

Informal care, labour problems and unmet needs in the European Union-27, Croatia and Turkey

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Abstract

This paper is aimed at estimating the effects of labour problems and formal care unmet needs on informal care. Using information for 2007 from the Eurobarometer 67.3 for the EU-27, Turkey and Croatia we estimate a trivariate probit model dealing with the potential endogeneity of labour problems and unmet needs. Results suggest that conditioned on having labour problems it is more probable to observe unmet needs. However, the effect over countries is not the same. We distinguish three groups of countries. The first one were it is as probable to suffer unmet needs in the context of labour problems as vice versa. The second one were there is a lower incidence labour problems in the presence of unmet needs, which points to a higher efficiency degree of the long-term care system or a more resilient labour occupational regulation. And the final group were is a high concentration of unmet needs among those caregivers who suffer labour problems, and even in the absence of unmet needs, informal caregivers front difficulties for continuing his working life. This evidence suggest that it is necessary to promote favourable conditions for working caregivers but also that long-term care shortfalls may partially override the success of work-related policies.

JEL Codes: I11, I18, J14

Keywords: caregiver, unmet need, informal care, labour problems

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1. Introduction

The accessibility of services for dependent people depends on a multitude of factors related to the long-term care system and also to the patients themselves. On the supply side, the coverage of long-term care services, the design of public benefits packages, the volume and distribution of human resources and the existence of waiting lists can affect the degree of service accessibility (Whitehead, 1991; Guilliford, 2002). On the demand side, several patients' characteristics, such as age, socio-economic status, past experiences with health care system, benefit's perception and level of health literacy can have an impact on their decisions to seek care (Dixon et al., 2007).

The European Commission published in 2009 a communication named "Solidarity in Health: Reducing Health Inequalities in the EU", which emphasized the importance of reducing the gap in health and life expectancy between and within the Member States. In the context of an ageing population, it is important to promote longer working lives, higher productivity and higher employment rates. But usually, in the presence of illness or serious limitations for doing daily living activities, some family member tend to provide the necessary support to the patient. Caregiving exigencies may condition the way in which the family balances work and provision of informal care to family members (Haddock et al., 2006). Several research findings have estimated significant economic costs of caregiving because family caregivers take more time off from work, suffer more interruptions at work due to family matters, miss more working days and apply for more permissions without pay than their corresponding peers who are non-caregivers (Stone et al., 1987; Scharlach and Boyd, 1989; Covinsky et al., 1994; Grunfeld, 1997). Caregivers may often feel obliged to miss out on career

advancement and promotion opportunities due to their caregiving responsibilities (Stone et al., 1987; Gibeau and Anastas, 1989). All these negative consequences resulting from the caregiver role are not only stressful to the relatives, but may also damage the relationship between the caregiver and the carereceiver, and at the end might finally play a negative influence on patient's psychopathology and functioning.

Additionally, informal care provision may be in conflict with the objectives set by the Lisbon Agenda of increasing female employment rates until 60% across the EU. Therefore, improving the attention received by dependent reduces not only the risk of social exclusion, but also decreases the loss of human and economic capital, and can make a contribution for achieving full potential prosperity for Europe.

Although informal care is growing as a research issue, it has not yet been established an unequivocal effect of informal caregiving over labour supply. For example, Wolf and Soldo (1994) estimated a simultaneous equation model for the choice of care supply and labour participation on a sample of married women, but did not find a decrease in the probability of participation for women who looked after old relatives. On the other hand, Ettner (1995) took into account the possible endogeneity of informal caregiving and concluded that there existed a significant decrease in the probability of participation when the dependent individual and the caregiver were co-residents, although this effect was smaller if they did not live in the same household. In line with this result, Koh and MacDonald (2006) also found a negative relationship between participation and number of informal caregiving hours although they did not control for potential endogeneity. Regarding caregiver's characteristics, Ettner (1996) showed that the negative effect over participation was stronger for women than for men and Chang and White-Means (1995) provided evidence that low educated women suffered the biggest decrease in the labour supply when becoming caregivers, whereas Kolodinsky and Shirey (2000) found that if the older dependent co-resided with the family, the probability of participation decreased as female caregivers became older.

With respect to the evidence for Spain, it is necessary to make a reference to several studies that have used European surveys, where Spain is usually included in the group of Southern countries together with Greece and Italy. Spiess and Schneider (2002), with data from the European Community Household Panel (ECHP), observed a significant reduction in the number of weekly working hours and the moment of becoming a caregiver. Viitanen (2005) took into account several aspects (specific country effects, unobserved heterogeneity and state dependence) not considered in the previous work, and concluded that middle aged women were the most affected group regarding labour supply. Moreover, for the case of single women, this lower participation rate provoked an increase in the probability of being under the poverty threshold during their oldness. One of the few studies focused exclusively on the Spanish case is Casado et al. (2006) who came up to two significant conclusions. First, they did not observed a significant effect of caregiving over working women, but a significant decrease in employment opportunities for those who were inactive or unemployed. Second, there existed labour opportunity costs in cases where the dependent individual and the informal caregiver were co-residents, but not in situations in which the caregiver lived outside dependent's household. More recently, Crespo (2008) using data from Survey of Health, Ageing and Retirement in Europe (SHARE) analysed labour supply of middle aged

women who provided informal care to older parents. Attending to a classification of countries with respect to social services characteristics and intensity of informal care, she found a significant negative relationship between informal care and participation probability, for both northern and southern countries. This evidence was stronger when informal care was considered as an endogenous variable in labour supply equation.

In this study, we address the issue of informal care and consequences over working life by incorporating the perspective of unmet needs. We consider that a need can be defined as the requirements of individuals to achieve, maintain or restore an acceptable level of social independence or quality of life (McCrone et al., 2001). Applying this concept to long-term care services, we consider that an unmet needs problem arises when the dependent individual has applied for formal care (Home Care, Day Centre, Residential Home), but he has not been awarded with the service, or when he receives it, but not in the quantity or with the quality desired. The causes of the unmet needs problem are diverse, for example: insufficient coverage (staff or places), excessive cost or co-payment, insufficient number of home care hours. In this sense, we hypothesize that more unmet needs for formal care lead to more adverse consequences over the caregiver, and particularly, more problems to reconcile caregiving responsibilities and professional career.

For this purpose, we have used data from the Eurobarometer EB67.3 “Health and long-term care in the European Union”¹ because it has the advantage of providing information about informal care, labour problems and unmet needs of the EU-27 and other two candidates countries for entering in the European Union (EU), that is, Croatia and Turkey. We consider that this constitutes a good opportunity for exploring similarities and differences of informal caregiving behaviour and its consequences across the EU, including also potential countries for the European enlargement, because if Turkey and Croatia finally enter into the EU, their long-term care systems will become a competence of the European Commission through the Employment, Social Affairs & Equal Opportunities DG. In spite of this advantage, we face certain drawbacks, because we ignore if the events studied happen sequential or simultaneously. First, we ignore if the individual became an informal caregiver because the dependent individual suffered an unmet needs problem or if this problem issued after becoming caregiver. Second, we ignore if the caregiver decided to adapt his labour schedule to caregiving exigencies from the very first moment of becoming caregiver or if he continued normally with his working life until it was impossible to reconcile both of them. Third, we ignore if the caregiver was working and at the same time providing care until an unmet need problem arose (for example, he demanded more Home Care hours and the application was rejected), and as a consequence of this increase in caregiving responsibilities, the caregiver began to have labour problems.

The simultaneous estimation of three probits equations for “being an informal caregiver”, “having labour problems due to caregiving tasks” and “suffering formal care unmet needs” constitutes a simple method to deal with the endogeneity problem (Greene, 1998). Moreover, we have introduced exclusion restrictions, although the identification of a

¹ http://ec.europa.eu/public_opinion/archives/ebs/ebs_283_en.pdf.

simultaneous probit model does not formally require them (Wilde, 2000), and we have also taken into account the correlation between the unobservables by explicitly estimating the correlation matrix of the residuals.

The main contributions of this work are (a) the estimation of the effect of formal care unmet needs and labour problems on informal care in a model dealing with endogeneity of these variables (b) the test for the positive influence of unmet needs on labour problems. Our results show that conditioned on having labour problems it is more probable to observe formal care unmet needs. We can differentiate three groups of countries. The first group composed by eleven countries (Belgium, Germany, Italy, Luxembourg, Finland, Cyprus, Czech Republic, Latvia, Lithuania, Poland and Bulgaria) for which both events are complementary. In this situation the caregiver can not rely on long-term care support to alleviate his burden, and informal care acts as a substitution for formal one. The second group composed by seven countries (Denmark, France, Ireland, Portugal, Sweden, Estonia, Turkey) where there is a lower probability of suffering labour problems in the presence of unmet needs. In this case, whether because caregivers are more protected from the point of view of occupational regulation, whether because the national long-term care system is more efficient, the result is that caregiver's labour situation is less permeable to unmet needs. The third group is composed by eleven countries (Greece, Spain, Netherlands, United Kingdom, Austria, Hungary, Malta, Slovakia, Slovenia, Romania, Croatia) where there is a high concentration of unmet needs among those caregivers who suffer labour problems, and even in the absence of unmet needs, informal caregivers front difficulties for continuing his working life.

The article is organised as follows. Section 2 set up the econometric model which guides our empirical work. Section 3 discusses the data and gives a description of informal caregivers across the EU. Section 4 reports the empirical results and the robustness analysis. Section 5 discusses the predictions of the model, and finally section 6 concludes.

2. Econometric method

Our empirical model is intended to test the effect of labour problems and formal care unmet needs on the probability of being informal caregiver. If when the dependent individual suffers an unmet needs problem, one of the family members reacts providing the necessary amount of care, then informal care acts as a "mattress", offsetting formal care deficiencies. Independently of having labour problems due to caregiving responsibilities, the emergence of unmet needs may have a significant bearing over labour problems. Therefore, dysfunctions of the long-term care system can give birth to the lowering of the level of economic well-being of the caregiver, not only at present, but also in the coming years due to the reduction in retirement benefits.

Thereby our simultaneous probit model includes two endogenous discrete variables on the right hand side (labour problems and existence of unmet needs in the caregiving equation, and unmet needs in the labour problems equation). This type of simultaneous model requires a coherency condition, which imposes a triangular form (Maddala, 1983; Blundell and Smith, 1994). This coherency condition establishes that the variable "informal caregiver" cannot be introduced in any of the other two equations, nor the variable "labour problems" in the unmet needs equation. Of course, informal caregiving intensity is likely to affect the emergence of labour problems (for example, fulfilling of labour schedules) and it may also influence the propensity to apply for formal care and consequently the appearance of unmet

needs. To account for these influences while satisfying the coherency condition, we are restricted to include all the exogenous variables influencing informal caregiving in the other two equations. Therefore, we take into account the effect of observable characteristics determining informal caregiving probability on both labour problems and formal care unmet needs equations. In the same way, all the variables determining the latent variable of labour problems are included in the unmet needs equation to take into account the potential effect of having labour problems on the probability of suffering unmet needs.

A potential problem arises from the fact that the unobservables influencing informal caregiving are not taken into consideration, in particular, in the unmet needs equation. This would likely turn out in non negligible correlation between the error terms of the informal caregiving and unmet needs equations. The simultaneous probit model makes sure that this correlation is explicitly dealt with, as the correlation matrix of the error terms is estimated. Consequently, the simultaneous probit model to be considered is a model in which there is one equation of interest (probability of becoming an informal caregiver) and the other two equations are nothing but reduced forms. From this point of view, what is important in order for the effects of labour problems and unmet needs in the informal caregiving equation to be identified, is to have relevant exclusion restrictions.

To sum up, the observed variables IC , LP , UN referring respectively to informal caregiver, labour problems and unmet needs are defined as: $IC = 1(IC^* > 0)$, $LP = 1(LP^* > 0)$, $UN = 1(UN^* > 0)$, where IC^* , LP^* and UN^* are latent variables influencing the probability of informal caregiving, the probability that the informal caregiver suffers labour problems and the probability of suffering unmet needs of formal care. The system of latent variables is as follows:

$$\begin{aligned} IC^* &= \alpha_1 X_1 + \beta CR^* + \gamma UN^* + \varepsilon_1 \\ LP^* &= \alpha_2 X_2 + \delta UN^* + \varepsilon_2 \\ UN^* &= \alpha_3 X_3 + \varepsilon_3 \end{aligned} \quad (1)$$

where X_1 is a vector of exogenous variables including a constant, gender, age, marital status and kinship between dependent individual and informal caregiver (each of them being a set of dummy variables); X_2 includes the same set of variables as X_1 and dummies for being working before becoming caregiver and professional situation (single professional, business proprietor, white collar, qualified worker and non-qualified worker)²; X_3 includes the same set of variables as X_2 and dummies for community size (rural, small/middle village, big city) and the property of certain durable goods (car, personal computer and fixed telephone). Due to the absence of information about household income we have introduced the ownership of certain durable goods as an indicator of available financial resources, which

² *Single professional* (farmer, fisherman, professional (lawyer, medical practitioner, accountant, architect); *Business proprietor* (owner of a shop, other self-employed person, owner (full or partner) of a company); *White collar* (employed professional (employed doctor, lawyer, accountant, architect), general management, director or top management, middle management (junior manager, teacher, technician); *Qualified worker* (employed position, working mainly at a desk; employed position, not at a desk but travelling (salesman, driver, etc); employed position, not at a desk, but in a service job (hospital, restaurant, police, fireman, etc), supervisor, skilled manual worker), *Non-qualified worker* (unskilled manual worker, servant).

implicitly may condition the acquisition of formal care³ (in many countries benefits are subject to mean-test). On the other hand, the variable community size accounts for the effect of insufficient coverage of social resources for dependent people or may gather the effect of different regional policies.

As we assume that the onset of informal caregiving may be affected by unobserved characteristics influencing simultaneously the emergence of labour problems and/or unmet needs, the correlation terms between the residuals of the three probits ($\varepsilon_1, \varepsilon_2, \varepsilon_3$) are all supposed to be non zero. The vector of residuals follows a normal trivariate distribution with zero means and covariance matrix with variances normalized to 1:

$$Cov(\varepsilon_1, \varepsilon_2, \varepsilon_3) = \begin{bmatrix} 1 & \rho_{12} & \rho_{13} \\ \rho_{12} & 1 & \rho_{23} \\ \rho_{13} & \rho_{23} & 1 \end{bmatrix} \quad (2)$$

This system can be estimated by maximum likelihood. Endogeneity tests are used to test the significance of instruments used and the correlation coefficients of the residuals for each equation (see section 4.1). Furthermore, although our identification strategy allow us to deal with the endogeneity of labour problems and unmet needs, estimated effects would still be suspected to suffer from other random biases. For example, random shocks common to all individuals subjected to the same long-term care regional policy, which are known to generate correlated effects. In our sample, the number of regions by country varies between 28 for Belgium and 4 for Slovakia and Latvia. For Spain, we have 17 regions because Ceuta and Melilla were omitted in the sample. To avoid this problem, we have built clusters by regions and obtained adjusted standard errors which account for the potential dependence of residuals within regions (Wooldridge, 2003). Then, individual contributions to the likelihood can be written as:

$$P[IC_i, LP_i, UN_i] = \Phi_3 \left[\begin{array}{l} q_{1i}(\alpha_1 X_{1i} + \beta LP_i + \gamma UN_i), q_{2i}(\alpha_2 X_{2i} + \delta UN_i), q_{3i}(\alpha_3 X_{3i}), \\ q_{1i}q_{2i}\rho_{12}, q_{1i}q_{3i}\rho_{13}, q_{2i}q_{3i}\rho_{23} \end{array} \right]$$

$$q_{1i} = 2IC_i - 1 = \begin{cases} 1 & \text{if } IC_i = 1 \\ -1 & \text{if } IC_i = 0 \end{cases} \quad q_{3i} = 2UN_i - 1 = \begin{cases} 1 & \text{if } UN_i = 1 \\ -1 & \text{if } UN_i = 0 \end{cases} \quad (3)$$

$$q_{2i} = 2LP_i - 1 = \begin{cases} 1 & \text{if } LP_i = 1 \\ -1 & \text{if } LP_i = 0 \end{cases}$$

where Φ_3 is the trivariate normal cumulative distribution function. The likelihood function is then:

$$\ln L = \sum_{i=1}^N \ln P[IC_i, LP_i, UN_i] \quad (4)$$

The computation of individual contributions requires the integration over the distribution of the vector of three error terms, which means the complex calculation of a triple integral. Simulated maximum likelihood methods have been developed to circumvent this problem. One of the simulators used is the Geweke-Hajivassiliou-Keane (GHK) simulator. The accuracy of the GHK simulator is good as long as the number of random draws is equal or higher that the square

³ Several studies (Headey et al., 2007; Alessie and de Ree, 2009) have shown two important facts related to durables ownership. First, durables ownership is clearly hump shaped over life cycle and therefore durables consumption seems to track income over the life cycle. Second, economic well-being measured as durables consumption affects more life satisfaction than income.

hood of the sample size (Cappelari and Jenkins, 2003). Given that the number of observations per country varies between 326 for Luxembourg and 971 for Germany, for each estimation, we have used 100 replications, which is far above this threshold.

