Mencarini. 2006).

However the comparison of those who have left home to the situation of those who have not left home does not take account that the two groups may have very different characteristics or preferences, which may underlie a selection effect in the decision to leave home. However, this evidence is coherent with results which control for several factors. Parisi (2008) has shown that leaving home in Southern European countries is associated with a higher probability of having low income. The interpretation is that remaining in the parental home longer increases the chances of reaching a higher educational, qualification and hence a better paid job. This result may be interpreted in relationship with the existing differences in strength of family

ties across countries as well as differences in the welfare states. In areas with weak-family ties, where the value attributed to individualism tends to predominate, young adults leave home early, to acquire experiences as autonomous individuals. In contexts with strong family ties, the family has an important role in defending its members against the difficulties imposed by social and economic constraints and children receive support and protection until they leave home for good, normally for marriage, and sometimes even later.

## 7 Conclusion

We have explored the differences in leaving home of daughters and sons and the interactions with several important factors: individual characteristics, parental resources, family structure and environmental aspects. The relevance of these factors differ significantly by countries' groups. While in social democratic countries, cohabitation decisions appear to be largely related to norms, in liberal countries depend on individual and parental characteristics.

In Central West countries the environmental factors appear to be also important but almost only for daughters. Finally in Mediterranean countries all factors are quite significant for both sons and daughters. Strong gender differences appear both in the different impact of family structure as well as labor market and housing market conditions. Daughters' cohabitation decisions appear to be more responsive than sons.

These results, can be useful for informing policy makers regarding the importance of crucial reforms in the area of the labor market as well as the housing or financial market in order to make the transition to independent living arrangements easier, especially in Mediterranean countries. If the labor market and the credit market conditions affect daughters' home-leaving decisions more than sons', the implementation of policies directed to alleviating the credit constraints for housing purchases and increasing the availability of jobs would increase the differences in living arrangements, implying further bifurcation in the transition to adulthood and later on, in the distribution of household responsibilities.

## References

- [1] Aassve A., F. Billari, S. Mazzucco and F. Ongaro (2001) "Leaving Home Ain't Easy. A Comparative Longitudinal Analysis of ECHP Data",

MPIDR w. p. no. 2001-038, Max Planck Institute for Demographic Research, Germany.

