Economic satisfaction among
wage earners and the self-employed in Europe

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This paper first identifies the determinants of economic satisfaction of wage earning and self-employed workers in the household and, secondly, characterises whether their preferences are altruistic or egoistic. To that end, it formulates a theoretical framework from the collective labour supply model whose stochastic formulations are estimated for 14 EU countries by using the eight waves of the European Community Household Panel-ECHP (1994-2001). After showing that the IV Hausman-Taylor procedure is the selected estimation method in the majority of cases, the empirical results first reveal that increases in individual wage and non-wage incomes lead to higher satisfaction levels, especially in Austria, Greece, Italy, Portugal and Spain, and, secondly, that in Greece and Portugal all workers, whether wage earners or the self-employed, show altruistic behaviour with respect to wage incomes, whist in Austria, Germany, Luxembourg and the United Kingdom, all male workers, again in both employment categories, exhibit egoistic behaviour.

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Introduction

The two areas of individual satisfaction that have probably been the subject of most analysis in labour economics are those of workers' job satisfaction and of the consequences of being unemployed. With respect to the former, previous studies have mainly examined the effect of wages and workplace conditions on job satisfaction, with a significant positive association being found between earnings and job satisfaction (Clark and Oswald, 1996; Groot and Maassen van den Brink; Clark, 1999; Grund and Sliwka, 2001; Linz, 2003; Ahn and García, 2004). As regards the latter, the literature has concluded that unemployment represents a significant and negative determinant in the life satisfaction of individuals (see, for example, Clark and Oswald, 1994; Darity and Goldsmith, 1996; Korpi, 1997; Theodossiou, 1998; Winkelmann and Winkelmann, 1998; Frey and Stutzer, 1999; Di Tella et al., 2001; Ahn et al., 2004).

Despite the clear relevance of this body of evidence, satisfaction has usually been studied in a way that does not reflect the fact that the family is composed of interdependent spouses, between whom there can be found either altruistic or egoistic links. In this way, the intuitive interrelations which can be assumed in reported satisfaction levels among members of the same family are missed. In other words, the extensive literature cited above falls short of modelling individual satisfaction within the family as a fully interdependent process.

Against this background, the present paper models the determinants of the income satisfaction of spouses within the household by considering that they work either as wage earners or as self-employed individuals. The comparison of these determinants are derived by assuming that the interdependences of individual preferences within the household are modelled by the collective labour supply approach, according to which one spouse's satisfaction not only depends on his/her own determinants, but also on the

other spouse's variables (Chiappori, 1988, 1992; Browning and Chiappori, 1998; Browning et al., 2002). In this way, an analysis of the individual's satisfaction within the household will allow for an examination of the interrelationships between spouses, which, in turn, makes it possible to determine whether the preferences of the family spouses are altruistic or egoistic.

Bearing these points in mind, this paper begins by offering a brief description of the labour supply collective approach adopted in the paper, under the assumption that the family members' preferences are completely altruistic, in such a way that each spouse gives his/her partner's income or leisure equal weight to his/her own variables in the utility function. A particular case of this general situation appears when preferences are egoistic, that is to say, where individual utility simply depends on the individual's own income or leisure. This theoretical framework makes it possible to derive some stochastic formulations which are then estimated for 14 EU countries by using the panel structure which results from the eight waves of the European Community Household Panel-ECHP (1994-2001).

With respect to the estimation strategy, this takes the form of four consecutive estimations, namely pool, fixed effects, random effects and efficient generalized instrumental variables. The fixed or random effects methods correct the heterogeneity bias that appears when the use of subjective variables could imply that some people look at life either pessimistically or optimistically, even though there is "really" no difference in their level of well-being (Clark and Oswald, 2002; Ferrer-i-Carbonell and Frijters, 2004; Senik, 2004). Moreover, it is well known that individuals' behaviour is orientated towards achieving higher satisfaction levels. As a consequence, all the variables which can be chosen by individuals will be endogenous in the satisfaction regression, in such a way that the majority of estimated parameters obtained by standard

regressions are likely to be underestimated. A standard solution to this endogeneity bias, which depends on the degree that individuals can choose these actions in order to be happier, is to use instrumental variables (Powdthavee, 2004; Schwarze, 2004). After carrying out all these estimations, the strategy selects the one that is statistically most appropriate in every case, by using the LM value as well as two Hausman tests (Baltagi et al., 2003).

The rest of the paper is organized as follows. In the following section we describe the theoretical framework. Next sections are dedicated to the data and the stochastic formulation. The following section is devoted to the empirical results and, finally, we close the paper with a summary of the most relevant conclusions.

The theoretical framework

The traditional or unitary approach to the analysis of the family, which assumes that this, even if it consists of different individuals, acts as a single decision-making unit, has gave way in the literature to an alternative approach which considers that a household can be seen as a micro-society consisting of several individuals with their own rational preferences.[1] This change is due to the fact that the unitary approach suffers from a number of weaknesses, with one of the most relevant being that the assumption that subjective preferences are inseparable from individual behaviour directly leads to an alternative approach, one which explicitly takes into account the notion that a household is a group of individuals.

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[1] Early attempts in the literature to account for the fact that households may consist of different individuals with their own preferences are those of Samuelson (1956) and Becker (1974a, 1974b). However, in both cases the authors ended up accepting the traditional approach: in the first case, through an aggregation utility function which is achieved by consensus among the individuals; and, in the second, by assuming the utility function of a benevolent head of the family, who takes into account the preferences of all household members.

In response to this and other weaknesses, Chiappori and his co-authors (Chiappori, 1988, 1992; Browning and Chiappori, 1998; Browning et al., 2002) propose an approach that has gradually gained more acceptance, namely the collective labour supply model, which, based on the assumption that intra-household decisions are Pareto-efficient, considers that the household consists of two working-age individuals, A = husband and B = wife, whose rational preferences could be represented by altruistic utility functions defined on their own vectors of goods and time, as well as on the other member's vector:

$$u^I = u^I \left(q^A, q^B, q_0^A, q_0^B \right) \tag{1}$$

where $u^I, I\left(I = A, B\right)$, are strongly quasi-concave, increasing and twice continuously differentiable functions. The arguments are the consumptions q^A and q^B, whose prices are unity, as well as the leisure times q_0^A and q_0^B. Furthermore, the household budget restriction is:

$$q^A + q^B + ?^A q_0^A + ?^B q_0^B \leq y^A + y^B + \left(?^A + ?^B \right) T \tag{2}$$

where w^I denote the individual wages, y^A and y^B are the non-labour incomes for individuals A and B, respectively, and, finally, T is the time endowment.

According to the collective approach, the household demand functions can be derived from an intra-family decision process whose only requirement is that it must lead to Pareto-efficient distributions, with this being formally implemented in the following maximisation problem:

$$\max_{q^A,q^B,q_0^A,q_0^B} u^A\left(q^A,q^B,q_0^A,q_0^B\right)$$

$$\text{s. to} \quad u^B\left(q^A,q^B,q_0^A,q_0^B\right) \geq \bar{u}^B \tag{3}$$

$$q^A + q^B + ?^A q_0^A + ?^B q_0^B \leq y^H + \left(?^A + ?^B\right)T$$

where $\bar{u}^B$ is some required utility level for individual B, $y^H = y^A + y^B$. From this initial

problem, $\bar{u}^B$ can be modified in order to obtain all the Pareto-efficient distributions,

with these forming the boundary of the utility possibility set.