3. Data

In this paper we have used information from the Eurobarometer EB67.3 “Health and long term-care in Europe” carried out by the European Commission in 2007. The advantage of the Eurobarometer is that it gathers information from 29 countries (27 countries of the European Union, Croatia and Turkey). In comparison with other surveys, the ECHP only provides information for 15 countries⁴ and although it has the advantage of being a panel, it has only covered the period 1994-2001. On the other hand, the first wave of the SHARE gathered information from 11 countries⁵ which have risen to 14 in the second wave (2006) with the addition of Israel, Czech Republic and Poland.

The Eurobarometer 67.3 provides information of 28.660 individuals, aged between 15 and 100 years, living in 29 European countries. We have dropped individuals younger than 25 years to avoid the collusion of formal education with labour participation and caregiving responsibilities (58.80% of individuals younger than 25 are studying). We have also dropped observations older than 64 year because most of them are retired (86.90%) or doing housework (8.90%). The final sample has 18.711 observations, and the country sample size varies between 322 observations for Malta and 971 for Germany⁶. In spite of all these advantages, the Eurobarometer has also several drawbacks. We are not able to study the relationship between caregiving intensity, labour problems and unmet needs because information about caregiving hours is not available. Furthermore, we ignore the number of caregiving years, if the dependent individual and the informal caregiver are co-resident or not, and if the informal caregiver receives support from other family members. Regarding relation with economic activity, we ignore if the caregiver is household’s main-breadwinner, and we only know if the caregiver has had problems at work as a consequence of caregiving tasks, but we ignore if he reduced the number of working hours, he applied for a temporal permission or he gave up a promotion to higher-post.

We have defined “informal caregiver” as a binary variable that takes the value 1 when the respondent has been involved in helping another person in one of the following ways: cooking and preparing meals, doing shopping, cleaning and household maintenance, taking care of finance, help with feeding, help with mobility, help with dressing, help with using the toilet or help in bathing or showering. We obtain that 5.080 individuals aged 25-64 years became informal caregivers at a certain moment of their lives. For all countries surveyed, a national weighting procedure was carried out based on information about gender, age, region and size of locality using Eurostat information and national statistics offices. Using these sample weights we are able to extrapolate sample figures and obtain an approximation of the number of

⁴ Belgium, Denmark, United Kingdom, Germany, Netherlands, Luxembourg, France, Ireland, Italy, Greece, Spain and Portugal. Austria entered in 1995, Finland in 1996 and Sweden in 1997.

⁵ Austria, Belgium, Denmark, France, Germany, Greece, Italy, Spain, Sweden, Switzerland and Netherlands.

⁶ Number of observations by country: Belgium (660), Denmark (699), Germany (971), Greece (598), Spain (602), Finland (643), France (682), Ireland (701), Italy (758), Luxembourg (326), Netherlands (703), Austria (761), Portugal (645), Sweden (680), United Kingdom (780), Cyprus (322), Czech Republic (744), Estonia (565), Hungary (636), Latvia (653), Lithuania (623), Malta (351), Poland (599), Slovakia (745), Slovenia (604), Bulgaria (644), Romania (692), Croatia (684), Turkey (630).

informal caregivers by age, sex and country (see Table 1). Approximately, there are 61 millions (58.16% women and 41.84% men) of informal caregivers in the EU-27, being Germany (9 millions), Finland (8.6 millions), Ireland (7.7 millions) and Turkey (7 millions) the countries with most informal caregivers. Comparing the number of informal caregivers with total population of the same age and gender, we observe that Cyprus, Malta and Belgium attain the highest percentage of informal caregivers for the cohorts aged 35-44, 45-54 and 55-64 years, respectively. The preponderance of informal caregivers is overwhelming in some countries. For example, 53.48% of Maltese women aged 45-54 years and 57.98% of Belgium women aged 55-64 years are informal caregivers. For the average of the EU-27, the percentage of informal caregivers rises with age and it is always higher for female (from 19.01% at 25-34 years to 38.83% at 55-64 years for women and from 13.57% to 31.01% for men).

The percentage of Spanish caregivers is only above the mean of EU-27 for female caregivers aged 25-34 and 35-44 years. On average, 21.30% of Spanish population (27.00% for women and 15.66% for men) are informal caregivers. These figures are quite surprising given that Spain has traditionally been considered as a country with strong family ties. However, other authors have also found similar results. Casado et al. (2006) using data from the ECHP(1994) found a prevalence rate of 12% for women and 4% for men, and women aged 30 to 60 years showed a prevalence rate of above 15%. On the other hand, Crespo (2008) using a sample of women aged 50 to 60 years with at least one parent living from the SHARE (2004) found that the percentage of caregivers in Spain, Greece and Italy was smaller than those obtained for Sweden, Denmark and Netherlands.

Table 2 shows labour participation by country, age and gender. With the exception of Bulgaria, Cyprus, Latvia and Lithuania, the percentage of active and working people with respect to total population is higher among non-caregivers as compared to caregivers. If we distinguish by age intervals, we observe that the percentage of working & non-caregivers with respect to working & caregivers is 14.87 pp higher for individuals aged 25-34 in Germany, 15.23 pp higher for those aged 35-44 in Luxembourg and 18.95 pp higher the interval 55-64 years in Poland. For the case of Spain, the percentage of working & non-caregivers is 8.83, 9.59, 6.95 and 9.05 pp higher for the four age intervals considered, when compared to working & caregivers. However, we also observe certain divergences in the behaviour of Italy, Cyprus, Latvia, Bulgaria and Croatia because for some age intervals the fraction of working caregivers is higher than the fraction of working non-caregivers (for example, 10.02 pp higher in Cyprus for 25-34 years, 12.08 pp higher in Latvia for 45-54 years and 5.14 pp higher in Italy for 55-64 years).

Regarding the characteristics of informal caregivers, around 80% of European caregivers look after their parents (with a maximum of 90.84% in Netherlands and 90.02% in Spain and a minimum of 69.04% in Austria). In second place, around 10% of European caregivers look after their spouse (maximum 24.10% in Romania and 23.61% in Austria). The emergence of labour problems derived from caregiving responsibilities is 20 pp higher for male European caregivers as opposed to female (29.54% with respect to 49.68%). We observe a peculiar geographical distribution patten for the emergence of unmet needs. As we have said, these unmet needs may arise due to insufficient long-term care resources or because dependent had to do without them due to the costs they had to pay. With the exception of Italy, Netherlands,

Portugal, Austria, Finland, Cyprus and Czech Republic the percentage of unmet needs is higher in big cities as compared to rural areas.

Durables ownership can be interpreted as a signal of economic development or financial sustainability. We observe that only 17.74% of Croatian caregiver families own a PC as opposed to 93.40% for Danish families. And only 11.21% of Romanian caregiver families own a car as opposed to 94.66% for Dutch families. Finally, the professional situation before becoming caregiver may be a significant factor concerning the appearance of labour problems. For example, Turkey achieves the highest percentage of business proprietors (10.03%) and Malta the highest percentage of non-qualified workers (38.70%) and we appreciate that the percentage of caregivers with labour problems is also among the highest for these two countries (47.45% and 96.21% for Turkish men and women and 75.89% for Maltese women).

4. Empirical results

4.1. Robustness analysis

To be valid, our exclusion restrictions must verify two conditions. First, they have to be correlated with the endogenous variables “labour problems” and “unmet needs”, which they are supposed to explain, and second, they must not be correlated with the error terms of the equations they are supposed to identify.

Therefore, we have to check the relevance of our exclusions: that “being working before becoming caregiver” and “professional situation” (single professional, business proprietor, white collar, qualified worker, non-qualified worker) affect the probability of having labour problems, and that “community size” and “durables ownership” (PC, car, telephone) influence the probability of suffering unmet needs. The second condition refers to the assumption that excluded variables have, after conditioning on other covariates, no correlation with the error term of the informal caregiving equation.

Table 9 provides a robustness analysis. Several diagnosis tests have been conducted to assess the reliability and efficiency of the IV estimator. We present the results of the Hansen’s J statistic (Hansen, 1982), which is an overidentification test for the validity of the instruments for models when the number of instruments exceeds the number of endogenous regressors. Second, we report that F test of joint significance of the instruments in each first-stage regression (Staiger and Stock, 1997). Third, we present two underidentification tests, namely Kleibergen-Paap LM and Wald statistics for testing if the equation is identified (Kleibergen and Paap, 2006). We also include two statistics that provide weak instrument robust inference for testing the significance of the endogenous regressors in the structural equation that has been estimated: the Anderson and Rubin test (1949) and the Stock and Wright LM test (2000). The null hypothesis in both cases is that the coefficients of the endogenous regressors in the structural equations are jointly zero, and in addition, that the presence of overidentifying restrictions are valid. Both tests are robust to the presence of weak instruments.

Our results pass the full battery of diagnostic tests (see Tables 9.A and 9.B). First, the F test for the caregiving equation and the labour problems equation shows joint significance for the instruments. Hansen’s J statistic is reported in column 2 of Table 9.A) and 9.B) and all for all countries we can not reject the null than instruments are properly excluded. In

addition, the Kleibergen-Paap LM and Wald test always reject the null hypothesis that the equation is underidentified. The Anderson-Rubin Wald and Stock-Wright LM tests easily reject the joint significance of the endogenous regressors (weak instruments tests) in all models. Finally, looking at the partial R^2 of the instruments in the first stage regression, we can see that the instruments explain between the 48% and 70% of the variation in the caregiving variable (holding constant other controls) and between the 47% and 70% of the variation of the labour problems variable.

4.2. Estimation results

Tables 4 to 8 show the estimated coefficients for the trivariate probit model for the 29 countries. The correlation coefficient ρ_{12} is positive significant in Belgium, Germany, Italy, Estonia, Hungary, Latvia, Slovenia, Slovakia and Romania, indicating that unobservables that increase caregiving probability also increase the emergence of labour problems. The correlation coefficient between the error terms of the labour problems and unmet needs equation (ρ_{23}) is significantly different from zero at the 5% level in Denmark, Finland, France, Ireland, Italy, Luxembourg, Netherlands, Austria, Sweden, United Kingdom, Cyprus, Malta, Poland, Slovakia, Slovenia and Turkey, showing that formal care unmet needs is endogenous in the labour problems equation and that coefficients estimated from a simple probit are biased. This correlation is positive, suggesting that individuals with a higher propensity for labour problems than explained by their observed characteristics are more likely to look after a dependent individual with formal care unmet needs. Finally, the correlation coefficient (ρ_{13}) is positive and significantly different from zero at the 5% level in the Southern countries (Greece, Spain, Italy, Portugal), some of the new incoming countries (Bulgaria, Czech Republic, Estonia, Lithuania, Poland, Slovakia) and the two candidate countries (Croatia and Turkey). This result suggests that unobservables affecting the probability of becoming caregiver are positively correlated with those increasing the probability that the dependent individual suffers unmet needs problems. These countries have the common feature of no possible choice between benefits in cash and benefits in kind or no possible accumulation of both types of benefits.

Regarding the kinship between the caregiver and the carereceiver, we observe that for all countries the probability of becoming caregiver increases when the carereceiver is the father/mother or the son/daughter, and in nearly all, when the dependent is the spouse or the brother/sister. On the other hand, the probability of having labour problems due to caregiving tasks increases when the dependent individual is the father/mother (17 countries), son/daughter (14 countries), brother/sister (8 countries) and spouse (6 countries).

Working caregivers aged between 55-64 years (omitted category) tend to suffer more labour problems with respect to younger cohorts, and at the same time, in certain countries (Belgium, Germany, Spain, Ireland, Austria, Cyprus, Czech Republic, Estonia, Poland and Slovakia) the probability of becoming caregiver increases significantly as the individual gets older. For all countries, men show a lower probability of being caregiver, and in case of becoming caregivers, male's probability of suffering labour problems is smaller in 9 countries (Denmark, Germany, Greece, Finland, Ireland, Austria, Czech Republic, Latvia and Lithuania).

With respect to the unmet needs equation, living in a rural area or small municipality significantly reduces the probability of suffering unmet needs problems in Belgium, Denmark, Sweden, Czech Republic, Italy, Lithuania, Poland and Slovakia. All these countries share the feature⁷ that local authorities are obliged to establish a framework and to set targets for both private and public providers for personal and practical assistance and are responsible for documenting and ensuring the quality of task management⁸. For the three binary variables concerning durables' ownership, having a personal computer is the most significant. In Ireland, Italy, Portugal, United Kingdom, Cyprus, Czech Republic, Hungary, Lithuania, Slovakia, Slovenia and Romania increases the probability of unmet needs. Trying to find an explanation to this result, we have reviewed the characteristics of their long-term care systems, and we have verified that benefits in these countries are subject to means-test. Although there are other countries that use this system (Belgium, Malta, Austria, Poland and Croatia) but it should be considered as a possible connexion between both events.

5. Predictions

Table 10 shows the predicted probabilities from the three probit system. The probability of becoming caregiver without having labour problems and conditioned on no unmet needs problem (last column of Table 10) is maximum in Sweden (0.8035) and Denmark (0.7843) and minimum in Turkey (0.2650). However, conditioned on having unmet needs the probability of becoming caregiver and having labour problems is higher than the probability of not having them (first and second column of Table 10). Turkey (0.8543) and France (0.7403) attain the maximum probability and the minimum corresponds to Hungary (0.3203) and United Kingdom (0.4620). For the extreme case of Turkey, this can be interpreted as if caregiver's relied first on formal care and in the absence of a satisfactory attention, he reacted becoming a caregiver in spite of suffering labour problems.

Regarding the effect of labour problems (Table 11), we appreciate that for all countries, predicted probabilities in the first column are bigger than the second one, that is, conditioned on having labour problems it is more probable to observe formal care unmet needs. This probability reaches its maximum in Malta (0.7983) and Netherlands (0.7541) and its minimum in Sweden (0.4703) and Luxembourg (0.4890). To a certain extent both events are complementarities, which make more difficult for the caregiver by himself to find a solution for this situation. We argue that if labour problems were not accompanied by unmet needs problem, the caregiver could rely on long-term care support to alleviate his burden, but if the caregiver has accepted his role as a consequence of a deficiency or inadequacy of social services for dependent people, the informal caregiver may feel as in a blind alley. This argumentation of complementarity is confirmed because the probability of being caregiver conditioned on not having labour problems, is bigger when there are no unmet needs problems (third and fourth columns).

A common feature between Tables 10 and 11 is that Sweden attains the maximum probability of being caregiver with no labour problems, conditioned on no unmet needs (0.8035) and the minimum probability of being caregiver with unmet needs, conditioned on suffering labour problems (0.4703). The fact that in 2006 Sweden devoted the largest fraction to

⁷ See MISOCC Analysis (2009) for a detailed description of European long-term care programs.

