Abstract

The impact of different types of resource transfers on individual well-being.

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In this paper, we explore the impact of different intra-family transfers on the well-being of the eldest. We use data for several European countries derived from the Survey of Health, Ageing and Retirement in Europe (SHARE). Most of previous research over the well-being of the eldest have modelled well-being in terms of health status. However, we propose a multidimensional study. Moreover, we model the interdependency of that people in terms of the transfers of the resources of time and money that the eldest do to and receive from other members of the family.

JEL codes: D13, I3, J14.

The impact of different types of resource transfers on individual well-being*
(Preliminary version)

Victoria Ateca-Amestoy† Arantza Ugidos‡

1 Introduction.

Given that life expectancy has extended, it turns out that the aim of any policy targeted to increase the well-being of the eldest has to take into account several special features. The first one regards the characteristics of an increasing and changing group of population. Life expectancy is increasing around Europe, so the heterogeneity of this population group makes specially challenging to promote their quality of live.

Most of previous results have focused on studying the health status. However, we can hardly believe that this is the most relevant approximation to the study of the well-being of such a heterogeneous group of population. That is why we propose a multidimensional study. We can think on several analytical tools to determine what quality consist on. Actually, life quality and well-being turn out to be complex concepts built up upon several aspects of a very different nature. They incorporate objective and subjective aspects, as well as societal arrangements and individual characteristics. Overall, we can consider that there is not a clear consensus about with approach is the most suitable to study life quality and well-being. Moreover, researchers that have focused on the particular social group defined by the eldest, have highlighted that nowadays the characteristics of the people included in the "third age" group have changed. Many enjoy a reasonable good health status (both physical and psychological). We will take benefit of the information recorded in the *Survey of Health, Ageing, Retirement in Europe* (SHARE), to undertake an exploratory analysis. It

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seems to us a suitable tool since the Survey identifies determinants of well-being that are specific to this age group. Overall, we can characterize that life span as an stage in life: transition from labor activity into retirement, possibilities of a greater personal freedom and new opportunities for social participation.

Moreover, we model the interdependency of that people in terms of the transfers of the resources of time and money that the eldest do to and receive from other members of the family. In order to do so, we will focus of the different time and money transfers that the individual receive and provide with to other members of the family. We propose the concept of an eldest person that is "net donor" or "net recipient" of both types of transfers.

We will discuss some of the relevant results, most of them descriptive, obtained from the SHARE survey. Then, we will present the Survey itself. Later, we will discuss the empirical specification and will present the results of an exploratory analysis that models well-being by estimating ordered probit models. We conclude by discussing the results.

2 Literature review and the alternative approaches to the measurement of well-being.

We will consider for this work two main and complementary approximations to well-being: hedonic and eudaemonic measures [10]. While the first type captures the achievement of pleasure and enjoyable experiences, the second type focuses on the development of human potential, and captures elements such as control, social relationships and self-perceptions.

Economic literature has paid increasing attention to subjective well-being (or happiness, or life satisfaction), and has mostly used hedonic measures to characterize the determinant of individual quality of life (either by asking the subject to evaluate her life as a whole, or to evaluate some particular domain of her life). The fact that we can relate closely that approximation to welfare with the economic concept of utility explains partially this blooming literature. Many of those contributions have tried to explain the impact that several socioeconomic factors over the individual life satisfaction, or over the satisfaction with some life "domain" or even some "subdomain" (financial satisfaction, job satisfaction, satisfaction with job flexibility, and so on). The big socioeconomic surveys on living conditions, such as the European Community Household Panel (ECHP), the British Household Panel Survey (BHPS), or the German Socio-Economic Panel (GSOEP), use hedonic measures to characterize individual quality of life. Eudaemonic measures has been mostly used in other Social disciplines. Eudaemonic well-being is typically measured by means of questions regarding autonomy, determination, interest and fulfillment sense. The Sociological literature, for instance, assess that eudaimonics captures functional dimensions of welfare, so it plays a complement role -but different- with respect to the hedonic component of welfare (which is happiness or life satisfaction).

When focusing into the social group that is the object of our analysis, Walter proposes up to of models of quality of life that he finds particularly suitable to explain the eldest's quality of life [29]. These are the following: (1) objective social indicators on quality of life, which mostly refer to income, health, mortality and morbidity; (2) human needs fulfillment, generally measured as individual subjective satisfaction with the degree of accomplishment of those needs; (3) subjective social indicators as life satisfaction, psychological well-being, and happiness; (4) Social capital in terms of personal resources, social networks, support, participation in activities, and integration in the community; (5) resources of the environment through crime incidence, public services...; (6) health and functionality, specially the physical ability or disability, or the wider approaches to health status; (7) psychological models of cognitive competence and autonomy, control and adaptation; and (8) hermeneutics approximations that highlight the values, the interpretation and perceptions of the individual, often measured by means of vignettes.

One of the clear benefits of using the SHARE is that it makes available a wide battery of measurements of the oldest' well-being that relies in many of those different perspectives and approximations. Some of those measures, such as the individual's self-reported health status, rely on directly measured individual assessments and have already been widely used in the Social Sciences literature. However, some others are well-being measures that have been particularly developed for the eldest and that have to be constructed by means of synthetic indexes that get information from different questions of the survey.

We perform the analysis over both types of measures in an attempt to study the effect of the interdependency relationships over those two dimensions. These are going to be the four measures that we will analyze in this work. The variables are either self-reported variables from the survey or constructed indexes. In the following table, we identify the measures, how they have been constructed, and we report the correspondence to the taxonomy by Walter that we have presented above.

Alternative measures of well-being		
measures	*type*	*variable construction*
EURO-D	*6 or 7*	*index build by SHARE Consortium*
CASP-12	*7*	*index build by the authors*
SPHEU	*6*	*self-reported*
life satisfaction	*3*	*self-reported*

Overall, we have found little pieces of research that have considered the effect of interdependence on the well-being of the oldest members of population. Among that scarce literature, there is a common assessment of the need of longitudinal data in order to fully characterize the impact of any change on the interdependence variables over the evolution of the individual conditions. In that way, it would be possible to keep track of all the ageing process of the individual. Some of those studies, highlight the convenience of using the data

derived from the SHARE since new waves will potentially allow for this type of analysis. Most of the discussion that follows presents the advantages of using some of those measures, some of them not incorporated yet to the economic approximation of well-being.