Given that it initially assumes that the individual utility functions are strictly

quasi-concave and that the budget restriction defines a convex set, the utility

possibilities set will be strictly convex. Consequently, all the Pareto-efficient

distributions can be characterised as points of a utilitarian social welfare function with

positive weights for both household members in the joint welfare. Thus, the above

problem can be expressed in the following terms:

$$\max_{q^A,q^B,q_0^A,q_0^B} \boldsymbol{m}(\mathbf{w},\mathbf{y})u^A\left(q^A,q^B,q_0^A,q_0^B\right) + \left[1 - \boldsymbol{m}(\mathbf{w},\mathbf{y})\right]u^B\left(q^A,q^B,q_0^A,q_0^B\right) \tag{4}$$

$$\text{s. to} \quad q^A + q^B + ?^A q_0^A + ?^B q_0^B \leq y^H + \left(?^A + ?^B\right)T$$

where $\mathbf{w} = \left(w^A,w^B\right)$ and $\mathbf{y} = \left(y^A, y^B\right)$. In this optimisation problem, the weights

$\boldsymbol{m}(\mathbf{w},\mathbf{y})$ and $\left[1 - \boldsymbol{m}(\mathbf{w},\mathbf{y})\right]$ are the Lagrangian multipliers of problem (3), with these

being interpreted as indicators of the bargaining power of the household members in the

intra-family distribution process. As can be appreciated from the expressions, the

bargaining power depends on the consumption prices, the individual wages and the non-

wage income.

Assuming that the function $\boldsymbol{m}(\mathbf{w},\mathbf{y})$ is continuous, differentiable and, moreover,

zero degree homogeneous, the demand functions that can be obtained as solutions to

optimisation problem (4) will also be continuous, differentiable and zero degree homogeneous:

$$q^I = q^I \left(?^A , ?^B , y^A , y^B ; \mathbf{z} \right) \tag{5}$$

$$q_0^I = q_0^I \left(?^A , ?^B , y^A , y^B ; \mathbf{z} \right) \tag{6}$$

where $\mathbf{z}$ includes a number of socio-demographic variables.

Substituting now these demands in the initial utility functions (1), the following altruistic indirect utility functions are obtained:

$$v^I = v^I \left(?^A , ?^B , y^A , y^B ; \mathbf{z} \right) \tag{7}$$

in such a way that utility changes resulting from variations in their arguments allows for the type of individual preferences to be confirmed:

$$\frac{\partial v^i}{\partial w^j} > (=)0 \Leftrightarrow$$ ith individual is altruistic (egoistic) with respect to jth individual's wage income

$$\frac{\partial v^i}{\partial y^j} > (=)0 \Leftrightarrow$$ ith individual is altruistic (egoistic) with respect to jth individual's non-wage income

The data

Bearing in mind that the purpose of the study is to estimate the determinants of income satisfaction for individuals who work either as wage earners or as self-employed, the data used in this work comes from the eight waves of the ECHP (1994-2001) for each

of the 14 sample EU countries.[2] In this present study, families have been selected in which both spouses are aged between 16 and 65 years old. Individuals both with and without children have been included in these households. Those families lacking the required information have been excluded, resulting in a two sub-samples, husbands and wives, ranging from France (husbands: 17,623 wage earners and 2,757 self-employed; wives: 13,589 wage earners and 1,042 self-employed) to Luxembourg (husbands: 1,288 wage earners and 175 self-employed; wives: 774 wage earners and 75 self-employed).

The ECHP includes questions about several subjective aspects of well-being, enquiring into the level of satisfaction that individuals reach with respect to different aspects, such as their income. The specific question this paper is interested in is: "How satisfied are you with your financial situation?". Each of these responses takes values from 1 to 6, moving from not satisfied at all (1) to completely satisfied (6). This satisfaction question is based on individuals' own perception, in such a way that Tables I and II begin by showing the simple means which are comparable across the populations after assuming the linearity across response.

Table I shows the mean and standard deviation of the dependent variables used in the analysis. The dependent variables are husband and wife income satisfaction (*HusbSatisf*, *WifeSatisf*). Starting with the male sample, it can be appreciated that for male wage earners, these generally declare higher satisfaction levels than their respective wives in the majority of the sample countries, namely Austria, Belgium, Denmark, Finland, Germany, Greece, Italy, Portugal and Spain. As regards the male self-employed, their wives generally show higher levels than they do, particularly, in Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Luxembourg, The

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[2] The ECHP is an extensive, sample-based panel survey in which the same households and individuals are interviewed annually. The data come from a standardised questionnaire and are designed to be cross-nationally comparable (Peracchi, 2002).

Netherlands, Spain and the United Kingdom. With respect to the female sample, it emerges that for female wage earners, these reveal higher satisfaction levels than their respective husbands, with this being the case for all sample countries, save for Portugal. However, as for the female self-employed, there does not appear to be any clear descriptive evidence.[3]

(take in Table I)

With respect to the exogenous variables, the study first includes a number of individual characteristics and, secondly, several economic variables. As regards the former, these include the age of the spouses (*HusbAge, WifeAge*), the age difference between the spouses (*AgeDifference*), the education level of each of the spouses (*HusbPrimEduc, HusbSeconEduc, HusbHighEduc, WifePrimEduc, WifeSeconEduc, WifeHighEduc*), as well as two other variables which refer to the presence of children in the household: a dummy variable indicating if there is a child under 12 in the family (*Children<12*), and another indicating the number of children under 16 (*Children<16*).

As regards the variables which refer to the economic situation of the household, these include the wages of both spouses (*HusbWage, WifeWage*), as well as the annual non-wage incomes of both the husband and the wife (*HusbNon-WageInc, WifeNon-WageInc*), the wife's participation in the family income (*WifeParticipation*). Finally, the study also includes a variable which indicates whether the individual is self-employed or a wage-earner (*HusbSelf-Employed, WifeSelf-Employed, HusbWage-Earner, WifeWage-Earner*).

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[3] Given that the description of all results corresponding to both male and female samples could be excessively repetitive, and also for reasons of space, we have decided to limit the description of our results to the male sample, given its higher number of observations as compared to the female one. Obviously, all results are available from the authors upon request.

Table II shows the mean and the standard deviation of each of the exogenous variables used in the analysis. In every country sample analysed, the age of the husband is higher than that of the wife. The age difference is higher for the self-employed than for wage-earners, with the highest mean value corresponding to Greece, where this age difference reaches 5 years. With respect to the variables that refer to the presence of children in the family, note that percentages are higher for wage earners than for the self-employed in the majority of the countries, namely Austria, Belgium, Denmark, France, Greece, Ireland, Italy, Luxembourg, Portugal and Spain, with the highest value corresponding to Austria, 43.4%. However, there does not appear to be any clear evidence with respect to the mean number of children under 16. As regards the education level, it can be noted that wives generally show higher percentages than husbands for the primary education level, particularly in the majority of countries for wage earners and in all sample countries, save for Finland and Ireland, for the self-employed. By contrast, the percentages of husbands who have attained higher education levels are generally greater than those corresponding to wives, with this evidence appearing particularly for the self-employed in Austria, Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Portugal, Spain and the United Kingdom.

