Determinants of young Europeans' decision to leave the parental household

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RES2002 Conference

The analysis of household formation has found limited space in the economic literature until very recently, and the articles in other social sciences are fairly descriptive in nature. None of all these attempt cross-country quantitative analyses and only few estimate dynamic models within a country, while many are cross-sectional studies of living arrangements. Since there are large differences in household structure within Europe, I used several datasets (ECHP, BHPS and SOEP) to study the patterns across the continent. I posited a simple theoretical framework and estimated a dynamic model of departure of young Europeans from the parental home. I analysed how the determinants of departure from the parental household compare and whether the differences in residential decisions can be explained by looking at children's and parents' income and labour market characteristics. Firstly, I showed that a model with multiple destinations (moving out of home to move in with a partner, moving out without a partner, and remaining at home) is more appropriate than the dichotomous approach mostly found in the literature. Secondly, I found that for Southern European males economic circumstances are very important: only current income and employment status affect departure. I also observed that higher family income discourages departures particularly in Southern Europe. The low departure rates in the South therefore seem to be the result of limited labour market opportunities: children in the South stay at home as long as they have not secured a job.

Keywords: Family structure, Household formation, Labour supply.
JEL-Code: J12 (Family structure), J22 (Time allocation and Labor Supply), C3.

1 Introduction

While many studies and articles have been written on household formation, most of these have been confined to the sociological or demographic areas, with more emphasis on description than on quantitative analysis. There are only few publications on this topic in economics journals. None of all these, however, attempts cross-country quantitative analyses and only few estimate dynamic models within a country, while many are cross-sectional studies of living arrangements.

The purpose of this paper is to estimate a dynamic model of departure of young Europeans from the parental home. The focus is on Europe because there are large differences in household structure between countries (Iacovou (1998)). I analyse how the determinants of departure from the parental household compare and whether the differences in residential decisions can be explained by looking at children's and parents' income and labour market characteristics.

A look at the EU situation in 1995 shows that children at all ages are more likely to be living with their parents in Southern Europe (Greece, Italy, Spain and Portugal, or the "South") than in the rest of the Union (the "North"). The differences become quite marked from the mid-20s for both sexes.

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[2] This draft is partly based on work carried out at IRISS-CEPS/INSTEAD, for whose support many thanks. I thank Arnstein Aassve, Tito Boeri, Christopher Flinn, Stephen Machin, Ian Preston and Fabio Soares, as well as participants at seminars at UCL and ESPE2001 for useful comments and suggestions (including those on a previous version). Standard disclaimer applies. Work in progress: please do not quote. Contact address: m.ghidoni@gmx.net

	males			females		
Country	18-23	24-29	30-35	18-23	24-29	30-35
GREECE	0.86	0.66	0.30	0.70	0.31	0.10
ITALY	0.97	0.76	0.32	0.93	0.54	0.18
SPAIN	0.97	0.70	0.29	0.92	0.55	0.21
PORTUGAL	0.94	0.67	0.23	0.89	0.47	0.18
AUSTRIA	0.82	0.46	0.23	0.68	0.24	0.11
FRANCE	0.80	0.29	0.09	0.67	0.15	0.03
GERMANY	0.86	0.36	0.07	0.70	0.13	0.02
LUXEMBOU	0.93	0.37	0.13	0.77	0.19	0.07
BELGIUM	0.93	0.46	0.08	0.82	0.20	0.06
UK	0.78	0.27	0.08	0.56	0.11	0.03
IRELAND	0.93	0.48	0.18	0.84	0.33	0.09
NL	0.71	0.19	0.02	0.54	0.05	0.01
DENMARK	0.58	0.08	0.02	0.38	0.02	0.01
FINLAND	0.57	0.12	0.06	0.36	0.03	0.01

Table 1- share of young people who are living with at least one of their parents ("children") (weighted) 1994-6 – Source: ECHP[3]

The probability of a child leaving at early ages appears to be much lower in the South. The median child to leave will be, therefore, much older in the South than in the North, as shown in the table below. This is true of both males and females.

Country	median age	
	MALES	FEMALES
GREECE	28	25
ITALY	29	26
SPAIN	29	27
PORTUGAL	29	26
AUSTRIA	25	24
FRANCE	24	22
GERMANY	24	21
LUXEMBOU	24	24
BELGIUM	25	23
UK	24	21
IRELAND	26	24
NL	23	21
DENMARK	21	19
FINLAND	21	19

Table 2- median age of leaving the parental home (weighted)- 1996 – Source: ECHP

The variation in departure patterns clearly leads to variation in the average age of children staying at home, as shown in Table 3 below. Considering only children aged 18-35 (to ignore differences due to fertility rates), one can notice that a Southern European who is living with their parents is likely to be, on average, nearly two years older than a Northern European also living with their parents.

The differences are large and significant between Northern and Southern countries, and mostly within each group as well.

	sex	
Country	male	female
GREECE	24.5	22.8
ITALY	24.3	23.5
SPAIN	24.1	23.6
PORTUGAL	23.5	23.3
AUSTRIA	24.6	23.3
FRANCE	22.5	21.7
GERMANY	22.8	21.6
LUXEMBOU	23.8	22.7
BELGIUM	23.0	22.2
UK	23.0	21.9
IRELAND	22.8	22.2
NL	21.8	20.7
DENMARK	20.8	20.2
FINLAND	21.8	20.2

Table 3 – average age of children living at home (18-35 year old) by country and sex (1994 –1996) weighted[4]

[3] 1995-6 for Austria, 1996 for Finland.
[4] 1995-6 for Austria, 1996 for Finland.

The general pattern, described in Iacovou (1998), is that children in the South tend to be single,[5] childless and living with their parents until a relatively late age, and when they finally leave, they do so to marry and have children. Young people in the "North", by contrast, tend to leave the parental home earlier to live on their own, or with friends, or with a partner (to whom they are quite often not married).

2 Literature

The analysis of household formation has found limited space in the economic (theoretical and empirical) literature until very recently. Although this topic has been explored in other social sciences, the many sociological and demographic single-country and cross-country studies are fairly descriptive in nature. Research in this area is difficult because detailed information is needed on both children and parents for more than one period (cross-sections are less suitable). There are only few econometric studies using panel data, virtually only for the US and the UK, while cross-sectional studies exist for Australia, Italy, Spain, Sweden and few other countries; none of these, however, performs cross-country analyses. Studies based on time-series data are rare (Åsberg (1999), p. 119).

Becker (1991)'s work and the economics of the family literature does not focus on the specific issue of children's departure from home. The first model is McElroy (1985), which analyses the joint determination of market work and household membership for young American males, based on Nash-bargaining between parents and children, and she finds that parents insure their sons against poor labour market opportunities. Ermisch and Di Salvo (1997) and Ermisch (1999) present a model of young people's decision to live apart from their parents where they predict the impact of income and housing market variables. Their studies derive predictions about the impact of the price of housing, child's and parents' income on the probability that a young adult lives away from their parents. Manacorda and Moretti (2000) present a model of non-cooperative bargaining between children and parents, with and without altruism, using different functional assumptions but drawing conclusions similar to the previous authors. Some recent papers show that family structure is endogenous to credit market constraints and labour market conditions (Fogli (2000), Díaz and Guilló (2000)).

Most empirical papers estimate a model of living arrangements in a standard utility maximisation framework. The main choice for a child is between living with one's parents and living outside the parental home; sometimes different destinations are allowed for. A large part of empirical analyses on youth departure uses cross-sectional data, i.e. current living arrangements, and only few use dynamic models, eg, hazard functions. The covariates that are used are the ones that are expected to be important to explain why utility outside the parental home may be different from utility when living with one's parents, ie, covariates whose marginal utility is different under the two living arrangements. These variables are usually child's income, rental costs,[6] parental income, parental wealth, health status of child and parents, and demographic variables. Many authors pool men and women together in the estimation. There is no standard way of including income variables: some authors assume that they are all exogenous (current labour income, for example), others calculate a potential wage for part-timers and non-workers, generally without – apparently - correcting standard errors (Whittington and Peters (1996), Haurin et al. (1997), (Åsberg (1999)) and sometimes using the actual wage for full-time workers (Åsberg (1999)), some use parental or family (excluding the child's) income, mostly unstandardised; Aassve, Billari, and Ongaro (2000) controls for initial conditions and uses current income.

The typical results are that own earnings are significant (but this variable may be endogenous) and increase the probability of living outside the parental household; potential earnings appear to have a positive effect, too, but the results are usually not very robust; higher parental earnings tend to be associated with longer cohabitation (but results are not clear-cut); females are more likely to reside without their parents, as are those with a partner and/or with children; age increases the probability of independent living (showing an increased desire for privacy), but at a declining rate. Some papers point out that some covariates (eg, parental income) have different effects on different destinations (living in with a partner vs. living in with others or alone, see Ermisch and Di Salvo (1997), Buck and Scott (1993)). Generally, most papers have focused on whether certain variables affect residence

[5] Ie, not living with a partner. Note that a significant share of Southern Europeans who are married still cohabit with their parents or parents-in-law.

[6] Most of the economics literature I found stems from the housing economics area.

outside the parental household or not, and in which direction, but they have found it very difficult to estimate coefficients (and elasticities) precisely and to assess their magnitude.

There are three papers that provide the most useful benchmark for my results.

For Italy, Aassve, Billari, and Ongaro (2000) use the first two waves from the Italian sub-sample of the ECHP to estimate a probit model of departure from the parental home that includes a selection term (similar to Heckman's) to account for sample selection for those people who are already living without their parents in the first wave. They show that being employed has a very large effect on departure rates: for employed men in the second to fourth quartiles, the marginal effect is more than 10 percentage points. However, their standard errors are very large (the true effect could be, roughly, between 3 and 18 percentage points. Unusually, the authors do not include age terms in the departure equation (only in the selection one). The same is true, to a lesser extent, for women. Since older Italians are much more likely to be employed and on high incomes, the effect of being employed and on a high salary may in fact be capturing an age effect. There is a negative effect of the regional unemployment rate (in levels) on men's departure, but this is very small (-0.003, s.e. 0.001)). They find very weak evidence of an effect of parental income.

For the UK, Ermisch (1999) takes into account multiple destinations, but he estimates only dichotomous models where he pools males and females together (and only uses actual income). Whereas the "full" probit (probability of departure from the parental home) gives mostly significant coefficients, when multiple destinations are analysed (probit on moving in with a partner conditional on being at home and not having a partner; probit on moving in without a partner conditional on being at home and not having a partner) the coefficients on own income become significant only at the 10% level and parental income loses the 10% significance (with negative coefficients, ie higher parental income delays departure) it had in the "full" probit. He finds that having been unemployed in the past year increases departures without a partner, as if the youth had to move out to find a job. Ermisch (1999)'s results seem to show that the covariates may not have very strong effects (this may partly be due to significant differences between genders).

For Germany, Gartner (2000) uses the SOEP (West Germany's subsample only) to study departure from home. He defines the destinations quite differently from most other researchers ("moving into a single household" is the case in which the child moves out of the parental home to live on their own, without anyone else in the household, and "moving into a household with more than one person" is the other possible destination; having or not a partner in the new household is not relevant to the analysis. Other researchers, including the present author, use as destinations a household without own partner ("move without a partner") and a move to live with a partner ("move with a partner"). What Gartner classifies as moves into a more-than-one-person-household therefore includes the more common "move into a partnership" but also some moves into non-partnership living arrangements. This makes results extremely difficult to compare with the rest of the literature because moving in with friends and moving in with a partner seem very different concepts.[7] He estimates a multinomial logit model, for which he reports coefficients but not marginal effects. For men, he finds a strong effect of being employed full-time, while all other labour market situations are not significantly affecting departure. Pro-capita family income (including own) and parents' education have no effect. For women, he finds that being employed or under training increases departures to multi-person households, but only being under training increases departures to single-households. Per capita family income is significant and negative, but the coefficients do not become more negative as income grows.