As a first approach, Knesebeck, Hyde, Higgs, Kupfer and Siegrist in [9], chose an eudaemonic index to model the quality of life of our focus group: the CASP-19. They assume that the degree in which each old person can fulfil his/her needs in a measure of his/her quality of life. By using the CASP-19, they take into account that it is specially relevant the degree of fulfilment in the following domains: control (i.e., the capability to have an active performance in the environment), autonomy (i.e., the right to be free of non-desired interferences), self-fulfilment, and pleasure. However, SHARE proposes that those four domains should be treated equally (without hierarchies), the information is provided in order to build a reduced version of the index that accounts for 12 ordered variables. The CASP-12 index is therefore build using the information to 12 questions measured in Likert ascending scales, each of which measures the theoretical dimensions of quality of life. We will report below the values for each of the 4 theoretical dimensions of the CASP-12 in the sample that we are going to use for our analysis.

There are not many studies of the quality of life of the old people. Some of them tried to explain the individual health status by using the subjective self-assessed health status of the individual as an approximation to his/her well-being. For some authors, such as Wiggins, [30], that variable has several drawbacks: since it is subjective and self-assessed, it can be, at most, consider a "proxy" for the real quality of life. The main argument relies on the impossibility of being at the same time both the explanation and the definition of quality of life. For those authors, CASP index has a solid theoretical construction and respects the property by which any measurement of quality of life must be clearly different from the factors that determine quality of life itself. In [30], the authors find out that good predictors of the quality of life of old people are: the quality and density of their social networks, the loss of dearest ones, the lack of retirement benefits that determine a bad financial situation, and living in a degraded neighborhood.

Some previous studies on quality of life have used data derived from the SHARE that enable to construct the CASP index (Knesebeck et al. in [9]). Several geographical patterns have been described, determined by a North-South gradient. There are significant differences between the low levels of Mediterranean countries (Greece, Italy and Spain), and the higher levels recorded for Northern countries (Netherlands and Denmark, notably). That pattern also applies for the study of each of the four different dimensions that are measured in this index.

Although there are negligible and non significant gender differences, there are generational differences. Those differences between the quality of life of the younger and the eldest in this analysis are broader for European Southern

countries. It means, thus, that the negative impact of age is more prevalent in Southern Europe. The interpretation provided by the authors may seed some light over those conclusions and may help us understand a little bit better the CASP measure.

Wahrendorf et al. [28], use the SHARE data to determine the positive effects of social productivity over the well-being of the eldest. Those authors define social productivity in terms of any activity previously agreed and continuous over the time that generate goods or services that are, either socially of economically, valuable to the recipients, even if they are not provided over a formal contract. They consider the relevance of time transfers, just as we do, but in a broader sense. Actually, they consider the possibility of transferring time by means of charity or volunteering activities. Thus, they consider up to 3 types of time-transfers involving activities: (1) voluntary of charity work, (2) care of ill or hampered adults and, (3) the provision of informal help to the family, friends or neighbors. To measure the well-being of the eldest, they use 2 indicators using the dataset: CASP-12 and CES-D. This last measure captures the depressive condition that reflects the reduction over emotional well-being. The authors use some other alternative measures to check the consistency of those measures (for instance, they use the self assessed health status). They do not only investigate the determinants of giving time transfers, since they control for those received by the eldest. The objective of their work is to test the hypothesis of the positive effect of "reciprocity" over well-being. This implies lower levels of well-being for those people whose social interaction is determined by non-reciprocal exchange, with respect to the people that enjoys a more equilibrated situation between efforts and rewards. They conclude that the "quality" of the interchange is the key variable for well–being. In that way, the relationship between social productivity and well-being is modulated by the reciprocity of the interchange.

Also by using this same database, Von dem Knesebeck, Wahrendorf, Hyde and Siegrist [27] analyze the association between the quality of life of the European old people and a battery of socio-economic status indicators for different European countries. Their aim is to determine if the relative importance of socio-economic status changes with age. By using the reduced version of CASP (CASP-12), they study the correlation between this eudaemonic measure and five measures of relative position that determine socio-economic status: income, education, household tenure status, net wealth and ownership of a car. By multivariate analysis they estimate some models and conclude that even if there are positive correlations, the results vary by country. They also find that the impacts of those factors are different before and after retirement. Overall, the house tenure regime is the one with the less relationship with quality of life.

With English data from the English Longitudinal Study of Aging (ELSA), Nevuteli, Wiggings, Lidon, Montgomery and Blane [25] determine that quality of life is reduced by depression, by the perception of an ill financial situation, by limitations in mobility, in undertaking daily activities, and by impeding chronic diseases. On the other hand, quality of life increases with confidence relations in

the family and friends network, with frequent contacts with friends, with living in a good neighborhood and with holding more material properties. They only find slight differences by age groups and by gender. Based on those results, they conclude that any policy aimed to increase the quality of life of the eldest should be targeted to alleviate financial difficulties and the limiting health conditions, and to improve the conditions of aged neighborhoods and to improve the density of the social relationships of the old people.

Another interesting source of information is the Gallup World Poll, since it contains data for 132 countries. Deaton [13] uses data from the 2006 survey to analyze the relationship between financial situation, ageing, health and well-being (this last is measured as happiness or life satisfaction and as health satisfaction). Average happiness is related with national per-capita income. This effect holds for every society analyzed, a new finding. Improvements in life expectancy determine that a person has more probability of being happy, but the measure if life expectancy has no effect by itself. Age does not determine a clear and common pattern around the world. For rich countries, it seems that the typical U shape fits; for the old subsamples, there is a positive relation between age and happiness reported. However, for poor countries, there seems to be evidence supporting the opposite.

We also take into account the potential difference on the individual behavior depending on the country that we consider. Welfare regimens in Europe haver been the object of wide research [15]. We expect that different welfare public regimes have an impact on how veterans transfer time and money and interact with other generations of their family.

3 Data description

We use the first release of the Survey of Health, Ageing and Retirement in Europe, SHARE, in its 2.0.1 version as coordinated by the Mannheim Research Institute for the Economics of Aging. It is a multidisciplinary and, still, cross-section dataset that provides detailed information on health conditions, socio-economic status and social and familiar networks of people that are above 50. The data were collected in 2004 for 11 countries. SHARE is a multidisciplinary study that contains detailed information on health, socio-economic status, social and familiar networks for individuals that are at least 50 years old. In 2004, information was collected for 11 countries in Europe by regions: Scandinavia (Denmark and Sweden), Central Europe (Austria, France, Germany, Switzerland, Belgium and the Netherlands); and Mediterranean (Spain, Italy and Greece). This 2.0.1. version merges the data collected for Israel in 2005 and 2006.

