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Do Parents Buy Their Children's Attention?

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Annika Meng

Do Parents Buy Their Children's Attention?

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Technische Universität Dortmund, Department of Economic and Social Sciences
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Universität Duisburg-Essen, Department of Economics
Universitätsstr. 12, 45117 Essen, Germany

Rheinisch-Westfälisches Institut für Wirtschaftsforschung (RWI)
Hohenzollernstr. 1-3, 45128 Essen, Germany

Editors

Prof. Dr. Thomas K. Bauer
RUB, Department of Economics, Empirical Economics
Phone: +49 (0) 234/3 22 83 41, e-mail: thomas.bauer@rub.de

Prof. Dr. Wolfgang Leininger
Technische Universität Dortmund, Department of Economic and Social Sciences
Economics – Microeconomics
Phone: +49 (0) 231/7 55-3297, email: W.Leininger@wiso.uni-dortmund.de

Prof. Dr. Volker Clausen
University of Duisburg-Essen, Department of Economics
International Economics
Phone: +49 (0) 201/1 83-3655, e-mail: vclausen@vwl.uni-due.de

Prof. Dr. Christoph M. Schmidt
RWI, Phone: +49 (0) 201/81 49-227, e-mail: christoph.schmidt@rwi-essen.de

Editorial Office

Joachim Schmidt
RWI, Phone: +49 (0) 201/81 49-292, e-mail: joachim.schmidt@rwi-essen.de

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Ruhr Graduate School in Economics

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Annika Meng[1]

Do Parents Buy Their Children's Attention?

Abstract

Past empirical studies on the strategic bequest motive have found evidence for the existence of a positive causation of wealth on receiving attention from one's children. This paper illustrates that these results from the past should be interpreted with some care as the relationship between wealth and children's attention is sensitive to the type of financial variable used in the analysis. Only family characteristics are significant determinants of contact behavior. Turning to more serious types of physical needs, care behavioral regressions illustrate that mobility constraints like house ownership for parents or job and location restrictions for children hamper informal care provision by one's children.

JEL Classification: D12, D31, J14

Keywords: Strategic bequest, imputation, elderly care

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1 Introduction

The strategic bequest motive, as formulated by Bernheim et al. (1985), explains why parents hold more bequeathable wealth than would be expected under the life-cycle hypothesis. The authors' interpretation of this finding is that parents do so to buy more attention and affection from their children than they would usually receive if they did not have anything to bequeath. Furthermore, the theoretical model assumes that parents threaten to disinherit their children if they do not comply with the parent's wishes and that this threat is only credible if there are at least two children in the family.

Bernheim et al. (1985) and Angelini (2007) find that parents who own higher amounts of bequeathable wealth have more attention to their children. Although this might seem of minor importance as the authors look at the general frequency of contacts between parents and their children, it becomes a problem when more serious forms of relationships, like caregiving for parents, are considered. Attention by contact is something parents may want to receive but care and help are things they might need later in life. This has not only financial consequences within families due to the high costs of professional care. Several empirical studies for the U.S. have shown that informal care by family members is less expensive to Medicare and Medicaid than formal care by professional services or nursing homes (van Houtven/Norton 2004). Also in Europe, most care policy regimes emphasize the prerogative of informal care in contrast to formal care services to relief government budgets (Federal Ministry of Labor and Social Affairs (ed.), 2008).

Therefore, my focus is to examine if the average parent–child relationship is as selfish as the prediction of the theory of strategic bequests. The issue of deviations from the life-cycle model is more competently discussed elsewhere (Menchik/David, 1983). First of all, one has to keep in mind that the econometric model used by the aforementioned authors and myself is not able to explain if parents intend to bequeath their wealth strategically as we do not have direct information on their motive. However, a positive causal effect of bequeathable wealth on contact behavior of children could either imply that attention can be bought by wealthier parents and that children indeed have a price for which they are willing to sell it or that financially better off families have closer family ties than others have.

After analyzing the contact behavior, which asks for visits, phone, and e-mail contact, I replace the dependent variable *contact* with a dependent variable which indicates if the parent(s) receive (physical) care or help by the respective child. If care/help provision by children is positively influenced by their parent's bequeathable wealth, the current discussion

on how to address the expected lack of informal carers in the future becomes even more difficult for people who have no or only small amounts of bequeathable wealth. In addition, society could be affected through a low level of caregiving by families as this is the cheapest form of care for public spending.