3 Theoretical framework

Young people's decision of household formation is typically modelled in a utility comparison framework, where the child compares his utility when living with his parents and when on his own). This was the approach chosen by McElroy (1985), who derived the indirect utility functions for child and parents in a Nash bargaining model. Most subsequent studies use a similar framework.[8]

[7] To my knowledge, there is no research to prove that those destinations can be grouped together. In this study, I am assuming that moving into a single household (with nobody else) and moving in with other but without a partner are homogeneous enough destinations to be grouped together.

[8] A more refined approach can be found in Aassve (2000), where a simple search theoretic model is presented.

Let us consider a child and his family.[9] The child has the following utility function:

(3.1) $U^C(C_c, h_c, OUT)$ $OUT = 0, 1$

that he maximises subject to a budget constraint

(3.2) $Y_c + T(OUT) = C_c + OUT_i\, p_h\, h_c$

h_c is child's housing consumption, for which he has to pay when living without his parents; C_c is child's consumption excluding housing; Y_c is child's total income; *OUT* is a dummy indicating whether the child lives outside the parental household (*OUT*=1) or within (*OUT*=0);[10] *T(OUT)* is the amount of financial transfers from parents to child, which depend on whether the child is coresiding (*T(0)*) or away (*T(1)*); p_h is housing costs. The subscript *c*, as in h_c, refers to the child, while the subscript *p* refers to the parents. When the child lives with his parents, his budget constraint becomes *a*') $Y_c + T(0) = C_c$; otherwise it is *a''*) $Y_c + T(1) = C_c + p_h\, h_c$.

The parents are assumed to be altruistic, and therefore their utility function is a function of the child's utility and of their own consumption.

(3.3) $U^P = U^P(C_p, h_p, IN, U^C(C_c, h_c, OUT))$ $OUT = 0, 1$ s.t.

(3.4) $Y_p = C_p + p_h\, h_p + T(OUT)$

(3.5) $T(OUT) \geq 0$

Ermisch and Di Salvo (1997), Ermisch (1999) and Manacorda and Moretti (2000) build their predictions and empirical analyses within this framework, substantially improving upon McElroy (1985)'s model. Parents can influence their child's residential decision by deciding the amount of financial transfers, which depends on their degree of altruism. Manacorda and Moretti introduce the idea that parents' utility may depend on whether they are cohabiting with their child: this is reflected by the *IN* term in (3.3).

The model has therefore two stages: in the first stage, parents choose financial transfers, their own consumption of housing and other goods to maximize (3.3) subject to (3.2), (3.4), (3.5) above. In the second stage, the child maximizes his own utility, taking the parental decisions as given, and thus chooses whether to cohabit. Ermisch and Di Salvo (1997) note that it is effectively the parents deciding the residential status of the child (assuming complete information on preferences). But Manacorda and Moretti (2000) add that if the parents are very altruistic, their child will receive so large a transfer that he will inevitably decide to live outside the parental home, because *T(0)- T(1)* cannot be large enough.

The effect of incomes, housing costs and other variables can be derived, but their signs depend on the choice of some functional form for the utility function; Ermisch and Di Salvo (1997) and Ermisch (1999) use a constant elasticity of substitution function (that nests the Cobb-Douglas) while Manacorda and Moretti (2000) use a Stone-Geary function, but their main conclusions are broadly similar: *i)* the utility of both parents and child depends on cohabitation (generally, a child values his privacy); *ii)* from a financial point of view, total housing costs are lower when the child lives with his parents, and there may be other economies of scale; *iii)* financial transfers from parents to the child increase with the gap between parental income and child's income and with the degree of altruism of the parents; *iv)* altruistic parents may decide to support the child whatever his residential decisions,[11] and they will find it "cheaper" to support him during cohabitation thanks to the presence of local public goods and economies of scale (ie, total family income minus total housing costs is higher when cohabiting); *v)* financial transfers from parents to child have an important effect on the child's decisions (analytical results predict that higher parental income reduces departure rates);[12] *vi)* the impact of the cost of housing depends on demand elasticity for housing.

In this framework I want to understand what determines young people's residential choices. Let the child's indirect utility function when living away from his parents in period *t* be:

(3.6) $V_t^{OUT} = V_t^{OUT}(y_{ct}, y_{pt}, p_{ht}, \boldsymbol{x}_t^{OUT}, u_t^{OUT})$

Parental income is included because of the possibility of financial transfers from parents. The vector $\boldsymbol{x}_t$ includes all other possible variables of relevance, eg, age, country, unemployment rate, potential wage, own health status, parental health, etc. u_t^{OUT} is a zero-mean random variable that affects preferences for privacy.

[9] For simplicity's sake I assume that in each family there are two parents and one child. In the empirical section, parental income needs to be normalised by household size, which I will do, since children must share parental resources.

[10] For simplicity, I define *OUT*=1-*IN* and I use the most straightforward dummy in each case.

[11] Ermisch and Di Salvo (1997) find conditions that show that when parental income is much higher than child's income, financial transfers are made in both residential states *T(1)>0* and *T(0)>0*, when parental income is too low there are no transfers at all, while in the intermediate range transfers are made only when the child lives apart.

[12] Most surveys do not ask about financial transfers from parents to child if the child is cohabiting (the relevant ECHP question is "Did you personally receive in 199x any financial support or maintenance from relatives, friends or other persons *outside* your household?", italics added), but they must clearly take place, if the child has no or little source of own income.

Utility when living with parents at time t is represented by the indirect utility function:

(3.7) $V_t^{IN} = V_t^{IN}(y_{ct}, y_{pt}, \mathbf{x}_t^{IN}, u_t^{IN})$

$\mathbf{x}_t^{IN}$ includes all other possible variables of relevance and u_t^{IN} is a zero-mean random variable that represents preferences for living with parents.[13]

Static framework

Following Ermisch (1999), a young person lives apart from his parents if

(3.8) $V_t^{OUT}(y_{ct}, y_{pt}, p_{ht}, \mathbf{x}_t^{OUT}, u_t^{OUT}) > V_t^{IN}(y_{ct}, y_{pt}, p_{ht}, \mathbf{x}_t^{IN}, u_t^{IN})$

If the indirect utility functions are linear, this becomes, in the simplest case:

(3.9) $(\beta_{OUT,1} - \beta_{IN,1})y_{ct} + (\beta_{OUT,2} - \beta_{IN,2})y_{pt} + (\beta_{OUT,3} - \beta_{IN,3})p_{ht} + (\boldsymbol{\gamma}_{OUT} - \boldsymbol{\gamma}_{IN})\mathbf{x}_t + (u_t^{OUT} - u_t^{IN}) > 0$

$\mathbf{x}_t$ includes $\mathbf{x}_t^{IN}$ and $\mathbf{x}_t^{OUT}$. The β_s and the $\boldsymbol{\gamma}_s$ coefficients are the parameters of the indirect utility functions, $s = OUT, IN$.

As derived in the theoretical literature surveyed earlier, one can expect:

(3.10) $(\beta_{OUT,1} - \beta_{IN,1})>0$ in all cases

(3.11) $(\beta_{OUT,2} - \beta_{IN,2})<0$ in most cases[14]

(3.12) $(\beta_{OUT,3} - \beta_{IN,3})<0$ if parents' demand for housing is price inelastic.

Differences in taste will affect the term $(u_t^{OUT} - u_t^{IN})$. If some of these preferences are due to fixed effects and the rest can be attributed to a random error, this term can be rewritten as:

(3.13) $(u_t^{IN} - u_t^{OUT})_i = \alpha_i + \varepsilon_{it}$

for child i, i=1, …, N. α_i (the fixed effect) and ε_{it} are mutually independent, and ε_{it} is an iid random variable.

One may wish to estimate the following index function measuring the propensity for child i to live outside the parental home at time t (the child leaves home if I>0, and stays otherwise):

(3.14) $I_{OUT,t} = (\beta_{OUT,1} - \beta_{IN,1})\, y_{ct} + (\beta_{OUT,2} - \beta_{IN,2})\, y_{pt} + (\beta_{OUT,3} - \beta_{IN,3})\, p_{ht} + (\boldsymbol{\gamma}_{OUT} - \boldsymbol{\gamma}_{IN})\, \mathbf{x}_t + \alpha_i + \varepsilon_{it}$

or, after substituting $\beta_k = (\beta_{OUT,k} - \beta_{IN,k})$, k =1, 2, 3, and $\boldsymbol{\gamma}=(\boldsymbol{\gamma}_{OUT} - \boldsymbol{\gamma}_{IN})$:

(3.15) $I_{i,t} = \beta_1\, y_{cit-1} + \beta_2\, y_{pit-1} + \beta_3\, p_{hit} + \boldsymbol{\gamma}\mathbf{x}_t + \alpha_i + \eta_{it}$

I >0 implies that the child lives outside the parental home, while $I \leq 0$ implies that he lives with his parents. In a static framework, however, strong assumptions are needed on $\alpha_i + \varepsilon_{it}$ for consistency. The fixed effect may be correlated with income, for example because a stronger desire for independence may be associated with higher income (McElroy (1985) and Haurin et al. (1997) also assume that leaving home and labour market choices are simultaneously determined). Chamberlain (1980)'s conditional logit estimator can yield consistent estimates of the β coefficients under the assumption of logistic distribution for ε_{it} but without requiring ε_{it}'s independence of the explanatory variables.[15] On the whole, a static model is problematic, because *i*) It requires more instruments, as contemporaneous variables on the right hand-side may be correlated with the error; *ii*) it requires more explicit dealing with the simultaneity of housing and labour market activity decisions; *iii*) it may suffer from serious problems due to attrition; *iv*) it may not be very useful towards the understanding of the determinants of departure from the parental home, because cross-sectional observations are the results of past decisions, which may have become irreversible, and are due to the joint effect of children's departures and returns.

Dynamic framework

A panel extension of the static model may overcome many of the difficulties above (as suggested, for example, by Ermisch (1999), whose model I extend). I concentrate on young people who are still residing with their parents at time *t-1*, and for them it must be:

(3.16) $V_{t-1}^{OUT}(y_{c,t-1}, y_{p,t-1}, p_{h,t-1}, \mathbf{x}_{t-1}^{OUT}, u_{t-1}^{OUT}) \leq V_{t-1}^{IN}(y_{ct-1}, y_{p,t-1}, p_{h,t-1}, \mathbf{x}_{t-1}^{IN}, u_{t-1}^{IN})$

Similarly, for one of these children to leave the parental home in period t it must be

(3.17) $V_t^{OUT}(y_{ct}, y_{pt}, p_{ht}, \mathbf{x}_{t-1}^{OUT}, u_t^{OUT}) > V_t^{IN}(y_{ct}, y_{pt}, p_{ht}, \mathbf{x}_{t-1}^{IN}, u_t^{IN})$

Therefore, the probability that a child leaves home in period t conditional on living with his parents at t-1 is

(3.18) $I_{it} = \Pr(OUT_{it}=1 \mid OUT_{i,t-1}=0) = \Pr(V_{i,t}^{OUT} > V_{i,t}^{IN} \mid V_{i,t-1}^{OUT} \leq V_{i,t-1}^{IN})$

From here, one could build a model in first differences. But there are two problems: firstly, young people who leave home have relatively high attrition, and there is very little information

[13] I am therefore allowing for coresidence being a good or bad, or irrelevant to the child, depending on the values of u for each child. Whether cohabitation is a good for the parents will have an effect on the impact of parental income on youth's utility, as parents will have to be more generous to retain their children.