The data gathered included health variables (for instance, self assessed health status in the European version of the scale, as well as objective gerontological measures of health conditions), psychological variables (such as psychological health, life satisfaction), economic variables (as labor status, characteristics of

the job, job opportunities after retirement, sources and amount of current income, wealth and consumption), social variables (education and housing conditions) and social support variables (such as family support, transfers of income and assets, social networks, charity activities). As well as the variables directly recorded in the survey, the SHARE dataset includes the variables and indicators generated by AMANDA-IDT in the 5th F.P of the European Union. Those variables and indicators include recoded variables, as well as harmonizations (for instance, into EURO by using exchange rate and parities for the year 2004) that enable for international comparisons.

All this information is provided under 19 modules. Some of those collect information of the household and of the family, and are completed by the individual that is determined to be the reference person of the family. People over 50 are interviewed, as well as their partners (when living together, even if they are under 50), parents or parents in law, children and familiars, as well as siblings and other people in the household (if they life in the same house and are over 50)

The following table contains the description of the sample that we are going to use, by country, sex and age. Given that the availability of some information is not good enough for some variables in some countries, we decided to work with the following group of countries. Our selection has kept in the sample representative countries for different welfare regimes around Europe [16], [14], and [15]. Sweden represents the Scandinavian welfare regime; Austria, France, Germany, Netherlands and Switzerland have Continental welfare regimes; as well as Spain, Italy and Greece, although these countries have been traditionally considered the representatives of Mediterranean welfare regimes, a subgroup which has, in the opinion of some authors, some specificities [4].

Sample distribution by country, gender and age							
Country	Total	Male	Female	< 50	50 - 64	65-74	> 75
Sweden	3.052	1.413	1.639	55	1.589	816	592
		46	54	1,8	52,06	26,74	19,4
Austria	1.888	782	1.106	39	949	544	356
		41,42	58,58	2,07	50,26	28,81	18,86
France	3.176	1.385	1.791	124	1.627	768	657
		43,61	56,39	3,9	51,23	24,18	20,69
Germany	2.995	1.377	1.618	54	1.569	886	486
		45,98	54,02	1,8	52,39	30	16,23
Netherlands	2.963	1.362	1.601	98	1.693	713	459
		45,97	54,03	3,31	57,14	24,06	15,49
Switzerland	995	459	536	35	505	251	204
		46,13	53,87	3,52	50,75	25,23	20,5
Spain	2.393	993	1400	40	1.079	701	573
		41,5	58,5	1,67	45,09	29	23,94
Italy	2.557	1.132	1.425	49	1.342	785	381
		44,27	56	1,92	52,48	30,7	14,9
Grece	2.898	1.244	1.654	218	1.450	714	516
		43	57	7,52	50,03	24,64	17,81
Total	22.917	10.147	12.770	712	11.803	6.178	4.224
		44,28	55,72	3,11	51,50	26,96	18,43

Source: SHARE 2004, Release 2.0.1.

As we have indicated, there is not a clear consensus on the most suitable measure of well-being and of quality of life. For this work, we have chosen four of the bundle of variables that are offered in the SHARE survey: EURO-D, CASP-12, SPHEU and life satisfaction. The two first variables are considered objective variables, whereas the two latter ones are subjective. These subjective variables are the ones that have been most widely used in the literature. It could be useful to consider each of this measure in the analytical framework defined by Walter [29], as we have done in the previous section.

3.1 EURO-D

EURO-D is a psychometric scale that measures the degree of depression of people. It is measured in a 0 to 12 scale (0= not depressed at all, 12 = very depressed). We can identify 12 as the highest level of ill condition; thus, minimal level of quality of life or well-being. The 12 theoretical dimensions are: depression, pessimism, suicidality, guilt, sleep, interest, irritability, appetite, fatigue, concentration, enjoyment and tearfulness. The average of the indicator by country takes its lowest value for Denmark, with 1.85 points and its highest for Spain with 3.12. For women, the average is still the lowest in Denmark

(2.07) and the highest in Spain (3.87). Men get a 1.45 in Switzerland and a 2.33 in Italy. Women get, on average, higher values in the index than men. The average values of this variable turn to be different by gender.

Quality of life by country. EURO-D average values (standard error in brackets)		
Country	EURO-D	obs.
Sweden	2,06	2.942
	(1,96)	
Denmark	1,85	1.586
	(1,93)	
Austria	1,98	1.831
	(2,13)	
Germany	2,05	2.880
	(2,11)	
France	2,80	2.825
	(2,31)	
Netherlands	2,08	2.792
	(2,09)	
Switzerland	1,88	935
	(1,84)	
Belgium	2,38	3.577
	(2,17)	
Spain	3,12	2.273
	(2,78)	
Italy	2,96	2.484
	(2,54)	
Grece	2,20	2.572
	(2,23)	
Total	2,52	26.697
	(2,37)	

3.2 CASP-12

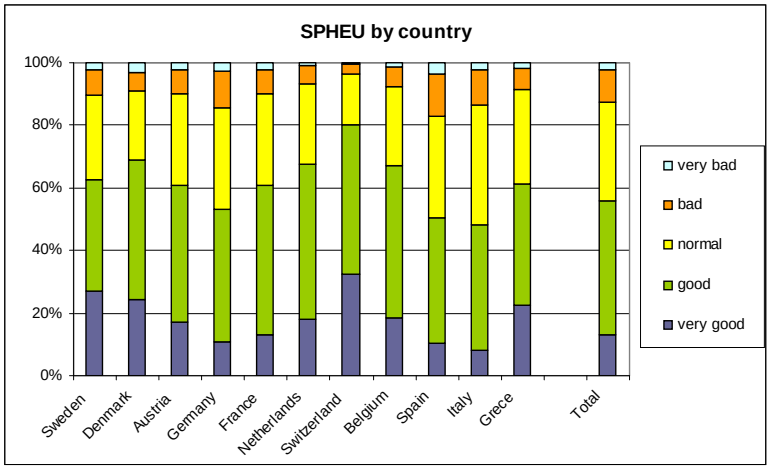
CASP-12 measures the degree in which the old person has his/her needs covered. These degree is measured over 4 dimensions: control, autonomy, self-realization and pleasure, each of them measured on ascending 0 to 12 Likert scales. Thus, the total value of the indicator takes values on a range 12 to 48 points. A higher value is related to better quality of life. SHARE reports the values recorded for each of those dimensions. Average values by country goes from 33.32 in Greece, to 40.48 in Switzerland. When considering gender subsamples, women get systematically lower values than men: average value for women in Greece is 32.33 and in Switzerland 40.37 points; men in Greece get 34.50 and 40.62 in Switzerland.