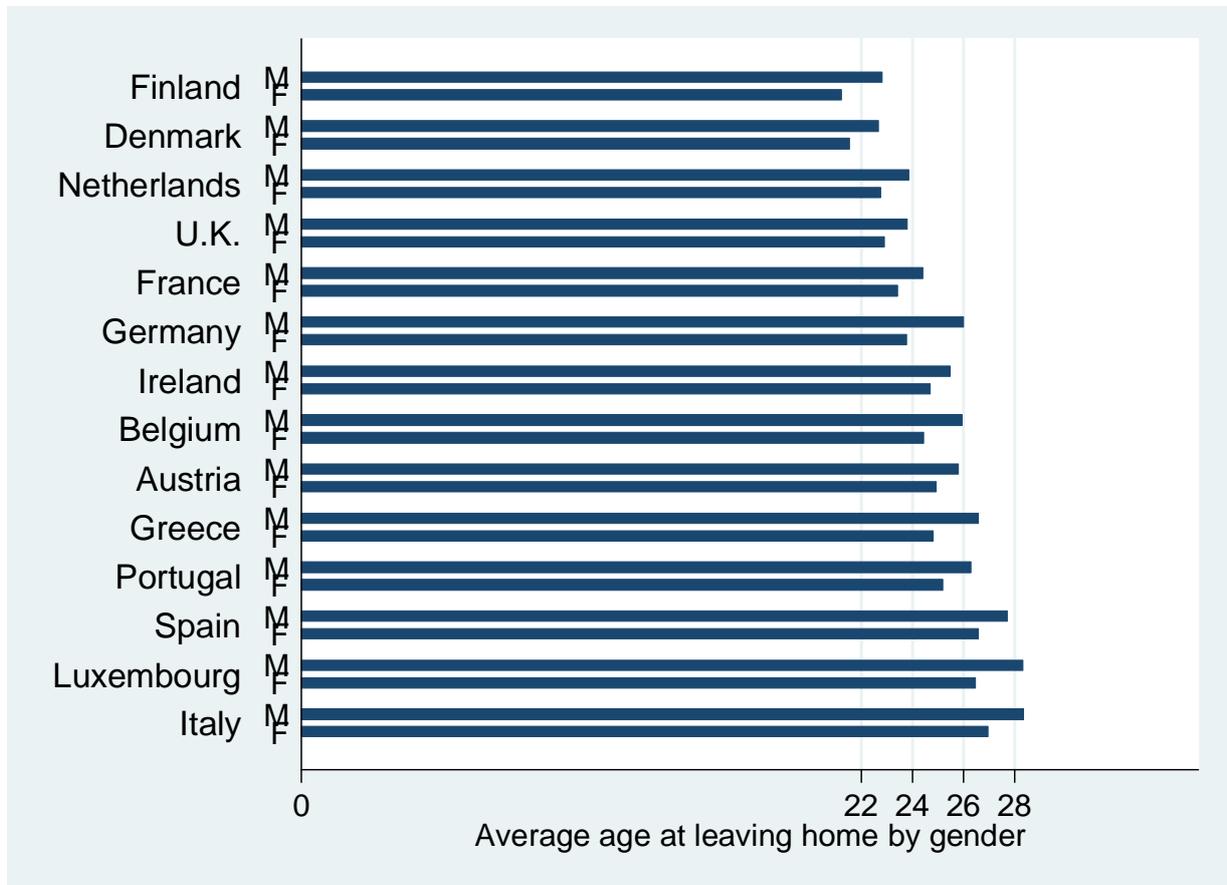
- [2] Aassve, A, M. Iacovou Mencarini L. (2006) “Youth Poverty and Transition to Adulthood in Europe”. Demographic Research, 15, pp 21-40, July.
- [3] Becker S., S. Bentolila, A. Fernandes and A. Ichino (2005) “Youth Emancipation and Perceived Job Insecurity of Parents and Children” IZA D.P. 1836, Bonn.
- [4] Bettio F., Simonazzi A. and Villa P. (2006), "Change in Care Regimes and Female Migration" *Journal of European Social Policy*, Vol. 16, No. 3, pp. 271-285.
- [5] Billari F. and G. Tabellini (2008) “Italians are Late: Does it Matter?” mimeo.
- [6] Cammelli A. (ed), *La transizione dall’università al lavoro in Europa*, Il Mulino, 2005
- [7] Card D. and T. Lemieux (2000) “Adapting to Circumstance: The evolution of Work, School and Living Arrangements Among North American Youth”, in Blanchflower D. and R. Freeman (eds.) *Youth Employment and Joblessness in Advanced Countries*, University of Chicago Press.
- [8] Chiuri, M. C. and D. Del Boca (2008). Household membership decisions of adult children. IZA Discussion Papers 3546, Institute for the Study of Labor (IZA).
- [9] Corijn, M. and Klijzing, E. (Eds.) (2001) *Transitions to Adulthood in Europe. European Association for Population Studies*, Kluwer Academic Publishers, Dordrecht
- [10] Chiuri, M. C., and T. Jappelli (2003), “Financial Market Imperfections and Home Ownership: a Comparative Study.” *European Economic Review* 47, 857-875.
- [11] Dalla Zuanna, G., Micheli, .(eds.), *Strong Family and Low Fertility: A Paradox?*, Kluwer Academic Publishers, Dordrecht / Boston / London.
- [12] Ermisch J. (1999) “Prices, parents and young people’s household formation”, *Journal of Urban Economics*, 42:1-17.