Like Angelini (2007), I am using SHARE data for my analysis. Contrary to her study, panel data is available and I, thus, can control for unobserved heterogeneity. Moreover, I use a different contact measure and include additional financial variables into the regression model. I formulate somewhat different hypotheses of where to find the largest effects of bequeathable wealth on attention. Most importantly, I employ listwise deletion in dealing with missing financial variables while Angelini (2007) uses imputation methods.

The results illustrate that this makes a considerable difference as the relationship between wealth and children's attention is sensitive to the type of financial variable used in the analysis. Only family characteristics are significant determinants of contact behavior. Turning to more serious types of physical needs, care behavioral regressions illustrate that mobility constraints like house ownership for parents or job and location restrictions for children hamper informal care provision by one's children.

The remainder of this paper is as follows: Section 2 summarizes previous literature on strategic bequests and related pieces of evidence on inter-vivo transfers and care services by children. Section 3 introduces the data set, the methodology as well as some descriptive statistics. Section 4 presents the empirical model. Afterwards Section 5 discusses the results and the consequences of using imputed values. Section 6 concludes.

2 Literature review

Econometric analyses of the strategic bequest motive were conducted by Bernheim et al. (1985), Perozek (1998), and Angelini (2007). Bernheim et al. (1985) used a pooled data set which contained three years of the Longitudinal Retirement History Survey (LRHS) from the 1980s. They look at married couples with at least one child and estimate weighted OLS and 2SLS regressions. The continuous dependent variable *contact* is an attention index calculated from on ordinal question on its frequency and the number of children the parent has. The main regressors of interest are bequeathable financial wealth and bequeathable real wealth. The authors find a positive significant effect of bequeathable wealth on attention and, therefore, evidence for the strategic bequest motive. However, in 1998, Perozek illustrates that this result is not robust to different definitions of the dependent variable *attention index*. Going

further, she uses data from the National Survey of Families and Households (NSFH) which, in contrast to Bernheim et al.'s (1985) data, also contains information on children. The inclusion of children's characteristics diminishes the effect bequeathable wealth has on attention and indicates that these variables are important determinants of contact behavior. The latest study was conducted by Angelini in 2007 with the first wave of the Survey of Health, Ageing and Retirement in Europe (SHARE) which contains data on ten European countries. Like Perozek (1998), she also follows the examination procedure of Bernheim et al. (1985). Her results strongly confirm the strategic bequest motive. The wealth effect is, however, affected by housing wealth and not by financial wealth.

All authors distinguish between those children who still have two alive parents living together (referred to as couples in the following) and those who have parents living on their own (referred to as single parent in the following). The reason for this distinction lies in inheritance law: The most likely heir of a single or lone parent is the child. The surviving spouse of parents, who still lived in a partnership before death, is going to inherit the largest part of the deceased's wealth in most Western countries. The incentive of the child to provide contact is, therefore, smaller in the sample where both parents are still alive. In contrast, single parents might rely more heavily on attention and help by their children who, therefore, have much more to lose under the threat of disinheritance.

A more direct approach to bequest motives finds that a substantial part of parents make equal bequests to their children. A descriptive analysis by Light/McGarry (2003) shows that an overwhelming part of a sample of mothers from the National Longitudinal Survey (NLS) plans to divide their estate equally among their children, while only 8 percent intends to make unequal bequests. When asked for reasons for treating children differently, exchange motives have a relative importance of 25 percent. Menchik (1980) and Wilhelm (1996) used data which only contained the upper tail of the bequest distribution and found that a large fraction of their samples receive an equal share of the estate (62.5 percent and 68.6 percent exactly equal bequests, respectively). The analysis by Kopczuk/Lupton (2005) is in line with these findings. They illustrate that parents who are wealthier and more educated have a lower probability of having a bequest motive. Another study by Tomes (1981) suggests that an inheritance is used to compensate differential human capital investments in children in the past and that this leads to unequal bequests. However, Menchik (1988) says that the data used by Tomes (1981) suffers from measurement error as he only includes self-reported information on bequests. Therefore, he read the wills of the participants in Tomes's sample

and found that only 5 in 115 cases gave an explanation for an unequal bequest that goes in line with the strategic bequest motive (Menchik, 1988). Finally, the analysis by Behrman/Rosenzweig (1998) shows, using the Minnesota Twin Survey, that siblings do not visit their parents equally but receive equal bequests. Overall, Arrondel/Masson (2002) conclude in a detailed literature review on models of family transfers that the results in the literature on strategic bequests heavily depend on the data set which is used.