⁸ Long-term care systems in Estonia, Ireland, Slovenia and Malta are also regionally organised.

long-term care services with respect to GDP (3.61%, 1246.88 €/inhabitant)⁹ should be received with optimism, because it implies that if other countries emulated Swedish behaviour, the efficiency degree of their national long-term care systems would improve notoriously. Comparing $\Pr[\text{Caregiver}=1, \text{Unmet}=1 | \text{Problems}=1]$ with $\Pr[\text{Caregiver}=1, \text{Problems}=1 | \text{Unmet}=1]$, and $\Pr[\text{Caregiver}=1, \text{Problems}=1 | \text{Unmet}=0]$ with $\Pr[\text{Caregiver}=1, \text{Unmet}=1 | \text{Problems}=0]$ we appreciate three group of countries. First, a group of countries where the difference between each pair of probabilities is negligible¹⁰. Second, some countries (Greece, Spain, Netherlands, United Kingdom, Austria, Hungary, Malta, Slovakia, Slovenia, Romania, Croatia) where the first probability of each pair is much larger than the second one. The interpretation is that even in the absence unmet needs it is very probable to suffer labour problems, so independently of inefficiencies in long-term care system, there exists an adaptation problem to labour conditions among caregivers. Third, some countries (Denmark, France, Ireland, Portugal, Sweden, Estonia, Turkey) were the first probability of each pair much smaller than the second one. In these countries, in spite of mismatch problems between dependent's demands and the amount of services received, it is less probable that caregiver's labour situation will be damaged.

Table 12 shows the probability of being caregiver by gender. For men, it varies between 0.41 (Germany) and 0.7636 (Malta), and for women, between 0.4721 (Portugal) and 0.7653 (Malta). The difference between gender is minimum in Malta (0.0017 pp) and Ireland (0.0173 pp), and maximum in Czech Republic (0.1434 pp) and Hungary (0.1288 pp). Several studies (Ettner, 1995; Koh and MacDonald, 2006) have shown that care duties are more often accomplished by women than by men. In the presence of having labour problems, the probabilities of becoming caregiver are still higher for women, although smaller than the total probability of becoming caregiver. For men, it varies between 0.04 (Denmark) and 0.3927 (Slovenia), and for women, between 0.117 (Denmark) and 0.6817 (Malta). The distance between genders is minimum for Estonia (0.0003 pp), Finland¹¹ (0.0169 pp) and Spain (0.0304 pp), and maximum for Greece (0.4138 pp) and Malta (0.4163 pp).

Table 13 shows the probability that a working caregiver has labour problems conditioned on professional situation. For the five categories considered (single professional, business proprietor, white collar, qualified worker and non-qualified worker), Denmark and Germany show the lowest predicted probabilities, which may be connected by certain peculiarities of their long-term care systems. In the Danish case, there exists a clear division between family care and state provided services. Home help covers mainly personal care and houseworking tasks whereas family care is considered as a stimulation tool to remain socially active. Consequently, personal care is considered as a responsibility of the state and not of the family. In Germany, flexible working time is mostly available and the arrangement of part-time work and home care is widespread, specially for women. Besides that, labour policies providing support to working caregivers are particularly developed in both countries. In Denmark, a person who wishes to take care of a closely related person suffering an important disability can be employed by the municipality where the disabled person lives.

⁹ We have used data for 2006 (Eurostat; Health Statistics) because our survey corresponds to year 2007.

¹⁰ Belgium, Germany, Italy, Luxembourg, Finland, Cyprus, Czech Republic, Latvia, Lithuania, Poland and Bulgaria

¹¹ In Finland, caregivers who have made an agreement with the municipality have right to 3 free days per month.. It is possible to take a paid leave in order to care of a dependent person (relief service).

And in Germany, employees have an entitlement to unpaid leave for up to 6 months in order to take care of a relative, and their family health insurance and pension insurance continues via the long-term care insurance fund.

By the contrary, Belgium exhibits one of the highest probabilities for having labour problems. Two of the main drawbacks of the Belgian long-term care system are that it relies only on benefits in cash (no benefits in kind) and there are not specific measures to reconcile labour and family life (the employee can only take a home-care leave conditioned on the willingness of the employee). Finally, we also observe that for eleven countries¹², individuals working as single professionals (lawyer, medical practitioner, accountant, architect, farmer, fisherman) experience the highest probabilities of labour problems. On the contrary, for all countries with the exception of Italy, Portugal and Slovakia, non-qualified workers suffer the least the impact of labour problems.

6. Conclusions

The objective of the present paper was to examine how caregiving probability is influenced both by labour problems and formal care unmet needs. With respect to previous work, we consider labour problems and formal care unmet needs as potentially endogenous variables. Therefore, we estimate simultaneously three probit equations relating respectively to informal care, labour problems and unmet needs. Our results provide support to the hypothesis according to which unmet needs would affect the probability of becoming caregiver, and in particular, would increase the probabilities of incompatibility between caregiving responsibilities and labour participation.

As a final remark, this paper emphasizes that policy makers should encourage carers to remain in paid work as this enables them to have an independent life, avoid burn-out and help them to sustain the caregiver's role. Many countries have deployed market labour policies that make easier for informal caregivers to juggle working and caregiving responsibilities. We have appreciated that the lower probability of having labour problems in certain countries (Germany, Denmark) could be associated to the implementation of measures for reconciling labour and care. Nevertheless, this paper has provided evidence that these measures could not generate the expected results in terms of employment rates, if caregiving responsibilities grow over a certain threshold the informal caregiver may not be able to meet both tasks. In particular, if caregivers' overload is provoked by formal care unmet needs, he may feel obliged to step down from his job or take leave from employment. On this basis, long-term care shortfalls may partially override the success of work-related policies.

References

- Alessie, R., De Ree, J., (2009). Explaining the hump in life cycle consumption profiles. *De Economist* 157, 107-120.
- Anderson, T., Rubin, H., (1949). Estimation of the parameters of a single equation in a complete system of stochastic equations. *Annals of Mathematical Statistics* 20, 46-63.
- Blundell, R., Smith, R. (1994). Coherency and estimation in simultaneous models with censored or qualitative dependent variables. *Journal of Econometrics* 64, 355-373.
- Cappelari, L., Jenkins, S. (2003). Multivariate probit regression using simulated maximum likelihood. *The Stata Journal* 3(3).
- Casado, D., García-Gómez, P., López, A. (2006). Labor and income effects of caregiving across Europe: an evaluation using matching techniques. HEDG Working Paper 08/23.
- Chang, C., White-Means, S. (1995). Labor supply of informal caregivers. *International Review of Applied Economics* 9, 192-205.

¹² Spain, Netherlands, Austria, Sweden, Cyprus, Estonia, Lithuania, Malta, Poland, Bulgaria, Turkey.

- Commission of the European Communities (2009). *Solidarity in health: reducing health inequalities in the EU*. Brussels. Commission of the European Communities. COM 567.
- Covinsky, K., Goldman, L., Cook, E. (1994). The impact of serious illness on patient's families. *The Journal of American Medical Association* 272(23), 1839-1844.
- Crespo, L. 2008. Caring for parents and employment status of European mid-life women. CEMFI. Working Paper 0615.
- Dixon, A., Le Grand, J., Henderson, J., Murray, R., Poteliakhoff, E., (2007). Is the British National Health Service equitable? The evidence on socio-economic differences in utilisation. *Journal of Health Services Research and Policy* 12(2), 104-109.
- Ettner, L. (1995). The impact of "parent care" on female labor supply decisions. *Demography* 32, 63-80.
- Ettner, L. (1996). The opportunity costs of elder care. *Journal of Human Resources* 31, 189-205.
- Gibeau, J., Anastas, J. (1989). Breadwinners and caregivers: interviews with working women. *Journal of Gerontological Social Work* 14(1-2), 19.20.
- Greene, W. (1998). Gender economic courses in liberal art colleges: further results. *Journal of Economic Education* 29, 291-300.
- Grundfeld, E. (1997). Caring for elderly people at home: the consequences to caregivers. *Canadian Medical Association Journal* 157(8), 1101-1105.
- Gulliford, M., Figueroa-Muñoz, J., Morgan M., Hughes, D., Gibson, B., Beech, R., Hudson, M., (2002). What does access to health care mean? *Journal of Health Services Research and Policy* 7(3), 186-188.
- Haddock, S., Zimmerman, T., Lyness, K., Ziemba, S. (2006). Practices of dual earner couples successfully balancing work and family. *Journal of Family and Economic Issues* 27(2), 207-234.
- Hansen L., (1982). Large sample properties of generalized method of moments estimators. *Econometrica* 50(3), 1029-1054.
- Headey, B., Muffels, R., Wooden, M., (2007). Money does not buy happiness: or does it? A reassessment based on the combined effects of wealth, income and consumption. *Social Indicators Research* 87, 65-82.
- Kleibergen F., Paap, R., (2006). Generalized reduced rank tests using the singular value decomposition. *Journal of Econometrics* 133, 97-126.
- Koh, S., MacDonald, M. (2006). Financial reciprocity and elder care: interdependent resource transfers. *Journal of Family and Economic Issues* 27, 420-436.
- Kolodinsky, J., Shirey, L. (2000). The impact of living with an elder parent on adult daughter's labor supply and hours of work. *Journal of Family and Economics Issues* 21, 149-175.
- Maddala, G. (1983). *Limited dependent and qualitative variables in Econometrics*. Cambridge: Cambridge University Press.
- McCrone, P., Leese, M., Thornicroft, G., Schene, A., Knudsen, H., Vázquez-Barquero, J., Tansella, M., Becker, X. and the Epsilon study group (2001). A comparison of needs of patients with schizophrenia in five European countries: the Epsilon study. *Acta Psychiatrica Scandinava* 103, 370-379.
- MISOCC Secretariat (2009). MISOCC Analysis. Long-term care. Mutual Information System on Social Protection in the EU Member States, the EAA and Switzerland. Contract N°VC/2008/0967.
- Scharlach, A., Boyd, S. (1989). Caregiving and employment: results of an employee survey. *The Gerontologist* 29(4), 382-387.
- Spiess, C., Schneider, A. (2002). Midlife caregiving and employment: an analysis of adjustments in work hours and informal care for female employees in Europe. ENEPRI Working Paper No 9. CEPS. Brussels.
- Staiger, D., Stock, J., (1997). Instrumental variables regression with weak instruments. *Econometrica* 65, 557-586.
- Stock, J., Wright, J., (2000). GMM with weak identification. *Econometrica* 68, 1055-1096.
- Stone, R. Cafferata, G., Sangl, J. (1987). Caregivers of the frail elderly: a national profile. *The Gerontologist* 27(5), 616-626.
- Viitanen, T. (2005). Informal elderly care and female labor participation across Europe. ENEPRI. Research Report No. 13. Brussels.
- Whitehead, M., (1991). The concepts and principles of equity and health. *Health Promotion International* 6, 217-228.
- Wilde, J. (2000). Identification of multiple equation probit models with endogenous dummy regressors. *Economic Letters* 69, 309-312.
- Wooldridge, J. (2003). Cluster-sample methods in applied econometrics. *American Economic Review* 93, 133-138.
- Wolf, D., Soldo, B. (1994). Married women's allocation of time to employment and care of elderly parents. *The Journal of Human Resources* 29(4), 1259-1276.

Table 1. Informal caregivers by age and sex (absolute figures and percentage with respect to total population)

	% of informal caregivers with respect to total population of the same sex and age								Number of informal caregivers by age and sex							
	25-34		35-44		45-54		55-64		25-34		35-44		45-54		55-64	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Belgium	32.09	26.18	32.26	17.21	36.18	36.33	57.98	47.43	209 161	181 783	260 194	119 590	268 661	308 593	337 093	269 983
Denmark	28.17	16.89	22.55	23.62	37.38	30.37	46.05	20.96	105 772	52 683	84 778	111 141	137 929	109 424	166 045	75 376
Germany	11.03	13.57	21.43	8.67	33.51	20.36	39.95	27.79	406 393	591 302	1 483 692	465 486	1 718 882	1 316 484	1 825 981	1 224 792
Greece	19.13	16.81	24.85	15.33	40.76	43.55	47.17	40.99	124 783	131 332	218 215	123 691	270 297	267 117	280 930	219 550
Spain	20.33	5.51	25.85	16.33	29.53	21.91	34.69	24.27	686 040	217 498	888 350	532 275	879 717	617 094	852 906	570 583
France	39.03	15.44	30.88	17.06	36.56	32.42	37.58	33.07	131 937	44 000	101 499	61 649	141 324	142 063	135 790	116 942
Ireland	29.62	19.34	20.81	26.34	30.61	21.33	43.29	37.60	1 110 377	689 279	809 890	1 121 115	1 243 730	771 018	1 135 229	898 356
Italy	12.89	9.18	22.39	14.08	30.89	26.81	33.52	28.25	36 763	29 179	68 334	38 011	74 284	64 942	58 407	50 104
Luxemb.	11.26	15.10	15.15	13.95	24.87	16.68	29.83	27.35	429 900	642 451	774 365	693 598	905 125	547 127	1 047 539	896 164
Netherlands	18.34	16.44	22.68	24.45	28.24	18.51	44.79	23.32	5 583	4 782	9 937	10 162	8 030	6 171	10 608	5 671
Portugal	6.67	9.45	30.76	28.44	42.08	27.57	38.37	41.56	62 121	91 362	437 696	428 316	506 124	320 349	344 990	379 058
U. Kingdom	17.59	9.07	26.35	11.26	29.79	15.62	37.12	28.41	96 627	51 386	164 091	74 971	183 433	89 267	184 865	133 479
Austria	8.66	17.42	12.34	4.60	25.23	18.71	23.14	13.93	64 687	108 801	77 702	34 639	177 645	118 641	129 007	68 445
Sweden	25.96	22.34	27.45	27.03	42.76	35.29	52.17	43.15	133 817	117 759	191 430	180 293	236 601	222 990	312 451	261 040
Finland	23.08	13.22	35.09	21.55	32.89	21.94	38.81	39.11	853 730	509 687	1 494 412	812 744	1 325 420	915 064	1 374 781	1 335 835
Cyprus	39.07	26.09	43.05	31.59	38.66	29.08	44.19	33.74	21 790	11 322	22 446	16 808	21 794	16 325	17 277	12 545
Czech Rep.	19.36	7.03	19.64	12.09	35.33	15.36	47.69	32.54	159 174	63 673	110 031	75 872	303 010	114 696	279 580	171 494
Estonia	29.00	27.52	33.73	30.52	34.60	34.67	40.66	33.74	21 640	20 613	24 747	17 983	30 418	24 449	29 037	17 308
Hungary	29.10	9.21	28.33	15.98	34.11	15.48	39.42	23.82	192 522	64 375	195 253	98 548	286 783	128 072	250 436	121 340
Latvia	29.66	25.35	25.08	18.13	31.98	19.64	31.58	16.51	39 630	29 612	36 225	26 303	36 937	19 139	34 370	13 067
Lithuania	27.65	17.60	22.07	27.25	35.73	25.81	47.48	21.31	69 850	46 405	53 423	58 264	90 176	57 321	99 581	33 638
Malta	22.73	8.39	21.31	15.47	53.48	49.56	43.81	38.32	5 192	2 655	5 427	4 336	17 060	11 760	10 857	9 030
Poland	19.93	14.80	24.86	14.53	30.49	26.57	43.83	31.88	585 400	407 301	507 373	332 452	1 037 108	881 930	930 808	588 437
Slovakia	13.92	13.51	23.57	15.19	39.69	29.82	37.41	26.85	49 368	52 875	98 253	55 751	155 659	120 227	97 391	57 369
Slovenia	21.02	16.16	26.53	13.69	33.90	21.56	44.39	28.51	31 247	25 459	34 248	18 184	57 483	38 466	51 702	32 222
Bulgaria	18.27	12.79	22.69	15.02	31.91	16.94	34.26	26.62	91 311	58 695	134 323	90 246	174 508	99 641	184 451	125 375
Romania	9.04	10.92	23.69	10.89	25.42	23.28	33.76	17.96	128 810	174 757	375 486	165 687	438 762	378 785	392 363	182 229
Turkey	25.27	17.04	33.84	14.78	35.81	21.13	27.07	15.42	1 421 899	993 140	1 368 511	590 607	1 113 445	699 370	543 550	289 839
Croatia	17.88	24.24	28.32	27.17	33.21	31.30	40.82	40.73	53 445	73 891	89 589	76 293	109 615	113 008	108 070	95 829
EU-27	19.01	13.57	23.87	16.71	31.71	22.64	38.83	31.01	5 853 627	4 421 025	8 661 819	5 768 116	10 726 899	7 707 156	10 574 473	7 869 432

Source: using information from Eurobarometer EB67.3 "Health and long-term care in the European Union" (2007) and country weights representing population +15 years.