Quality of life by country. CASP-12 average values						
(standard error in brackets)						
Country	control	autonomy	self-realization	pleasure	CASP12	obs.
Sweden	8,64	9,27	11,15	9,74	38,80	1.984
	(1,89)	(1,64)	(1,26)	(1,99)	(4,93)	
Denmark	8,85	9,56	11,25	10,17	39,84	1.088
	(1,99)	(1,56)	(1,24)	(1,83)	(4,94)	
Austria	8,98	8,98	10,87	9,42	38,25	1.568
	(2,29)	(1,81)	(1,66)	(2,20)	(6,30)	
Germany	9,06	9,02	10,56	9,03	37,68	1.757
	(2,21)	(1,85)	(1,68)	(2,20)	(6,10)	
France	8,65	8,69	9,34	9,39	36,06	1.029
	(2,13)	(1,72)	(1,88)	(2,05)	(5,79)	
Netherlands	9,28	9,18	10,83	9,80	39,09	1.879
	(1,87)	(1,80)	(1,65)	(2,09)	(5,46)	
Switzerland	9,50	9,40	11,21	10,36	40,48	632
	(1,86)	(1,69)	(1,23)	(1,75)	(4,86)	
Belgium	8,78	8,84	10,21	9,59	37,42	2.200
	(2,10)	(1,83)	(1,88)	(2,00)	(5,79)	
Spain	8,61	8,38	10,06	8,69	35,73	1.457
	(2,51)	(1,92)	(2,03)	(2,30)	(6,72)	
Italy	8,33	7,81	9,33	8,57	34,04	1.329
	(2,37)	(2,05)	(1,76)	(2,35)	(6,40)	
Grece	7,74	7,75	9,48	8,35	33,32	1.758
	(2,27)	(1,87)	(1,75)	(2,22)	(5,97)	
Total	8,74	8,63	10,14	9,06	36,58	16.681
	(2,27)	(1,94)	(1,86)	(2,25)	(6,37)	

3.3 Self perceived health

SPHEU, which is the very widely used self reported measure of health status by using the European scale (1 to 5). In this case, the Likert scale is descending. The highest value corresponds, thus, to the worse health condition. Average values by country goes from 1.91 in Switzerland to 2.60 in Spain. We present here the percentage of people that declare each of the levels by countries.[1]

[1] Recall that we do not use the observations for Denmark and for Belgium because of problems with the relevant variables. However, for the shake of completeness in this descriptive presentation of the variables, we include those countries in the graphs.



3.4 Life satisfaction

Life satisfaction is reported in a descending 1 to 4 Likert scale. The higher the declared level, the lower the person subjective well-being assessment will be. Average values by country range form 1.36 in Denmark to 2.01 in Italy. By gender, nearly the same order prevails by country. In the following figure, we present the percentage of individuals that report each of the four possible values by country.

4 Determinants of well-being of the eldest

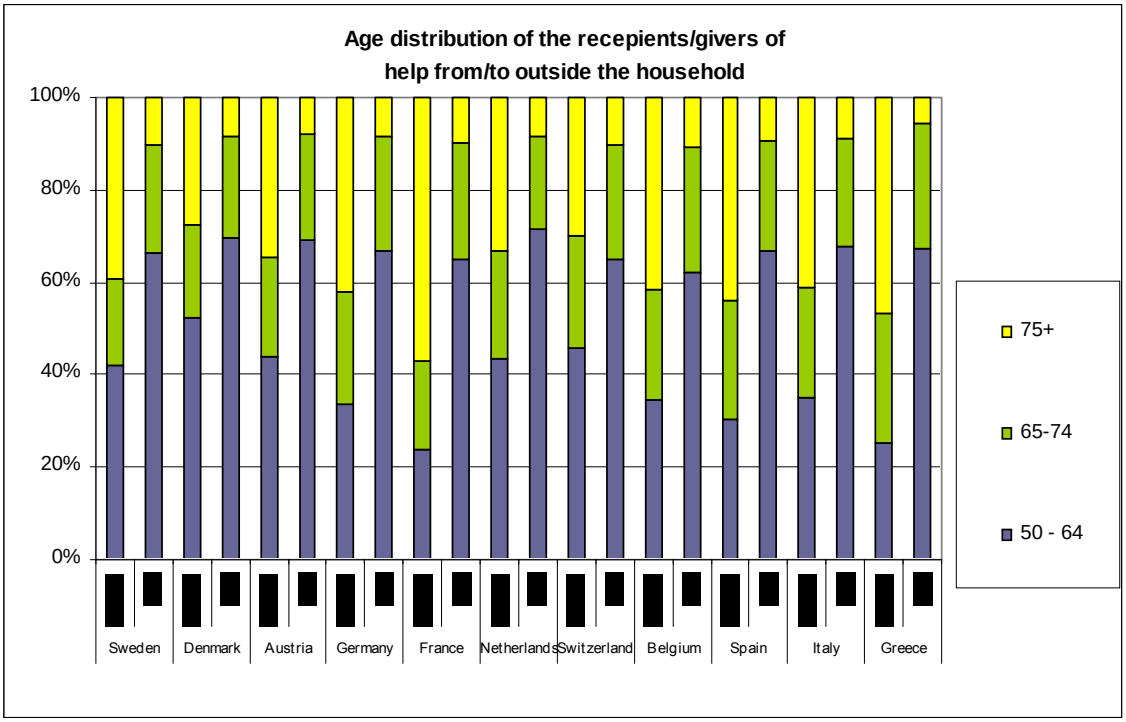
Since the SHARE provides us with different measures, we use four of them as dependent variables. As mentioned above, two of them are objective measures, and two are subjective. EURO -D is measured in a 0 to 12 scale, where we can identify 12 as the highest depression or, alternatively, minimal level of quality of life and well-being. Notice that when interpreting the coefficients, a positive sign will imply that the variable has a negative effect over the well-being of the individual. CASP - 12, whose total value lies on a range of 12 to 48 points. A higher value is related to better quality of like. When interpreting the coefficients, a positive sign will be identifying a positive partial effect over the dependent variable. SPHEU is recorded in a 1 to 5 Likert ascending scale, so higher values are associated with better health. Life satisfaction is also measured in a 1 to 4 ascending Likert scale, with higher values correspond to higher life satisfaction.