Next to bequeathable wealth, parents could use monetary gifts to "pay" their children for services they provided to them (Behrman/Rosenzweig, 2004). In fact, unequal transfers are more often observed than unequal bequest. One possible explanation is given by Bernheim/Severinov (2000), who state that unequal bequests are more easily observed by all children while unequal inter-vivo transfers are not, a view that is also shared by Light/McGarry (2003) and Norton/van Houtven (2006). The incidence of inter-vivo transfers is, however, low: Attias-Donfut et al. (2005) as well as Albertini et al. (2007) both conducted a detailed descriptive analysis of time and financial transfers in SHARE data. Higher income of donors leads to higher transfers in Attias-Donfut et al.'s (2005) sample. Co-residence with other family members has a negative effect on receiving a transfer. Albertini et al. (2007) stress that this is particularly true for Southern European countries. They add that only the likelihood of receiving a transfer is economically relevant but not the amount given by the donor. In addition, it is important to note that the social support received from children is also increasing with the monetary transfer amount given to them (Albertini et al., 2007). The mechanism of the strategic bequest motive might, therefore, hold for inter-vivo transfers.

A few studies looking at the relationship between care giving and bequests have been conducted so far. Norton/van Houtven (2006) estimate that parents who give inter-vivo transfers are more likely to transfer money to children who provide informal care than to those who do not. On the other hand, informal care has no influence on the parent's plan to bequest their wealth equally among their children. Callegaro/Pasini (2007) simultaneously examine the health perception of elderly parents and the care giving decision of children with the first SHARE wave. They include parent's real wealth in their analysis but cannot find a positive marginal effect of wealth on informal care giving. In addition, their results show that care giving by siblings is not a complement but a substitute which contradicts the theoretical effect of a bequest rule. In another SHARE analysis on the substitutability of informal and formal care, Bonsang (2008) notes that wealthier parents receive less informal care while home owners get more. In a detailed literature review, Arrondel/Masson (2002) conclude

from past empirical evidence that helpers have not received more transfers than non-helpers and that the parents that are cared for have actually lower income and wealth than those who do not receive help.

3 Data and methodology

The Survey of Health, Ageing and Retirement in Europe (SHARE) is a multidisciplinary panel database of micro data on health, socioeconomic status and social as well as family networks of more than 30,000 individuals aged 50 and over.[1] The first and second waves were collected in 2004 and 2006 in up to fourteen European countries. The panel structure of the data set can be used since the end of 2008. Due to the research topic in this paper, a balanced panel is used. Thus, I delete observations from some countries available in SHARE.[2]

3.1 Sample structure

The original units of observation in SHARE are the parents[3]. Questions for up to four children are answered by a family respondent of a couple or by a single with children. It is therefore necessary to merge the child information to the other parent for some cases and to assume that the children's naming by the respondent is at random. To analyze the behavior of children, this data set is then reshaped so that the units of observation are children (child-level file) with the information on their parents attached to them. To avoid double counting of children, the youngest parent is kept if both parents are interviewed as (s)he might have a lower mortality risk. Before reshaping the data, some characteristics of two living parents have to be aggregated to make sure that the characteristics of both are connected to the respective child. I use different samples for children whose parent(s) are single (separated, divorced, or widowed) or living as couples. The descriptive analysis also shows the differences between the distribution of bequeathable wealth between individuals with and without children.

As far as the expected effects due to inheritance law are concerned, I let go of the assumption that the strategic bequest motive is strongest for families with at least two children and include only children into my analysis. Using intestacy as a benchmark, an only child

[1] For details on the sampling procedure, questionnaire contents and fieldwork methodology, readers are referred to Börsch-Supan et al. (2005).

[2] Denmark, Sweden, Austria, France, Germany, Switzerland, Belgium, the Netherlands, Spain, Italy, Greece and Israel participated in the first wave. The Czech Republic and Poland joined SHARE in the second one. As Israel has not been surveyed for the second wave yet, its respondents from the first wave as well as those from the Czech Republic and Poland have to be dropped from the data set.

[3] Several generations can be distinguished in SHARE. An individual older than 50 years is asked for information on himself, his parents, and his children. I therefore use the individual who answered the questionnaire and the information he gave on his children.

forgoes relatively more inheritance than children who have brothers and sisters. Their legal portion is larger as if it has to be shared with siblings. Therefore, contrary to Bernheim et al.'s (1985) theory, the strongest wealth effects in the regression results are supposed to be found for singles when only children are included into the sample.