- [13] Ermisch, J., & Di Salvo P. (1997). The economic determinants of young people's household formation. *Economica*, 64, 627–644.
- [14] Esping-Andersen G., (1999), Social foundations of postindustrial economies, Oxford University Press, Oxford.
- [15] Esping Andersen G. Brodman S. and M.Guell (2007) "When fertility is bargained. Second births in Denmark and Spain", *European Sociological Review*, 23 (5). 2007..
- [16] Fogli A. (2004) "Endogenous Labour Market Rigidities and Family Ties", mimeo, New York University.
- [17] Giannelli G. and C. Monfardini (2003) "Joint decisions on household membership and human capital accumulation of youths. The role of expected earnings and local markets", *Journal of Population Economics*, May, 16 (2): 265-285.
- [18] Giuliano P. (2007) "Living Arrangements in Western Europe: Does Cultural Origin Matter?" *Journal of European economic association*.vol. 5(5): 927-952, 09.
- [19] Grossbard, S. Amuedo-Dorantes (2007) Cohort-Level Sex Ratio Effects on Women's Labor Force Participation *Review of Economics of the Household*, 5 (3), 249-278
- [20] Le Blanc D. and C. Wolff (2006) " Leaving Home in Europe: The Role of Parents' and Children's Incomes", *Review of the Economics of the Household*, issue 4, pp.53-73.
- [21] Maclellan D., Muellbauer, J., Stephens, M., (1998). "Asymmetries in housing and financial market institutions and EMU". *Oxford Review of Economic Policy*, 14 (3): 54-80.
- [22] Manacorda, M. Moretti, E., 2006, 'Why do most Italian men live with their parents? Intergenerational transfers and household structure', *Journal of the European Economic Association* 4(4): 800–829
- [23] Mayer K.U., (2001), "The paradox of global social change and national path dependencies: life course patterns in advanced societies". In Woodward A.E. and Kohli M. (eds.) *Inclusions-Exclusions*, Routledge, London: 89-110.

- [24] Martins N. and E. Villanueva (2006) “Does Limited Access to Mortgage Debt Explain Why Young Adults Live with their Parents?” February, Martins, N. and E. Villanueva (2006 Banco de Espana Working Papers 0628, Banco de Espana.
- [25] McElroy M. (1985) “The Joint Determination of Household Membership and Market Work: The Case of Young Men”, *Journal of Labor Economics*, 3 (3): 293- 316.
- [26] Parisi L.(2008) Leaving Home and the Chances of Being Poor: The Case of Young People in Southern European Countries22 (Special Issue) 89–114 (2008)
- [27] Pezzin, L.E., R.A. Pollak, and B.S. Schone (2005), "Efficiency in Family: living arrangements and caregiving decisions of adult children and elderly parents", in *Long Term care and Family Decision Making: Coresidence and Efficiency*, mimeo.
- [28] Reher D. S. (1998) “Family Ties I Western Europe Persistent Contrast” *Population and Development Review* vol 24 n.2 (Jun 1998) pp 203-234
- [29] Rosenzweig M. and K. Wolpin (1993) “Intergenerational Support and the Life- Cycle Incomes of Young Men and Their Parents: Human Capital Investments, Coresidence, and Intergenerational Financial Transfers” *Journal of Labor Economics*, 11 (1): 84- 112.
- [30] Rosina, A. (2004), “Family Formation and Fertility in Italy”, in Dalla Zuanna, G., Micheli, G.A. (eds.), *Strong Family and Low Fertility: A Paradox?*, Kluwer Academic Publishers, Dordrecht / Boston / London.

**Figure 1**

**Average age at leaving home by country: gender differences**



Note: ECHP wave 1-8. All waves are pooled.