(take in Table II)

From this simple descriptive analysis it also emerges that the husband's mean income per hour is higher than that of the wife's in every sample country for both wage earners and the self-employed, with the highest values appearing in the latter sample in Belgium, Denmark, France, Germany, Ireland, Luxembourg and the Netherlands. With respect to non-wage annual incomes, the husband's non-wage income is higher than that of the wife's in every country except Denmark, Belgium for wage-earners, and except in Finland for the self-employed. As regards the wife's participation in family income,

this is always higher for wage earners than for the self-employed. Finally, note the higher percentage of self-employed and wage-earner husbands as compared to self-employed and wage-earner wives, respectively, in all EU sample countries, save for the case of Finland with respect to this latter employment situation.

The stochastic formulation

This section develops the empirical specification and the estimation procedure. In order to describe the empirical specification for the determinants of income satisfaction, it should be recalled that the panel data structure provided by the ECHP permits the application of techniques that help to control for unobservable heterogeneity. In this way, the model which underlies the observed subjective well-being responses takes the form of linear functions:

$$v_{it}^{I} = \boldsymbol{m}_{It}^{I} + \boldsymbol{b}_{1}^{A} w_{it}^{A} + \boldsymbol{b}_{2}^{B} w_{it}^{B} + \boldsymbol{b}_{3}^{A} y_{it}^{A} + \boldsymbol{b}_{4}^{B} y_{it}^{B} + \boldsymbol{d}z_{it} + \boldsymbol{a}_{i}^{I} + e_{it}^{I} \quad i=1, ..., N; \ t=1, ..., T; \ I=A,B$$

(8)

where the parameters $\boldsymbol{b}$ and $\boldsymbol{d}$ are the coefficients that go with the variables; $\boldsymbol{m}$ and $\boldsymbol{a}$ are constant terms, with $\boldsymbol{m}$ being the average population and $\boldsymbol{a}$ the individual deviation with respect to this average; and, finally, e are the error terms that are supposed independent, with null mean and constant variance. These equations are estimated independently for both spouses, in such a way that N is the number of families in the sample.

   The estimation strategy is made-up of the following steps.[4] First, each equation is estimated separately, considering the aggregated data, that is to say, a pool estimation is

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[4] Given the ordinal nature of the dependent variable on individual satisfaction, an appropriate regression model would be an ordered probit. However, whilst random-effects ordered probit model is available in standard statistical software packages (Ferrer-i-Carbonell and Van Praag, 2003; Schwarze, 2004; Winkelmann, 2004), the fixed-effects ordered probit estimator is not. This is the reason why the present paper uses as approximations both random-effects and fixed-effects regression models, which are

carried out. A panel data structure is then used in order to estimate functions, considering individual effects, both fixed and random. As is well known, the difference between the two lies in the fact that, whilst in the case of fixed effects the *a* coefficients are considered as fixed values for each individual, in the specification of random effects the specific aspects of each spouse are taken as independent random variables.

In line with that explained earlier in the paper, consideration is also given to an alternative estimation procedure suggested in the literature, namely the Efficient Generalized Instrumental Variables (EGIV), proposed by Hausman and Taylor (1981)[5]. This method followed in this paper uses as instruments the individual time averages of the variables (the individual's own wage, the presence of children under 12, the number of children under 16, the spouse's own wage, male and female non-labour income, the wife's participation in family income, own age and a dummy that indicates if the individual is self-employed) for the time invariant variables that are correlated with the individual effects (the age difference between the spouses, the individual's own education levels and the spouse's higher education level). Thus, this procedure allows for the simultaneous control of the correlation between regressors and unobserved individual effects by using instruments. Similarly, it permits the identification of the estimates of the time-invariant covariates, such as education. Moreover, it avoids the insecurity associated with the choice of suitable instruments, since the individual means over time of all the included regressors can serve as valid instruments. Additionally, the variance-covariance structure can be taken into account so as to obtain more efficient estimators.

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perfectly comparable by using habitual tests (D'Ambrosio and Frick, 2004; Ferrer-i-Carbonell and Frijters, 2004; Graham et al., 2004).
[5] The recent work by Baltagi et al. (2003) provides information on the suitability of the Hausman-Taylor procedure in a general framework where panel data is available and some regressors are correlated with the individual effects.

This EGIV method is implemented in the following steps. First, equations (5) are estimated by pooled Two Stages Least Squares (2SLS), where the set of variables mentioned above act as instruments. Secondly, the pooled 2SLS residuals are used to construct the weights for a Feasible Generalized Least Squares estimator. Thirdly, these weights are used to transform (by quasi-time demeaning) all the dependent variables, explanatory variables and instrumental variables. Finally, the transformed regression is again estimated by pooled 2SLS, where the individual means over time of the time-varying regressors and the exogenous time-invariant regressors are the instruments. Under the full set of assumptions, this Hausman and Taylor estimator coincides with the efficient GMM estimator.

After estimating the four alternative specifications, some appropriate econometric tests allow for the best formulation to be selected in every case. In particular, an LM test indicates if a panel or a pool estimation is preferred. If a panel estimation is selected, then a choice must be made from among the three alternative specifications, with two Hausman tests allowing the best panel estimation to be selected (Hausman, 1978).[6] The first Hausman test (Hausman-1) is the standard to distinguish between the random and fixed effects estimators, whereas the second (Hausman-2) tests the Hausman-Taylor against the fixed effects model.[7]

Empirical results

Table III includes the empirical results, starting with a brief description of the test results that allows for a choice to be made of a particular estimation procedure for each sample country. It then describes the individual and economic determinants of the

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[6] See, for details, Hausman and Taylor (1981), Wooldridge (2002) and Baltagi et al. (2003).
[7] The 8.0 version of Stata includes the Hausman-Taylor procedure and is used to obtain the estimates presented in this paper

family member's satisfaction and also explains their type of preferences, altruistic or egoistic.

First, the LM tests indicate that the pool estimation is not selected in any sample country. Secondly, Hausman-1 tests reveal that the fixed effects estimation is preferred over the random effects and, thirdly, Hausman-2 tests indicate that for all cases, save for wage earners in Austria and the self-employed in Germany, the Hausman-Taylor estimation is preferred over the fixed effects.

(take in Table III)

With respect to the individual characteristics, Table III first reveals that the effect of age is significantly positive for wage earners in the majority of countries, namely Austria, Belgium, Finland, France, Greece, Ireland, Luxembourg, the Netherlands, Portugal and Spain, with this same result appearing for the self-employed in Finland, Ireland, Italy, the Netherlands, Spain and the United Kingdom. The effects of the presence of children vary across countries and also depending on the age, in such a way that if this age is less than 12 years, then the effect is positive in Spain and negative in Austria, Denmark, France and the Netherlands for wage earners, whilst it is also negative in Belgium, Italy and Portugal for the self-employed. Moreover, if this age is less than 16 years, then the effect is positive for wage-earners in France and Luxembourg, and negative for wage earners in Belgium, Denmark, Germany, Greece, Italy, Spain and the United Kingdom, as well as for the self-employed in Denmark and Spain. For their part, the education variables show that income satisfaction significantly increases when husbands achieved higher education qualifications, with this result appearing in a significant number of cases, particularly for both wage earners and the self-employed in Greece and Portugal.