Since we are particularly interested in determining the effect of intrahousehold transfers over the welfare of the old person, we consider the frequency of contacts of the person with her family, the distance from where the family lives and build up some indexes to measure the time and money transfers.

There is enough evidence in the literature about intergenerational transfers of income and wealth ([2], [3] and [22], for instance). Less attention has been paid to the transfer of time from one generation to another. Time transfers may have also a big impact over the well-being of the involved agents. They imply that some commodities can be produced inside the family, without having to buy some services in the market. For instance, some generations of European women take care of their grandchildren and/or their parents (for this last case, see for instance [12]).

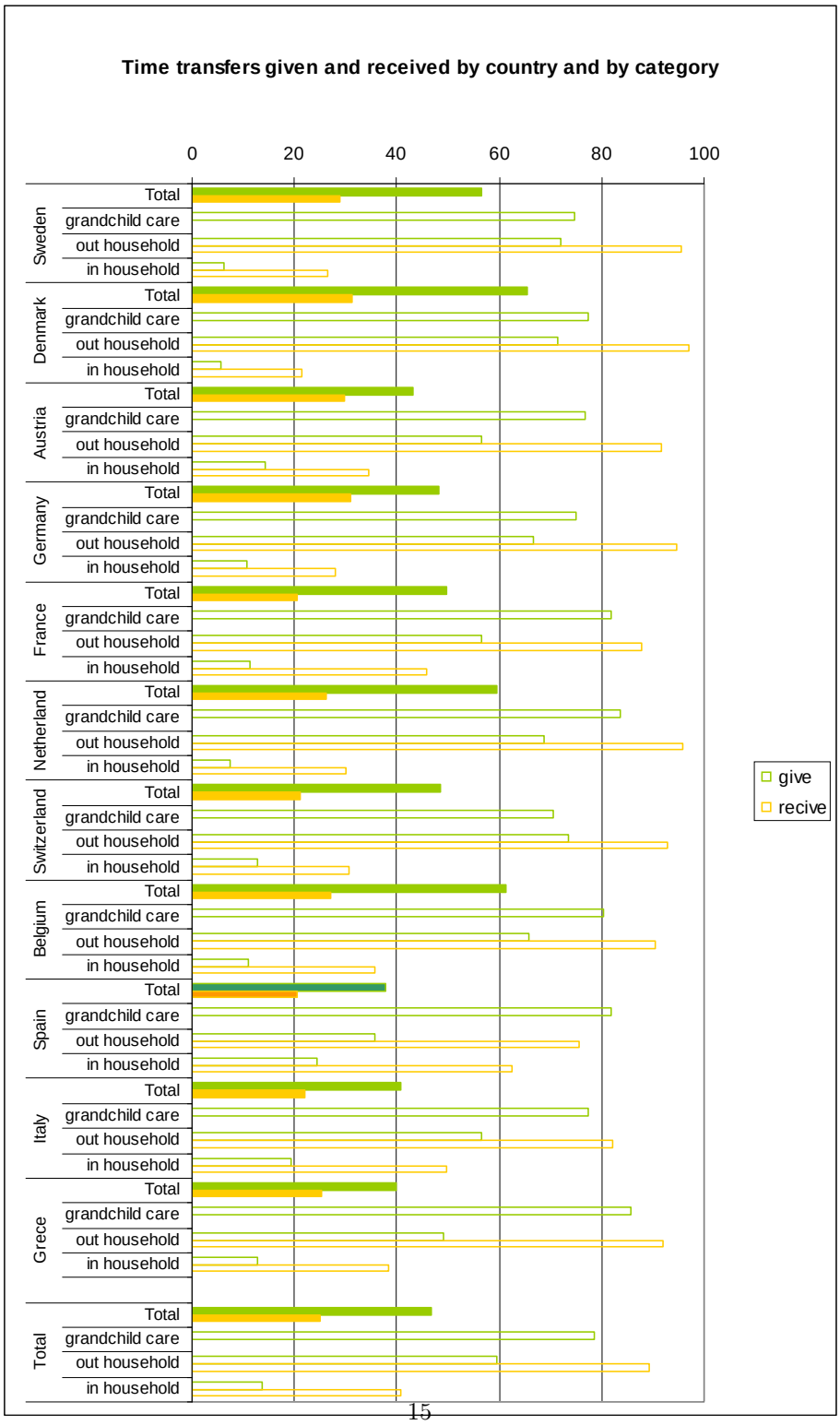
We define that a person can be in three different situations regarding either the transfer of time or of money at a intrafamiliar level.[2] It can be the case that the person transfers *to* other members of the family more than he/she receives, in that case, the person is a net giver or net donor. It can also be the case that there are no transfers for times and goods (we will consider this situation the baseline case for the analysis). But is the person receives *from* other members of the family more transfers of money or time that he/she does, then the person is a net receiver in our analysis. All this information is transformed from the original database. We introduce the potential influence by means of a set of dummy variables. The following graph shows how the age profile is related with the fact of receiving and giving help, i.e. transfer time.

[2] Remember the finding of the need of reciprocity in order to perceive that the interaction has been profitable as we have discussed in the literature section.