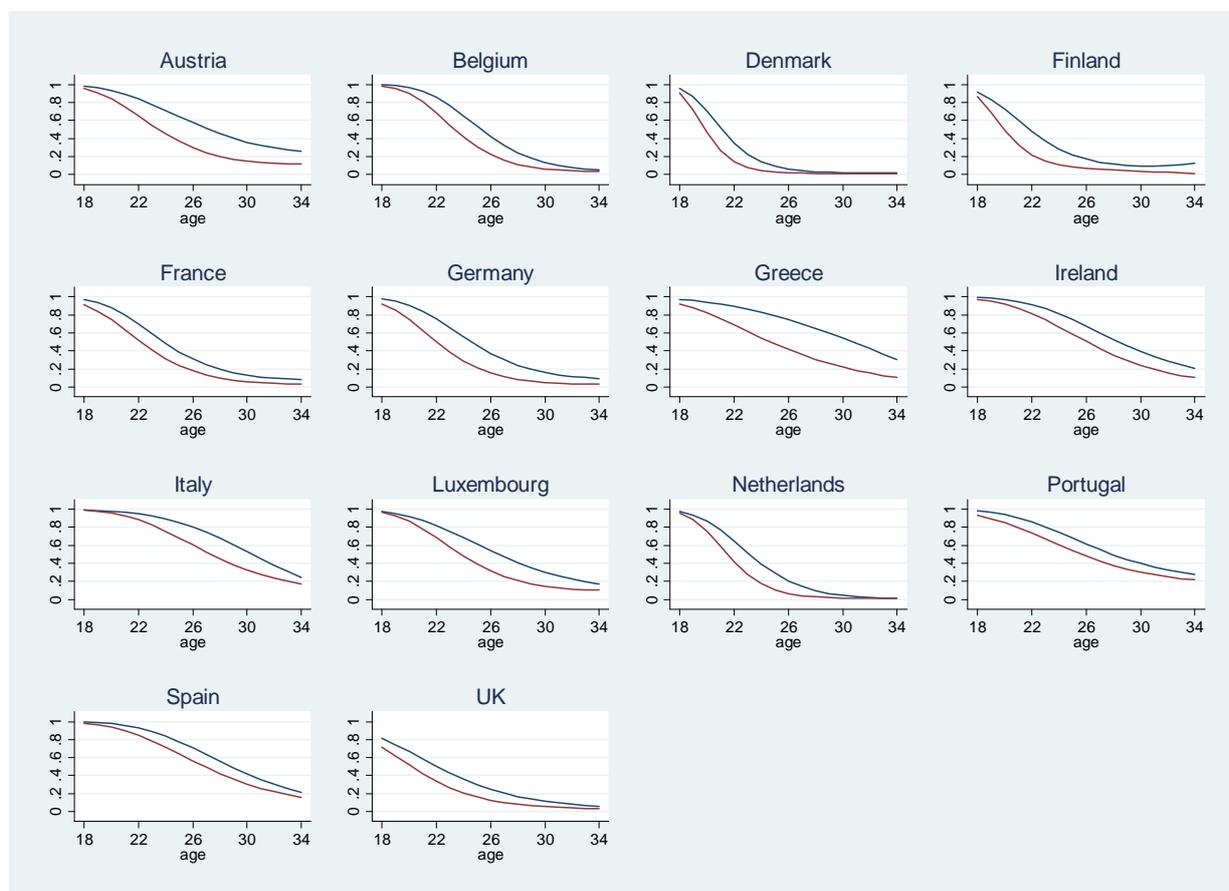
**Table 1****Average coresidence rate and university degree for adult children (aged 18-34)**

Country	Coresidence rate (age 18-34)		Third level of education	
	M	F	M	F
Austria	0.92	0.86	0.02	0.04
Belgium	0.80	0.78	0.23	0.25
Denmark	0.60	0.50	0.06	0.09
Finland	0.68	0.60	0.06	0.11
France	0.79	0.72	0.22	0.25
Germany	0.79	0.70	0.07	0.06
Greece	0.92	0.87	0.14	0.20
Ireland	0.90	0.87	0.14	0.17
Italy	0.90	0.87	0.06	0.08
Luxembourg	0.87	0.84	0.13	0.09
Netherlands	0.75	0.68	0.02	0.03
Portugal	0.88	0.86	0.04	0.08
Spain	0.89	0.86	0.22	0.28
U.K.	0.71	0.63	0.43	0.46

Note. Average coresidence rate is computed on the sample of adult children cohabiting with parents at least for one year. All waves are pooled.