3.2 Dependent variables

Contrary to Bernheim et al. (1985), Perozek (1998), and Angelini (2007), I do not calculate a linear attention index. I condense the available categorical information from seven different attention categories to a binary dependent variable which is equal to 1 if the parent has contact with the child for at least once a week (intensive contact) and 0 if contact is less (ranging from every two weeks to never). I have to accept this information loss to be able to estimate panel data models.[4] Like in previous studies, the original question asks for visits as well as telephone calls and e-mail contact in one single variable. It is, therefore, likely that the dependent variable overvalues the satisfaction that parents receive from this attention measure.

In the second regression part of this paper, I look at the results when receiving help from a child is the binary dependent variable. It takes on the value 1 if a parent receives help in Activities of Daily Living (ADL: personal physical care like dressing, bathing, eating, using the toilet, getting in or out of bed), Instrumental Activities of Daily Living (IADL: practical household help like home repairs, gardening, transportation, shopping, household chores) or paperwork (like settling financial or legal matters) from outside or inside its own household. Contrary to the attention measure above, physical contact is necessary in all these categories.

3.3 Independent variables

The paper uses several parental wealth measures which are calculated from the original answers of the respondents. I do not use imputed values but drop those observations with missing data in the variables of interest. The singles sample comprises 1,894 parent-child pairs while 5,804 observations are left for the analysis of the couples sample. Bequeathable wealth is divided into two different measures: financial wealth includes all kinds of savings that are asked for in the SHARE data set. These are savings, bonds and stocks, life insurance, bequeathable private retirement accounts, mutual funds, and contractual savings. The main component of real assets is housing wealth next to other real estate, the value of cars, and the

[4] Variation in contact over the two available waves of SHARE is too small to estimate conditional fixed-effects models.

value of a business share. Debt and/or mortgages are subtracted in both wealth measures. Contrary to the previous literature, I distinguish between inter-vivo transfers given to the respective child as well as between public and private annuity wealth.[5] Public annuity wealth should not have any influence on contact as it cannot be inherited by children. The same is true for private annuity wealth. However, its effect on contact could also turn out to be negative if parents shift their finances from bequeathable to non-bequeathable financial components to dispossess their children from a higher inheritance. Inter-vivo transfers from parents to their children could serve a similar purpose as a bequest and could have advantages for both parties: First of all, children could save inheritance tax, and possibly the overall family could also save income tax if children underlie a lower tax rate. Second, children could have a higher utility of additional money when they are younger. Expenditure on human capital investment or starting a family is a high financial burden as this usually occurs when the children's own income is still low. A bequest, however, can be expected to occur much later in life when the children's financial position is already consolidated. Thus, inter-vivo transfers can also be used strategically. All financial variables are measured in million euros. In addition, I weight financial and real wealth by the number of children in the family.

As far as severe physical limitations and special needs of parents are concerned, the paper uses aggregated ADL and IADL measures over all parents that are still living together to identify care needs. In addition, several other control variables are included into the regression equation. Gender, age, being retired or self-employed, and the number of children are included as additional parental characteristics. Furthermore, information on gender, age, marital and employment status as well as distance, co-residence, the number of children and a dummy that indicates if the respective child is an only child are additionally available regressors for up to four children of the respective parent.

3.4 Descriptive statistics

To get an idea of the theoretically expected effects for the couples and singles sample, I compare descriptive statistics of parents and non-parents before I turn to estimating effects for parents in a regression analysis.[6] This section also gives an overview of the distribution of financial variables. The descriptive statistics of all other variables can be found in Table A1 in the Appendix.

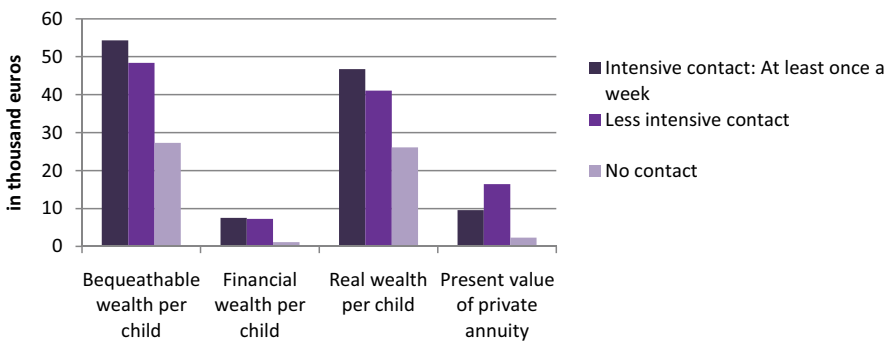
[5] Public annuity wealth comprises public and occupational pensions as well as war pension, alimony and payments from charities. Private annuity wealth consists of private annuities/private personal pension as well as life insurance and private health insurance payments.