Turning to the economic variables, it can be observed that increases in the husband's wage has, according to the normality assumption, a highly significant positive impact on male satisfaction for the majority of cases, particularly for both wage earners and the self-employed in Austria, Greece, Italy, Portugal and Spain. Moreover, this same positive effect from the wife's wage is also observable for both samples in Greece and Portugal. That is to say, these latter countries show altruistic behaviour with respect to wage incomes, in such a way that male satisfaction positively depends on female wages. By contrast, all male workers in Austria, Germany, Luxembourg and the United Kingdom exhibit egoistic behaviour, with their utilities remaining indifferent to changes in their wives' labour incomes. With respect to non-wage incomes, the husband's variable has a clear positive effect on male income satisfaction in Greece and Portugal. Finally, it can also be noted that increases in the woman's share of family income raises the male income satisfaction in the Netherlands and decreases it in Belgium and the United Kingdom.

Conclusions

This paper has analysed the determinants of workers' satisfaction within the household on the basis of a collective family model framework and using a sample of 14 EU countries. By resting on this framework, it has also been possible to study the interrelations that exist between spouses in order to determine the kind of preferences that characterize household members in each of the sample countries. Furthermore, the use of country data from the eight waves of the ECHP (1994-2001) has made it possible to estimate four alternative specifications (pool, fixed effects, random effects and efficient generalized instrumental variables), with the most appropriate being selected in every case by using an LM value and two Hausman tests.

With respect to the selected formulation, the empirical results show that the IV Hausman-Taylor estimator has been selected in the majority of cases. As regards the determinants, age has a significantly positive impact on income satisfaction for wage earners in the majority of countries, with this same result appearing for the self-employed in a lower number of countries. Similarly, income satisfaction significantly increases when individuals achieve higher education qualifications. With respect to the economic variables, it first appears that increases in individual wage and non-wage incomes lead to higher satisfaction levels, especially in Austria, Greece, Italy, Portugal and Spain. Moreover, with respect to interrelations between spouses, our results reveal that in Greece and Portugal all workers, whether wage earners or the self-employed, show altruistic behaviour with respect to wage incomes, whist in Austria, Germany, Luxembourg and the United Kingdom, all male workers, again in both employment categories, exhibit egoistic behaviour.

An understanding of individual satisfaction derived from income within the family could be particularly useful for policy-makers in evaluating socio-economic policies. Thus, the empirical conclusions drawn from this study will hopefully assist in the drafting of such policies that have the final object of increasing the satisfaction levels shown by the spouses within the household.

In addition to the appropriateness of extending the number of policies focused on increasing the wage and non-wage incomes of workers, especially in Austria, Greece, Italy, Portugal and Spain, the conclusion that in Greece and Portugal all workers, whether wage earners or the self-employed, show altruistic behaviour with respect to wage incomes, indicates a particular way of family life characterized by mutual and strong cooperation between the spouses. By contrast, in Austria, Germany, Luxembourg and the United Kingdom, all male workers, again in both employment categories,

exhibit egoistic behaviour. Thus, spouses in Greece and Portugal behave under the believe that this collaboration will increases the total satisfaction achieved by the household, in such a way that these countries appear as clear examples where cooperative models of family behaviour are amply justified in order to represent the interrelations between spouses.

Modeling interrelations between working spouses within a family on the basis of satisfaction responses constitutes a promising new area of socio-economic research that will probably increase in importance in the near future, given the remaining aspects that are pending analysis. Thus, the consideration of children within the family implies some changes to the framework of interdependences derived from the consideration of spouses alone, with this aspect already being reflected, at least to some degree, in the literature (Becker, 1991; Altonji et al., 1992; Schwarze, 2004; Winkelmann, 2005; Schwarze and Winkelmann, 2005). However, this line of work has yet to be extended to the effects of collusion between children and spouses, where this places one spouse in a non-cooperative position with respect to the other. In this same line, the modeling of ordinal satisfaction responses in habitual data bases (British Household Panel Survey, European Community Household Panel, German Socio-Economic Panel, Panel Study of Income Dynamics) advises the use of ordered discrete models (Ferrer-i-Carbonell and Van Praag, 2003; D'Ambrosio and Frick, 2004; Schwarze, 2004; Winkelmann, 2005; Fernández-Val, 2005; Schwarze and Wnkelmann, 2005) or threshold and sequential models (Boes and Winkelmann, 2004), which make use of the advantages offered by the panel structure. A final question, one that this paper leaves open, in this agenda for future research on family interdependences with satisfaction data is a more complete analysis of the causality between the decisions of family members. Here, simultaneous

models must be specified and estimated by using instrumental variables (Graham et al., 2004; Powdthavee, 2004a, 2004b).

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Table I. Descriptive analysis of the endogenous variables (mean and st. dev.)

Variables	Austria		Belgium		Denmark		Finland		France		Germany		Greece	
	Wage earners	Self-employed	Wage earners	Self-employed	Wage earners	Self-employed	Wage earners	Self-employed	Wage earners	Self-employed	Wage earners	Self-employed	Wage earners	Self-employed
Husbands														
HusbSatisf	4.327	3.540	4.159	3.991	4.635	4.475	4.093	3.854	3.698	3.611	3.915	4.000	3.319	3.153
	(1.21)	(1.53)	(1.14)	(1.38)	(1.05)	(1.37)	(1.08)	(1.22)	(1.16)	(1.30)	(1.16)	(1.31)	(1.13)	(1.14)
WifeSatisf	4.256	3.769	4.157	4.176	4.580	4.688	4.067	4.054	3.703	3.728	3.847	4.112	3.165	3.099
	(1.35)	(1.58)	(1.22)	(1.30)	(1.16)	(1.26)	(1.16)	(1.21)	(1.20)	(1.24)	(1.26)	(1.35)	(1.14)	(1.15)
Number of observations	7,615	1,487	8,284	1,578	8,356	927	6,280	2,082	17,623	2,757	5,764	618	8,814	8,834
Wives														
HusbSatisf	4.235	3.766	4.086	4.164	4.594	4.713	4.065	3.844	3.738	3.547	3.868	3.854	3.388	3.242
	(1.30)	(1.46)	(1.16)	(1.23)	(1.09)	(1.22)	(1.14)	(1.23)	(1.16)	(1.28)	(1.20)	(1.26)	(1.20)	(1.19)
WifeSatisf	4.389	3.318	4.208	4.157	4.641	4.776	4.170	3.939	3.826	3.464	3.897	3.751	3.393	3.168
	(1.26)	(1.53)	(1.11)	(1.27)	(1.10)	(1.22)	(1.09)	(1.24)	(1.10)	(1.32)	(1.22)	(1.30)	(1.15)	(1.16)
Number of observations	5,523	1,182	6,604	775	7,790	401	6,513	1,199	13,589	1,042	4,399	261	4,884	2,317

Table I. Descriptive analysis of the endogenous variables (mean and st. dev.)