**Figure 2**

**Individual countries co-residence profiles: gender differences**



Note: In each graph the blue line describes men's co-residence pattern by age; the red line follows women's one. Each profile is obtained by the fitted values of a logistic regression of coresidence rate on a second-order age polynomial.

**Table 2****Descriptive statistics: household characteristics by country averages**

Country	Father's Average Income	N. siblings	Households living with grandparents
Austria	23.832	0.80	0.09
Belgium	26.087	0.75	0.02
Denmark	33.989	0.64	0
Finland	34.709	0.80	0.01
France	34.276	0.86	0.01
Germany	25.26	0.67	0.01
Greece	12.121	0.63	0.10
Ireland	18.311	1.50	0.02
Italy	16.465	0.76	0.04
Luxembourg	30.879	0.66	0.06
Netherlands	28.141	0.70	0
Portugal	9.042	0.89	0.06
Spain	13.314	0.89	0.09
U.K.	25.410	0.66	0.01

Source: Sample selected from ECHP wave 1-8. All waves are pooled.

**Table 3****Indicators of local marriage and labour markets by gender. Maximum loan to value ratio for national housing market and proxy for welfare state**

Country	Average local Sex ratio	Average Local Unemployment rate		Maximum Loan To Value ratio	Youth social expenditure (%)
	[F/(M+F)] *100	M	F		
Austria	49.35	3.14	4.63	80	3.47
Belgium	49.22	6.71	10.32	80	6.57
Denmark	49.08	4.29	5.83	80	11.71
Finland	48.90	7.8	8.3	80	8.37
France	49.53	7.86	11.38	80	9.03
Germany	48.36	8.09	9.95	80	7.22
Greece	48.28	4.67	11.38	75	5.86
Ireland	49.41	8.42	8.17	80	14.28
Italy	49.51	10.83	20.76	60	1.79
Luxembourg	49.31	1.50	3.19	60	2.25
Netherlands	49.14	3.05	4.97	75	10.07
Portugal	49.65	3.15	4.78	80	4.64
Spain	49.07	11.94	23.26	80	6.19
U.K.	48.69	5.86	4.07	95	10.08

Note. Average Sex Ratio computed as female population over total population by country regions from REGIO dataset (EUROSTAT), 1994-2001. Average unemployment rate from REGIO dataset refers to the same years and country regions. Maximum Loan-To-Value ratio is drawn from Chiuri and Jappelli (2003) and Maclennan, Muellbauer and Stephens (1998); it refers to the 1990 decade. Youth social expenditure as percentage of total public expenditure is from OECD SOCX database, it includes housing, active labor market policies and policies for other contingencies as income support programs; the values reported in the Table is a 1994-2001 average.

**Table 4****Conditional Fixed Effect Logistic Regression.****Dependent variable: coresident child (18-34 years old)- All countries**