Table 2. Comparison of labour participation between caregivers and non-caregivers

	Non caregivers								Caregivers							
	Active/Population		Working/Total population		Working/Total population (by age cohorts)				Active/Population		Working/Total population		Working/Total population (by age cohorts)			
	Men	Women	Men	Women	25-34	35-44	45-54	55-64	Men	Women	Men	Women	25-34	35-44	45-54	55-64
Belgium	82.76	68.66	71.92	58.99	75.27	79.17	73.98	21.43	77.32	64.34	71.13	53.15	72.97	75.00	81.43	31.46
Denmark	81.48	79.41	78.13	72.69	70.59	83.33	77.52	59.66	74.22	70.16	77.78	62.90	60.00	82.61	82.09	48.39
Germany	88.11	69.90	78.35	59.22	71.07	77.88	76.02	41.67	73.24	65.63	66.20	52.50	64.00	70.21	65.79	38.55
Greece	87.57	51.64	84.62	46.31	75.45	73.76	55.17	28.00	84.13	40.98	80.95	34.43	66.67	51.35	65.08	27.87
Spain	88.24	54.35	83.42	50.00	75.52	68.85	65.00	37.76	79.41	44.76	76.47	40.95	78.26	51.43	56.76	27.27
France	83.01	80.92	75.24	76.93	78.67	85.86	86.44	49.65	78.48	70.81	74.68	71.76	66.67	88.24	92.06	53.75
Ireland	81.47	76.47	75.00	70.20	81.75	85.21	77.78	33.33	69.88	67.86	66.27	60.71	73.81	83.72	73.91	34.38
Italy	86.72	62.00	81.33	57.86	78.33	68.79	67.24	45.74	75.93	56.84	68.52	62.00	78.26	63.16	58.33	64.44
Luxemb.	89.95	65.23	88.13	62.94	77.64	77.27	78.23	36.47	77.78	50.00	77.78	49.00	62.50	65.85	63.41	41.03
Netherlands	78.57	56.83	76.64	53.96	73.47	70.37	73.33	27.27	72.42	47.17	75.00	41.51	75.00	57.14	63.64	30.77
Portugal	87.12	74.59	85.84	74.64	82.42	87.50	82.81	57.60	82.18	70.09	73.27	72.13	87.50	84.38	84.29	51.85
U. Kingdom	89.66	71.24	84.48	68.63	79.75	87.36	82.21	38.71	75.51	60.34	75.51	54.31	80.00	81.40	70.59	19.57
Austria	83.41	73.86	77.25	64.74	80.33	80.15	76.87	44.59	75.76	63.89	72.73	44.44	75.00	71.43	47.50	42.86
Sweden	89.32	89.34	87.61	86.29	93.75	92.68	89.72	74.38	88.24	83.08	85.71	74.62	69.23	88.89	94.03	70.27
Finland	84.52	64.47	76.57	57.23	71.62	74.64	70.71	42.74	79.49	64.07	75.64	51.32	57.50	77.59	66.67	40.28
Cyprus	80.22	55.56	75.82	52.14	65.12	84.78	66.67	40.32	90.24	53.01	82.93	53.01	78.26	68.97	70.97	43.90
Czech Rep.	84.58	75.87	81.25	68.89	76.88	83.04	86.90	48.00	75.00	65.69	73.08	57.66	70.37	69.23	82.14	42.50
Estonia	80.00	72.84	73.85	68.72	67.47	82.05	82.08	52.83	79.03	69.23	75.81	64.62	69.70	78.95	82.14	49.23
Hungary	72.15	62.25	65.75	51.41	80.34	74.51	67.57	19.57	57.14	53.17	54.76	38.89	58.62	68.97	53.85	19.72
Latvia	83.25	77.08	67.51	67.71	79.51	73.86	77.06	33.66	91.84	84.03	79.59	71.43	87.50	83.72	68.29	50.00
Lithuania	85.96	72.80	75.28	63.22	73.87	76.03	68.09	43.94	87.27	73.64	78.18	65.89	70.59	82.50	76.12	46.51
Malta	82.14	27.08	78.57	2669	64.71	52.24	46.94	19.67	75.00	2537	68.75	26.37	66.67	29.41	47.06	20.93
Poland	77.47	61.66	69.78	51.38	77.34	76.67	60.00	17.53	69.81	47.75	62.26	32.43	50.00	73.91	63.27	10.94
Slovakia	89.73	76.00	84.82	67.38	80.69	92.67	83.59	36.51	89.06	65.91	82.81	56.82	82.61	76.92	87.32	26.98
Slovenia	77.07	70.04	72.20	59.92	81.75	85.57	73.15	22.52	73.08	58.18	69.23	49.09	75.00	84.62	65.12	29.23
Bulgaria	85.00	75.56	66.82	63.70	73.47	79.84	80.30	29.01	85.71	67.62	71.43	53.33	50.00	73.33	75.56	42.37
Romania	80.51	69.18	75.45	63.44	80.50	89.86	65.47	30.91	76.92	64.29	75.00	60.71	75.00	84.38	71.74	28.21
Turkey	80.89	14.88	69.78	10.38	39.13	42.64	34.07	22.99	78.26	10.48	71.74	4.84	31.67	12.77	23.68	20.00
Croatia	82.14	68.03	73.81	47.21	66.94	74.07	60.71	22.92	80.00	61.02	74.67	50.00	80.65	76.19	62.96	36.36
EU-27	83.93	68.60	77.50	61.96	77.13	79.86	74.93	39.45	79.30	62.99	74.23	54.79	70.79	74.75	72.53	39.45

Source: using information from Eurobarometer EB67.3 "Health and long-term care in the European Union" (2007)

Table 3. Characteristics of informal caregivers

	Kinship between dependent and caregiver (a)				Labour problems due to caregiving (b)		Formal Care Unmet needs (Home Care/Day Centres/Resid. Homes) (c)				Durables Ownership (d)			Professional situation before becoming caregiver Working caregivers 25-64 years (e)				
	Spouse	Parent	Children	Sibling	Men	Women	Total	Rural area or village	Small/Middle Town	Large town	PC	Car	Fixed Phone	Single profess.	Business Prop.	White Collar	Qualif. Worker	Not qualified
Belgium	7.21	81.46	3.06	8.26	25.07	47.99	37.31	32.08	43.25	46.96	79.40	87.76	73.02	2.00	2.36	13.89	55.35	26.40
Denmark	8.88	83.38	3.42	4.32	22.19	31.15	55.82	60.43	46.31	63.64	93.40	79.04	84.21	1.22	3.09	18.03	58.39	19.26
Germany	7.24	83.75	5.06	3.95	36.15	51.95	46.88	39.91	49.81	48.54	76.73	81.88	89.03	0.91	2.76	26.54	55.59	14.20
Greece	6.19	87.04	3.36	3.41	22.84	71.80	33.22	31.63	30.01	35.22	40.46	80.56	81.88	8.62	7.59	1.85	63.66	18.28
Spain	7.27	90.08	0.68	1.97	38.28	63.98	38.16	31.61	31.72	57.00	59.38	78.93	69.51	1.23	2.08	1.57	61.70	33.42
France	11.16	79.32	5.94	3.58	24.78	27.56	49.43	36.39	53.59	54.78	85.32	87.04	38.82	7.13	4.49	19.53	58.48	10.38
Ireland	6.80	80.65	5.08	7.47	27.18	40.49	44.87	46.64	41.89	46.93	74.08	85.63	81.72	1.25	7.85	14.27	70.04	6.59
Italy	14.14	73.00	7.92	4.94	37.98	50.95	50.58	57.03	48.91	46.40	71.91	85.31	79.90	1.15	2.78	10.83	61.99	23.25
Luxemb.	10.92	84.23	2.05	2.79	28.56	57.40	49.61	19.55	52.74	45.76	63.88	86.23	57.50	3.58	1.23	3.90	55.82	35.48
Netherlands	6.64	90.84	0.00	2.52	19.85	63.40	21.79	24.07	22.93	13.74	85.63	94.66	94.66	1.15	4.12	2.38	70.31	22.03
Portugal	11.59	80.72	2.73	4.97	20.49	34.43	48.54	49.02	51.76	41.41	95.73	83.04	97.59	3.05	5.29	20.89	62.37	8.40
U. Kingdom	10.64	81.21	5.10	3.04	36.68	56.98	40.47	32.46	42.37	49.70	68.31	86.37	58.95	2.13	1.34	26.24	58.81	11.48
Austria	23.61	69.04	5.14	2.21	42.81	62.96	36.20	44.00	30.84	26.54	50.93	69.26	49.84	7.25	5.28	5.52	60.03	21.93
Sweden	9.57	86.11	3.68	0.63	17.89	28.72	43.52	44.64	37.08	50.54	92.58	88.91	98.50	1.38	3.90	20.13	59.26	15.33
Finland	10.97	77.50	7.59	3.93	31.84	53.53	51.55	62.11	44.28	55.38	75.63	75.96	85.77	0.90	7.38	20.27	39.26	32.20
Cyprus	13.99	79.08	2.63	4.30	31.72	54.69	51.15	41.08	57.72	0.00	63.86	92.85	87.04	0.94	1.12	15.81	68.36	13.77
Czech Rep.	6.91	84.76	5.44	2.90	28.19	54.15	45.51	45.06	47.61	40.06	62.25	81.68	28.47	4.62	6.02	14.99	64.36	10.00
Estonia	6.16	82.26	6.85	4.73	32.55	44.82	50.62	49.33	52.41	50.23	69.31	60.44	54.62	0.50	0.48	11.11	67.56	20.34
Hungary	12.94	78.89	7.14	1.03	48.75	61.45	26.58	30.45	17.77	30.78	44.06	47.21	42.42	3.50	2.78	9.11	55.61	29.00
Latvia	8.98	77.11	8.64	5.27	18.16	36.36	36.20	32.05	30.15	45.63	41.22	44.14	39.57	1.02	1.12	6.08	84.86	6.92
Lithuania	10.27	80.53	4.84	4.36	19.78	45.36	40.56	29.30	42.14	46.75	46.15	58.73	36.04	1.36	0.45	15.50	60.53	22.16
Malta	17.29	71.71	4.86	6.14	32.56	75.89	23.78	20.90	31.92	21.90	67.54	88.30	94.85	0.90	1.82	13.84	44.74	38.70
Poland	9.19	82.39	4.70	3.73	32.36	64.96	33.39	28.41	37.29	34.58	58.45	61.81	64.30	8.10	3.47	7.89	68.65	11.89
Slovakia	10.78	80.22	6.45	2.55	34.24	52.51	55.81	52.74	52.59	72.39	57.45	68.14	44.50	1.01	1.35	17.76	63.84	16.04
Slovenia	18.42	74.64	3.94	2.99	37.02	48.13	34.01	35.04	30.79	37.16	71.47	93.49	80.75	7.77	1.29	20.25	58.58	12.11
Bulgaria	14.36	75.01	3.77	6.86	41.93	50.81	35.63	28.00	30.06	43.30	29.58	48.79	65.92	1.47	1.81	9.00	72.25	15.46
Romania	24.10	70.25	3.80	1.85	36.26	49.83	32.41	25.33	29.50	47.97	17.24	11.21	40.79	6.18	1.45	2.19	72.88	17.30
Turkey	15.21	75.38	6.07	3.33	47.45	96.21	40.56	32.68	43.29	46.49	17.74	30.46	70.88	6.42	10.03	12.66	56.20	14.68
Croatia	9.76	79.91	5.02	5.31	32.96	49.78	34.08	33.67	33.72	34.81	56.40	78.34	88.46	1.00	1.25	13.41	74.87	9.47
EU-27	9.93	81.63	4.48	3.96	29.54	49.68	42.31	38.95	42.84	46.26	64.63	73.68	66.61	2.70	3.40	14.03	61.22	18.65

Source: using information from Eurobarometer EB67.3 "Health and long-term care in the European Union" (2007)

(a): other relatives (cousin, niece, nephew, grandchildren), friends and neighbours because the survey had grouped these care receivers in the same category.

(b): caregivers with labour problems as a consequence of caregiving tasks with respect to total number of working caregivers.

(c): percentage of caregivers whose care receivers have suffered formal care unmet needs, and distribution of unmet needs by size of municipality (the classification used is the same than in survey; there is no information regarding the number of inhabitants)

(d): percentage of caregivers owning certain durables goods with respect to total number of caregivers

(e): professional situation of caregivers who were working at the moment of becoming caregivers with respect to total working caregivers

Table 4. Estimate coefficients of the trivariate probit system (Countries 1-6)