Variables	Ireland Wage earners	Ireland Self-employed	Italy Wage earners	Italy Self-employed	Luxembourg Wage earners	Luxembourg Self-employed	The Netherlands Wage earners	The Netherlands Self-employed	Portugal Wage earners	Portugal Self-employed	Spain Wage earners	Spain Self-employed	United-Kingdom Wage earners	United-Kingdom Self-employed
Husbands														
HusbSatisf	3.819	3.779	3.403	3.524	4.252	3.731	4.619	4.483	3.259	3.161	3.419	3.422	3.896	3.865
	(1.32)	(1.43)	(1.20)	(1.20)	(1.25)	(1.49)	(0.93)	(1.14)	(0.99)	(0.99)	(1.28)	(1.31)	(1.06)	(1.18)
WifeSatisf	3.910	3.964	3.292	3.471	4.327	3.983	4.706	4.595	3.071	3.107	3.385	3.491	3.993	4.027
	(1.37)	(1.44)	(1.24)	(1.22)	(1.27)	(1.53)	(0.95)	(1.09)	(1.03)	(1.00)	(1.31)	(1.32)	(1.06)	(1.14)
Number of observations	5,295	2,686	17,344	7,199	1,288	175	16,442	1,436	13,612	6,879	15,524	5,332	8,427	1,819
Wives														
HusbIncSatisf	3.774	4.208	3.612	3.545	4.149	4.213	4.624	4.550	3.261	3.025	3.469	3.367	3.859	3.931
	(1.37)	(1.33)	(1.20)	(1.21)	(1.30)	(1.40)	(0.96)	(1.08)	(1.02)	(0.98)	(1.33)	(1.34)	(1.08)	(1.17)
WifeIncSatisf	3.967	4.293	3.617	3.552	4.278	4.120	4.739	4.627	3.221	2.938	3.559	3.272	3.996	4.086
	(1.31)	(1.28)	(1.18)	(1.22)	(1.27)	(1.51)	(0.93)	(1.12)	(0.99)	(0.99)	(1.31)	(1.30)	(1.03)	(1.12)
Number of observations	3,800	317	10,403	2,104	774	75	12,218	747	10,271	3,463	7,600	1,870	7,839	650

Table II. Descriptive analysis of the exogenous variables (mean and st. dev.)

Variables	Austria Wage earners	Austria Self-employed	Belgium Wage earners	Belgium Self-employed	Denmark Wage earners	Denmark Self-employed	Finland Wage earners	Finland Self-employed	France Wage earners	France Self-employed	Germany Wage earners	Germany Self-employed	Greece Wage earners	Greece Self-employed
HusbAge	41.342	48.640	40.121	43.745	42.579	46.686	43.909	46.673	41.655	48.067	43.420	47.299	43.291	50.542
	(10.42)	(10.16)	(9.05)	(9.43)	(11.19)	(11.09)	(10.66)	(9.97)	(10.32)	(11.38)	(10.59)	(10.56)	(9.80)	(12.26)
WifeAge	38.254	45.347	37.784	41.017	40.109	43.761	41.807	44.545	39.281	44.762	40.671	43.632	38.792	45.014
	(9.58)	(9.46)	(8.54)	(8.98)	(10.59)	(10.47)	(10.03)	(9.77)	(9.68)	(10.48)	(9.96)	(9.99)	(8.70)	(11.51)
AgeDifference	3.070	3.144	2.344	2.723	2.453	2.925	2.091	2.179	2.369	3.321	2.750	3.766	4.634	5.271
	(4.31)	(4.05)	(4.07)	(4.02)	(4.41)	(4.05)	(4.01)	(4.11)	(4.30)	(4.64)	(4.16)	(4.79)	(4.33)	(4.64)
Children< 12	0.434	0.432	0.366	0.357	0.355	0.324	0.390	0.408	0.385	0.328	0.225	0.234	0.405	0.268
	(0.50)	(0.50)	(0.48)	(0.48)	(0.48)	(0.47)	(0.49)	(0.49)	(0.49)	(0.47)	(0.42)	(0.42)	(0.49)	(0.44)
Children < 16	0.858	1.015	1.101	1.319	0.911	0.865	0.968	1.163	0.926	0.871	0.727	1.004	1.023	0.779
	(0.95)	(1.14)	(1.05)	(1.17)	(1.05)	(1.12)	(1.12)	(1.32)	(0.98)	(1.01)	(0.91)	(1.05)	(0.94)	(0.95)
HusbPrimEduc	0.112	0.288	0.197	0.137	0.185	0.212	0.218	0.335	0.257	0.341	0.152	0.169	0.364	0.581
	(0.32)	(0.45)	(0.40)	(0.34)	(0.39)	(0.41)	(0.41)	(0.47)	(0.44)	(0.47)	(0.36)	(0.38)	(0.48)	(0.49)
WifePrimEduc	0.223	0.394	0.168	0.142	0.197	0.244	0.191	0.306	0.272	0.359	0.278	0.226	0.398	0.650
	(0.42)	(0.49)	(0.37)	(0.35)	(0.40)	(0.43)	(0.39)	(0.46)	(0.44)	(0.48)	(0.45)	(0.42)	(0.49)	(0.48)
HusbSeconEduc	0.786	0.671	0.321	0.248	0.426	0.367	0.432	0.418	0.447	0.386	0.502	0.356	0.245	0.213
	(0.41)	(0.47)	(0.47)	(0.43)	(0.49)	(0.48)	(0.50)	(0.49)	(0.50)	(0.49)	(0.50)	(0.48)	(0.43)	(0.41)
WifeSeconEduc	0.653	0.577	0.286	0.255	0.394	0.411	0.356	0.430	0.384	0.362	0.557	0.533	0.232	0.177
	(0.48)	(0.49)	(0.45)	(0.44)	(0.49)	(0.49)	(0.48)	(0.50)	(0.49)	(0.48)	(0.50)	(0.50)	(0.42)	(0.38)
HusbHighEduc	0.094	0.038	0.391	0.489	0.384	0.421	0.343	0.240	0.235	0.243	0.344	0.475	0.386	0.204
	(0.29)	(0.19)	(0.49)	(0.50)	(0.49)	(0.49)	(0.47)	(0.43)	(0.42)	(0.43)	(0.48)	(0.50)	(0.49)	(0.40)
WifeHighEduc	0.111	0.027	0.472	0.457	0.404	0.344	0.449	0.261	0.284	0.240	0.162	0.241	0.368	0.172
	(0.31)	(0.16)	(0.50)	(0.50)	(0.49)	(0.48)	(0.50)	(0.44)	(0.45)	(0.43)	(0.37)	(0.43)	(0.48)	(0.38)
HusbWage	8.419	5.971	8.635	9.903	9.894	11.821	11.547	9.739	8.354	8.858	9.171	11.280	4.315	3.122
	(6.12)	(14.62)	(5.26)	(20.99)	(5.99)	(13.50)	(9.46)	(12.10)	(8.72)	(23.29)	(7.23)	(12.50)	(3.68)	(4.13)
WifeWage	7.048	2.158	7.963	6.775	9.234	6.504	10.295	6.569	7.706	7.065	6.552	5.806	4.302	2.440
	(5.68)	(4.00)	(4.03)	(9.05)	(25.62)	(8.56)	(9.32)	(9.88)	(6.88)	(13.50)	(6.34)	(10.69)	(3.24)	(3.59)
HusbNon-WageInc	2,517.009	4,049.876	2,538.528	4,455.010	1,761.033	2,894.502	3,750.770	4,581.160	2,807.368	4,168.296	1,872.685	3,066.533	894.047	1,642.503
	(5,039.66)	(5,870.75)	(1,4082.28)	(8,638.34)	(4,306.20)	(7,521.94)	(1,4882.83)	(2,4921.13)	(5,111.04)	(6,513.82)	(4,422.17)	(5,964.75)	(2595.90)	(3,246.41)
WifeNon-WageInc	2,329.866	1,919.611	2,982.722	3,526.785	2,898.999	3,292.644	3,495.802	4,734.652	1,015.532	939.836	1,331.961	1,851.347	297.597	404.066
	(4,425.93)	(4,249.67)	(4,907.32)	(6,282.24)	(3,941.09)	(3,959.01)	(5,560.03)	(1,3397.36)	(2,370.71)	(2,549.79)	(2,236.49)	(3,461.81)	(917.66)	(1,199.97)
WifeParticipation	0.397	0.265	0.441	0.355	0.455	0.352	0.460	0.405	0.409	0.387	0.353	0.296	0.441	0.376
	(0.19)	(0.26)	(0.16)	(0.24)	(0.12)	(0.27)	(0.15)	(0.18)	(0.16)	(0.25)	(0.19)	(0.25)	(0.19)	(0.27)
HusbSelf-Employed	0.102	0.340	0.112	0.347	0.071	0.406	0.143	0.664	0.083	0.305	0.070	0.195	0.245	0.363
	(0.30)	(0.47)	(0.32)	(0.48)	(0.26)	(0.49)	(0.35)	(0.47)	(0.28)	(0.46)	(0.25)	(0.40)	(0.43)	(0.48)
HusbWage-Earner	0.780	0.415	0.822	0.579	0.843	0.526	0.712	0.248	0.789	0.436	0.817	0.628	0.642	0.300
	(0.41)	(0.49)	(0.38)	(0.49)	(0.36)	(0.50)	(0.45)	(0.43)	(0.41)	(0.50)	(0.39)	(0.48)	(0.48)	(0.46)