VARIABLES	All sample	Sons	Daughters
Child Age	-1.827*** (0.230)	-1.209** (0.317)	-2.348*** (0.343)
Child age sq	0.001 (0.004)	-0.014* (0.006)	0.008 (0.007)
Number of Siblings	0.817** (0.269)	0.382* (0.254)	1.923** (0.454)
Child Education	1.068*** (0.135)	1.223*** (0.195)	0.968** (0.191)
Parental income	-0.002 (0.370)	-0.802 (0.647)	-0.423 (0.568)
Parental income sq	0.024 (0.017)	0.071 (0.031)	-0.008 (0.026)
Grandparents	2.157** (0.436)	1.522* (0.537)	3.242** (0.795)
Sexratio	0.002* (0.001)	0.003* (0.001)	0.002* (0.001)
Unemployment	0.059* (0.028)	0.399 (0.043)	0.122** (0.0394)
Downpayment	0.002* (0.01)	0.001 (0.002)	0.005** (0.002)
Youth Policies	-0.554*** (0.080)	-0.569*** (0.111)	-0.535** (0.119)
Observations	21805	10747	11058
Number of newpid	4240	2082	2158

**Table 5- Conditional Fixed Effect Logistic Regression.****Per group of countries and gender – North Europe**

	(1)	(2)	(3)	(4)
VARIABLES	Northern non-cont.countries-Sons	Northern non-cont.countries-Daughters	Northern cont.countries-Sons	Northern cont.countries-Daughters
Child age	-0.603 (0.559)	-1.474** (0.609)	-1.738 (2.172)	-1.158** (0.734)
Child age2	-0.023* (0.011)	-0.0068 (0.0131)	-0.027 (0.028)	0.097 (0.063)
Number of Siblings	0.270 (0.258)	1.893** (0.630)	3.396 (2.161)	3.703* (1.556)
Tertiary education	1.149*** (0.275)	0.461 (0.270)	0.331* (0.142)	0.643 (1.966)
Parental Income	-0.844 ** (0.199)	-0.850 (0.335)	-0.246* (0.107)	-0.652 (0.408)
Parental income sq	0.647** (0.227)	0.095 (.145)	0.132 (0.525)	.299 (.188)
Grandparents	1.004 (1.180)	-1.166 (1.038)		
Sexratio	-0.002 (0.002)	0.007 (0.030)	0.013 (0.025)	-0.047* (0.020)
Unemployment	0.029 (0.099)	0.448** (0.123)	0.465 (0.768)	-0.897 (0.755)
Downpayment	-0.003 (0.005)	-0.004 (0.006)	-0.003 (0.006)	-0.002 (0.002))
Youth policies	-.761** (0.248)	-1.507*** (0.346)	-0.614 (0.956)	-1.052 (0.720)
Observations	1734	1522	890	834
Number of newpid	333	293	201	203

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

**Table 6- Conditional Fixed Effect Logistic Regression.****Per group of countries and gender – South Europe**

VARIABLES	(1) Central West countries- Sons	(2) Central West countries- Daughters	(3) Mediter. countries- Sons	(4) Mediter. countries- Daughters
Child age	-2.428** (0.539)	-3.185*** (0.517)	-3.431** (0.927)	-2.836** (1.033)
Child Age square	0.081 (0.010)	0.026** (0.010)	-0.023 (0.016)	0.007 (0.019)
Number of Siblings	0.669 (0.532)	1.546 (1.117)	2.352* (0.891)	1.437* (.724)
Tertiary Education	1.101** (0.331)	1.024** (0.309)	1.055 (0.807)	2.078** (0.577)
Parental Income	0.155 (0.134)	0.270 (0.161)	0.857* (0.348)	-0.695** (.1882)
Parental Income sq	-0.083 (0.068)	-0.127 (0.091)	-0.407* (0.145)	-0.298** (0.077)
Grandparents	1.379 (0.965)	1.396* (.635)	2.377* (0.977)	4.077** (0.728)
Sexratio	-0.002 (0.001)	0.003* (0.001)	.008 (0.055)	0.0059* (0.018)
Unemployment	-0.041 (0.071)	0.156* (0.062)	0.392* (0.125)	0.140* (0.054)
Downpayment	0.004 (0.003))	0.020* (0.007))	0.007 (0.010)	0.002* (0.001)
Youth policies	-0.296 (0.200)	0.043 (0.226)	0.357 (0.262)	-0.033 (0.028)
Observations	5846	5844	2276	2621
Number of newpid	1180	1194	444	495