	1) Belgium		2) Denmark		3) Germany		4) Greece		5) Spain		6) Finland	
	Coef.	t	Coef.	t	Coef.	t	Coef.	t	Coef.	t	Coef.	t
Eq. Caregiver												
Unmet needs	0.3820	2.57	0.2022	2.36	0.9163	1.78	0.0189	2.03	0.5064	3.23	0.5378	2.47
Labour problems	-0.8673	-2.24	-0.0035	-2.02	-0.0325	-2.23	-0.1463	-1.74	-0.3575	2.03	-0.2867	-1.94
Male	-0.2226	-1.89	-0.4174	-3.25	-0.2064	-1.81	-0.2386	-2.25	-0.3857	-3.82	-0.2960	-2.70
Age 25-34	-0.0373	-0.20	0.0730	0.53	0.0004	0.00	-0.1446	-0.75	0.3266	1.58	0.1599	0.58
Age 35-44	-0.4664	-2.47	0.1209	0.64	-0.1990	-1.98	-0.4197	-1.62	-0.2532	-1.95	-0.0231	-0.12
Age 45-54	-0.4224	-2.52	0.1110	0.52	-0.0494	-0.38	-0.2367	-1.06	0.3168	1.55	-0.0189	-0.11
Married	-0.2744	-0.36	0.0419	0.07	0.0580	0.59	0.2872	1.43	-0.5024	-1.71	0.2454	1.09
Single	-0.5686	-0.74	0.1919	0.25	0.2831	1.05	0.2328	1.57	-0.4769	-1.15	0.1111	0.70
Widow	-0.2477	-0.25	-0.0827	-0.16	-0.2384	-0.60	-0.1727	-0.79	-2.2088	-2.35	2.0871	2.83
Carereceiver: spouse	1.0660	2.73	2.4230	4.40	1.8564	13.08	3.6048	2.34	2.0847	3.81	2.0067	3.22
Carereceiver: child	1.0676	3.56	1.9999	3.21	2.4075	3.63	2.7686	2.78	0.9732	2.10	1.7740	4.28
Carereceiver: parent	1.6531	8.87	1.5300	22.70	1.8668	5.06	2.8073	11.32	2.1619	8.58	1.6082	6.34
Carereceiver: sibling	1.7505	5.31	1.3458	4.47	1.7894	3.69	2.3549	3.75	1.1529	2.34	1.2680	4.38
Constant	-1.4416	-1.13	-1.2202	-1.78	-0.9555	-2.82	-1.1508	-3.47	-1.3255	-4.15	-0.8435	-2.10
Eq. Labour problems												
Unmet needs	0.4197	2.61	0.5483	2.35	0.0824	3.12	1.2764	3.48	1.4140	2.61	0.1098	3.08
Male	-0.2042	-0.74	-0.5326	-3.36	-0.3636	-1.64	-0.9010	-3.06	-0.0965	-0.85	-0.4540	-2.32
Age 25-34	-0.2943	-0.81	-2.1303	-5.93	-0.4525	-1.72	-1.6167	-2.84	-1.0106	-2.72	-1.3304	-2.34
Age 35-44	-0.2512	-0.59	-0.6646	-1.05	-0.2606	-1.14	-0.9666	-4.03	-1.0645	-3.11	-0.9519	-2.34
Age 45-54	-0.4361	-2.18	-0.5034	-1.31	-0.2811	-0.90	-0.3472	-1.57	-1.0857	-3.57	-0.4651	-2.14
Married	-0.4856	-1.39	-1.0037	-0.40	0.0453	0.20	-0.6625	-1.54	-0.3877	-1.96	0.1423	0.37
Single	0.5115	0.96	-0.2586	-1.43	0.6017	2.15	-0.9799	-2.06	5.219	4.41	-0.3746	-0.76
Widow	-1.1490	-2.93	3.788	3.47	0.3088	0.57	0.4355	0.96	4.5296	4.45	0.1080	0.23
Carereceiver: spouse	-0.0479	-0.12	-0.1781	-0.24	0.2459	0.53	-0.3495	-0.99	0.0033	0.01	0.1144	0.17
Carereceiver: child	-0.4991	-2.11	-3.6212	-3.17	-1.3247	-1.96	-0.8668	-1.93	-0.3338	-0.69	0.2005	0.05
Carereceiver: parent	0.0930	0.25	0.0155	-1.04	0.7838	2.15	-0.0804	-0.30	0.6070	1.32	0.4710	0.85
Carereceiver: sibling	-2.5362	-2.69	-0.1056	-0.30	0.3807	0.68	3.3212	3.25	-0.3602	-1.16	-0.0274	-0.74
Working before caregiver	-3.4267	-6.60	-3.0205	-4.15	-3.0259	-10.56	-2.7276	-6.17	-0.8806	-1.78	-1.1762	-2.79
Professional (1 person)	0.5247	0.81	-0.3317	-1.15	-0.3628	-1.42	-3.9249	-3.95	-3.5736	-3.45	0.0573	0.18
Business proprietor	0.5664	1.58	0.4048	4.11	0.0142	0.08	-0.2887	-1.43	-0.5891	-1.24	-0.1875	-0.65
White collar	0.1301	0.33	0.5202	1.58	-0.1526	-0.79	-0.7970	-2.62	0.0156	0.06	0.0275	0.10
Qualified worker	0.1914	0.46	0.5938	4.20	-0.1120	-0.67	0.0854	0.35	-0.5192	-1.61	-0.3088	-1.23
Constant	1.8987	2.95	-0.6118	-6.61	-1.5666	-3.49	2.5873	5.56	0.3694	0.65	-0.3346	-0.72
Eq. Unmet needs (*)												
Rural community	-0.4635	-2.09	-0.1010	-1.35	0.2279	0.92	-0.1933	-1.03	-0.7446	-1.20	-0.0319	-0.11
Small city	-0.3422	-1.80	-0.2468	-2.38	0.2311	1.18	0.0464	0.34	-0.4193	-2.82	0.1871	0.87
Has Personal Computer	-0.0431	-0.33	-0.0059	-0.02	-0.2045	-2.15	0.0024	0.02	-0.1658	-0.95	-0.0942	-0.42
Has a car	0.1082	0.53	-0.0268	-0.16	-0.1579	-0.90	-0.2666	-1.54	-0.3004	-1.41	0.1134	0.83
Has fixed telephone	-0.1021	-0.89	0.1147	0.59	0.2116	1.42	0.2084	1.20	-0.0966	-0.66	-0.0331	-0.30
Constant	-0.5013	-0.95	-1.2740	-2.42	-1.1627	-3.55	-1.5093	-3.58	-0.0502	-0.12	-1.2845	-4.19
ρ_{12}	0.3837	3.06	0.1190	1.32	0.2321	3.30	0.2426	1.55	0.4679	1.95	0.3177	0.62
ρ_{13}	0.0120	1.03	0.4435	1.35	0.9116	0.89	0.6716	2.66	0.6589	3.42	0.7597	0.72
ρ_{23}	0.0005	1.00	0.0598	3.34	0.0558	1.14	-0.1337	-1.33	0.5817	1.06	0.2657	3.33
N	660		699		971		598		602		643	
Log pseudolikelihood	-709.86803		-686.59854		-816.22481		-434.37742		-567.84947		-680.22163	
LR Test $\rho_{12}=\rho_{13}=\rho_{23}=0$	26.7721 (0.0000)		28.5012 (0.0000)		33.5099 (0.0000)		25.6734 (0.0001)		21.4567 (0.0001)		20.4401 (0.0001)	
Wald Test $\chi^2(13)$	182.59 (0.0000)		175.23 (0.0000)		197.89 (0.0000)		180.81 (0.0000)		176.10 (0.0000)		178.85 (0.0000)	

Omitted variables: women, age 55-64, separated/divorced, carereceiver: other relative or friend, not working when became caregiver, not qualified worker. Estimation by simulated maximum likelihood (Hammersley sequence for the GHK simulation and Davidson-Fletcher-Powell technique for the computation of the log likelihood in each trial). Using weights corresponding to population +15 years for each country and clusters by region (except for Malta). The number of rows is equal to the square root of the number of observations by country.

(*) In the Unmet Needs Equation, estimations for male, age 25-34, age 35-44, age 45-54, married, single, widow, carereceiver (spouse, child, parent, sibling), working before being caregiver, professional, business proprietor, white collar, qualified worker have been omitted due to space constraints

Table 5. Estimate coefficients of the trivariate probit system (Countries 7-12)

	7) France		8) Ireland		9) Italy		10) Luxembourg		11) Netherlands		12) Austria	
	Coef.	t	Coef.	t	Coef.	t	Coef.	t	Coef.	t	Coef.	t
Eq. Caregiver												
Unmet needs	0.4581	2.79	0.7080	3.67	1.7573	3.68	0.5113	2.31	0.9455	7.47	0.5684	2.54
Labour problems	-0.0713	-2.50	-0.9342	-2.00	-0.1611	-2.49	-1.6123	-3.78	-0.2426	-2.11	-0.0416	-2.14
Male	-0.2301	-1.99	-0.2682	-2.01	-0.2315	-2.76	-0.3252	-2.08	-0.1278	-0.68	-0.4271	-2.32
Age 25-34	-0.0409	-0.23	-0.1967	-1.84	-0.2557	-0.72	0.1519	0.38	-0.1143	-0.49	-0.4487	-2.77
Age 35-44	-0.2723	-1.26	-0.0185	-0.35	-0.2766	-0.86	0.0110	0.03	0.3450	0.58	-0.1903	-0.86
Age 45-54	-0.1834	-1.14	-0.1761	-0.52	-0.1349	-0.53	-0.1905	-0.47	0.1543	0.61	-0.3830	-2.79
Married	0.3186	0.49	-0.1287	-0.24	1.0178	2.27	0.0411	0.15	-0.5627	-0.13	-0.5909	-1.16
Single	0.1224	0.19	-0.3817	-1.02	1.1155	2.03	0.0396	0.11	-0.5131	-0.12	-0.3880	-0.64
Widow	-0.0485	-0.06	3.1678	3.24	1.0947	1.51	-0.1406	-0.24	-0.7813	-0.16	-0.5708	-1.22
Carereceiver: spouse	2.3387	3.02	2.0791	2.93	1.3264	2.25	2.7404	3.24	2.4264	2.76	2.4290	5.05
Carereceiver: child	1.2446	2.16	3.1468	3.25	2.4292	2.87	2.0291	2.93	1.5007	1.83	2.0683	4.32
Carereceiver: parent	1.3615	7.46	2.2460	10.88	1.7195	6.34	1.9627	5.39	1.6478	5.44	2.0942	5.59
Carereceiver: sibling	1.0223	2.83	1.8523	5.14	0.7245	1.43	0.8426	3.10	1.3992	1.85	1.4550	2.09
Constant	-1.2119	-1.94	-0.5597	-0.64	-2.3870	-3.22	-2.6377	-4.36	-0.5107	-0.13	-0.3172	-0.61
Eq. Labour problems												
Unmet needs	1.7393	1.97	0.9169	-0.81	1.6054	3.40	0.5830	2.24	0.8290	2.22	0.5810	3.44
Male	-0.2185	-1.09	-0.4094	-2.29	0.0980	0.68	-0.2460	-1.68	-0.6456	-1.42	-0.4246	-2.07
Age 25-34	-1.2442	-2.81	-0.9986	-2.82	-0.6282	-1.92	-0.1893	-0.50	-0.0497	-0.02	-0.3034	-0.82
Age 35-44	-0.4280	-1.72	-0.2453	-1.37	-0.1849	-0.68	-0.2703	-1.26	0.1643	0.14	-0.4278	-1.39
Age 45-54	-1.0242	-4.72	-0.1466	-0.42	-0.3188	-1.55	-0.2429	-1.28	0.1492	0.13	-0.2380	-0.68
Married	0.2646	1.00	0.0685	0.13	-0.0969	-0.21	-0.0001	0.00	-0.4006	-0.73	-0.2663	-0.87
Single	0.8108	2.22	0.1170	0.19	-0.0746	-0.17	0.1137	0.42	-0.2353	-0.31	-0.4332	-1.08
Widow	1.5146	1.84	0.6082	1.01	0.7209	0.85	-0.2031	-0.37	-0.2458	-0.39	0.3315	0.71
Carereceiver: spouse	0.9413	1.29	0.5298	1.24	0.8936	1.42	-0.1785	-0.45	0.9036	1.60	0.8635	1.19
Carereceiver: child	0.6158	0.56	0.9846	1.75	0.2296	0.96	0.2904	0.66	0.6593	2.19	1.7050	2.58
Carereceiver: parent	0.0352	0.09	1.0092	5.84	0.1228	0.43	0.9942	3.72	0.6959	1.00	0.3876	3.14
Carereceiver: sibling	0.8666	1.07	0.6541	1.46	0.0637	0.09	0.0388	0.10	0.7424	1.15	0.1057	0.18
Working before careg.	-2.0333	-6.71	-0.5696	-2.02	-1.0158	-3.45	-1.9777	-3.49	-4.2203	-8.85	-0.4190	-0.86
Professional (1 person)	0.0659	0.12	1.0740	2.71	-2.2891	-3.12	-3.1723	-2.73	-0.0370	-0.03	0.2753	0.35
Business proprietor	0.8033	2.47	0.2941	0.60	0.7403	1.73	-0.5817	-2.68	0.2493	0.17	-0.1043	-0.24
White collar	0.3450	1.07	0.2551	0.80	-0.5110	-0.85	-0.6239	-1.19	0.4096	0.24	0.5957	1.53
Qualified worker	0.6303	1.50	0.6084	2.09	0.4843	1.91	-0.4831	-1.48	0.8388	0.92	0.5531	1.41
Constant	0.3262	0.83	-0.4316	-0.84	-0.6422	-0.83	0.0740	0.29	-1.0443	-1.06	-0.4094	-0.67
Eq. Unmet needs(*)												
Rural community	-0.2225	-1.25	0.0677	0.12	0.2725	1.51	0.9410	3.09	-0.2122	-0.36	-0.1635	-1.61
Small city	-0.2499	-1.20	0.0485	0.07	0.2784	2.34	0.9452	2.08	0.0391	0.03	-0.1889	-0.91
Has Personal Computer	-0.0532	-0.40	0.4283	2.30	0.1831	1.75	0.1554	1.00	0.1348	0.10	-0.1857	-0.81
Has a car	0.0418	0.18	-0.0776	-0.47	-0.2489	-1.22	0.7605	1.40	-0.0721	-0.07	0.3355	1.25
Has fixed telephone	-0.1171	-0.78	-0.4818	-4.40	0.0189	0.15	-0.1211	-0.84	-0.7425	-0.34	0.0698	0.37
Constant	-0.7345	-1.89	-1.5679	-1.01	-1.6744	-3.14	-1.4331	-2.95	-0.0558	-0.03	-1.3512	-2.15
ρ_{12}	0.0827	0.47	0.7285	0.87	0.2816	1.69	0.9144	0.63	0.2726	0.44	0.1201	0.41
ρ_{13}	0.0311	1.10	0.3472	1.53	0.5168	3.66	0.3115	1.43	0.8752	1.00	0.7652	1.57
ρ_{23}	0.9304	3.16	0.8780	4.08	0.5689	2.46	0.6587	2.91	0.6782	3.59	0.1886	3.19
N	682		701		758		326		703		761	
Log pseudolikelihood	-694.65245		-484.9388		-594.5712		-258.94152		-700.77736		-568.46119	
LRTest $\rho_{12}=\rho_{13}=\rho_{23}=0$	21.3357 (0.0000)		20.9812 (0.0001)		22.5752 (0.0000)		21.8501(0.00001)		23.8871 (0.0000)		21.1987 (0.0001)	
Wald Test $\chi^2(13)$	175.14 (0.0000)		173.12 (0.0000)		175.23 (0.0000)		174.25 (0.0000)		175.29 (0.0000)		163.32 (0.0000)	

Omitted variables: women, age 55-64, separated/divorced, carereceiver: other relative or friend, not working when became caregiver, not qualified worker. Estimation by simulated maximum likelihood (Hammersley sequence for the GHK simulation and Davidson-Fletcher-Powell technique for the computation of the log likelihood in each trial). Using weights corresponding to population +15 years for each country and clusters by region (except for Malta). The number of rows is equal to the square root of the number of observations by country.

(*) In the Unmet Needs Equation, estimations for male, age 25-34, age 35-44, age 45-54, married, single, widow, carereceiver (spouse, child, parent, sibling), working before being caregiver, professional, business proprietor, white collar, qualified worker have been omitted due to space constraints.