Table II. Descriptive analysis of the exogenous variables (mean and st. dev.)

Variables	Ireland Wage earners	Ireland Self-employed	Italy Wage earners	Italy Self-employed	Luxembourg Wage earners	Luxembourg Self-employed	The Netherlands Wage earners	The Netherlands Self-employed	Portugal Wage earners	Portugal Self-employed	Spain Wage earners	Spain Self-employed	United-Kingdom Wage earners	United-Kingdom Self-employed
HusbAge	42.417	49.744	43.347	47.491	39.760	46.120	41.367	45.276	41.793	52.450	41.169	47.332	42.557	45.438
	(10.49)	(12.98)	(9.80)	(11.18)	(9.63)	(9.38)	(9.86)	(9.10)	(11.47)	(13.01)	(10.25)	(11.31)	(11.46)	(11.63)
WifeAge	40.012	46.218	40.146	43.678	36.809	41.707	38.805	42.560	38.923	49.034	38.600	44.081	40.173	42.874
	(9.73)	(11.38)	(8.92)	(10.21)	(8.55)	(8.92)	(9.40)	(9.04)	(10.73)	(12.49)	(9.45)	(10.78)	(10.90)	(10.83)
AgeDifference	2.421	3.527	3.210	3.796	2.944	4.493	2.557	2.715	2.835	3.418	2.596	3.259	2.383	2.623
	(3.92)	(4.17)	(3.80)	(4.34)	(4.86)	(3.75)	(3.96)	(3.61)	(4.62)	(4.87)	(3.67)	(3.97)	(4.77)	(5.36)
Children< 12	0.419	0.375	0.388	0.302	0.322	0.293	0.340	0.395	0.404	0.256	0.375	0.298	0.288	0.295
	(0.49)	(0.48)	(0.49)	(0.46)	(0.47)	(0.46)	(0.47)	(0.49)	(0.49)	(0.44)	(0.48)	(0.46)	(0.45)	(0.46)
Children < 16	1.318	1.174	0.844	0.665	1.004	1.160	0.873	1.142	0.896	0.679	0.857	0.816	0.798	0.877
	(1.23)	(1.32)	(0.87)	(0.86)	(1.01)	(1.19)	(1.04)	(1.18)	(0.92)	(0.92)	(0.92)	(1.02)	(1.01)	(1.07)
HusbPrimEduc	0.370	0.388	0.424	0.547	0.497	0.173	0.227	0.209	0.775	0.921	0.493	0.668	0.383	0.306
	(0.48)	(0.49)	(0.49)	(0.50)	(0.50)	(0.38)	(0.42)	(0.41)	(0.42)	(0.27)	(0.50)	(0.47)	(0.49)	(0.46)
WifePrimEduc	0.296	0.284	0.348	0.554	0.539	0.387	0.275	0.225	0.719	0.941	0.449	0.697	0.434	0.337
	(0.46)	(0.45)	(0.48)	(0.50)	(0.50)	(0.49)	(0.45)	(0.42)	(0.45)	(0.24)	(0.50)	(0.46)	(0.50)	(0.47)
HusbSeconEduc	0.395	0.331	0.410	0.298	0.245	0.507	0.507	0.578	0.125	0.056	0.196	0.158	0.228	0.243
	(0.49)	(0.47)	(0.49)	(0.46)	(0.43)	(0.50)	(0.50)	(0.49)	(0.33)	(0.23)	(0.40)	(0.36)	(0.42)	(0.43)
WifeSeconEduc	0.461	0.521	0.494	0.310	0.284	0.280	0.502	0.542	0.130	0.035	0.199	0.134	0.235	0.292
	(0.50)	(0.50)	(0.50)	(0.46)	(0.45)	(0.45)	(0.50)	(0.50)	(0.34)	(0.18)	(0.40)	(0.34)	(0.42)	(0.46)
HusbHighEduc	0.222	0.281	0.142	0.112	0.257	0.320	0.247	0.205	0.081	0.019	0.310	0.174	0.373	0.429
	(0.42)	(0.45)	(0.35)	(0.32)	(0.44)	(0.47)	(0.43)	(0.40)	(0.27)	(0.14)	(0.46)	(0.38)	(0.48)	(0.50)
WifeHighEduc	0.237	0.196	0.140	0.091	0.176	0.333	0.210	0.230	0.104	0.014	0.352	0.170	0.323	0.362
	(0.43)	(0.40)	(0.35)	(0.29)	(0.38)	(0.47)	(0.41)	(0.42)	(0.31)	(0.12)	(0.48)	(0.38)	(0.47)	(0.48)
HusbWage	8.241	10.626	0.006	0.005	11.764	16.310	9.084	9.802	3.439	2.052	5.495	4.129	6.527	6.472
	(13.19)	(12.15)	(0.00)	(0.01)	(7.67)	(17.31)	(7.40)	(12.80)	(3.63)	(2.94)	(5.08)	(5.43)	(5.81)	(7.12)
WifeWage	7.218	5.854	0.007	0.004	10.903	8.039	8.080	5.747	3.328	0.734	5.313	2.212	5.922	5.143
	(7.09)	(12.10)	(0.00)	(0.01)	(8.07)	(13.28)	(8.75)	(11.14)	(2.88)	(2.00)	(4.24)	(4.06)	(7.86)	(8.41)
HusbNon-WageInc	1,032.872	1,837.703	1.495	2.276	4,167.538	5,716.026	2,211.000	2,793.152	922.560	1,427.460	1,130.574	1,730.83	1,272.431	1,836.111
	(2,650.63)	(6,860.37)	(4.36)	(4.66)	(7159.73)	(6,165.59)	(4,490.66)	(4,795.52)	(3,466.66)	(2,926.57)	(2,893.00)	(3,125.36)	(3,336.48)	(3,958.49)
WifeNon-WageInc	756.956	1,044.757	0.447	0.676	1,772.625	1,356.780	513.332	702.895	203.070	418.680	335.230	307.56	985.124	1,387.820
	(1,087.38)	(2,279.71)	(1.91)	(2.48)	(4,493.73)	(2,693.91)	(1,470.04)	(2,085.89)	(738.53)	(1,176.787)	(1,187.87)	(1,383.54)	(1,746.65)	(2,333.15)
WifeParticipation	0.388	0.310	0.452	0.367	0.385	0.204	0.325	0.219	0.433	0.202	0.416	0.284	0.388	0.354
	(0.20)	(0.28)	(0.18)	(0.29)	(0.20)	(0.21)	(0.19)	(0.23)	(0.19)	(0.26)	(0.22)	(0.30)	(0.18)	(0.22)
HusbSelf-Employed	0.188	0.401	0.170	0.483	0.070	0.360	0.045	0.303	0.149	0.587	0.153	0.379	0.135	0.402
	(0.39)	(0.49)	(0.38)	(0.50)	(0.25)	(0.48)	(0.21)	(0.46)	(0.36)	(0.49)	(0.36)	(0.49)	(0.34)	(0.49)
HusbWage-Earner	0.698	0.498	0.694	0.306	0.832	0.467	0.873	0.605	0.738	0.275	0.701	0.334	0.763	0.505
	(0.46)	(0.50)	(0.46)	(0.46)	(0.37)	(0.50)	(0.33)	(0.49)	(0.44)	(0.45)	(0.46)	(0.47)	(0.43)	(0.50)