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

Figure 3a

Poverty rate for young adults independently living till the age of 25, observed at later years (26-34)

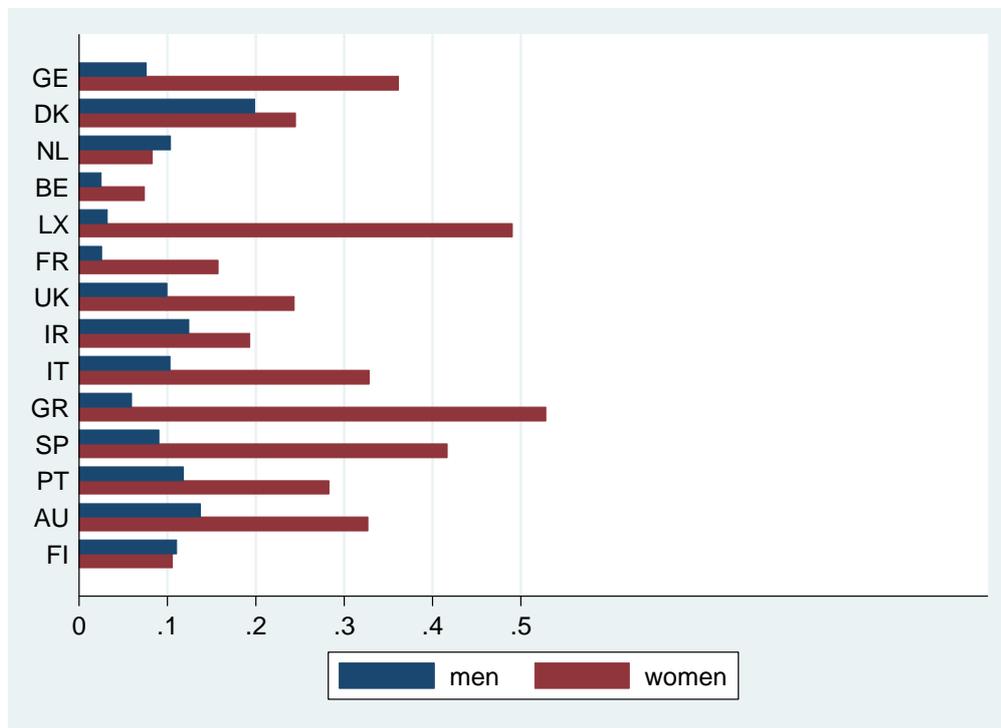
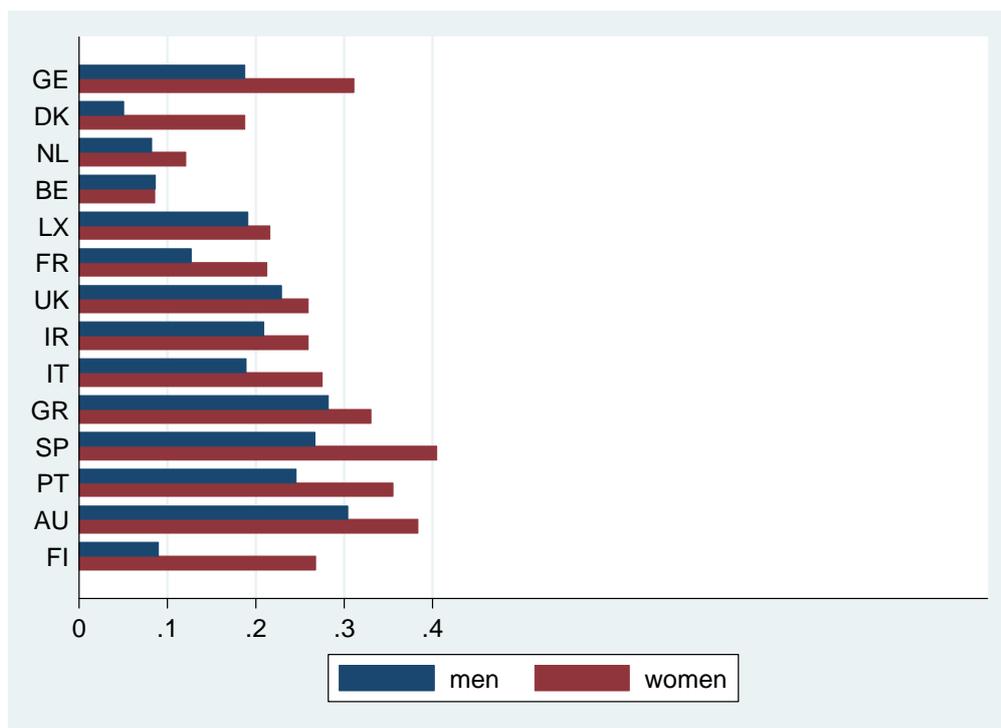