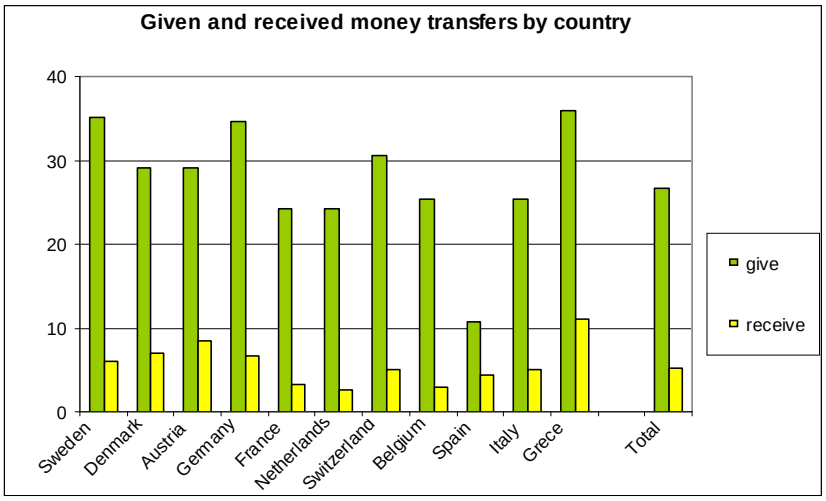


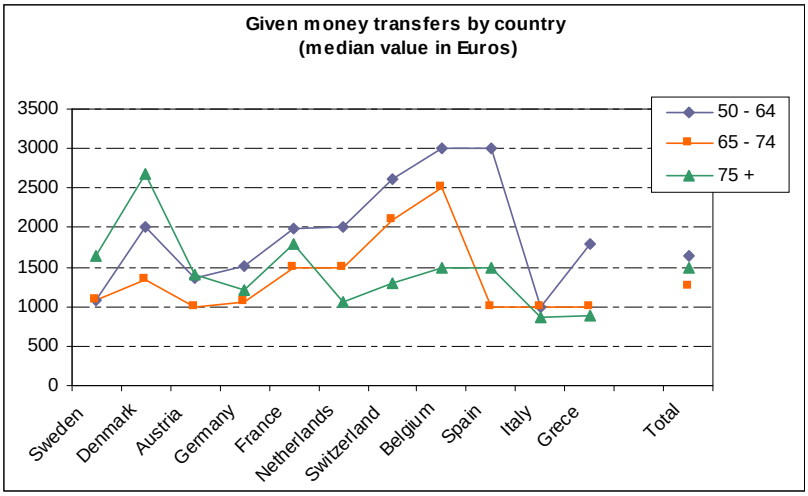
As we have said, we take into account both money and time transfers that the person do and/or receive from other members of the family. We can model the interdependence of an old person in terms of the intra-family transfers in, at least, two dimensions: the net balance between what the person gives and receives, and the frequency of those transfers. This second dimension is introduced in the analysis in an attempt to measure the intensity of the interdependence. By introducing this dimension as a "modulator", we believe that we can draw a more precise picture of this complex relation. For instance, even if in Spain the proportion of old people that give or receive time transfers is not very high in comparison to other European countries, the intensity of those transfers is much higher in Spain. A description of the transfers regime for our sample countries could go as follows.

First, we can characterize the fraction of our population that gives and receives some kind of time transfers. In the table below, we present the picture, by country, of the proportions that give and receive time transfers. The solid bars depict the proportion that give and receive, no matter which is the purpose or where do they get this transfer from. Then, we present the fraction of population that is involved in the provision of time in order to take care of grandchildren. The last 4 bars represent the proportions of giving and receiving those transfers from inside/outside the household.

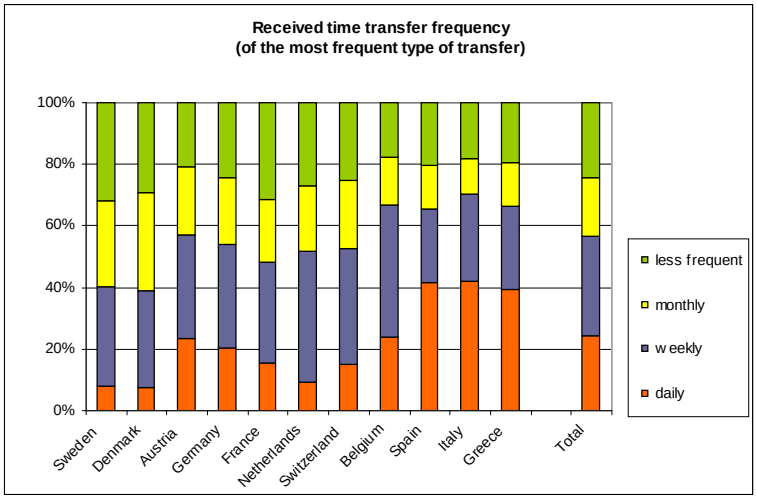

Time transfers given and received by country and by category
0
20
40
60
80
100
Sweden
Denmark
Austria
Germany
France
Netherland
Switzerland
Belgium
Spain
Italy
Grece
Total
Total
grandchild care
out household
in household
give
recive

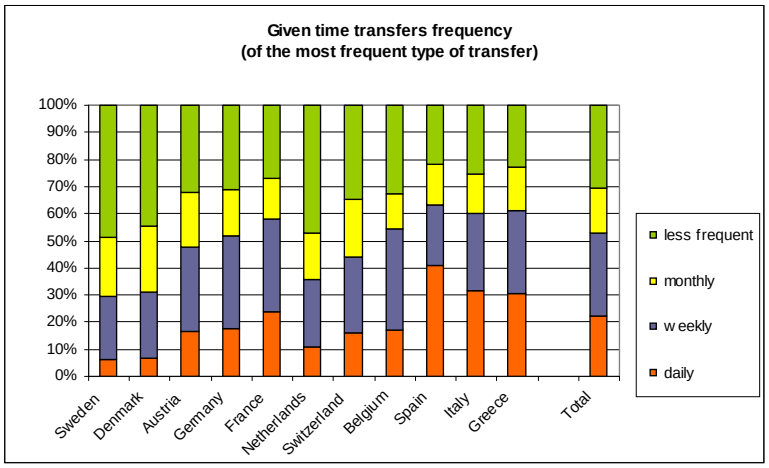
To give an idea about the frequency and possible balance between what the European old people give and receive in terms of money transfers, we present the following graph. The purpose of the next to that one is to account for the relevance of the money transfers that the veterans do to other members of the family. We report the median values in Euros (as harmonized by the SHARE) taking into account 3 different age groups.





And, last, to present some description about how intense is the transfer of time, we present the following two of graphs for the whole SHARE sample by country.





4.1 Estimation results

The estimation method that we chose is determined by the fact that all those variables are discrete ordered variables. We use therefore an ordered probit model. In this first approach of the paper, we undertake an exploratory analysis. Thus, we introduce the caveat that, for some specifications, there could be potential endogeneity of some of our explanatory variables.

We consider the effect of living in a particular country, thus, facing different public welfare regimes. However, in this first version, we use country dummy variables, to study a plain level effect.

Other explanatory variables are age and age squared (to consider the possibility of an inverse U-relation), education, labor market situation, household

income, house tenure status (to control for wealth effects), household size and number of children.