Table III. Income satisfaction

Variables	Austria Wage earners	Austria Self-employed	Belgium Wage earners	Belgium Self-employed	Denmark Wage earners	Denmark Self-employed	Finland Wage earners	Finland Self-employed	France Wage earners	France Self-employed	Germany Wage earners	Germany Self-employed	Greece Wage earners	Greece Self-employed
Constant	3.071** (14.03)	2.340 (1.50)	2.873 (1.41)	1.348 (0.48)	4.237** (4.02)	2.646** (2.09)	0.452 (0.56)	1.047 (0.93)	2.898** (10.75)	3.635** (3.42)	2.287 (0.75)	8.553** (2.98)	0.146 (0.24)	1.947** (7.44)
HusbAge	0.021** (4.80)	0.003 (0.26)	0.011** (3.07)	-0.001 (-0.09)	0.003 (1.26)	0.008 (0.65)	0.024** (4.12)	0.031** (2.86)	0.030** (10.28)	-0.002 (-0.29)	-0.043** (-4.92)	-0.087 (-1.39)	0.025** (7.28)	0.003 (1.18)
AgeDifference		0.024 (0.74)	-0.022 (-0.76)	-0.026 (-0.50)	-0.003 (-0.23)	0.004 (0.14)	0.009 (0.58)	-0.022 (-0.60)	-0.026** (-2.72)	-0.018 (-0.74)	-0.008 (-0.29)		-0.001 (-0.05)	-0.034 (-1.46)
Children < 12	-0.103** (-2.20)	-0.064 (-0.52)	-0.017 (-0.72)	-0.185** (-2.66)	-0.057* (-1.90)	-0.086 (-0.56)	-0.052 (-0.93)	-0.013 (-0.13)	-0.096** (-4.30)	-0.070 (-1.05)	-0.013 (-0.37)	-0.156 (-0.98)	0.010 (0.31)	0.019 (0.53)
Children< 16	0.012 (0.40)	-0.028 (-0.42)	-0.050** (-2.40)	0.102* (1.70)	-0.120** (-5.81)	-0.233** (-2.33)	-0.018 (-0.55)	0.047 (0.82)	0.072** (4.69)	0.010 (0.21)	-0.135** (-2.88)	-0.044 (-0.22)	-0.071** (-3.24)	-0.016 (-0.66)
HusbSeconEduc		0.498 (0.24)	0.518 (0.11)	5.785 (0.98)	-0.426 (-0.25)	1.995 (1.30)	2.466** (2.04)	1.438 (0.65)	-2.604** (-3.78)	-1.287 (-0.53)	1.398 (0.34)		2.277 (1.42)	-0.028 (-0.02)
HusbHighEduc		7.210* (1.80)	2.244 (1.26)	4.877 (1.33)	1.819 (1.31)	4.678* (1.70)	4.774** (3.45)	4.282 (0.99)	0.464 (0.80)	1.651 (0.78)	9.578** (2.66)		3.541** (2.18)	6.978** (3.10)
WifeHighEduc		-1.623 (-0.26)	-0.598 (-1.50)	-2.503 (-1.21)	-0.632 (-0.89)	-2.732 (-1.03)	-2.641** (-2.17)	-2.006 (-0.64)	1.816** (3.83)	1.631 (0.87)	-3.151** (-2.02)		-1.620 (-1.15)	-4.841* (-1.94)
HusbWage	0.087** (3.69)	0.091** (3.33)	0.032** (2.66)	-0.003 (-0.16)	0.020 (1.46)	0.118** (2.16)	0.188** (3.84)	0.022 (0.30)	0.011* (1.90)	0.004 (0.28)	0.055* (1.93)	-0.093 (-1.20)	0.105** (7.53)	0.099** (10.44)
WifeWage	0.014 (1.32)	0.026 (1.04)	0.019** (2.73)	0.017 (0.94)	0.033** (3.84)	0.009 (0.26)	-0.032 (-0.98)	0.240** (4.22)	0.016** (2.63)	0.001 (0.05)	-0.010 (-0.54)	0.017 (0.27)	0.030** (4.45)	0.028** (3.36)
HusbNon-WageInc	0.241 (1.01)	-0.785 (-0.95)	-0.166** (-2.95)	-0.030 (-0.30)	-0.577 (-1.17)	-0.220 (-0.22)	0.869 (1.25)	0.322 (0.78)	0.590 (1.58)	0.500 (0.48)	0.631 (0.25)	-3.949 (-0.73)	0.104** (3.94)	0.049** (2.59)
WifeNon-WageInc	0.034 (0.13)	-0.253 (-0.50)	0.116* (1.90)	0.143 (1.05)	0.902** (2.36)	1.905 (1.00)	-0.420 (-0.88)	1.915 (1.37)	-1.556** (-3.49)	1.506 (1.40)	0.612 (0.17)	25.491** (2.00)	0.039 (1.28)	0.019 (0.46)
WifeParticipation	-0.083 (-0.56)	-0.060 (-0.31)	-0.248** (-2.09)	-0.366** (-2.06)	-0.206 (-1.55)	-0.448 (-1.19)	0.908** (2.88)	-1.007** (-2.54)	0.085 (1.07)	-0.456** (-3.15)	0.173 (1.06)	-1.120** (-2.62)	-0.177 (-1.62)	-0.156 (-1.56)
LM	3051.17 (0.0000)	641.71 (0.0000)	5198.11 (0.0000)	1057.55 (0.0000)	2883.17 (0.0000)	232.59 (0.0000)	1176.81 (0.0000)	469.42 (0.0000)	8369.92 (0.0000)	1224.28 (0.0000)	902.67 (0.0000)	99.58 (0.0000)	1307.60 (0.0000)	1662.37 (0.0000)
Hausman 1	63.29 (0.0000)	61.82 (0.0000)	41.32 (0.0000)	13.85 (0.0859)	93.74 (0.0000)	12.20 (0.1424)	70.50 (0.0000)	16.25 (0.0390)	240.28 (0.0000)	47.08 (0.0000)	193.94 (0.0000)	24.39 (0.0020)	111.38 (0.0000)	179.32 (0.0000)
Hausman 2		1.24 (0.9963)	0.23 (1.0000)	0.13 (1.0000)	6.20 (0.6246)	0.98 (0.9984)	0.68 (0.9996)	0.18 (1.0000)	2.30 (0.9703)	0.05 (1.0000)	4.89 (0.7688)		0.18 (1.0000)	2.28 (0.9711)
Selected estimation	FE	HT	HT	HT	HT	HT	HT	HT	HT	HT	HT	FE	HT	HT

Note: t ratio in brackets. *: indicates individual significance at the 10% level. **: indicates individual significance at the 5% level. ***: indicates individual significance at the 1% level.