Table 6. Estimate coefficients of the trivariate probit system (Countries 13-18)

	13) Portugal		14) Sweden		15) U. Kingdom		16) Cyprus		17) Czech Rep.		18) Estonia	
	Coef.	t	Coef.	t	Coef.	t	Coef.	t	Coef.	t	Coef.	t
Eq. Caregiver												
Unmet needs	0.3531	2.41	0.0197	2.15	0.1610	2.26	0.3925	4.61	0.3089	2.79	0.3678	2.54
Labour problems	-0.2166	-2.56	-0.6563	-2.85	-0.0322	-2.16	-0.3474	-2.30	-1.0503	-2.84	-0.0631	-2.35
Male	-0.0611	-2.47	-0.1143	-2.21	-0.3947	-3.07	-0.2441	-2.37	-0.3427	-3.36	-0.1034	-2.51
Age 25-34	0.2338	1.46	-0.0195	-0.18	0.1919	0.79	-0.5335	-1.90	-0.0497	-0.23	-0.3370	-2.05
Age 35-44	-0.0038	-0.02	-0.0946	-0.46	0.1720	1.10	-0.6463	-1.93	-0.2031	-1.32	0.1297	0.71
Age 45-54	0.1100	1.21	-0.1059	-0.75	0.0045	0.02	-0.1312	-0.50	-0.2614	-2.11	-0.1333	-2.07
Married	-1.5456	-1.99	0.7924	1.66	0.5950	1.58	0.9603	1.54	1.0102	2.45	0.0398	0.32
Single	-1.4675	-2.01	0.6858	1.64	0.6273	1.35	0.8813	0.90	2.6853	3.12	2.3282	2.84
Widow	-1.2221	-1.78	2.3681	2.35	0.2087	0.40	0.5038	0.42	0.6783	1.50	0.0168	0.09
Carereceiver: spouse	2.1424	7.04	2.3387	5.17	2.2824	13.20	2.2785	2.56	2.0412	6.00	2.3496	6.15
Carereceiver: child	2.0646	2.35	1.2947	5.42	2.1485	4.12	2.8835	2.67	2.9103	4.75	2.4175	4.98
Carereceiver: parent	2.1713	11.88	1.5324	19.06	2.1297	16.95	2.7027	15.30	2.2791	12.20	1.9553	12.77
Carereceiver: sibling	1.6146	4.17	-0.3317	-0.48	1.0565	2.43	2.3348	2.78	1.9465	2.48	2.2501	2.86
Constant	-0.2409	-0.45	-1.8343	-4.10	-1.6501	-4.28	-2.8335	-1.91	-3.0055	-3.87	-1.1991	-5.89
Eq. Labour problems												
Unmet needs	1.3233	3.16	1.4644	2.71	1.2802	2.48	0.7641	3.40	1.4427	2.29	0.7772	2.46
Male	-0.0905	-0.82	-0.0869	-1.13	-0.0434	-0.29	0.2093	0.79	-1.0315	-2.52	-0.0404	-0.25
Age 25-34	-0.5141	-2.76	0.0346	0.09	-0.9894	-1.78	0.2444	0.79	-0.5664	-1.86	-0.1285	-0.30
Age 35-44	-0.3589	-2.49	0.2702	0.98	0.0429	0.36	0.0707	0.22	0.1725	0.41	-0.0886	-0.47
Age 45-54	-0.4607	-2.31	-0.3325	-1.81	0.0239	0.13	-0.1535	-0.43	-0.5082	-2.08	-0.1061	-0.22
Married	-1.9777	-1.85	0.0467	0.45	0.0199	0.08	-0.6557	-1.66	-0.7459	-3.64	0.1811	0.59
Single	-1.9861	-2.73	-0.3589	-1.52	0.3804	1.02	-1.7097	-2.11	-0.1971	-0.41	0.0617	0.17
Widow	-2.0263	-2.09	-0.3371	-0.71	-1.1439	-1.82	3.7489	3.83	0.3018	0.53	3.6488	3.45
Carereceiver: spouse	1.3572	3.54	0.5985	1.31	0.3026	0.62	1.1050	3.49	0.2942	0.41	1.2611	1.83
Carereceiver: child	1.1427	1.80	0.7499	1.21	0.1833	0.47	0.4371	0.72	-0.5611	-1.96	1.3613	2.88
Carereceiver: parent	1.4028	12.96	0.7824	3.69	1.2037	6.93	0.9462	3.21	0.9702	4.43	0.8925	4.79
Carereceiver: sibling	-0.3078	-0.73	0.8272	1.65	0.4578	2.06	1.6798	1.56	2.3309	2.65	2.6688	2.38
Working before caregiver	-0.8893	-3.93	-0.6894	-3.64	-0.9921	-2.88	-2.3567	-2.99	-1.9219	-3.97	-3.0063	-5.63
Professional (1 person)	-2.6134	-2.64	-0.2117	-0.63	0.3430	0.77	0.2199	0.31	0.5348	1.24	-1.3799	-2.56
Business proprietor	0.3841	1.30	0.4177	2.66	0.0514	0.23	-0.1487	-0.29	0.6114	2.62	-0.9081	-1.88
White collar	-0.5423	-1.61	0.2183	1.28	0.0575	0.14	-0.3671	-0.56	0.5848	1.62	-0.5926	-2.10
Qualified worker	0.4054	3.87	0.6209	1.80	-0.0289	-0.10	-0.2095	-0.44	0.7732	1.64	-0.4620	-1.83
Constant	1.8942	1.89	-0.6045	-1.71	-0.2488	-0.70	0.8961	1.37	0.9556	1.64	-1.6326	-5.79
Eq. Unmet needs(*)												
Rural community	-0.0527	-0.30	-0.3302	-3.87	0.0335	0.23	-0.1599	-0.61	-0.4679	-2.81	-0.1817	-0.85
Small city	-0.6078	-1.08	-0.4409	-3.21	-0.1561	-1.19	-0.0446	-0.23	-0.3416	-1.71	0.0136	0.10
Has Personal Computer	0.1591	1.96	-0.2715	-2.02	0.0722	0.65	0.2282	2.33	0.1527	1.61	-0.3914	-2.50
Has a car	-0.0914	-0.42	0.3710	3.09	0.0993	0.39	-0.1574	-0.70	0.2059	2.22	0.3201	2.75
Has fixed telephone	-0.2917	-1.65	-0.3692	-0.98	0.3615	1.96	-0.3587	-1.34	0.0492	0.51	0.2021	1.03
Constant	-0.8344	-2.93	-1.0302	-1.72	-1.7245	-2.04	-0.8319	-1.95	-1.8398	-6.17	-0.8519	-1.92
ρ_{12}	0.2999	1.29	0.1905	0.73	0.5596	1.06	0.3149	1.22	0.3102	1.46	0.4166	1.60
ρ_{13}	0.4352	2.84	0.4114	1.11	0.5741	1.35	0.4731	1.47	0.6670	2.84	0.7119	2.48
ρ_{23}	0.6884	1.35	0.9625	5.48	0.8590	3.49	0.5094	3.17	0.5023	1.44	0.5022	1.17
N	645		680		780		322		744		565	
Log pseudolikelihood	-519.95567		-706.43926		-820.01958		-298.20751		-480.43714		-629.56657	
LR Test $\rho_{12}=\rho_{13}=\rho_{23}=0$	24.1901 (0.0000)		21.9899 (0.0000)		23.8803 (0.0000)		21.1578 (0.0001)		22.1078 (0.0001)		20.1516 (0.0002)	
Wald Test $\chi^2(13)$	157.33 (0.0000)		160.12 (0.0000)		168.34 (0.0000)		167.10 (0.0000)		175.89 (0.0000)		190.12 (0.0000)	

Omitted variables: women, age 55-64, separated/divorced, carereceiver: other relative or friend, not working when became caregiver, not qualified worker. Estimation by simulated maximum likelihood (Hammersley sequence for the GHK simulation and Davidson-Fletcher-Powell technique for the computation of the log likelihood in each trial). Using weights corresponding to population +15 years for each country and clusters by region (except for Malta). The number of rows is equal to the square root of the number of observations by country.

(*) In the Unmet Needs Equation, estimations for male, age 25-34, age 35-44, age 45-54, married, single, widow, carereceiver (spouse, child, parent, sibling), working before being caregiver, professional, business proprietor, white collar, qualified worker have been omitted due to space constraints.

Table 7. Estimate coefficients of the trivariate probit system (Countries 19-24)

	19) Hungary		20) Latvia		21) Lithuania		22) Malta		23) Poland		24) Slovakia	
	Coef.	t	Coef.	t	Coef.	t	Coef.	t	Coef.	t	Coef.	t
Eq. Caregiver												
Unmet needs	0.2316	2.30	0.7277	2.76	0.5358	2.24	1.7373	3.06	0.9322	2.80	0.8671	9.12
Labour problems	.5031	.93	-0.0258	-2.06	-0.2042	-2.41	-1.3672	-2.20	-0.1692	-2.22	-0.1937	-1.80
Male	-0.6085	-3.07	-0.2971	-2.00	-0.2830	-1.88	-1.0224	-2.18	-0.1724	-2.57	-0.1293	-2.67
Age 25-34	0.1567	0.81	0.2758	1.64	0.3517	1.44	-0.4701	-1.38	-0.4343	-2.30	-0.2804	-1.59
Age 35-44	-0.0864	-0.57	0.0584	0.47	0.0977	0.34	-0.1823	-0.54	-0.4329	-1.77	-0.4870	-4.16
Age 45-54	0.0867	0.99	-0.0929	-0.77	0.0380	0.13	0.2220	0.76	-0.5570	-2.05	0.0224	0.26
Married	0.2563	0.83	-1.2008	-1.57	-0.7466	-0.95	0.3443	0.39	0.2455	0.47	-0.0287	-0.13
Single	0.2018	0.41	-1.1983	-1.32	-0.9819	-1.29	0.6016	0.68	0.7287	1.21	-0.2614	-0.74
Widow	2.5426	3.26	-1.0545	-1.45	-0.7051	-0.53	0.6803	0.69	0.1129	0.20	2.5826	2.89
Carereceiver: spouse	1.7490	8.79	2.4452	3.62	-0.5052	-0.65	3.0194	3.53	-0.4270	-0.71	2.4279	6.35
Carereceiver: child	2.6567	12.26	2.0976	5.62	1.8963	3.47	3.0136	3.08	2.1216	3.38	2.2705	2.21
Carereceiver: parent	2.4318	24.76	2.5086	10.61	2.6760	11.04	2.7683	3.49	1.9466	11.13	2.1544	18.72
Carereceiver: sibling	0.4014	0.55	1.3877	3.86	1.0830	2.32	1.6796	2.76	1.6754	2.89	1.6687	8.02
Constant	-1.8558	-3.83	-0.3079	-0.47	-0.5839	-0.68	-0.2486	-0.25	-1.2076	-1.26	-0.8016	-2.48
Eq. Labour problems												
Unmet needs	0.3509	2.34	0.4737	3.29	0.5491	3.82	0.5935	2.05	1.7153	3.92	0.1418	2.62
Male	-0.1156	-0.48	-0.6493	-2.92	-0.5708	-2.45	-1.6495	-1.62	0.1613	0.91	-0.0852	-1.51
Age 25-34	-0.6278	-2.14	-1.0441	-1.49	-0.6068	-1.25	-1.3578	-2.14	-1.1894	-2.92	0.2199	0.55
Age 35-44	-0.4418	-1.55	-0.4303	-1.56	0.3514	0.99	-0.7220	-0.42	-1.1251	-3.83	0.2028	0.62
Age 45-54	-0.8493	-3.24	-0.3016	-0.84	0.4504	1.54	-1.1774	-2.00	-0.4617	-1.91	-0.6697	-2.90
Married	-0.9794	-1.84	-0.2788	-1.42	-0.3773	-1.69	0.2560	0.39	-0.0433	-0.08	-0.3125	-1.18
Single	-0.8717	-1.38	3.6702	4.57	0.0478	0.16	-0.0043	-0.11	0.3919	0.90	-0.0518	-0.20
Widow	0.6538	1.06	-0.1205	-0.33	1.7216	2.09	0.1830	0.15	-0.0112	-0.01	3.5221	5.67
Carereceiver: spouse	1.7844	2.84	0.5626	1.87	0.3593	0.92	1.2202	2.22	0.5382	1.01	0.9784	2.58
Carereceiver: child	0.6751	3.36	0.4403	0.83	0.8887	1.32	0.5272	0.56	0.7314	1.93	-0.0284	-0.80
Carereceiver: parent	0.9076	8.73	0.4354	0.70	0.6808	1.97	2.0868	3.81	0.4923	2.35	0.8042	3.86
Carereceiver: sibling	0.7555	1.15	-0.1447	-0.76	0.3952	1.11	-0.2847	-0.96	-0.1453	-0.50	0.7540	2.54
Working before caregiver	-1.5671	-2.44	-2.0688	-2.02	-1.0770	-1.65	-3.0737	-1.92	-1.5059	-4.34	-2.7081	-3.97
Professional (1 person)	0.5175	0.84	0.1920	0.38	0.5949	1.63	-0.4546	-0.72	-0.1265	-0.18	-0.2327	-1.25
Business proprietor	0.7495	2.18	-0.0477	-0.09	1.0362	3.44	-1.0466	-2.01	0.0570	0.17	-0.1076	-0.65
White collar	0.7357	1.75	0.4231	0.79	-0.1137	-0.29	-0.4395	-0.65	-0.0089	-0.02	-0.5660	-4.12
Qualified worker	0.2971	1.66	0.1211	0.22	0.5317	1.78	-1.0417	-1.72	0.2969	0.94	-0.0397	-0.61
Constant	1.4747	1.55	1.1577	1.62	-0.6421	-1.01	1.6183	1.23	0.9676	2.27	-1.5174	-3.55
Eq. Unmet needs(*)												
Rural community	-0.1360	-0.59	-0.2038	-1.03	-0.5370	-2.49	0.2188	0.31	-0.2496	-2.46	-0.1467	-1.36
Small city	0.3313	1.97	-0.2126	-1.62	-0.3541	-2.89	0.6391	1.20	0.0007	0.01	-0.2378	-2.63
Has Personal Computer	0.0736	0.31	-0.1116	-0.66	-0.0051	-0.04	-0.4149	-0.68	-0.1872	-1.10	0.2488	2.69
Has a car	-0.2548	-1.82	0.1096	0.26	-0.1648	-1.25	0.3586	1.06	0.1159	0.67	0.0134	0.50
Has fixed telephone	0.1606	1.59	-0.1128	-0.67	0.3623	3.71	-0.4170	-0.65	-0.1591	-0.84	0.0785	0.94
Constant	-1.7038	-2.00	-1.2039	-1.44	-1.1436	-2.67	0.5935	0.39	-1.0440	-3.53	-1.0620	-3.92
ρ_{12}	0.2676	2.20	0.3288	2.01	0.0728	0.19	0.3572	0.21	0.0250	1.06	0.4700	2.16
ρ_{13}	0.2854	0.72	0.2489	0.60	0.2900	3.04	0.3155	0.55	0.2905	2.14	0.9544	2.57
ρ_{23}	0.5012	0.69	0.5722	0.47	0.1143	0.40	0.6443	3.87	0.9083	4.88	0.2257	5.36
N	636		653		623		351		599		745	
Log pseudolikelihood	-463.80823		-512.88229		-531.29959		-174.93593		-553.44986		-620.32671	
LR Test $\rho_{12}=\rho_{13}=\rho_{23}=0$	25.4642 (0.0000)		25.1219 (0.0000)		23.1980 (0.0000)		24.5690 (0.0000)		22.2574 (0.0001)		22.7691 (0.0004)	
Wald Test $\chi^2(13)$	159.34 (0.0000)		163.34 (0.0000)		171.65 (0.0000)		153.44 (0.0000)		175.87 (0.0000)		170.39 (0.0000)	

Omitted variables: women, age 55-64, separated/divorced, carereceiver: other relative or friend, not working when became caregiver, not qualified worker. Estimation by simulated maximum likelihood (Hammersley sequence for the GHK simulation and Davidson-Fletcher-Powell technique for the computation of the log likelihood in each trial). Using weights corresponding to population +15 years for each country and clusters by region (except for Malta). The number of rows is equal to the square root of the number of observations by country.

(*) In the Unmet Needs Equation, estimations for male, age 25-34, age 35-44, age 45-54, married, single, widow, carereceiver (spouse, child, parent, sibling), working before being caregiver, professional, business proprietor, white collar, qualified worker have been omitted due to space constraints.