[14] Except when parents' utility is lower during cohabitation and altruism is not strong enough to compensate for this, a case which is probably rare.

[15] Note, however, that in the empirical section one could use parents' "permanent income" rather than current income if parents are not liquidity constrained, and this variable will be broadly constant over time. Thus $(\beta_{OUT,2} - \beta_{IN,2})$ will generally be unidentifiable. All coefficients on variables that do not change over the length of the panel, such as gender, and possibly education.

on their situation at time t, although I often have information on the other members of the original household; secondly, there are endogeneity problems for variables at time t, because a child who has left home is much more likely to be working, and the causality may run from departure to income, or viceversa.

By using individual's information at time $t-1$, or earlier, to explain departures between time t-1 and t, the risk of endogeneity is reduced. Exogenous covariates relative to the interval $t-1$ to t (eg, housing costs, regional unemployment) could, however, be included. Lagged variables, including lagged income, can be used as instruments in place of contemporaneous covariates. This requires that past information be not correlated with errors at time t.

Taking for example income variables, parents' (permanent) income, can be thought of as $y_{p\,t} = y_{p\,t-1} + e_{pt}$, where e_{pt} is an iid random variable whose expected value at time $t-1$ is zero. Child's income can be modelled slightly differently as $y_{c\,t} = y_{c\,t-1} + \alpha \mathbf{z}_{t-1} + e_{ct}$, where $\mathbf{z}$ is a vector including variables such as age, experience, education, job search activity, health. e_{ct} is also an iid random variable whose expected value at time $t-1$ is zero. It may or may not be correlated with e_{pt}, but it cannot be correlated with $u_{OUT,t}$ and $u_{IN,t}$. It is important to notice that the child's actual decision may take place when, say, he has actually never worked yet. The interpretation of y_{ct} then becomes that of potential income y^*, ie, the income the child could earn if working full-time at time t, and similarly for previous periods, and I assume that the child can form an expectation of this. The model would then need to be changed accordingly, as shown in (5.2) below.

Assuming, as I did earlier, that the indirect utility functions are linear, the conditional probability of leaving home in period t ((3.18)) can be written as

(3.19) $l_{it} = \Pr(OUT_{it}=1 \mid OUT_{i,t-1}=0) = \Pr(e_t < \beta_1 y_{ct-1} + \beta_2 y_{pt-1} + \beta_3 p_{ht} + \boldsymbol{\beta}_4 \mathbf{z}_{t-1} + \boldsymbol{\gamma}_1 \mathbf{x}_t \mid e_{t-1} > \beta_1 y_{ct-2} + \beta_2 y_{pt-2} + \beta_3 p_{ht-1} + \boldsymbol{\beta}_4 \mathbf{z}_{t-2} + \boldsymbol{\gamma}_1 \mathbf{x}_{t-1})$

where $\beta_i = (\beta_{OUT,\,i} - \beta_{IN,\,i})$ $i = 1, 2, 3$, $\boldsymbol{\beta}_4 = (\beta_{OUT,1} - \beta_{IN,1})\boldsymbol{\alpha}$ and $e_t = u_t^{IN} - u_t^{OUT} - \beta_1 \varepsilon_{ct} - \beta_2 \varepsilon_{pt}$. The theoretical model leads us to expect $\beta_1 > 0$, $\beta_2 < 0$, $\beta_3 < 0$ if housing demand is inelastic with respect to price, and each component of $\boldsymbol{\beta}_4$ to have the same sign as the corresponding element in $\boldsymbol{\alpha}$.

In the empirical section I will consider all children living with their parent(s) at time t-1 and estimate the following index function measuring the propensity for child i to leave the parental home:

(3.20) $l_{i,t} = \beta_1 y_{cit-1} + \beta_2 y_{pit-1} + \beta_3 p_{hit} + \boldsymbol{\beta}_4 \mathbf{z}_{t-1} + \boldsymbol{\gamma}_1 \mathbf{x}_t + \theta_i + \eta_{it}$

The error $\eta_{it} = u_{it} + \beta_1 \varepsilon_{ct} + \beta_2 \varepsilon_{pt}$ is an innovation error that reflects unexpected changes in tastes and incomes, ie η_{it} is assumed to be iid, not correlated with the explanatory variables; I also assume that θ_i is uncorrelated with the covariates and with η_{it}.

4 Data

I use three datasets in this paper, the ECHP, for most EU countries, the BHPS, for the UK and the SOEP, for Germany.

The European Community Household Panel (ECHP) is a standardised annual longitudinal survey carried out in the European Union since 1994. All current EU member countries, bar Sweden, are represented, but Austria and Finland only joined in wave 2 and 3 respectively. The ECHP focuses on individual sample members, who are followed if they leave their original households. New sample members are children borne to sample members, but not anyone else who joins the sample members' household after the initial wave. Some 60,000 households and ca 130,000 people aged 16 years and over are interviewed every year. The questionnaires and procedures are fairly standard across countries, but there are differences, mainly in sample selection and anonymisation.[16] Only the first four waves are currently available. The interviews took place mostly in the calendar year following the survey year (1994 for the first survey, relating to 1993, etc.). Living arrangements refer to the day of interview. Income and labour market variables are usually available both for the current week/month and for the whole survey year.

Since the quality of the UK part of the ECHP suffers from high attrition, and the German panel has no regional information and is also of limited size, I also conduct some analyses on the British Household Panel Study (BHPS) and the German Socio-Economic Panel (GSOEP).

The BHPS is a nationally representative sample of British households interviewed for the first time in autumn 1991. The original sample respondents have been interviewed, along with their co-residents, approximately every year thereafter. There are six thousand private households (about ten thousand persons) interviewed every year from the beginning of

[16] Peracchi (2000) gives a more precise illustration of the general structure of the data and of attrition, non-response, weighting and imputation features.

September and until the beginning of the following year. Children are interviewed only from the age of sixteen (see Taylor (1999)).

The GSOEP is an annual panel of six thousand households (fifteen thousand individuals) that began in 1984 in West Germany with a design quite similar to that of the US PSID. It was then expanded in 1990 to cover the new Eastern regions. It currently contains ca. 6000 households that are interviewed every year. The GSOEP data provide a detailed account of income and employment status and are therefore particularly suitable for labour market studies.(see Haisken-De New and Frick (1998)).

5 Empirical analysis

I analyse the probability of departure of all people who are still living in the parental household in any one wave and on whom I have some information on their living arrangements in the following year. Living in the parental household (ie being a "child", thus being at risk of departure): I define "children" all people who are in the same household of at least one parent of theirs, natural or legal, at the time of interview. Children temporarily away are not included if they have not had a completed personal interview. Therefore a "parent" is a person who is in the same household of at least one child of theirs, natural or legal, at the time of interview (including most children who are temporarily away, as explained below). Departure is defined as leaving the parental household in the period between one interview and the following one to enter any other living arrangement where no parent is present. Living without a partner is a situation where no other member of the household is classified as partner (married or unmarried spouse) of the individual, while living with a partner is when there is a partner.

Only people aged 18-35 (inc.) are included in the analysis for Greece, Italy, Spain and Portugal, and only people aged 18-30 for all other countries.[17] The lower bound represents the start of adulthood when children can take their own decisions. Before that age, departures rates are negligible around the Mediterranean and 1% elsewhere. The upper bound has been chosen because the number of children still living with their parents is, by that age, extremely low in the North and somewhat stable in the South (as if the child had decided to live with their parents for the rest of their life). Children who entered military service are excluded because they are not "at risk". Student departures are also excluded (children who are student in the current year and leave while remaining students). Whenever possible, I classified those who are not interviewed by using additional information on the reasons for non-interview to minimise bias due to attrition.[18] A limitation of the data is that whenever a child is "temporarily away" at the time of interview, whether the child has left or not depends, in practice, on the view of the parents; according to Eurostat definitions, however, it should depend on whether the child intends to return to his household.

Amongst all ECHP children living with their parents, I find an overall (weighted) average departure rate of ca 8%. The departure rates are much lower in the South, where the risk of departure stays extremely low at early ages and then increases, but they are significantly higher in the North, as illustrated in Table 4. The differences are large and significant between North and South, and sometimes within each group as well.[19] Since the ECHP sample sizes are relatively large in the South and Southerners' departure rates are lower, the number of people living with their parents is much larger in the South (Table 5).

[17] The age refers to the year following the interview in which they are still living with their parents. Some countries in the North have so few "children" aged 30 or above that it was necessary to reduce the upper bound to less than 30 years old.

[18] If the child is the only member leaving a household, or one of those leaving while neither parent leaves, and so on, I can say that the child has left the parental home.

[19] . S.e. are in the range 0.003-0.006 for Greece, Italy and Spain, 0.006-0.008 for Portugal and France, and 0.01-0.02 elsewhere.

Country	sex male	female
GREECE	0.083	0.123
ITALY	0.047	0.057
SPAIN	0.058	0.067
PORTUGAL	0.068	0.078
AUSTRIA	0.088	0.143
FRANCE	0.102	0.123
GERMANY	0.073	0.100
LUXEMBOU	0.058	0.099
BELGIUM	0.082	0.102
UK	0.154	0.185
IRELAND	0.128	0.174
NL	0.148	0.168
DENMARK	0.209	0.304
OVERALL	0.083	0.104

Table 4 – average departure rates by country and sex (1994 –1995) (age 18-35)
Austria 1995 only.

Country	sex M	F	Total
GREECE	2400	1820	4220
ITALY	4458	3658	8116
SPAIN	4026	3380	7406
PORTUGAL	2561	1974	4535
AUSTRIA	713	470	1183
FRANCE	1854	1488	3342
GERMANY	1337	795	2132
LUXEMBOU	293	233	526
BELGIUM	917	711	1628
UK	807	572	1379
IRELAND	2457	1805	4262
NL	1132	759	1891
DENMARK	421	285	706
Total	23376	17950	41326

Table 5 – number of observations by country and sex (1994 –1995)
Number of observations in person-years. Austria 1995 only.

Models

In the theoretical section the derived index function measured the propensity for child *i* to leave the parental home as:

(5.1) $I_{it} = \beta_1 y_{ci,t-1} + \beta_2 y_{pi,t-1} + \beta_3 p_{hit} + \beta_4 \mathbf{Z}_{t-1} + \boldsymbol{\gamma}_1 \mathbf{x}_t + \alpha_i + \eta_{it}$

while what one can observe is OUT_{it}=1 if $I_{it} > 0$ and OUT_{it} =0 if $I_{it} \leq 0$. In a model where the determinant of departure is potential income (y^*) the index function becomes

(5.2) $I_{it} = \beta_1 y^*_{cit} + \beta_2 y_{pi,t-1} + \beta_3 p_{hit} + \beta_4 \mathbf{Z}_{t-1} + \boldsymbol{\gamma}_1 \mathbf{x}_t + \alpha_i + \eta_{it}$

I am looking at people's living arrangements in each wave excluding the first of each panel, explained with variables referring to either time *t* or the months between *t-1* and *t* (eg, potential income, and, ideally, labour and housing market information), or variables at *t*-1, the time of interview (eg, household size), or in the 12-18 (ca.) month-period before time *t-1* (eg, parental income, or own income when potential income is not used).