We also introduce a measure of the objective health condition of the individual, the GALI. This variable was constructed on the basis of the recoding of original variables and made available in the 2.1.0 SHARE released. We use it in its dichotomised version that accounts for the individual being not limited or limited (either severely or not) because of his/her health condition.

The interdependence of the veteran is modelled by controlling for the fact that he or she is a net donor or a net recipient of money and of time, with respect to the base category that considers that the veteran does not transfer money or time. The intensity is introduced by using a set of dummy variables that will capture the effect of having weekly, monthly or less frequent contact, respectively, with respect to having a daily contact. We also control for the distance between the individual an his/her family.

The results for the estimations are reported in this table

Table2. Ordered logit , Estimated coefficients. Dependent variable: Welfare alternative measure (Reference person in brackets)

	EUROD		CASP12		Self-perceived health (SPHEU)		Life satisfaction	
	Coef.	*(t-student)*	Coef.	*(t-student)*	Coef.	*(t-student)*	Coef.	*(t-student)*
Countries (France)								
Austria	0,03	*(0,25)*	-0,17	*-(1,28)*	0,66	*(5,12)*	1,26	*(7,91)*
Germany	0,11	*(1,16)*	-0,34	*-(3,25)*	1,16	*(11,80)*	1,49	*(11,24)*
Switzerland	0,19	*(1,50)*	0,20	*(1,42)*	0,54	*(4,47)*	0,94	*(5,60)*
Sweden	0,25	*(2,18)*	-0,42	*-(3,34)*	0,45	*(4,05)*	1,43	*(9,23)*
Netherlands	0,16	*(1,48)*	-0,09	*-(0,72)*	0,39	*(2,86)*	0,35	*(2,34)*
Spain	0,93	*(8,89)*	-1,06	*-(9,11)*	1,32	*(12,36)*	1,30	*(8,97)*
Italy	0,96	*(9,54)*	-1,88	*-(16,80)*	1,56	*(15,19)*	2,38	*(16,92)*
Greece	0,28	*(2,25)*	-2,04	*-(15,46)*	0,87	*(6,62)*	1,71	*(10,50)*
Male	-0,59	*-(16,94)*	-0,05	*-(1,35)*	-0,01	*-(0,18)*	0,04	*(0,85)*
Age	-0,14	*-(6,79)*	0,09	*(3,54)*	0,09	*(4,09)*	0,02	*(0,68)*
Age^2	0,001	*(7,03)*	-0,001	*-(4,00)*	-0,001	*-(3,50)*	-0,0002	*-(1,09)*
Education (Terciary)								
Primary	0,58	*(8,35)*	-0,71	*-(8,09)*	0,71	*(9,61)*	0,56	*(5,45)*
Lower-secondary	-0,07	*-(1,62)*	-0,03	*-(0,70)*	0,04	*(0,97)*	0,11	*(1,92)*
Upper-secondary	-0,16	*-(3,89)*	-0,07	*-(1,59)*	0,07	*(1,50)*	0,15	*(2,86)*
Other type of studies	-0,15	*-(1,38)*	-0,01	*-(0,10)*	-0,02	*-(0,13)*	0,13	*(0,92)*
Labor market situation (Retired)								
Working part-time	0,08	*(0,99)*	0,26	*(2,77)*	-0,46	*-(5,36)*	-0,19	*-(1,74)*
Working full-time	-0,24	*-(4,28)*	0,27	*(4,24)*	-0,52	*-(8,80)*	-0,02	*-(0,31)*
Unemployed	0,39	*(4,33)*	-0,61	*-(6,12)*	-0,05	*-(0,48)*	1,07	*(8,97)*
Permanent disabled	0,69	*(6,83)*	-0,74	*-(6,12)*	1,18	*(10,93)*	0,57	*(4,11)*
Housewife	0,08	*(1,74)*	-0,14	*-(2,50)*	0,02	*(0,34)*	0,07	*(1,06)*
Household income	-0,02	*-(2,10)*	0,15	*(10,94)*	-0,04	*-(3,59)*	-0,10	*-(6,20)*
House owner	-0,11	*-(3,13)*	0,24	*(5,63)*	-0,15	*-(3,90)*	-0,31	*-(6,41)*
Living with a partner	-0,29	*-(6,51)*	0,20	*(3,78)*	0,03	*(0,70)*	-0,34	*-(5,48)*
Household size	-0,03	*-(1,00)*	-0,05	*-(1,42)*	0,00	*-(0,03)*	-0,02	*-(0,59)*
Number of children	0,05	*(2,24)*	-0,01	*-(0,35)*	-0,07	*-(2,91)*	-0,14	*-(4,80)*
Time Transfes (no time transfers)								
Net time giver	0,19	*(5,70)*	0,00	*(0,09)*	-0,12	*-(3,40)*	-0,02	*-(0,43)*
Net time receiver	0,60	*(13,02)*	-0,53	*-(9,31)*	0,82	*(16,42)*	0,36	*(5,57)*
Money Transfers (no money transfers)								
Net money giver	0,11	*(3,37)*	0,18	*(4,68)*	-0,21	*-(5,73)*	-0,18	*-(3,93)*
Net money receiver	0,19	*(2,32)*	-0,21	*-(2,31)*	0,01	*(0,18)*	0,19	*(1,77)*
Voluntary worker	-0,09	*-(2,03)*	0,27	*(5,35)*	-0,30	*-(6,10)*	-0,06	*-(1,08)*
Frequency of contact with your family (Daily)								
Weekly	0,09	*(2,48)*	-0,17	*-(3,99)*	-0,08	*-(2,01)*	0,18	*(3,56)*
Fortnightly	0,03	*(0,53)*	-0,39	*-(6,92)*	-0,06	*-(1,16)*	0,26	*(4,02)*
Monthlyl	0,38	*(4,99)*	-0,50	*-(5,73)*	0,16	*(2,00)*	0,42	*(4,21)*
How far do you live from your family? (same household)								
Less than 1 km	-0,08	*-(1,38)*	0,03	*(0,45)*	-0,09	*-(1,48)*	-0,08	*-(0,96)*
[1,5) kms	-0,18	*-(2,83)*	0,17	*(2,28)*	-0,18	*-(2,74)*	-0,28	*-(3,23)*
[5, 25) kms	-0,16	*-(2,53)*	0,31	*(4,05)*	-0,10	*-(1,39)*	-0,33	*-(3,73)*
[25,100) kms	-0,19	*-(2,50)*	0,23	*(2,55)*	-0,06	*-(0,71)*	-0,40	*-(3,85)*
More than 100 kms	-0,19	*-(2,50)*	0,22	*(2,48)*	-0,14	*-(1,73)*	-0,14	*-(1,33)*
GALI	1,11	*(34,26)*	-1,03	*-(26,78)*	2,26	*(58,10)*	0,77	*(17,88)*
Sample size	15034		10345		15269		10800	

As we have presented the variables in the data description section, we start the discussion of the results that are presented in the above Table 2.