Table 8. Estimate coefficients of the trivariate probit system (Countries 25-29)

	25) Slovenia		26) Bulgaria		27) Romania		28) Croatia		29) Turkey	
	Coef.	t	Coef.	t	Coef.	t	Coef.	t	Coef.	t
Eq. Caregiver										
Unmet needs	0.8402	2.33	0.5541	2.64	0.5902	2.22	0.5753	3.56	0.3166	3.80
Labour problems	-0.1625	-2.92	-0.6620	-2.56	-0.4466	-1.98	-0.2672	-2.65	-0.0265	-2.07
Male	-0.3598	-2.25	-0.3451	-2.57	-0.1144	-2.58	-0.1190	-2.36	-0.4302	-2.95
Age 25-34	-0.0687	-0.37	0.3464	1.57	-0.2967	-0.71	-0.2127	-1.59	-0.0740	-0.42
Age 35-44	-0.1298	-0.83	-0.0372	-0.17	-0.2113	-0.97	-0.1480	-0.69	0.0391	0.22
Age 45-54	-0.1103	-0.70	-0.0215	-0.14	-0.3128	-1.15	-0.1969	-0.82	-0.1434	-0.80
Married	-0.1195	-0.28	-0.3116	-1.39	0.1863	0.58	-0.4856	-1.03	-0.2077	-0.64
Single	0.3946	1.44	-0.2233	-0.55	0.4910	1.17	-0.3521	-0.97	-0.6100	-1.30
Widow	0.3672	0.64	0.3192	0.84	2.9335	2.89	0.2459	0.34	3.0444	2.44
Carereceiver: spouse	-0.4150	-0.97	2.6119	7.24	2.7334	8.45	-0.5170	-1.07	2.1443	3.86
Carereceiver: child	2.3626	6.22	3.0068	4.33	2.6814	4.67	2.0123	4.91	2.6359	3.96
Carereceiver: parent	2.0647	10.09	3.1941	14.17	2.9477	14.45	2.4862	8.85	2.6756	15.03
Carereceiver: sibling	2.0625	4.12	3.0154	6.28	2.1727	4.30	1.7780	3.86	1.4231	2.90
Constant	-1.0525	-2.98	-1.7987	-3.30	-1.3757	-2.50	-0.2720	-0.45	-1.0514	-2.70
Eq. Labour problems										
Unmet needs	1.3168	1.82	0.3770	2.25	1.1913	2.50	0.4181	3.76	2.1249	4.86
Male	0.0468	0.17	-0.0905	-0.27	-0.2474	-1.62	0.1362	1.11	0.1933	0.77
Age 25-34	-2.4841	-5.48	-1.4627	-3.19	-0.9627	-3.22	-1.2569	-1.82	-0.2025	-0.65
Age 35-44	-0.6414	-2.75	-0.4553	-1.61	-0.8788	-4.01	-0.1459	-0.59	-0.3596	-1.14
Age 45-54	-0.3302	-0.99	-0.8199	-2.08	-0.6682	-3.00	0.0461	0.30	0.1090	0.41
Married	0.3180	0.65	0.5265	0.85	0.1034	0.41	0.2725	0.48	0.7959	1.46
Single	0.4014	0.74	-0.2327	-0.43	-0.0531	-0.13	0.4170	0.54	-0.2322	-0.56
Widow	0.5398	0.84	0.7859	0.92	0.4518	0.90	0.4282	1.23	0.8717	1.11
Carereceiver: spouse	0.2634	0.80	0.7608	1.34	0.8606	3.08	0.1182	1.29	0.1607	0.21
Carereceiver: child	1.2091	3.37	0.2791	-0.71	1.0550	2.82	-0.3853	-1.46	0.2188	0.39
Carereceiver: parent	0.2955	1.36	1.0202	1.87	0.9929	3.00	0.8381	2.87	-0.1671	-0.53
Carereceiver: sibling	1.9116	2.60	0.6738	1.78	1.6094	1.50	1.8376	1.97	-0.3708	-0.32
Working before caregiver	2.1975	3.61	2.4380	3.46	1.7556	10.32	2.0341	5.22	1.6000	4.72
Professional (1 person)	0.3511	0.77	0.6314	1.05	0.2271	0.28	-0.7906	-1.56	2.3339	2.45
Business proprietor	-0.2282	-0.43	-0.2387	-0.52	-2.5157	-2.34	-0.3875	-1.33	-0.0484	-0.09
White collar	-0.2343	-0.46	-0.4492	-0.91	-0.9928	-2.66	-0.1289	-0.35	-0.2221	-0.59
Qualified worker	0.0165	0.04	-0.0762	-0.18	-0.2244	-1.76	-0.5587	-3.06	-0.2833	-1.44
Constant	0.5793	1.09	0.6853	0.98	-0.2373	-0.62	-0.2727	-0.41	-0.5293	-0.89
Eq. Unmet needs(*)										
Rural community	-0.1207	-0.54	-0.0674	-0.29	-0.2976	-0.93	-0.2507	-1.90	0.0736	0.47
Small city	-0.0153	-0.05	-0.1353	-0.62	-0.0799	-0.34	-0.0531	-0.33	-0.2966	-1.25
Has Personal Computer	0.3598	3.06	0.0903	0.56	0.2129	2.51	0.0243	0.26	-0.2733	-1.41
Has a car	0.3848	1.78	0.1973	1.49	0.0726	0.23	-0.3063	-1.55	-0.1054	-0.76
Has fixed telephone	0.2866	2.30	0.1702	1.19	-0.1179	-1.03	-0.2092	-1.09	0.3867	2.32
Constant	-1.0034	-1.47	-1.0066	-1.78	-0.6270	-0.97	0.3077	0.63	-1.6724	-1.72
ρ_{12}	0.5195	2.12	0.0642	0.17	0.3833	1.99	0.1888	0.57	0.1465	0.97
ρ_{13}	0.0588	0.22	0.5797	3.72	0.4447	1.46	0.7632	2.31	0.2193	1.66
ρ_{23}	0.5361	3.85	0.4987	0.50	0.8974	0.79	0.0521	0.30	0.8611	3.76
N	604		644		692		684		630	
Log pseudolikelihood	-534.51226		-391.57647		-508.3794		-545.96463		-517.73625	
LR Test $\rho_{12}=\rho_{13}=\rho_{23}=0$	20.3360 (0.0001)		21.3563 (0.0001)		23.3240 (0.0000)		24.1790 (0.0000)		25.1760 (0.0000)	
Wald Test $\chi^2(13)$	183.90 (0.0000)		178.34 (0.0000)		145.27 (0.0000)		168.90 (0.0000)		178.94 (0.0000)	

Omitted variables: women, age 55-64, separated/divorced, carereceiver: other relative or friend, not working when became caregiver, not qualified worker. Estimation by simulated maximum likelihood (Hammersley sequence for the GHK simulation and Davidson-Fletcher-Powell technique for the computation of the log likelihood in each trial). Using weights corresponding to population +15 years for each country and clusters by region (except for Malta). The number of rows is equal to the square root of the number of observations by country.

(*) In the Unmet Needs Equation, estimations for male, age 25-34, age 35-44, age 45-54, married, single, widow, carereceiver (spouse, child, parent, sibling), working before being caregiver, professional, business proprietor, white collar, qualified worker have been omitted due to space constraints.

Table 9. Instrument diagnosis

A) Caregiving equation												
Partial R ² excluded instruments	Overidentification (Hansen stat.)		Test of excluded instruments		Anderson-Rubin Wald test		Kleibergen-Paap rk LM test		Kleibergen-Paap rk Wald statistic		Stock-Wright LM statistic	
	$\chi^2(8)$	p-value	F-statistic	p-value	$\chi^2(10)$	p-value	$\chi^2(9)$	p-value	$\chi^2(9)$	p-value	$\chi^2(10)$	P-value
0.7541	7.388	0.4954	F(10,638)=751.46	0.0000	19.86	0.0306	40.61	0.0000	52.61	0.0000	158.40	0.0000
0.7320	6.802	0.5582	F(10,677)=1681.30	0.0000	20.90	0.0218	46.23	0.0000	50.96	0.0000	134.81	0.0000
0.7396	6.168	0.6284	F(10,949)=633.38	0.0000	19.86	0.0306	58.62	0.0000	84.87	0.0000	153.18	0.0000
0.6768	10.279	0.2460	F(10,576)=199.59	0.0000	20.01	0.0292	28.65	0.0007	41.73	0.0000	179.75	0.0000
0.6049	3.470	0.9015	F(10,580)=199.79	0.0000	19.90	0.0321	43.65	0.0000	66.67	0.0000	108.93	0.0000
0.7331	9.567	0.2967	F(10,621)=712.49	0.0000	18.52	0.0468	49.74	0.0000	66.36	0.0000	104.13	0.0000
0.7439	7.935	0.4398	F(10,660)=802.67	0.0000	20.85	0.0221	52.12	0.0000	64.24	0.0000	141.23	0.0000
0.7121	8.526	0.3839	F(10,679)=411.60	0.0000	19.45	0.0349	38.91	0.0000	58.03	0.0000	135.39	0.0000
0.5966	13.779	0.0877	F(10,736)=376.58	0.0000	20.92	0.0217	41.84	0.0000	61.48	0.0000	99.55	0.0000
0.7522	10.304	0.2443	F(10,304)=215.58	0.0000	19.38	0.0357	20.46	0.0153	34.94	0.0001	57.71	0.0000
0.7180	14.957	0.0600	F(10,681)=1106.38	0.0000	21.12	0.0203	64.21	0.0000	82.01	0.0000	185.06	0.0000
0.5815	9.019	0.3407	F(10,739)=324.97	0.0000	19.92	0.0300	40.40	0.0000	66.00	0.0000	130.99	0.0000
0.6064	11.219	0.1896	F(10,623)=442.72	0.0000	24.12	0.0073	31.52	0.0002	55.52	0.0000	88.60	0.0000
0.6370	13.498	0.0958	F(10,658)=1695.05	0.0000	19.13	0.0387	34.96	0.0001	39.41	0.0000	137.21	0.0000
0.7168	13.485	0.0962	F(10,757)=602.82	0.0000	26.60	0.0030	63.01	0.0000	73.64	0.0000	191.04	0.0000
0.6014	14.829	0.0383	F(10,311)=184.79	0.0000	18.88	0.0262	32.32	0.0000	42.44	0.0000	129.61	0.0000
0.6888	9.334	0.3149	F(10,722)=605.31	0.0000	25.02	0.0053	49.23	0.0000	73.63	0.0000	157.89	0.0000
0.6681	19.024	0.0147	F(10,543)=475.33	0.0000	31.00	0.0006	59.52	0.0000	181.69	0.0000	143.80	0.0000
0.6707	5.822	0.6672	F(10,614)=305.99	0.0000	27.33	0.0023	24.08	0.0042	26.70	0.0016	140.38	0.0000
0.7349	3.558	0.8947	F(10,631)=776.18	0.0000	19.33	0.0366	28.24	0.0009	34.57	0.0001	137.80	0.0000
0.7505	10.720	0.2181	F(10,600)=1184.74	0.0000	22.97	0.0109	37.34	0.0000	63.15	0.0000	150.72	0.0000
0.7763	4.964	0.7614	F(10,329)=260.15	0.0000	25.10	0.0052	18.33	0.0315	17.39	0.0429	106.00	0.0000
0.7129	3.319	0.9128	F(10,577)=447.14	0.0000	24.05	0.0075	22.69	0.0069	28.77	0.0007	137.68	0.0000
0.5065	12.909	0.1150	F(10,723)=377.28	0.0000	26.45	0.0032	82.97	0.0000	141.97	0.0000	188.36	0.0000
0.6696	3.197	0.9214	F(10,582)=335.40	0.0000	19.30	0.0366	27.47	0.0012	42.89	0.0000	116.51	0.0000
0.6926	4.058	0.8518	F(10,662)=316.98	0.0000	27.54	0.0210	40.63	0.0000	55.14	0.0000	150.88	0.0000
0.4807	6.550	0.5858	F(10,670)=200.35	0.0000	19.49	0.0344	42.32	0.0017	58.88	0.0000	143.64	0.0000
0.7058	21.901	0.0051	F(10,608)=547.91	0.0000	30.10	0.0008	26.34	0.0000	32.39	0.0002	169.61	0.0000
0.4850	2.839	0.9440	F(10,662)=117.28	0.0000	20.91	0.0217	40.70	0.0000	317.37	0.0000	153.98	0.0000

B) Labour problems equation												
Partial R ² excluded instruments	Overidentification (Hansen stat.)		Test of excluded instruments		Anderson-Rubin Wald test		Kleibergen-Paap rk LM test		Kleibergen-Paap rk Wald statistic		Stock-Wright LM statistic	
	$\chi^2(4)$	p-value	F-statistic	p-value	$\chi^2(5)$	p-value	$\chi^2(4)$	p-value	$\chi^2(4)$	p-value	$\chi^2(5)$	p-value
0.5469	5.292	0.2586	F(5,639)=1082.49	0.0000	42.60	0.0000	15.76	0.0034	25.38	0.0000	214.32	0.0000
0.5374	1.742	0.7831	F(5,678)=1864.01	0.0000	16.60	0.0053	89.97	0.0000	701.35	0.0000	182.13	0.0000
0.6446	2.318	0.6775	F(5,950)=838.63	0.0000	63.27	0.0000	59.80	0.0000	921.31	0.0000	297.80	0.0000
0.5415	6.375	0.1729	F(5,577)=432.14	0.0000	131.31	0.0000	14.13	0.0069	27.17	0.0000	220.81	0.0000
0.6110	3.434	0.4879	F(5,581)=315.88	0.0000	117.23	0.0000	40.73	0.0000	194.80	0.0000	207.37	0.0000
0.6119	1.247	0.8703	F(5,622)=1037.33	0.0000	21.02	0.0008	17.66	0.0014	63.76	0.0000	201.05	0.0000
0.6066	1.812	0.7702	F(5,661)=1039.13	0.0000	21.66	0.0006	43.69	0.0000	334.51	0.0000	168.01	0.0000
0.6059	1.632	0.8031	F(5,680)=728.92	0.0000	48.74	0.0000	23.45	0.0001	258.47	0.0000	280.12	0.0000
0.6850	7.943	0.1594	F(5,737)=510.90	0.0000	247.73	0.0000	68.60	0.0000	265.58	0.0000	212.42	0.0000
0.6500	3.886	0.4216	F(5,305)=565.33	0.0000	55.43	0.0000	10.21	0.0370	56.44	0.0000	117.55	0.0000
0.6342	2.481	0.6481	F(5,628)=2698.96	0.0000	35.65	0.0000	14.26	0.0065	29.82	0.0000	181.86	0.0000
0.7152	8.438	0.0768	F(5,740)=501.77	0.0000	88.50	0.0000	43.66	0.0000	197.80	0.0000	203.38	0.0000
0.5625	22.913	0.0004	F(624)=473.13	0.0000	233.75	0.0000	58.62	0.0000	275.26	0.0000	182.02	0.0000
0.4725	4.866	0.3013	F(5,659)=1872.88	0.0000	32.82	0.0000	30.58	0.0000	542.22	0.0000	111.71	0.0000
0.6243	2.969	0.5630	F(5,758)=1018.66	0.0000	61.55	0.0000	42.57	0.0000	480.94	0.0000	294.55	0.0000
0.6770	2.114	0.5491	F(5,312)=249.97	0.0000	53.55	0.0000	15.76	0.0034	25.38	0.0000	214.32	0.0000
0.6045	2.477	0.6487	F(5,723)=900.54	0.0000	42.40	0.0000	9.98	0.0407	26.81	0.0000	132.44	0.0000
0.6214	1.966	0.7420	F(5,544)=539.20	0.0000	24.01	0.0002	29.19	0.0000	240.22	0.0000	205.38	0.0000
0.7110	4.674	0.3255	F(5,615)=357.48	0.0000	18.66	0.0022	26.23	0.0000	455.21	0.0000	191.91	0.0000
0.6632	10.139	0.0382	F(5,632)=1160.73	0.0000	25.80	0.0001	46.98	0.0000	223.75	0.0000	218.23	0.0000
0.5817	6.929	0.1397	F(5,601)=1191.70	0.0000	27.00	0.0001	20.92	0.0003	56.62	0.0000	243.08	0.0000
0.6369	1.172	0.8828	F(5,330)=1104.74	0.0000	97.51	0.0000	28.63	0.0000	640.41	0.0000	224.38	0.0000
0.6073	9.311	0.0538	F(5,578)=554.02	0.0000	57.74	0.0000	10.01	0.0402	34.89	0.0000	104.00	0.0000
0.6540	6.942	0.1390	F(5,724)=525.73	0.0000	74.13	0.0000	34.22	0.0000	89.28	0.0000	215.03	0.0000
0.6303	7.255	0.1230	F(5,583)=389.90	0.0000	32.36	0.0000	51.32	0.0000	298.68	0.0000	169.34	0.0000
0.5993	1.481	0.8300	F(5,623)=402.35	0.0000	17.42	0.0042	30.76	0.0000	98.77	0.0000	158.44	0.0000
0.5076	8.545	0.0735	F(5,671)=268.00	0.0000	112.12	0.0000	18.59	0.0009	53.46	0.0000	220.16	0.0000
0.6698	0.996	0.9104	F(5,609)=821.90	0.0000	86.68	0.0000	86.09	0.0000	345.16	0.0000	207.05	0.0000
0.7085	1.436	0.8380	F(5,663)=279.88	0.0000	684.44	0.0000	46.72	0.0000	102.68	0.0000	236.25	0.0000