Dichotomous model

By assuming that both α_i and η_{it} are normally distributed, the equation can be estimated using a random effects probit model.[20] The dependent variable is whether the person leaves home (OUT=1) or not (OUT=0) before the following interview. Such a model can be estimated on all "children", ie, those who are still living with at least one of their parents in a wave, and study what affects their departure from the parental home in the following 12 months. However, the estimates of coefficients and standard errors using a standard probit are extremely similar to the ones from a random effects probit (I can thus confirm the findings by Ermisch (1999)), which is computationally much more expensive. This implies that a pooled model is acceptable.

[20] In a panel context, the autocorrelation in the error introduced by α_i may badly affect the standard errors, while retaining the consistency of the parameters. The standard errors can be corrected as shown by Guilkey and Murphy (1993). They also show that for a short panel a standard probit may be as good as a random effects probit model.

Multinomial model

Since the decision to move out may mean forming a household with a partner or living without a spouse (ie, living either alone or sharing with others), I suspect that the determinants that drive towards the two destinations may actually differ. To describe this more complex framework of unordered three-way choice the most appropriate model is the random utility model, where the first choice is remaining in the parental home, the second is moving out to live without a partner, and the third is moving out to live with a partner. The utilities associated with the three possible choices are:

$U_{1i} = \boldsymbol{b}_1'\mathbf{X}_i + \boldsymbol{e}_{1i}$ $U_{2i} = \boldsymbol{b}_2'\mathbf{X}_i + \boldsymbol{e}_{2i}$ $U_{3i} = \boldsymbol{b}_3'\mathbf{X}_i + \boldsymbol{e}_{3i}$

The choice will depend on a comparison of utilities for each state, such that:

$$Y_i = \begin{cases} 1 \text{ if } U_{1i} > U_{2i} \text{ and } U_{1i} > U_{3i} \\ 2 \text{ if } U_{2i} > U_{1i} \text{ and } U_{2i} > U_{3i} \\ 3 \text{ if } U_{3i} > U_{1i} \text{ and } U_{3i} > U_{2i} \end{cases}$$

To estimate the model I need to make some assumptions on the distribution of the errors. Our preferred model is a multinomial logit, that assumes a Weibull distribution of the error (with cumulative density function $F(e)=exp(-exp(-e))$).[21]

Subject to property of independence of irrelevant alternatives (IIA: the odds between any two destinations do not depend on other outcomes available),[22] for K+1 choices the probability of choosing option j is

$$\Pr(Y_i = j) = \frac{\exp(b_j' X_i)}{1 + \sum_{k=1}^{K} \exp(b_k' X_i)}$$

This model is not common in the literature on children's departure from home, and some important research progress can be achieved by using it here. After estimating the model it is possible to test whether the different destinations are in fact indistinguishable: if they are, they can be merged and a simpler dichotomous model can be estimated.

Departure equation: choice of explanatory variables

Implementation of the empirical specification explained above requires consideration of the variables that influence departure through the indirect utility function. On the basis of the empirical literature and the ECHP data, I include the following covariates.

Own income: I use net total labour income for the previous calendar year. In the model with potential income I use fitted net full-time yearly labour income, whose estimation is explained below. For the ECHP I use non-labour non-transfer income (which includes, for example, investment income). To account for non linearities in the effects of own (actual) and parental income and to allow much easier comparisons across countries, I used quartiles, calculated by gender, excluding those with zero labour income on all people aged 18-30 (18-35 for the South).[23,]

Parental/family income: theoretical reasons indicate that, assuming that parents are not liquidity constrained, this should be some measure of parental permanent income. No measure of parents' net assets is available in the ECHP.[24] I therefore use total family income minus the child's income. Both are net amounts for the previous survey (calendar) year. I used an OECD-equivalised scale of household size to standardise it. I treat parental variables as exogenous. Income variables therefore refer to many months before time t, ie the time of possible departure, which should reduce significantly the risk of endogeneity with the iid component of the error, while personal characteristics refer to the week that marks the beginning of the period of possible departure.

Personal characteristics: I include demographic covariates such as age group dummies (or age, its square and cube), and whether the person lives with a child of theirs (which I treat as exogenous).[25] I also include whether the person is studying and their current labour market

[21].The alternative model is a multinomial probit, which assumes that errors are jointly standard normally distributed. This, however, is a much more time-consuming model to estimate.

[22] Otherwise, the multinomial probit model would have been the appropriate choice.

[23] All other monetary values in this model are expressed in national currencies. Conversion rates are in the appendix. Income variables are in thousand units of currency for Ireland and the UK, in million lire for Italy and in hundred thousand units for all other countries. All monetary variables are net of taxes for all countries but France.

[24] There is very limited or indirect information on financial variables, eg, on mortgages and on non-labour income.

[25] In the North, less than 1% of males and 1-2% of females cohabit with their parents and a child of their own, so this parental dummy can only be included for the South and for Ireland. The general aim was to use the same covariates for every country, but it is apparent that the economic structures are quite different and using the same explanatory variables may make little sense. For example, one could try to control for household permanent wealth by including

status (ie, a dummy to show whether the person is employed in the current week). I also use a dummy for foreigners (in Germany).

Household variables: I have used information (taken from the household questionnaire) on the adequacy of the size of the current accommodation. The relative questions are different in the datasets so the covariates I am using are different (dummy for ECHP, levels of adequacy for SOEP).

Macro variables: I have included changes in the unemployment rate in all models, even if the ECHP does not include detailed information on regions[26] and has very few waves. I use regional unemployment rates in Germany and, as possible, for the ECHP, and unemployment rates of people aged 18-24 for the respective gender for the UK.

There are also controls variables: a time trend, regions (UK, not reported), macro-regions of residence (Germany, with south Germany as reference) and the available NUTS region (in each ECHP subsample). I am not controlling for the original region of respondents in the SOEP, even if a significant number of Eastern Germans moved to live in the Western regions after 1991.

Estimation of potential income

I estimate an earnings equation on all 18-35 year old people. I choose a maximum likelihood regression model with selection to control for sample selection bias in the employment decision. Equations are estimated separately by gender, country and wave.[27] Identification in the probit equation that explains whether a person had been working for most of the previous year is achieved using marriage status, partner's employment status, own health status, whether the person has cohabiting children. For the income equation (which is estimated in reduced form), the dependent variable is net labour income for full-time workers in the previous year. Identification is achieved by using own education, own sector, public sector dummy, tenure, tenure squared, potential experience, potential experience squared and a dummy for long periods of unemployment in the recent past (the previous five years for the ECHP). The estimated (potential) income is then used for all individuals in the sample.

6 Results

ECHP

Table 6 to Table 9 report the results of the multinomial logit models estimated for most countries included in the dataset. The problem of attrition is serious in some cases, especially for the UK. For some countries, the relatively small sample sizes of the national ECHP (in terms of households) combined with high rates of departures of children at young ages lead to quite small sample sizes of children still living with their parents. I have thus tried to aggregate some northern countries (NL, DK, SF), but the results are disappointing. The desire to find a common specification, the small sample sizes of children in some subsamples means that for some countries the model is not satisfactory and I had to leave them out from the final analysis.

For each country I estimated a dichotomous model, then a multinomial logit, and conduct a test to see whether the two categories (moves out without partner and moves out with partner) are indistinguishable. The Wald test for combining outcome categories rejects the null of equality of coefficients at the 10% in most of the males equations and in nearly half of the females equation.[28] I then computed the Hausman test of the assumption of the independence of irrelevance alternatives (IIA) for the omitted category of "leaving to unknown destination" (typically representing a case where the youth is not interviewed after leaving home, so that we don't know if they are living with a partner or not). The test always rejects

information on whether the household is owner-occupier or is renting their accommodation. It turns out that the sizes of the rental market differ widely across Europe, and very few children (0.7%) live in social housing in Greece, whereas very few live in private rented accommodation in Ireland (0.4%). Similarly, the probability that a young person who is still living with their parents also has a child of theirs is negligible in most Northern countries, and "has a child" dummy can generally not be used there (and when it can, it will have very large standard errors). It is therefore difficult to include much detail in a "standardised" regression.

[26] I have NUTS3 for most countries, but larger aggregates for some, although large number of observations have no information on the region of residence. No regional information at all is distributed for Denmark, Germany and the Netherlands (and Luxembourg).

[27] The results for the earnings equations are not included but are available on request.

[28] I have performed the Wald test to show that the base category (stays at home) is not indistinguishable from each of the other two categories and the null is nearly always rejected (the expections are the countries where coefficients are very. These results are somewhat obvious and I am not including them, but they are available.

the null.[29] I have studied whether pooling males and females is acceptable. The answer is generally (but not always) negative, as the equality of coefficients is mostly rejected.

Men's labour income has typically a positive and significant effect on departures, and the effect is, as expected, stronger for departures into a partnership;[30] this effect is sometimes (especially in the South) compounded with a large negative coefficients for not being employed (ie, a large and positive coefficient for being employed at the time of the survey). The effect of income does not rise with income in the South, but it does rise with it in Germany and the UK.

For women, there is evidence of an effect of employment status and income in South, but not in the North.

For both sexes, non-labour non-transfer income is sometimes significant but its effect is weak. Family income as a clear negative effect on Italian and Spanish youth, but no effect in France, UK or Germany. Potential income generally has a positive effect, although only in a few cases significantly so. Changes in (macro)-regional unemployment rates have a significant effect in several cases.

BHPS

Given the problems with attrition in the UK section of the ECHP, and because I am very interested in studying the UK in depth, I have decided to include a similar analysis on the BHPS (all results are reported in Table 10). Firstly, I estimate a pooled dichotomous model similar to the one used for the ECHP, then a multinomial logit, and conduct a test to see whether the two categories (moves out without partner and moves out with partner) are indistinguishable. I compared logit (stays home vs leaves home) vs mlogit (stays home, leaves without partner, leaves with partner): this means that mlogit is better than a probit/logit specification. The Wald test to combine categories rejects the null of equality of coefficients for women in the model with actual income, it cannot reject it, however, in the model with potential income. For men, the test always rejects the null. [31]

I have studied whether pooling males and females is acceptable. The answer is always negative, as the equality of coefficients between males and females is rejected for both dichotomous models and multinomial logit at the 1% level. Attrition is low so I did not test for IIA/unknown destinations.

The results show that the effects of income vary significantly by gender and by destination. The model with actual income shows that this has a strongly positive effect of men and women's probability to move in with a partner; in both cases, this effect rises with income. Actual income has no effect on men moving out without a partner and appears to have a negative sign on women moving out without a partner. Potential income only has a positive effect on females' departure without a partner. Current employment status only has an effect on men's moving out without a partner. I find no effect of family income. Being a student has a strongly negative effect on departures into a partnership, but less so for "single" departures. The unemployment rate seems to have a positive effect on the departure of females (but only into a partnership).

SOEP

I compared the logit and the multinomial logit as for the previous datasets and found that the latter is preferable, since the Wald test to combine categories rejects the null of equality of coefficients is clearly rejected at the 5% or 1% level (all results are reported in Table 11). I also found that the pooling of genders is rejected by the data. Attrition is low so I did not test for IIA/unknown destinations.

The results show that, for men, own labour income has a clear positive effect on departures and being employed only affects moving in with a partner. Family income has no effect on the formation of partnerships and may delay moving out without a partner, but the effect is not clear-cut.

For women, per capita family income is significant and negative, but the coefficients do not become more negative as income grows. I find that women's labour income is very significant for both destinations and its effect increases strongly as income rises, and family income has for both destinations a clear negative effect. Being employed at the time of the survey is not

[29] Whereas in a dichotomous model (OUT vs IN) attrited children can often be assigned to the OUT category (for children's split-ups, both parents typically remain in the original household, they are interviewed are report that their child has moved out). In a multinomial logit model, however, if the child who has moved out is not interviewed, we cannot know whether they have moved in with a partner or not. Hence the creating of the "leaving to unknown destination" category.