Figure 3b

Poverty rate for young adults coresiding with parents till the age of 25, observed at later years (26-34)



**Appendix Table A .Comparison by age of total 18-34 sample of adult children and sample of those coresiding at least for one wave.**

Country		18-19	20-24	25-29	30-34	No of obs.
Austria	ECHP sample	5.86	11.85	28.22	54.07	11,476
	<i>Coresid.for 1+ yr</i>	8.80	20.15	37.93	33.92	6,054
Belgium	ECHP sample	5.56	10.32	26.09	58.03	12,378
	<i>Coresid.for 1+ yr</i>	9.39	20.99	42.22	27.40	5,749
Denmark	ECHP sample	4.66	9.74	26.78	58.81	10,955
	<i>Coresid.for 1+ yr</i>	12.21	28.21	44.74	14.74	2,964
Finland	ECHP sample	7.72	15.29	28.87	48.12	12,312
	<i>Coresid.for 1+ yr</i>	13.51	30.46	40.56	15.47	5,131
France	ECHP sample	5.83	11.34	29.88	52.96	29,659
	<i>Coresid.for 1+ yr</i>	9.89	22.11	43.39	24.61	13,216
Germany	ECHP sample	4.93	9.64	25.11	60.32	31,260
	<i>Coresid.for 1+ yr</i>	9.26	20.78	38.78	31.18	13,181
Greece	ECHP sample	6.37	12.27	29.36	52.00	24,899
	<i>Coresid.for 1+ yr</i>	8.06	17.64	36.60	37.70	15,728
Ireland	ECHP sample	8.04	15.31	32.85	43.80	17,255
	<i>Coresid.for 1+ yr</i>	9.04	21.53	41.66	27.76	11,281
Italy	ECHP sample	5.12	10.79	30.08	54.01	39,868
	<i>Coresid.for 1+ yr</i>	6.07	14.67	38.06	41.19	28,388
Luxemb.	ECHP sample	3.85	8.16	26.38	61.61	11,621
	<i>Coresid.for 1+ yr</i>	5.95	15.20	37.64	41.22	5,477
Netherl.	ECHP sample	5.26	9.21	23.43	62.09	20,038
	<i>Coresid.for 1+ yr</i>	12.43	26.05	42.89	18.63	6,153
Portugal	ECHP sample	6.51	13.46	33.28	46.74	24,315
	<i>Coresid.for 1+ yr</i>	7.86	18.40	40.66	33.08	16,186
	ECHP sample	5.62	12.09	30.90	51.39	38,038

Spain	<i>Coresid.for 1+ yr</i>	6.77	16.63	39.43	37.17	26,053
U.K.	ECHP sample	4.88	10.89	28.44	55.80	23,163
	<i>Coresid.for 1+ yr</i>	9.89	21.79	41.66	26.66	7,917