4.2 Well-being as measured by EURO-D

EURO-D is a psychometric scale that measures the degree of depression of people. It is measured in a 0 to 12 scale (0= not depressed at all, 12 = very depressed). We can identify 12 as the minimal level of quality of life or well-being. Notice that when interpreting the coefficients, a positive sign will imply that the variable has a negative effect over the well-being of the individual. The results show differences by country that are statistically significant. People in Mediterranean countries are, keeping all other factors constant, more likely to be depressed, thus to enjoy less quality of life.

Women are, in comparison with men, more likely to enjoy smaller levels of well-being. Education turns out to be a relevant factor, reducing the probability of being depressed. Labor status by itself determines that people working full-time enjoy higher well-being. Household income also diminishes the probability of being depressed. Voluntary work has also a negative impact over depression. The same happens with daily contacts with the family. We find that the distance from the family has a negative effect over depression. This result makes us suspect of an unsolved problem of endogeniety; it could be the case that people that are less likely to feel depressed decide to live far away from their children. We expected that this variable will highly depend on the physical condition of the individual. In order to accommodate the pure physical condition, we introduce in the analysis the GALI variable (Global Activity Limitation Indicator), that measures the degree of limitation that the individual suffers in daily activity. This indicator resumes information from long term health and limitations for daily activities. The indicator takes the value one if the individual is indeed limited or very limited, zero otherwise. This physical variable has the biggest (in magnitude) effect over the EURO-D.

Now we focus on the effect of interdependence variables, i.e. the time and money transfers. To capture it we have introduced dummy variables: no time transfer, net time giver, net time receiver, no money transfer, net money fiver and net money receiver. Results suggest that, taking as a reference group people who do not interact by transferring, transferring time and money turns it more likely to be depressed. (again, endogeneity matters should be adequately addressed).

4.3 Well-being measured by CASP-12

In this case the indicator takes values from 12 to 48 and a higher value is related to better quality of life. Therefore, when interpreting the estimated coefficients, as opposed as with EURO-D, a positive value means that the explanatory variable has a positive effect on the wellbeing of the individual.

Though using this indicator most of the results hold (qualitatively), it is worth to highlight some of the results that differ. We do not find gender differences. By labor status, the are higher differences between the categories. Taking as a reference retired people, not only people working full-time are much better, but also people working part-time. Unemployed and housewives are worse off.

For the family interactions and interdependence, taking as a reference group people that do not interact by transferring, transferring time and money turns net donors of time have higher probability of being worse off. However, net donors of money increase the probability of enjoying a higher level of CASP-12, that is a better quality of life.

4.4 Well-being and SPHEU (health status)

Recall that the European version of the index is an descending 5 points scale: very good, good, normal, bad, very bad. Therefor, as with the EURO-D indicator, when interpreting the coefficients, a positive sign will imply that the variable has a negative effect over the well-being of the individual. Our results show that there are country significant differences, but no gender differences. It seems that the probability of reporting good health diminishes with the age up to an inflexion point (we can relate this result with Deaton's or with some recent discussion on the literature).

The level of achieved education has a positive effect. Still, keeping all other things constant, working full-time has a positive effect. Household income and wealth (measured by holding state properties) have also a positive effect over the perceived health situation. The number of children has also a positive effect. The same happens with volunteering. For this pool of countries, we find that daily contacts increase the probability of reporting better health condition.

Family transfers have a negative effect if the individual is a net donor and a positive effect if the individual is a net recipient. This holds for both money and time transfers.

4.5 Well-being and life satisfaction

This variable takes values from 1 to 4, 1 meaning very satisfied and 4 very unsatisfied. Therefore, as we have presented in the descriptive results, lower values are associated to a worst well-being and quality as self-assessed. Since a lower value is associated with a higher level of well-being or better quality of life, a positive estimated coefficient will imply that the corresponding variable has a negative effect over the well-being of the individual.

We also find country differences that make us consider for future research to pool several countries by welfare regimes to look for common patterns. There are no gender, nor age effects. Education has a positive effect as well as income and wealth, living with a partner of having children.

For transfers, net recipients of time transfers are more likely to enjoy less satisfaction. And donning money transfers, lead to more probability of higher

satisfaction. The results also indicate that daily contract with the family increases happiness. GALI has an important impact, leading to smaller levels of happiness.

5 Overall conclusions.

Most of the factors that we have considered operate in the same direction when determining the probability of enjoying better quality of live by the eldest. However, there are several differences. Education has a positive impact, overall, as well as income and a distance from the family between 1 to 5 kilometers. Also a good physical condition (GALI = 0) has a positive impact. Regarding the interdependency, there are similar results for CASP-12, SPHEU and life satisfaction. Overall we can state that being net donors of money increases the probability of a higher quality of life; being net recipients of time decreased the probability.

Still, we need to address the question of potential endogenity of some of the regressors. However, we have tried to undertake an exploratory research that justifies the use of alternative measures of quality of life, of happiness.

We have also tried to provide a framework to analyze family interactions and transfers. We have focussed on both the presence and incidence of the transfers and on the intensity of those.

With respect to the incidence of the transfers we think that the decision of transferring money and time may be simultaneous so, in a companion paper [6] that is also in progress, we have studied the determinants of money and time transfers taking into account this potential simultaneousness by estimating a bivariate probit for both transfers from parents to children and from children to parents. Our results show that gender, education, family size and labour market situation play a significant role and that money and time transfers are complex. We are also interested in studying if the money and time transfers are substitute or complement. Our results show that for high educated children money and time transfers are complement goods. With respect to the intensity of these transfers we have estimated the determinants of the intensity of the transfers accounting for potential selection problems. Our results suggests that there are significant differences by country, education and gender.

We believe that the contributions from both papers complement one another. First, we will be able to understand, among others, the household production technology for intrafamily care. Second, one that we have a clear picture of how intrafamily solidarity happens, we will be able to perform a much more accurate analysis of the determinants of the veterans' quality of life.

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