[30] own income is rarely in higher quartiles, especially for countries in the "North".

[31] Visual inspection of the results also points towards rejection of the hypothesis that the two categories are indistinguishable, because each variable's coefficients for each destination look fairly different.

significant. In spite of the length of the panel (1984-1998), there are no significant cohort effects in departure rates. Family income delays women's departure to all destinations.

The unemployment rate (in first differences) does not appear to be significant. Potential full-time income has clearly positive effects for women and an unexpected negative effect on men's departure with a partner (this is not completely at odds with the actual income model, where being employed was significant at the 1% level and only the last two own income quartiles were significant – it may point out that moving in with a partner requires a job, not the potential to earn well in (a hypothetical) one).

Table 6 - RESULTS FOR ECHP ACTUAL INCOME, MALES, 1994-1996^ - MARGINAL EFFECTS

	GREECE	GREECE	ITALY	ITALY	SPAIN	SPAIN	PORTUG.	PORTUG.	FRANCE	FRANCE	GERMANY	GERMANY	UK	UK	IRELAND	IRELAN
Males	W/o partner	with partner	W/o partner	with partner	W/o partner	with partner	W/o partner	with partner	W/o partner	with partner	W/o partner	with partner	W/o partner	with partner	W/o partner	with partn
AGE2123	0.0027	0.0146	0.0057	0.0077	0.0068	0.0144	0.0027	0.0117								
	[0.51]	[1.92]*	[1.50]	[1.45]	[2.35]**	[3.27]***	[0.88]	[1.62]								
AGE2426	0.0021	0.0131	0.0076	0.0249	0.0089	0.0227	0.0042	0.026	0.0375	0.062	0.0196	0.0484	0.0076	0.0565	0.0236	0.0217
	[0.46]	[1.88]*	[2.29]**	[7.77]***	[3.70]***	[6.11]***	[1.47]	[4.00]***	[3.41]***	[4.48]***	[2.32]**	[7.71]***	[0.39]	[3.93]***	[2.65]***	[4.20]**
AGE2729	-0.0011	0.0247	0.0104	0.0276	0.0118	0.0258	0.0024	0.0186	0.0356	0.0496	0.0278	0.0544	0.0101	0.0433	0.0159	0.0211
	[0.18]	[3.65]***	[3.15]***	[8.02]***	[4.82]***	[6.55]***	[0.64]	[2.42]**	[2.59]***	[2.73]***	[3.16]***	[7.86]***	[0.47]	[2.51]**	[1.44]	[4.01]**
AGE3035	0.0077	0.0202	0.0118	0.0276	0.0101	0.0221	0.0072	0.0042								
	[1.58]	[2.92]***	[3.52]***	[7.88]***	[3.96]***	[5.60]***	[2.72]***	[0.51]								
AGE2021									0.0234	0.0254	0.0102	0.0348	0.0075	0.0387	0.0138	0.0143
									[2.19]**	[1.63]	[1.20]	[5.09]***	[0.45]	[2.73]***	[1.60]	[2.92]**
AGE2223									0.0186	0.073	0.0253	0.0441	0.0392	0.0473	0.0275	0.0171
									[1.54]	[5.91]***	[3.26]***	[7.10]***	[2.60]***	[3.32]***	[3.35]***	[3.54]**
Own labour income Q1	0.0084	0.0044	-0.0009	-0.0006	-0.0008	0.0075	0.0046	0.0058	0.0006	-0.0046	0.0115	0.0103	-0.0189	0.0389	0.0049	0.0076
	[2.05]**	[0.77]	[0.26]	[0.24]	[0.32]	[2.09]**	[1.61]	[0.67]	[0.06]	[0.42]	[1.43]	[1.75]*	[1.28]	[2.62]***	[0.63]	[1.57]
Quartile 2	-0.0021	0.0083	-0.001	0.0014	-0.001	0.0101	0.0041	0.0219	-0.0125	0.0076	0.0108	0.0166	-0.0135	0.0429	0.0039	0.0109
	[0.32]	[1.48]	[0.25]	[0.54]	[0.40]	[2.87]***	[1.24]	[2.69]***	[1.09]	[0.62]	[1.11]	[2.43]**	[0.75]	[2.62]***	[0.43]	[2.04]**
Quartile 3	0.0038	0.0125	0.0046	0.0035	0.0031	0.0116	0.0027	0.0225	0.0032	0.0079	0.0088	0.0151	0.006	0.0495	0.0108	0.0157
	[0.61]	[2.05]**	[1.24]	[1.27]	[1.35]	[3.10]***	[0.72]	[2.60]***	[0.25]	[0.50]	[0.79]	[2.12]**	[0.27]	[2.65]***	[1.12]	[2.43]**
Quartile 4	0.0113	0.0069	0.0027	0.0016	0.0018	0.0174	0.0057	0.0373	0.0037	-0.0277	0.011	0.0153	0.0456	0.0659	0.0183	0.0161
	[1.93]*	[0.93]	[0.66]	[0.52]	[0.67]	[4.07]***	[1.55]	[4.04]***	[0.17]	[0.68]	[0.83]	[1.92]*	[1.47]	[2.57]**	[1.51]	[2.34]**
Currently not employed	0.0052	-0.0188	-0.0057	-0.0109	-0.0036	-0.013	0.0021	-0.033	-0.0246	-0.0272	-0.0112	-0.0056	0.0043	-0.0074	0.0069	0.0037
	[1.37]	[3.28]***	[1.78]*	[3.73]***	[1.82]*	[4.16]***	[0.80]	[4.01]***	[2.94]***	[2.66]***	[1.67]*	[1.32]	[0.31]	[0.57]	[1.02]	[1.26]
Non-L non-transfer income	0	0	0.0004	-0.0001	0	0	0	0	0.0003	0.0002	-0.0009	0	0.006	-0.0059	-0.0097	0.0011
	[1.15]	[0.31]	[1.53]	[0.22]	[0.72]	[1.94]*	[2.04]**	[0.57]	[0.78]	[0.30]	[0.46]	[0.04]	[0.62]	[0.45]	[0.71]	[1.78]*
Standardised family inc. Q2	0.0016	0.0046	-0.0007	-0.0031	0.0018	0.0025	0.0015	0.0093	-0.0084	-0.0086	-0.0048	-0.0017	-0.0095	0.0105	-0.0109	-0.0011
	[0.34]	[0.93]	[0.23]	[1.59]	[0.85]	[0.89]	[0.65]	[1.53]	[0.62]	[0.54]	[0.43]	[0.30]	[0.38]	[0.50]	[1.34]	[0.35]
Quartile 3	0.0006	0.0026	0.0007	-0.0034	0	-0.0014	-0.0026	0.0001	-0.0032	-0.0013	0.0023	-0.0002	-0.0208	-0.0027	-0.0154	-0.0006
	[0.11]	[0.49]	[0.24]	[1.66]*	[0.02]	[0.50]	[0.92]	[0.01]	[0.25]	[0.08]	[0.22]	[0.04]	[0.84]	[0.13]	[1.80]*	[0.20]
Quartile 4	0.007	0.0051	0.0009	-0.0074	-0.0001	-0.0074	-0.0023	0.0001	0.002	-0.0066	0.0026	-0.004	-0.0067	-0.0019	0.0038	0.0015
	[1.63]	[0.96]	[0.29]	[2.88]***	[0.02]	[2.19]**	[0.78]	[0.02]	[0.16]	[0.45]	[0.25]	[0.72]	[0.28]	[0.09]	[0.50]	[0.46]
Δ unempl. Rate	-0.0052	-0.0021	-0.0007	0.0011	0.0004	-0.0001	-0.0004	-0.0052	-0.0031	0.0106	0.0016	0.0004	0.0006	-0.0079	-0.0041	-0.0008
	[2.23]**	[0.76]	[0.76]	[0.55]	[0.18]	[0.59]	[0.23]	[0.45]	[2.18]**	[0.78]	[1.86]*	[0.40]	[0.01]	[0.08]	[1.29]	[1.22]
accommodation short of space	-0.0043	0.0073	0.0068	0.0015	-0.0012	-0.001	-0.0002	0.0052	0.0039	-0.0284	0.004	0.0034	0.0038	-0.002	0.0089	0.0049
	[1.26]	[2.00]**	[3.14]***	[0.90]	[0.74]	[0.46]	[0.11]	[1.12]	[0.41]	[1.91]*	[0.63]	[0.95]	[0.31]	[0.21]	[1.34]	[1.70]*
Observations	3226	3226	6605	6605	5444	5444	3694	3694	1675	1675	3317	3317	1549	1549	2521	2521
CHI2# df15	36.121		33.147		11.105		21.769		19.928		18.852		24.467		19.831	
prob	0.002		0.004		0.745		0.114		0.175		0.221		0.058		0.179	