[6] The respondents without children must of course be excluded from the regression analysis as they cannot be added to the child-level file.

Bequeathable wealth is a composition of financial assets and real assets which mainly consists of housing wealth. Parents in the couples sample have a higher amount of wealth in each of the categories than non-parents, a finding that is expected under the strategic bequest motive. The picture is reversed for the single sample which might indicate that single parents have more difficulties in accumulating wealth compared to single non-parents as well as to parents living as couples.[7]

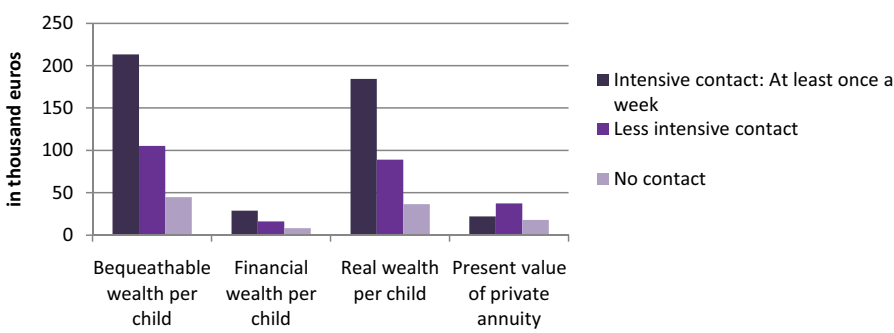
In the following figures, I divided the original seven-point scale information of contact into three different groups to illustrate the distribution of the mean values of monetary variables in thousand euros per child over different intensities of contact behavior.

Figure 1: Distribution of wealth by contact – singles



SHARE 2004, 2006, weighted averages

Figure 2: Distribution of wealth by contact – couples



SHARE 2004, 2006, weighted averages

[7] This should especially be true for those parents who raised their children alone or who have divorced or separated from their partner. In addition, it is not very likely that this effect stems from dissaving as the difference in age between the couple and single sample is only three years.

Figure 1 for the lone parents and figure 2 for the parents living as couples present a picture that can be expected under the strategic bequest motive. The mean values of wealth variables are higher when parents have more contact to their children. Bequeathable wealth could thus serve as an incentive for children to stay in close touch. Inter-vivo transfers to children were given by 16.95 percent of single parents and by 21.62 percent of couples. The pooled mean transfer amount is about 2,699 and 4,044 euros on average per year. This is 45.77 percent and 15.05 percent of mean financial wealth, respectively.

In summary, one can say that although children of single parents have more to lose if they fall back on intestacy or are disinherited, the overall wealth of parents living in couples is much larger. A larger wealth effect for the couple sample is likely although theory predicts a larger one for single parents. However, the incidence of inter-vivo transfers may be too low compared to the wealth measures to discover their possible strategic usage.

4 Empirical method

The re-definition of the originally asked contact variable with its seven categories to a binary variable of intensive versus less intensive contact comes along with some information loss. However, this is necessary to exploit the advantages of panel-data models. Although an ordered probit/logit fixed-effects model would be the first choice for panel estimation, there is not enough variation in the sample's dependent variable over the two available SHARE waves to receive reliable estimates. Therefore, I estimate binary logit random-effect models. The random effect represents individual differences in the overall mean attention level after controlling for the independent variables. The analyses, therefore, account for unobserved heterogeneity which can have a substantial impact in empirical research related to family relationships. To facilitate comparisons with past studies on strategic bequests, I also present cross-sectional logit results for 2004 and 2006, separately.

The three previous empirical studies on the strategic bequest motive have pointed out that bequeathable wealth could induce an endogeneity problem. On the one hand, the argument is that parents who love their children more than other parents do, *ceteris paribus*, want to hold more wealth. On the other hand, children who feel more affectionate to their parents than other children do, *ceteris paribus*, are less likely to object to more contact with them. Bernheim et al. (1985) instrumented bequeathable wealth with lifetime earnings. Perozek (1998) concentrates on the total based socioeconomic index (SEI) from 1985 which