Table III. Income satisfaction

Variables	Ireland		Italy		Luxembourg		The Netherlands		Portugal		Spain		United-Kingdom	
	Wage earners	Self-employed	Wage earners	Self-employed	Wage earners	Self-employed	Wage earners	Self-employed	Wage earners	Self-employed	Wage earners	Self-employed	Wage earners	Self-employed
Constant	-2.150	1.634**	2.681**	1.503*	0.410	0.544	3.758**	3.505*	2.468**	2.752**	0.534	0.610	3.792*	-0.800
	(-1.25)	(2.08)	(6.20)	(1.82)	(0.28)	(0.11)	(38.02)	(4.14)	(14.09)	(14.58)	(0.70)	(0.55)	(4.86)	(-0.44)
HusbAge	0.064**	0.031**	-0.010**	0.015*	0.033**	-0.031	0.018**	0.031**	0.007**	0.000	0.028**	0.043**	0.008	0.051**
	(8.59)	(3.04)	(-2.67)	(1.87)	(2.31)	(-0.35)	(6.14)	(2.75)	(4.20)	(0.13)	(8.90)	(7.46)	(1.33)	(4.58)
AgeDifference	-0.004	-0.018	0.004	0.009	-0.048	-0.121	-0.007	0.013	0.004	0.013	0.013	-0.006	-0.005	-0.011
	(-0.10)	(-1.21)	(0.37)	(0.19)	(-1.23)	(-0.83)	(-1.50)	(0.31)	(0.53)	(0.98)	(0.67)	(-0.19)	(-0.72)	(-0.37)
Children < 12	-0.067	0.017	-0.047	-0.178**	-0.071	-0.192	-0.075**	0.002	-0.002	-0.064*	0.060**	0.133**	0.019	-0.032
	(-1.54)	(0.23)	(-1.35)	(-2.56)	(-1.28)	(-0.74)	(-3.45)	(0.03)	(-0.11)	(-1.84)	(2.25)	(2.89)	(0.55)	(-0.50)
Children< 16	-0.035	0.029	-0.066**	0.072	0.141*	0.175	-0.011	-0.025	-0.021	0.033	-0.095**	-0.146**	-0.087**	0.09
	(-1.18)	(0.64)	(-2.42)	(1.41)	(1.79)	(0.59)	(-0.74)	(-0.48)	(-1.41)	(1.40)	(-4.76)	(-4.42)	(-2.49)	(0.14)
HusbSeconEduc	7.247*	0.821	0.705	1.728	4.551	6.432	-0.561**	-1.637	1.128	-2.975	6.602	1.510	-3.559*	4.910
	(1.75)	(0.82)	(0.70)	(0.96)	(1.09)	(0.76)	(-2.74)	(-1.38)	(0.47)	(-0.92)	(1.42)	(0.17)	(-1.82)	(1.44)
HusbHighEduc	3.280	2.960**	2.341*	2.159	3.599	5.929	1.129**	2.060	2.211**	8.080**	2.508**	1.377	1.602**	3.199
	(1.36)	(2.77)	(1.70)	(0.34)	(1.35)	(0.82)	(3.48)	(1.12)	(3.92)	(2.45)	(2.05)	(0.72)	(3.39)	(1.07)
WifeHighEduc	-1.872	-0.496	-0.976	0.748	-0.003	1.790	0.261	-3.662	-0.469	-1.453	-1.798	0.508	0.068	1.048
	(-0.72)	(-0.57)	(-0.56)	(0.13)	(-0.00)	(0.46)	(0.90)	(-1.24)	(-0.22)	(-0.42)	(-1.10)	(0.17)	(0.17)	(0.71)
HusbWage	0.010	0.038	0.307**	0.197**	0.037	0.030	0.003	0.152**	0.037**	0.048**	0.037**	0.047**	0.022	(0.027
	(0.23)	(0.81)	(4.83)	(3.00)	(0.83)	(0.47)	(0.16)	(4.94)	(4.35)	(7.81)	(3.76)	(5.54)	(0.68)	(-0.67)
WifeWage	0.018	0.125**	0.099*	0.046	0.006	-0.040	0.038**	-0.041	0.016**	0.015**	0.028**	0.016	0.035	0.001
	(0.49)	(2.06)	(1.85)	(0.71)	(0.29)	(-0.63)	(4.01)	(-1.37)	(3.46)	(2.01)	(4.51)	(1.62)	(1.48)	(0.04)
HusbNon-WageInc	-6.686	-4.758	-0.949	-2.897	0.005	-0.240	-4.158**	7.322*	0.040**	0.071**	-0.086**	0.034	0.748	-3.301
	(-0.51)	(-0.73)	(-0.50)	(-0.97)	(0.04)	(-1.00)	(-3.11)	(1.86)	(2.46)	(2.49)	(-2.23)	(1.52)	(0.14)	(-0.40)
WifeNon-WageInc	-27.193	17.192	2.385	3.849	-0.367*	0.740	-0.459	-13.041**	0.044	0.037	-0.008	0.050	1.340	2.593
	(-1.39)	(0.88)	(0.68)	(0.70)	(-1.86)	(0.80)	(-0.22)	(-2.10)	(1.50)	(0.68)	(-0.15)	(0.74)	(0.17)	(0.21)
WifeParticipation	0.387*	-0.476**	-0.221	-0.171	0.749**	-0.954	0.207**	0.640**	-0.073	0.027	0.034	0.012	-0.294*	-0.673**
	(1.66)	(-1.97)	(-0.82)	(-0.53)	(2.41)	(-1.01)	(2.55)	(3.31)	(-1.04)	(0.40)	(0.34)	(0.12)	(-1.84)	(-3.46)
LM	1277.06	721.08	2132.94	649.35	246.20	20.99	6668.60	273.73	5873.75	2760.40	3354.24	967.54	1408.33	260.88
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Hausman 1	135.69	47.40	57.81	61.79	45.46	22.81	212.57	35.28	137.24	91.15	214.70	117.45	125.96	55.50
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0036)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Hausman 2	0.33	0.57	1.72	0.03	0.53	0.57	2.90	0.56	1.32	1.18	0.18	0.04	1.05	1.02
	(1.0000)	(0.9998)	(0.9885)	(1.0000)	(0.9998)	(0.9998)	(0.9406)	(0.9998)	(0.9953)	(0.9968)	(1.0000)	(1.0000)	(0.9979)	(0.9981)
Selected estimation	HT	HT	HT	HT	HT	HT	HT	HT	HT	HT	HT	HT	HT	HT

Note: t ratio in brackets. *: indicates individual significance at the 10% level. **: indicates individual significance at the 5% level. ***: indicates individual significance at the 1% level.