Table 7 - RESULTS FOR ECHP ACTUAL INCOME, FEMALES, 1994-1996^ - MARGINAL EFFECTS

	GREECE	GREECE	ITALY	ITALY	SPAIN	SPAIN	PORTUG.	PORTUG.	FRANCE	FRANCE	GERMANY	GERMANY	UK	UK	IRELAND	IRELAN
Females	W/o partner	with partner	W/o partner	with partner	W/o partner	with partner	W/o partner	with partner	W/o partner	with partner	W/o partner	with partner	W/o partner	with partner	W/o partner	with partn
AGE2123	0.0076	0.0227	0.0076	0.0244	-0.0044	0.0265	-0.0037	0.003								
	[1.55]	[1.88]*	[2.58]***	[3.71]***	[1.01]	[3.42]***	[0.89]	[0.29]								
AGE2426	0.0081	0.031	0.007	0.042	0.0052	0.0509	0.003	0.0209	0.0159	0.09	0.0139	0.0639	0.0344	0.0865	0.0341	0.0395
	[1.66]*	[2.76]***	[2.40]**	[7.91]***	[2.37]**	[8.19]***	[1.22]	[2.23]**	[1.37]	[4.38]***	[1.03]	[5.87]***	[1.57]	[3.36]***	[2.63]***	[4.29]**
AGE2729	0.0106	0.0451	0.0103	0.0395	0.0048	0.0532	0.0018	0.0059	0.022	0.0473	0.0195	0.0631	0.0333	0.0656	0.0379	0.0345
	[1.98]**	[3.66]***	[3.52]***	[6.32]***	[1.88]*	[7.37]***	[0.60]	[0.47]	[1.57]	[1.44]	[1.22]	[4.65]***	[1.33]	[1.99]**	[2.51]**	[3.25]**
AGE3035	0.0074	0.0292	0.0108	0.0388	0.008	0.0472	0.0021	-0.0092								
	[1.28]	[2.11]**	[3.62]***	[5.96]***	[3.23]***	[6.29]***	[0.80]	[0.74]								
AGE2021									0.0132	0.0472	0.0184	0.0453	0.047	0.0865	0.0348	0.0218
									[1.33]	[2.49]**	[1.79]*	[4.65]***	[2.82]***	[4.00]***	[3.36]***	[2.23]**
AGE2223									0.0229	0.0799	0.0082	0.0559	0.0551	0.0609	0.0391	0.0284
									[2.36]**	[4.36]***	[0.65]	[5.43]***	[2.89]***	[2.21]**	[3.47]***	[2.98]**
Own labour income Q1	-0.0024	0.0245	-0.0005	0.0172	-0.0005	0.0238	0.0076	0.0204	-0.0012	0.0667	0.0098	-0.0043	-0.0042	0.0027	0.009	0.0081
	[0.48]	[2.40]**	[0.12]	[2.59]***	[0.18]	[3.54]***	[2.59]***	[1.72]*	[0.15]	[4.52]***	[0.74]	[0.38]	[0.26]	[0.11]	[0.88]	[0.84]
Quartile 2	◆	◆	0.0013	0.0179	-0.0085	0.0164	-0.0008	0.028	-0.0174	0.0517	0.0293	0.0015	-0.039	-0.0128	0.005	0.013
			[0.31]	[2.22]**	[1.92]*	[2.25]**	[0.17]	[2.33]**	[1.63]	[2.41]**	[2.03]**	[0.12]	[1.69]*	[0.47]	[0.43]	[1.37]
Quartile 3	0.0047	0.0057	0.0065	0.0193	0	0.0096	0.0061	0.0366	-0.0385	0.0435	0.0244	-0.0037	0.0005	0.0143	-0.0017	0.0266
	[0.87]	[0.38]	[1.69]*	[2.26]**	[0.00]	[1.15]	[1.78]*	[2.80]***	[1.72]*	[1.45]	[1.41]	[0.26]	[0.02]	[0.50]	[0.12]	[2.66]**
Quartile 4	0.0005	0.0291	0.0071	0.0205	0.0001	0.0144	0.0075	0.0237	0.0071	-0.0062	0.0295	0.0017	0.0415	0.046	-0.0019	0.0284
	[0.07]	[1.69]*	[1.73]*	[2.16]**	[0.03]	[1.50]	[2.06]**	[1.49]	[0.48]	[0.12]	[1.52]	[0.11]	[1.57]	[1.30]	[0.11]	[2.55]**
Currently not employed	-0.004	-0.0208	-0.0019	0.0037	-0.0044	-0.0099	0.0009	-0.013	-0.0408	-0.0246	-0.0139	-0.0138	0.0357	-0.0301	-0.0055	0.0002
	[0.90]	[2.07]**	[0.57]	[0.56]	[2.11]**	[1.67]*	[0.35]	[1.23]	[4.60]***	[1.52]	[1.18]	[1.35]	[2.37]**	[1.39]	[0.60]	[0.03]
Non-L non-transfer income	0	0	-0.0009	-0.0025	0	0	0	-0.0003	0.0002	-0.001	0.0016	-0.0053	0.0048	0.005	0.0081	-0.0012
	[1.34]	[0.77]	[0.78]	[1.00]	[0.80]	[0.01]	[0.22]	[1.11]	[0.94]	[0.93]	[1.32]	[1.37]	[1.25]	[0.90]	[1.84]*	[0.18]
Standardised family inc. Q2	0.0051	-0.0044	-0.0045	-0.0113	0.0005	-0.008	-0.0012	-0.004	0.0053	-0.0284	0.0079	0.0053	0.0031	0.0223	-0.0188	-0.0027
	[1.01]	[0.43]	[1.71]*	[2.04]**	[0.23]	[1.36]	[0.55]	[0.44]	[0.55]	[1.39]	[0.67]	[0.57]	[0.17]	[0.85]	[2.01]**	[0.39]
Quartile 3	0.0026	-0.0173	-0.0054	-0.0019	-0.0009	-0.0135	-0.0009	-0.0052	0.0029	0.0048	0.0015	-0.01	-0.0151	0.0092	-0.0266	-0.0002
	[0.48]	[1.58]	[2.02]**	[0.36]	[0.43]	[2.12]**	[0.42]	[0.57]	[0.29]	[0.26]	[0.13]	[1.03]	[0.83]	[0.36]	[2.60]***	[0.03]
Quartile 4	0.0073	-0.0154	-0.0023	-0.012	0.0019	-0.0106	-0.0046	-0.0111	0.0008	0.0006	-0.0003	-0.024	-0.0183	0.023	-0.0224	-0.0147
	[1.46]	[1.34]	[1.00]	[2.07]**	[0.99]	[1.64]	[1.49]	[1.07]	[0.09]	[0.03]	[0.02]	[2.31]**	[1.00]	[0.91]	[2.07]**	[1.73]*
Δ unempl. rate	0.0022	-0.0099	-0.002	0.005	0.0002	-0.0005	0.0006	0.0027	-0.0019	0.0019	0.0053	-0.0205	0.0096	0.003	-0.0107	-0.0038
	[0.83]	[1.63]	[1.70]*	[2.25]**	[0.28]	[0.25]	[0.66]	[0.72]	[0.50]	[0.26]	[0.87]	[3.87]***	[1.05]	[0.25]	[2.26]**	[1.16]
accommodation short of space	0.0013	-0.0035	-0.0028	-0.0037	0.001	0.0009	0.0012	0.012	-0.0238	0.0023	0.0014	0.0093	-0.0046	-0.0045	-0.011	0.0054
	[0.38]	[0.43]	[1.16]	[0.79]	[0.67]	[0.18]	[0.68]	[1.72]*	[1.67]*	[0.12]	[0.15]	[1.18]	[0.33]	[0.24]	[1.13]	[0.93]
Observations	2258	2258	5284	5284	4631	4631	2856	2856	1361	1361	2275	2275	1137	1137	1959	1959
CHI2[#] df15	9.632		22.378		20.053		12.642		30.098		27.377		18.94		26.676	
prob	0.842		0.098		0.17		0.63		0.012		0.026		0.216		0.031	

Table 8 - RESULTS FOR ECHP POTENTIAL INCOME, MALES, 1994-1996^ - MARGINAL EFFECTS

Males	GREECE without partner	GREECE with partner	ITALY without partner	ITALY with partner	SPAIN without partner	SPAIN with partner	PORTUG. without partner	PORTUG. with partner	FRANCE without partner	FRANCE with partner	GERMANY without partner	GERMANY with partner	UK without partner	UK with partner	IRELAND without partner	IRELAN with partne
AGE2123	0.0011	0.0256	0.008	0.0118	0.0098	0.0242	0.0038	0.0294								
	[0.19]	[3.18]***	[1.98]**	[1.94]*	[3.31]***	[4.35]***	[1.28]	[3.26]***								
AGE2426	0.002	0.0285	0.0112	0.0342	0.013	0.0396	0.0035	0.0538	0.0523	0.0787	0.0155	0.0601	0.0265	0.0815	0.031	0.0267
	[0.42]	[4.26]***	[3.29]***	[9.68]***	[5.36]***	[9.41]***	[1.20]	[7.72]***	[5.23]***	[6.95]***	[1.57]	[7.69]***	[1.35]	[5.87]***	[3.61]***	[5.12]**
AGE2729	-0.0014	0.043	0.015	0.0387	0.0158	0.0475	0.0025	0.042	0.0552	0.077	0.0213	0.0633	0.0299	0.0569	0.0297	0.0226
	[0.23]	[7.35]***	[4.74]***	[10.02]***	[6.59]***	[11.12]***	[0.65]	[4.56]***	[4.20]***	[4.50]***	[1.87]*	[6.81]***	[1.06]	[2.55]**	[2.43]**	[3.82]**
AGE3035	0.0126	0.0348	0.0163	0.0392	0.0125	0.0448	0.0072	0.0189								
	[2.74]***	[5.09]***	[5.21]***	[9.91]***	[5.17]***	[10.46]***	[2.56]**	[1.74]*								
AGE2021									0.0273	0.0114	0.0113	0.0454	0.0142	0.0565	0.0129	0.021
									[2.10]**	[0.73]	[1.16]	[5.18]***	[0.92]	[4.11]***	[1.52]	[4.26]**
AGE2223									0.0274	0.0674	0.0246	0.0565	0.0458	0.0695	0.0286	0.0244
									[2.09]**	[5.56]***	[2.77]***	[7.42]***	[3.21]***	[5.20]***	[3.77]***	[5.14]**
Potential F.T. income	0	0	0.0002	0.0001	0	0	0	0	-0.0001	-0.0007	0.0014	0.0017	-0.0078	-0.0012	-0.0023	0.0017
	[1.42]	[1.62]	[0.88]	[0.59]	[2.06]**	[0.61]	[0.78]	[2.07]**	[0.42]	[2.01]**	[1.54]	[2.21]**	[2.33]**	[0.33]	[1.51]	[1.93]*
Non-L non-transfer income	0	0	0.0003	-0.0002	0	0	0	0	0.0003	0.0002	-0.0018	-0.0007	0.0146	-0.0072	-0.0091	0.0009
	[1.91]*	[1.03]	[0.73]	[0.34]	[0.53]	[1.65]*	[0.21]	[0.10]	[0.68]	[0.35]	[0.76]	[0.63]	[1.39]	[0.42]	[0.67]	[1.35]
Standardised family inc. Q2	0.0017	0.0055	-0.0004	-0.0031	0.0021	0.004	0.0018	0.0142	-0.0112	-0.0018	-0.0045	-0.0011	-0.0092	0.0141	-0.0115	-0.0012
	[0.33]	[0.99]	[0.13]	[1.38]	[0.93]	[1.09]	[0.79]	[1.86]*	[0.78]	[0.12]	[0.35]	[0.16]	[0.39]	[0.64]	[1.40]	[0.30]
Quartile 3	0.0014	0.0024	0.0015	-0.003	0.0003	-0.0001	-0.0023	-0.0005	-0.0051	0.0017	0.0032	0.0009	-0.0264	-0.0013	-0.0152	0.0001
	[0.27]	[0.41]	[0.49]	[1.32]	[0.14]	[0.03]	[0.83]	[0.06]	[0.38]	[0.12]	[0.26]	[0.12]	[1.12]	[0.06]	[1.77]*	[0.01]
Quartile 4	0.0069	0.0052	0.0012	-0.0088	-0.0002	-0.0086	-0.0033	-0.0053	-0.0014	-0.0043	0.0042	-0.004	-0.0139	-0.0057	0.0041	0.0034
	[1.51]	[0.87]	[0.38]	[2.95]***	[0.09]	[1.94]*	[1.06]	[0.62]	[0.11]	[0.31]	[0.35]	[0.57]	[0.61]	[0.26]	[0.54]	[0.88]
Δ unempl. rate	-0.0053	-0.0024	-0.0014	0.0002	0.0004	-0.0003	-0.0005	-0.0065	-0.0034	0.0082	0.0026	0.0002	0.0005	-0.0083	-0.0034	-0.001
	[2.17]**		[0.03]	[1.11]	[0.23]	[0.58]	[2.22]**	[0.47]	[1.91]*	[0.77]	[0.02]	[0.56]	[1.29]	[0.07]	[0.63]	[1.00]
accommodation short of space	-0.0053	0.0084	0.0064	0.0007	-0.0011	-0.0012	0.0003	0.0063	0.0036	-0.032	0.005	0.0051	0.0019	-0.0026	0.0086	0.0054
	[1.45]	[2.05]**	[2.83]***	[0.35]	[0.62]	[0.42]	[0.15]	[1.09]	[0.35]	[2.19]**	[0.68]	[1.11]	[0.16]	[0.25]	[1.28]	[1.65]*
Observations	3290	3290	6571	6571	5440	5440	3696	3696	1650	1650	3101	3101	1451	1451	2505	2505
Combine Stat CHI2[#] df11	25.561		29.983		7.301		10.181		18.37		17.435		14.754		22.659	
Prob	0.008		0.002		0.774		0.514		0.073		0.096		0.194		0.02	