Test name	Author	Null hypothesis
Hansen J-statistic	Hansen (1982)	Ho: Instruments are properly excluded
Anderson-Rubin Wald Test	Anderson and Rubin (1949)	Ho: Joint significance of endogenous regressors
F-statistic of excluded Instrumental	Staiger and Stock (1997)	Ho: Excluded IV are jointly significant
Kleibergen-Paap rk LM statistic	Kleibergen and Paap (2006)	Ho: Model is underidentified
Kleibergen-Paap rk Wald statistic	Kleibergen and Paap (2006)	Ho: Model is underidentified
Stock-Wright LM statistic	Stock and Wright (2000)	Ho: Joint significance of endogenous regressors

Table 10. Predicted probabilities of being caregiver conditioned on labour problems and unmet needs

	Pr[Caregiver=1,Prob=1 Unmet needs=1]		Pr[Caregiver=1,Prob=0 Unmet needs=1]		Pr[Caregiver=1,Prob=1 Unmet needs=0]		Pr[Caregiver=1,Prob=0 Unmet needs=0]	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
	Belgium	0.5630	0.2370	0.4370	0.2495	0.3409	0.2512	0.6591
Denmark	0.6790	0.2228	0.3210	0.2345	0.2157	0.2014	0.7843	0.2068
Germany	0.5964	0.2342	0.4036	0.2465	0.5032	0.2510	0.4968	0.2510
Greece	0.5964	0.2352	0.4036	0.2476	0.5420	0.2402	0.4580	0.2501
Spain	0.5213	0.2397	0.4787	0.2523	0.5857	0.2408	0.4143	0.2477
France	0.7403	0.2093	0.2597	0.2203	0.2682	0.2232	0.7318	0.2226
Ireland	0.5881	0.2351	0.4119	0.2475	0.2912	0.2440	0.7088	0.2283
Italy	0.5469	0.2380	0.4531	0.2505	0.4534	0.2503	0.5466	0.2506
Luxemb.	0.5479	0.2381	0.4521	0.2506	0.4260	0.2500	0.5740	0.2490
Netherlands	0.5006	0.2434	0.4994	0.2562	0.4267	0.2183	0.5733	0.2494
Portugal	0.7150	0.2155	0.2850	0.2268	0.2718	0.2273	0.7282	0.2234
U. Kingdom	0.4620	0.2386	0.5380	0.2512	0.4697	0.2466	0.5303	0.2508
Austria	0.5890	0.2368	0.4110	0.2493	0.6197	0.2405	0.3803	0.2446
Sweden	0.7127	0.2160	0.2873	0.2274	0.1965	0.2214	0.8035	0.1994
Finland	0.5896	0.2347	0.4104	0.2470	0.4821	0.2489	0.5179	0.2510
Cyprus	0.6000	0.2346	0.4000	0.2469	0.5097	0.2504	0.4903	0.2521
Czech Rep.	0.5070	0.2389	0.4930	0.2515	0.4232	0.2514	0.5768	0.2482
Estonia	0.6263	0.2310	0.3737	0.2432	0.4174	0.2456	0.5826	0.2478
Hungary	0.3203	0.2242	0.6797	0.2360	0.5376	0.1921	0.4624	0.2503
Latvia	0.6596	0.2270	0.3404	0.2389	0.2699	0.2485	0.7301	0.2230
Lithuania	0.5670	0.2370	0.4330	0.2495	0.3021	0.2498	0.6979	0.2307
Malta	0.5101	0.2423	0.4899	0.2551	0.6047	0.2044	0.3953	0.2457
Poland	0.5579	0.2381	0.4421	0.2506	0.4904	0.2330	0.5096	0.2511
Slovakia	0.6093	0.2328	0.3907	0.2451	0.5226	0.2465	0.4774	0.2512
Slovenia	0.5756	0.2368	0.4244	0.2493	0.4441	0.2466	0.5559	0.2497
Bulgaria	0.5859	0.2361	0.4141	0.2485	0.4112	0.2416	0.5888	0.2473
Romania	0.6516	0.2290	0.3484	0.2411	0.4893	0.2456	0.5107	0.2513
Turkey	0.8543	0.1688	0.1457	0.1777	0.7351	0.1629	0.2650	0.2218
Croatia	0.5457	0.2384	0.4543	0.2509	0.3930	0.2480	0.6070	0.2452

Using country weights representing population +15 years.

Table 11. Predicted probabilities of being caregiver conditioned on labour problems and unmet need

	Pr[Caregiver=1.Unmet needs=1 Problems=1]		Pr[Caregiver=1.Unmet needs=0 Problems=1]		Pr[Caregiver=1.Unmet needs=1 Problems=0]		Pr[Caregiver=1.Unmet needs=0 Problems=0]	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Belgium	0.5672	0.2490	0.4328	0.2490	0.3371	0.1372	0.6629	0.2372
Denmark	0.3473	0.2402	0.6527	0.2402	0.5224	0.1506	0.4776	0.2506
Germany	0.5855	0.2475	0.4145	0.2475	0.5144	0.1510	0.4856	0.2510
Greece	0.7297	0.2232	0.2703	0.2232	0.3931	0.1457	0.6069	0.2457
Spain	0.6647	0.2375	0.3353	0.2375	0.4371	0.1503	0.5629	0.2503
France	0.5137	0.2520	0.4863	0.2520	0.4972	0.1509	0.5028	0.2509
Ireland	0.4649	0.2511	0.5351	0.2511	0.4031	0.1463	0.5969	0.2463
Italy	0.4944	0.2517	0.5056	0.2517	0.5060	0.1516	0.4940	0.2516
Luxemb.	0.4890	0.2518	0.5110	0.2518	0.4845	0.1516	0.5155	0.2516
Netherlands	0.7541	0.2179	0.2459	0.2179	0.1957	0.1010	0.8043	0.2010
Portugal	0.5028	0.2518	0.4972	0.2518	0.4808	0.1507	0.5192	0.2507
U. Kingdom	0.5622	0.2496	0.4378	0.2496	0.3720	0.1432	0.6280	0.2432
Austria	0.7266	0.2247	0.2734	0.2247	0.4677	0.1525	0.5323	0.2525
Sweden	0.4703	0.2516	0.5297	0.2516	0.4059	0.1462	0.5941	0.2462
Finland	0.5247	0.2509	0.4753	0.2509	0.5477	0.1499	0.4523	0.2499
Cyprus	0.5489	0.2509	0.4511	0.2509	0.5617	0.1501	0.4383	0.2501
Czech Rep.	0.5068	0.2514	0.4932	0.2514	0.4233	0.1484	0.5767	0.2484
Estonia	0.5214	0.2514	0.4786	0.2514	0.5243	0.1509	0.4757	0.2509
Hungary	0.6861	0.2332	0.3139	0.2332	0.2005	0.1019	0.7995	0.2019
Latvia	0.5829	0.2489	0.4171	0.2489	0.3389	0.1377	0.6611	0.2377
Lithuania	0.5056	0.2518	0.4944	0.2518	0.3566	0.1406	0.6434	0.2406
Malta	0.7983	0.2019	0.2017	0.2019	0.2870	0.1291	0.7130	0.2291
Poland	0.6368	0.2417	0.3632	0.2417	0.3031	0.1315	0.6969	0.2315
Slovakia	0.5144	0.2512	0.4856	0.2512	0.6171	0.1443	0.3829	0.2443
Slovenia	0.6700	0.2366	0.3300	0.2366	0.3479	0.1396	0.6521	0.2396
Bulgaria	0.5590	0.2499	0.4410	0.2499	0.2802	0.1260	0.7198	0.2260
Romania	0.7455	0.2195	0.2545	0.2195	0.3796	0.1444	0.6205	0.2444
Turkey	0.5577	0.2492	0.4423	0.2492	0.2728	0.1267	0.7272	0.2267
Croatia	0.6259	0.2434	0.3741	0.2434	0.3173	0.1338	0.6827	0.2338

Using country weights representing population +15 years.

Table 12. Predicted probabilities of having labour problems and being caregiver conditioned on gender

	Pr[Caregiver=1 Man=1]		Pr[Caregiver=1 Woman=1]		Pr[Caregiver=1.Problems=1 Man=1]		Pr[Caregiver=1.Problems=1 Woman=1]	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
	Belgium	0.5502	0.0879	0.6069	0.0944	0.2250	0.1199	0.3902
Denmark	0.4598	0.0754	0.5363	0.0877	0.0400	0.0185	0.1170	0.0361
Germany	0.4100	0.0982	0.5402	0.0964	0.0673	0.0164	0.1373	0.0252
Greece	0.6457	0.1278	0.6719	0.1330	0.1983	0.1000	0.6121	0.1285
Spain	0.5352	0.0926	0.5768	0.1095	0.3692	0.0807	0.3996	0.1070
France	0.4645	0.0875	0.5111	0.0889	0.0929	0.0450	0.1285	0.0536
Ireland	0.4613	0.0779	0.4786	0.0877	0.2707	0.1079	0.3575	0.1189
Italy	0.4496	0.1023	0.4988	0.1162	0.2032	0.0645	0.2587	0.0738
Luxemb.	0.5228	0.1122	0.5930	0.0914	0.2876	0.0853	0.3861	0.0909
Netherlands	0.4421	0.0917	0.5542	0.1096	0.1711	0.0740	0.4135	0.1113
Portugal	0.4179	0.0912	0.4721	0.0883	0.0592	0.0170	0.1678	0.0420
U. Kingdom	0.4801	0.1057	0.5791	0.1091	0.1442	0.0470	0.2518	0.0633
Austria	0.4777	0.1015	0.5118	0.1020	0.3058	0.0905	0.4020	0.0881
Sweden	0.5342	0.0962	0.5712	0.0894	0.1825	0.0603	0.1999	0.0567
Finland	0.5583	0.0985	0.5890	0.1102	0.2421	0.0813	0.2590	0.0836
Cyprus	0.5746	0.1355	0.6430	0.1175	0.3197	0.0951	0.4629	0.1162
Czech Rep.	0.5480	0.1025	0.6914	0.1075	0.2476	0.0947	0.4401	0.1066
Estonia	0.5753	0.1064	0.5785	0.1060	0.1529	0.0491	0.1532	0.0473
Hungary	0.5641	0.0998	0.6929	0.1111	0.3655	0.1149	0.4261	0.1156
Latvia	0.5848	0.1152	0.6613	0.1149	0.1101	0.0647	0.2468	0.1006
Lithuania	0.5955	0.1253	0.6515	0.1172	0.0670	0.0267	0.2215	0.0597
Malta	0.7636	0.0692	0.7653	0.1026	0.2654	0.1194	0.6817	0.1193
Poland	0.5255	0.1021	0.6045	0.0931	0.3144	0.1010	0.3689	0.1069
Slovakia	0.4909	0.1072	0.5813	0.0909	0.1722	0.0380	0.2171	0.0356
Slovenia	0.5403	0.0990	0.5884	0.1077	0.3927	0.1082	0.5074	0.1197
Bulgaria	0.7000	0.1043	0.7453	0.1232	0.3460	0.1185	0.3813	0.1257
Romania	0.6362	0.1124	0.6980	0.1068	0.2921	0.0777	0.4205	0.0844
Turkey	0.5746	0.1104	0.6709	0.1185	0.2218	0.0953	0.5477	0.0980
Croatia	0.5434	0.1193	0.6303	0.1247	0.3789	0.1137	0.4310	0.1158

Using country weights representing population +15 years.

Table 13. Predicted probabilities of having labour problems conditioned on professional situation

	Pr[Problems=1 Professional=1]		Pr[Problems=1 Bussiners proprietor=1]		Pr[Problems=1 White collar=1]		Pr[Problems=1 Qualified worker=1]		Pr[Problems=1 No qualified worker=1]	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
	Belgium	0.8225	0.1588	0.8262	0.1525	0.8917	0.0912	0.7797	0.1577	0.2753
Denmark	0.1064	0.0704	0.1496	0.0882	0.1332	0.0586	0.0984	0.0308	0.0727	0.0424
Germany	0.1144	0.0296	0.1371	0.0380	0.1351	0.0400	0.1184	0.0353	0.0983	0.0369
Greece	0.2201	0.1024	0.6234	0.1601	0.8203	0.1082	0.8788	0.0915	0.1586	0.1187
Spain	0.6594	0.3123	0.5870	0.1803	0.5742	0.0602	0.4987	0.1581	0.2919	0.1240
France	0.2246	0.1109	0.2929	0.1019	0.3736	0.0808	0.3153	0.0867	0.0582	0.0382
Ireland	0.6835	0.2273	0.8919	0.0808	0.6018	0.1621	0.7012	0.1209	0.1601	0.1062
Italy	0.1032	0.0861	0.3172	0.1263	0.4917	0.0979	0.3199	0.1267	0.1801	0.0825
Luxemb.	0.4132	0.2134	0.4592	0.1354	0.3781	0.1209	0.5367	0.1303	0.2589	0.1164
Netherlands	0.8814	0.4033	0.5242	0.1392	0.7084	0.1135	0.6162	0.1417	0.1270	0.0790
Portugal	0.0736	0.0497	0.1330	0.0578	0.1231	0.0611	0.1155	0.0557	0.1148	0.0557
U. Kingdom	0.1600	0.0756	0.3218	0.1007	0.2959	0.0494	0.2839	0.0829	0.1583	0.0836
Austria	0.7132	0.3327	0.7103	0.1652	0.5959	0.1256	0.4721	0.1291	0.2776	0.1189
Sweden	0.3338	0.1523	0.2271	0.1049	0.2561	0.1222	0.1922	0.1114	0.1827	0.0812
Finland	0.3473	0.1586	0.4181	0.1460	0.3976	0.1387	0.3752	0.1404	0.1790	0.0954
Cyprus	0.9152	0.0503	0.8037	0.1841	0.7926	0.1393	0.8141	0.1165	0.2248	0.0760
Czech Rep.	0.5005	0.1695	0.7197	0.1238	0.7994	0.1062	0.5473	0.1587	0.2409	0.1181
Estonia	0.2519	0.1325	0.2271	0.1185	0.1459	0.0748	0.1704	0.0707	0.1415	0.0656
Hungary	0.4712	0.1981	0.6791	0.1567	0.8326	0.0624	0.6252	0.1670	0.1891	0.0921
Latvia	0.7227	0.1099	0.8347	0.0432	0.5839	0.1537	0.5719	0.1063	0.0647	0.0447
Lithuania	0.4163	0.0784	0.2015	0.1027	0.1984	0.0614	0.3361	0.1047	0.1068	0.0553
Malta	0.9930	0.0034	0.8607	0.1286	0.7896	0.0585	0.8387	0.1098	0.1347	0.1024
Poland	0.7730	0.1325	0.6651	0.1470	0.5514	0.1427	0.4761	0.1596	0.1957	0.1088
Slovakia	0.1858	0.0657	0.1921	0.0425	0.1825	0.0400	0.1999	0.0455	0.2006	0.0593
Slovenia	0.8331	0.1574	0.8475	0.0554	0.8255	0.0492	0.8362	0.0868	0.2742	0.1246
Bulgaria	0.9612	0.0219	0.7231	0.2083	0.6252	0.1775	0.7499	0.1492	0.1531	0.0816
Romania	0.7523	0.3012	0.7902	0.0167	0.6654	0.0885	0.4842	0.1219	0.3001	0.1116
Turkey	0.9178	0.3332	0.7096	0.0991	0.6598	0.1154	0.5825	0.1376	0.1024	0.0654
Croatia	0.5744	0.1958	0.5965	0.1623	0.7903	0.1125	0.6586	0.1156	0.2750	0.1528

Using country weights representing population +15 years.