Table 9 - RESULTS FOR ECHP POTENTIAL INCOME, FEMALES, 1994-1996^ - MARGINAL EFFECTS

Females	GREECE without partner	GREECE with partner	ITALY without partner	ITALY with partner	SPAIN without partner	SPAIN with partner	PORTUG. without partner	PORTUG. with partner	FRANCE without partner	FRANCE with partner	GERMANY without partner	GERMANY with partner	UK without partner	UK with partner	IRELAND without partner	IRELAN with partne
AGE2123	0.0074	0.0399	0.008	0.0306	-0.0067	0.0266	-0.005	0.0103								
	[1.48]	[3.05]***	[2.58]***	[4.47]***	[1.54]	[3.01]***	[0.90]	[0.90]								
AGE2426	0.0079	0.054	0.0073	0.0524	0.0026	0.0538	0.0055	0.0368	0.0181	0.1041	0.0599	0.0695	0.0215	0.1008	0.0357	0.0514
	[1.64]	[4.55]***	[2.26]**	[8.72]***	[1.10]	[6.83]***	[1.85]*	[3.92]***	[1.11]	[3.70]***	[3.53]***	[4.56]***	[0.93]	[4.39]***	[3.12]***	[6.58]**
AGE2729	0.012	0.0724	0.0109	0.0519	0.0034	0.0586	0.0054	0.0267	0.0382	0.0743	0.0588	0.0728	0.0332	0.1045	0.0415	0.0286
	[2.44]**	[6.02]***	[3.24]***	[7.29]***	[1.31]	[7.23]***	[1.43]	[2.13]**	[2.46]**	[2.15]**	[3.31]***	[4.50]***	[1.17]	[3.30]***	[2.73]***	[2.47]**
AGE3035	0.0103	0.0519	0.0133	0.0511	0.0082	0.0559	0.0064	0.0094								
	[2.01]**	[3.98]***	[4.22]***	[7.69]***	[3.34]***	[7.46]***	[1.96]**	[0.72]								
AGE2021									0.0072	0.0464	0.038	0.051	0.0265	0.0871	0.0359	0.0337
									[0.48]	[1.72]*	[3.14]***	[4.17]***	[1.49]	[4.44]***	[3.48]***	[3.70]**
AGE2223									0.0166	0.0849	0.0493	0.0606	0.0508	0.0669	0.041	0.041
									[0.99]	[2.78]***	[2.97]***	[4.09]***	[2.66]***	[2.56]**	[3.95]***	[5.02]**
Potential F.T. income	0	0	-0.0003	0.0004	0	0	0	0	-0.0004	-0.0006	0.0037	-0.0003	-0.0011	-0.0028	-0.0008	0.0044
	[1.11]	[1.20]	[1.68]*	[1.32]	[2.66]***	[1.51]	[1.35]	[0.81]	[1.63]	[1.34]	[3.55]***	[0.31]	[0.38]	[0.73]	[0.37]	[2.55]**
Non-L non-transfer income	0	0	-0.0006	-0.0029	0	0	0	-0.0003	0.0005	-0.0009	0.0005	-0.0066	0.0046	0.0045	0.0079	-0.001
	[1.58]	[0.48]	[0.51]	[1.17]	[1.42]	[0.26]	[0.06]	[1.08]	[1.91]*	[0.79]	[0.35]	[1.35]	[1.09]	[0.68]	[1.84]*	[0.15]
Standardised family inc. Q2	0.0056	-0.0047	-0.004	-0.0109	0.0004	-0.0077	-0.0018	-0.0022	0.0035	-0.0247	0.0168	0.0077	0.0082	0.0305	-0.0181	-0.0018
	[1.10]	[0.43]	[1.44]	[1.94]*	[0.21]	[1.27]	[0.60]	[0.22]	[0.31]	[1.15]	[1.17]	[0.66]	[0.42]	[1.16]	[1.96]**	[0.26]
Quartile 3	0.0029	-0.0177	-0.0044	0.0002	-0.0006	-0.0137	-0.0008	-0.0029	-0.0016	0.0077	0.0094	-0.0157	-0.0177	0.0145	-0.0242	0.0035
	[0.53]	[1.50]	[1.57]	[0.05]	[0.27]	[2.07]**	[0.29]	[0.29]	[0.14]	[0.39]	[0.65]	[1.27]	[0.88]	[0.56]	[2.43]**	[0.52]
Quartile 4	0.0084	-0.0124	-0.0012	-0.0116	0.0024	-0.0107	-0.0063	-0.0173	-0.0008	0.0024	0.0089	-0.0296	-0.0209	0.0265	-0.0204	-0.0131
	[1.70]*	[1.03]	[0.48]	[1.99]**	[1.22]	[1.60]	[1.56]	[1.57]	[0.07]	[0.13]	[0.62]	[2.24]**	[1.00]	[1.02]	[1.96]*	[1.49]
Δ unempl. rate	0.0017	-0.011	-0.0027	0.0035	0.0004	-0.0005	0.0009	0.0035	-0.0032	0.0017	0.005	-0.024	0.0097	0.0032	-0.0112	-0.0038
	[0.67]	[1.69]*	[2.29]**	[1.59]	[0.56]	[0.24]	[0.73]	[0.87]	[0.73]	[0.21]	[0.67]	[3.54]***	[0.94]	[0.26]	[2.41]**	[1.14]
accommodation short of space	0.0013	-0.0033	-0.0038	-0.004	0.0008	0.0009	0.0017	0.0163	-0.028	-0.0016	0.0006	0.0119	0.0045	-0.0143	-0.0123	0.0012
	[0.39]	[0.38]	[1.51]	[0.84]	[0.51]	[0.18]	[0.72]	[2.19]**	[1.68]*	[0.08]	[0.05]	[1.19]	[0.30]	[0.76]	[1.25]	[0.20]
Observations	2258	2258	5257	5257	4629	4629	2851	2851	1360	1360	1956	1956	1060	1060	1946	1946
Combine Stat CHI2# df11	9.837		20.906		17.051		6.083		9.261		29.572		7.786		23.737	
Prob	0.545		0.034		0.106		0.868		0.598		0.002		0.732		0.014	

^ = Years are with respect to year when still at home – Ages in sample are 17-34 (South) and 17-29 (rest); income variables in thousand units of currencies, except for Italy (million Lira). Own labour-income quartiles are calculated only over positive values of own labour-income. Standardised family income is family income minus own, divided by (adjusted) number of family members (minus self).

#: Wald tests for combining outcome categories Ho: All coefficients except intercepts associated with pair of outcomes "out without a partner" and "out with a partner" are 0 (i.e., the two categories can be collapsed).

◆**: In** Table 7**,** Greece's second quartile of women's own actual income is grouped with the first because no females leave to move in without a partner.

Table 10 - RESULTS FOR UK 1991-1998 - MARGINAL EFFECTS

Ages in sample: 17-30. Income variables in thousand pounds and in 1995 prices. Coefficients on regional dummies not reported. Absolute value of z statistics in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%
#: Wald tests for combining outcome categories Ho: All coefficients except intercepts associated with pair of outcomes "out without a partner" and "out with a partner" are 0 (i.e., the two categories can be collapsed). Own labour-income quartiles are calculated only over positive values of own labour-income. Standardised family income is family income minus own, divided by (adjusted) number of family members (minus self).

	MALES		FEMALES		MALES		FEMALES	
	OUT alone	OUTpartnr	OUT alone	OUTpartnr	OUT alone	OUTpartnr	OUT alone	OUTpartnr
age	0.4189	0.2852	0.0838	0.0818	0.3682	0.2992	-0.0407	0.2334
	[3.17]***	[2.77]***	[0.51]	[0.38]	[2.43]**	[2.70]***	[0.24]	[1.02]
age2	-0.0175	-0.0111	-0.0028	-0.0016	-0.0153	-0.0115	0.0021	-0.0078
	[3.05]***	[2.52]**	[0.39]	[0.17]	[2.34]**	[2.43]**	[0.28]	[0.78]
age3	0.0002	0.0001	0	0	0.0002	0.0001	0	0.0001
	[2.95]***	[2.30]**	[0.28]	[0.00]	[2.26]**	[2.20]**	[0.32]	[0.57]
Student	-0.03	-0.0577	-0.0744	-0.0501	-0.0152	-0.0608	-0.0578	-0.0835
	[1.97]**	[3.07]***	[4.25]***	[1.71]*	[1.15]	[3.53]***	[3.78]***	[3.87]***
Not employed	-0.0215	-0.0073	-0.0153	0.0238				
	[1.97]**	[0.90]	[1.17]	[1.04]				
Own labour income Q1	0.0091	0.0197	-0.0279	0.0203				
	[0.77]	[1.81]*	[2.14]**	[0.93]				
Quartile 2	0.0074	0.0287	-0.0422	0.0366				
	[0.54]	[2.50]**	[3.01]***	[1.75]*				
Quartile 3	0.0083	0.0476	-0.0389	0.0496				
	[0.48]	[3.55]***	[2.64]***	[2.31]**				
Quartile 4	0.0277	0.0251	-0.0239	0.0284				
	[1.35]	[1.49]	[1.28]	[1.06]				
Potential F.T. income					0.0017	0.0001	0.0083	-0.0035
					[0.51]	[0.03]	[2.75]***	[0.86]
Standardised family inc. Q2	0.0015	0.0015	0.0002	0.0071	-0.0151	0.002	-0.0152	0.0102
	[0.09]	[0.13]	[0.02]	[0.45]	[0.81]	[0.14]	[1.26]	[0.63]
S.fam.income Quartile 3	0.0014	0.0006	0.0008	-0.0103	-0.0174	0.0055	-0.0176	-0.0067
	[0.09]	[0.05]	[0.07]	[0.64]	[0.96]	[0.41]	[1.45]	[0.40]
S.fam.income Quartile 4	0.0088	-0.0051	-0.0196	-0.0113	-0.009	0.0007	-0.0438	-0.0055
	[0.56]	[0.45]	[1.34]	[0.65]	[0.50]	[0.05]	[2.87]***	[0.29]
Δ unempl. rate (M <25)	0.0033	0.0004			0.0038	0.0009		
	[1.57]	[0.27]			[1.74]*	[0.65]		
Δ unempl. rate (F<25)			0.0026	0.0106			0.0047	0.0116
			[0.61]	[1.90]*			[1.09]	[1.99]**
year	0.003	0.0005	0.002	0.0067	0.0033	0.0014	0.0024	0.0073
	[1.74]*	[0.46]	[1.01]	[2.70]***	[1.75]*	[1.15]	[1.22]	[2.81]***
Observations	2574	2574	1850	1850	2423	2423	1785	1785
Wald test # Chi2, d.f.	45.860	24	40.771	24	36.014	20	26.497	20
Prob	0.005		0.018		0.015		0.15	

Table 11 - RESULTS FOR GERMANY 1984-1997 - MARGINAL EFFECTS

Ages in sample: 17-30. Income variables in thousand marks (DM) and in 1995 prices. Reference region: Southern Germany (Baden-Württemberg and Bavaria). Absolute value of z statistics in brackets. * significant at 10%; ** significant at 5%; *** significant at 1% #: Wald tests for combining outcome categories Ho: All coefficients except intercepts associated with pair of outcomes "out without a partner" and "out with a partner" are 0 (i.e., the two categories can be collapsed). Own labour-income quartiles are calculated only over positive values of own labour-income. Standardised family income is family income minus own, divided by (adjusted) number of family members (minus self).

	MALES		FEMALES		MALES		FEMALE	
	OUT alone	OUTpartnr	OUT alone	OUTpartnr	OUT alone	OUTpartnr	OUT alone	OUTpartnr
age	0.0796	0.152	0.0684	0.5339	0.118	0.2618	0.1211	0.5685
	[1.44]	[2.34]**	[0.75]	[4.05]***	[1.96]*	[3.82]***	[1.19]	[4.05]***
age2	-0.003	-0.0054	-0.0022	-0.0218	-0.0046	-0.0097	-0.0044	-0.0233
	[1.31]	[1.98]**	[0.56]	[3.86]***	[1.81]*	[3.38]***	[1.00]	[3.89]***
age3	0	0.0001	0	0.0003	0.0001	0.0001	0.0001	0.0003
	[1.20]	[1.68]*	[0.39]	[3.69]***	[1.69]*	[3.02]***	[0.82]	[3.72]***
employed	0.0047	0.0126	-0.0012	0.0011				
	[1.27]	[2.67]***	[0.24]	[0.14]				
Own labour income Quartile 1	0.0051	0.0042	0.0185	0.0249				
	[1.22]	[0.77]	[3.04]***	[2.59]***				
Own labour income Quartile 2	0.0102	0.0101	0.0287	0.0554				
	[1.93]*	[1.59]	[4.36]***	[5.46]***				
Own labour income Quartile 3	0.011	0.0161	0.03	0.0702				
	[1.90]*	[2.40]**	[3.91]***	[6.02]***				
Own labour income Quartile 4	0.0144	0.0205	0.0377	0.0761				
	[2.05]**	[2.62]***	[4.25]***	[5.41]***				
Standardised family income Q2	-0.0036	-0.0019	-0.0088	-0.0146				
	[1.07]	[0.53]	[1.81]*	[1.92]*				
S. fam. income Quartile 3	-0.0093	-0.0053	-0.0169	-0.0118				
	[2.35]**	[1.23]	[2.99]***	[1.35]				
S. fam. income Quartile 4	-0.0079	-0.0025	-0.0141	-0.0263				
	[1.65]*	[0.47]	[2.06]**	[2.23]**				
Potential F.T. income					-0.0002	-0.0011	0.001	0.0036
					[1.04]	[3.80]***	[1.73]*	[3.48]***
Δ unempl. rate	0.0016	-0.0023	0.0012	-0.0032	0.0013	-0.0025	0.0016	-0.0031
	[1.05]	[1.48]	[0.53]	[0.93]	[0.80]	[1.53]	[0.65]	[0.82]
Standardised family income					0.0002	0.0005	-0.0002	-0.0016
					[1.45]	[3.73]***	[0.87]	[3.55]***
household size	-0.0037	0.0015	-0.0062	0.0025	-0.0012	0.0025	-0.0042	0.0016
	[3.47]***	[1.83]*	[3.85]***	[1.21]	[1.09]	[2.99]***	[2.37]**	[0.75]
HOUSINGSIZE_toosmall	0.0066	0.005	-0.0022	0.0203	0.0083	0.0017	-0.001	0.0183
	[1.09]	[0.89]	[0.22]	[1.68]*	[1.32]	[0.28]	[0.09]	[1.40]
HOUSINGSIZE_small	0.0052	-0.0062	-0.0006	0.0038	0.0067	-0.0048	0	0.0036
	[1.61]	[1.65]*	[0.12]	[0.53]	[2.02]**	[1.23]	[0.00]	[0.47]
HOUSINGSIZE_large	0.006	-0.0108	-0.0073	-0.002	0.0049	-0.0148	-0.0053	-0.0023
	[1.43]	[1.68]*	[0.85]	[0.16]	[1.12]	[2.15]**	[0.59]	[0.17]
FOREIGNER	-0.0051	0.0087	-0.0067	-0.0035	-0.004	0.0126	-0.0057	-0.0048
	[1.66]*	[2.92]***	[1.47]	[0.53]	[1.24]	[4.14]***	[1.11]	[0.67]
Macroregion: Berlin	0.0173	0.0138	0.0217	-0.0157	0.0183	0.0114	0.0201	-0.0321
	[2.49]**	[1.36]	[1.89]*	[0.52]	[2.39]**	[1.01]	[1.55]	[0.99]
Macroregion: East	0.0024	0.0138	0.0059	0.0119	0.0016	-0.0014	0.0129	0.0273
	[0.55]	[2.98]***	[0.90]	[1.23]	[0.30]	[0.22]	[1.57]	[2.17]**
Macroregion: WestCentral	0.0029	0.0028	0.0068	-0.0056	0.0033	0.0029	0.0076	-0.0067
	[1.03]	[0.99]	[1.63]	[0.89]	[1.11]	[1.01]	[1.61]	[0.98]
Macroregion: North	0.005	0.0036	0.0156	0.018	0.0046	0.0031	0.0166	0.0195
	[1.35]	[0.88]	[2.88]***	[2.12]**	[1.17]	[0.74]	[2.65]***	[2.08]**
Year	0	0	-0.0002	0.0004	0	0.0015	-0.001	-0.0002
	[0.12]	[0.10]	[0.30]	[0.45]	[0.09]	[2.62]***	[1.51]	[0.16]
Observations	9878	9878	5950	5950	9740	9740	5882	5882
Wald test# CHI2, d.f.	66.18	22	37.758	22	59.183	16	27.548	16
Prob	0.000		0.020		0.000		0.036	

7 DISCUSSION

ECHP

Men's labour income has typically a positive and significant effect on departures, and the effect is, as expected, stronger for departures into a partnership. For men, I find that it is only in the South that not being in employment has a negative, strong effect. Non-labour non-transfer income is sometimes significant but its effect is weak (sorry for the table's roundings after the fourth decimal figure). Note that own income is rarely in higher quartiles, especially for countries of the "North".

Family income as a clear negative effect for Italian and Spanish youth. This is an important result that strengthens the findings of Manacorda and Moretti (2000) for Italy and shows that Aassve, Billari, and Ongaro (2000) may have underestimated the role of parental income by using a dichotomous model rather than a multinomial one. In particular, I find a clearly negative effect of family income on men's departures with a partner, and a not-so clear negative effect on women (both destinations). Aassve, Billari, and Ongaro (2000) find very weak evidence of family income effect for women and no effect at all for men. They find very large and strong effects of own employment and income but this is partly due to the structure of the equation, that only includes age in a first-step selection model. They find that being employed has a very large effect on departure rates: for employed men in the second to fourth quartile, the marginal effect is more than 10 percentage points. However, their standard errors are very large (the true effect could be, roughly, between 3 and 18 percentage points. Since older Italians are more likely to be employed and on relatively high incomes, the effect of being employed and on a high salary may in fact be capturing an age effect. Although I find approximately the same gross effect, my results show that the effect of employment and income are very significant and large, but not as extreme as theirs.

Potential income generally has a positive effect, although only in a few cases significantly so. I believe the estimation of potential earnings may need to be improved. However, the fact that potential income has no effect in the South is not surprising if we believe that having a job (especially a secure one, as legal jobs often are in the South) is essential for a youth to be able to contemplate moving out, because state transfers are extremely limited, especially for those without a job and contribution history. In the specification with potential income, the coefficients on changes in unemployment rates are often significantly different from zero.

Italian females departures into partnership rises with unemployment (the same found using Germany's SOEP), which is interesting.[32] My results for Italy are only partly consistent with Aassve, Billari, and Ongaro (2000), who find a negative effect of regional unemployment rate (in levels) on men's departure, but this is very small (-0.003, s.e. 0.001)). Using first differences, I find significant effects for women, with somewhat larger effects (0.005) for women moving in with a partner, and a negative effect (-0.002) for those moving in without a partner.

UK - BHPS

The analyses conducted on the BHPS show that the effects of income vary significantly by gender and by destination. In particular, own actual income has a strong *positive* effect on departure into partnerships, and this effect rises with income. I find no evidence, however, of any effect of income for men's departures without a partner, but I find a *negative* effect for women's departure without a spouse. This is an important result because it shows that in papers where only one destinations (leaving home) is used, the coefficients will be of limited use, as they will lie somewhere between the effects for each destination. In the case where the effects of a variable go in different directions for each destination, as I clearly found for own income, a researcher may wrongly conclude that the variable is not significant in affecting the leaving home decision.

Being a student has a strongly negative effect on departures into a partnership, but less so for "single" departures (this is plausible, since some of these departures will be students who complete their education in the next few months and move out).

The unemployment rate seems to have a positive effect on the departure of females (but only into a partnership), as found by Ermisch (1999). It is not necessarily surprising that unemployment is not significant for males' partnership formations because females may marry males who have already left the parental home.

[32] Different rates of departures into partnerships between men and women are not necessarily inconsistent, because women may leave the parental home to move in with a (previously single, say) partner who had been living outside the parental home. So, for example, higher unemployment may lead to women looking harder for a partner but only amongst men with a (good) job and older than they are, and these are likely to have already moved out out their parents' home.

GERMANY - SOEP

For Germany, my model based on the SOEP yields many interesting results and significantly extends the descriptive results found in Gartner (2000). The quality of the results using the SOEP is better than the ones based on the ECHP.

I find, for both genders, that own income increases the probability of departure and that being employed only affects moving in with a partner (this is consistent with the idea that own income). In contrast to what found for Southern Europe and the UK, however, own income always increases the probability of departure, ie, also for moves without a partner. Family income delays both kind of departures for women but, for men, only departures into a relationship; in both cases the effect rises with income. As found for the previous datasets, this confirms the superiority of a model with multiple destination to a dichotomous model. The unemployment rate (in first differences) that I use does not appear to be significant; probably a more precise measure (by gender/age) is necessary.

It appears that my results significantly differ from Gartner (2000)'s, which are based on a less than ideal definition of destinations and choice of variables in the regression. He finds a strong effect on men of being employed full-time, while all other possible labour market activities do not significantly affect departure. Pro-capita total family income (others' plus own in one) and parents' education have no effect. For women, he finds that being employed or in training increases departures to multi-person households, but only being in training increases departures to single-households. Per capita family income is significant and negative, but the coefficients do not become more negative as income grows (he uses income levels dummies). His unusual classifications of destinations and the fact that it does not discriminate between own and other members' income seem to be the reason behind these obviously different results.

8 CONCLUSIONS

Previous studies of young people's departure from the parental home largely used cross-sectional studies in a single-country context. In this paper I have used the first three waves from the ECHP to explore the determinants of departure across Europe. The shortcomings of the dataset are outweighed by the feasibility of direct comparisons across the EU.

I posit a model in which economic variables play an important role. A standard analytical framework on a multi-country dataset is used to show the main differences across Europe, although it is unable to capture the individual differences in economic structures and social security systems. I start by replicating a model that looks typical of the household formation literature and includes own income, and then substitute this with potential earnings. The econometric model used is a multinomial logit where the destinations are staying at home, moving out to live without a partner and moving out to live with a partner.

The results of the multinomial logit models and Wald tests very clearly show that the effects of economic variables mostly differ by destination, both in magnitude and sometimes also in sign, proving that the dichotomous model commonly found in the literature is unsatisfactory and misleading.

Demographic and economic variables appear to influence young people's living arrangements, and the effects differ by country and by destination. Current income and current employment status have a powerful effect on males and females in the South, which can explain their lower departure rates. Own (actual) income has a positive effect on males in most EU countries and is often significant, although more so in the South. The effect of being out of work during the interview week, even controlling for student status, is negative, significant and important in the South, reflecting the importance for Southern males of having a job before leaving the parental nest. Higher family income discourages departures in the South, but only a smaller effect is found for the North.[33]

The results presented in this paper strongly confirm the suspicion that the low departure rates in the South and low marriage rates are the result of limited labour market opportunities: children in the South largely stay in the parental home and delay the forming of cohabiting relationships if they have not secured a job.

[33] Ermisch and Di Salvo (1997) find a similar effect of parents socio-economic group in a model without parental income. Their interpretation of this result is that it may reflect the fact that children of better-off families are more willing to risk leaving the parental home because they may be able rely on transfers in case of need. Another explanation is that parental wealth may also be positively correlated with children's future income.

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