ranks occupations by the primary job's income.[8] Angelini (2007) also uses instruments namely the parent's education and, in addition, the number of rooms of the parent's house as a measure for the standard of living of the family. Although all of these variables are likely to be highly correlated with bequeathable wealth, none of the authors can plausibly argue that the instruments are not correlated with the attention measure. Higher lifetime earnings of parents might stem from higher education which increases their wage level. The parent's education however is agreed to be an important determinant of their children's education, which is again correlated with the children's wage. Children with higher wages could either provide less attention because their opportunity costs are, *ceteris paribus*, higher than those of other children which earn less or they could be able to visit their parents more often as they can afford to travel more easily. Another possibility is that parents with higher lifetime earnings pay the children's travel costs. The same argument holds for the socioeconomic index used by Perozek (1998) and for the parent's education. Furthermore, the number of rooms in the parent's house could be correlated with contact as children can be accommodated more easily. Younger children, particularly, might still have their nursery in the parent's house. However, I do not have better instruments than the ones mentioned here and, therefore, refrain from using them altogether as weak instruments can amplify the bias from an endogeneity problem even further (Cameron/Trivedi, 2005).

In the regression equation employed in this paper, even more explanatory variables are endogenous. These are, next to bequeathable wealth private annuity wealth and inter-vivo transfers. I instrumented private annuity wealth with the (former) responsibility for employees and inter-vivo transfers with the reason why an intergenerational monetary transfer was given. Employees with higher responsibility might be more aware of the advantages that voluntary private annuity savings can provide in later life than other employees because these assets require some financial literacy. Contact, however, is not directly affected by responsibility of parents at work. The reason for giving a gift is asked in the SHARE questionnaire. I create a dummy variable which equals 1 if there is no special reason for the transfer and 0 if parents have a special reason for it. The argument that the reason for giving a transfer is not correlated with contact is weak though because it is difficult to distinguish between altruistic and exchange motives among the available choice categories. The relationship with wealth is also low as the mean of transfer amounts is low as well. Overall, both instruments are problematic especially because the incidence of both exogenous variables is low in general. The F-tests of cross-sectional GMM estimation indeed illustrate that these instruments are not reliable

[8] For more details, see Perozek (1998).

enough. I am, therefore, not able to solve the endogeneity problem. The results presented below are not reliably interpretable as causal.

In the following, I only discuss the cross-sectional and panel random-effect logit results for the different samples of parents. The effects of OLS estimations are attached in the appendix in Tables A2 and A3.

5 Results

Table 1 presents the significant individual marginal relations of the cross-sectional and panel random effect logit results for the contact behavior regression. The table indicates that the results of this study strongly deviate from the ones of Bernheim et al. (1985), Perozek (1998), and Angelini (2007) with respect to the coefficients of financial and real wealth.

Table 1: Contact behavior regression

	Parents living alone			**Parents living as couples**		
	Logit 2004	**Logit 2006**	**Panel Logit, RE**	**Logit 2004**	**Logit 2006**	**Panel Logit, RE**
Financial assets in million per child	0.568	-0.063	0.023	0.003	0.145	0.028
	(0.447)	(0.461)	(0.346)	(0.005)	(0.127)	(0.053)
Real assets in million per child	0.221	0.048	-0.018	0.051	-0.003	0.005
	(0.481)	(0.068)	(0.114)	(0.042)	(0.010)	(0.027)
Average public annuity in million euros	-0.029*	0.062	0.006	0.000	-0.021	0.000
	(0.015)	(0.055)	(0.01)	(0.001)	(0.013)	(0.001)
Average private annuity in million euros	0.016	0.019	0.022	-0.023*	0.025	-0.008
	(0.077)	(0.287)	(0.098)	(0.012)	(0.02)	(0.01)
Inter-vivo transfer to the child in thousand euros	0.009	0.005	0.004	0.002	0.000	0.000
	(0.011)	(0.006)	(0.008)	(0.002)	(0.001)	(0.001)
Parent is female	0.099**	0.101**	0.105	0.013	0.012	0.012
	(0.044)	(0.043)	(0.066)	(0.014)	(0.014)	(0.01)
Number of children	-0.017	-0.013	-0.018	-0.026***	-0.040***	-0.027***
	(0.015)	(0.015)	(0.017)	(0.008)	(0.009)	(0.009)
Child is female	0.090**	0.096**	0.093	0.088***	0.062***	0.054***
	(0.042)	(0.042)	(0.058)	(0.025)	(0.024)	(0.02)
Up to 5 km away	0.210***	0.205***	0.157*	0.185***	0.167***	0.114***
	(0.063)	(0.059)	(0.09)	(0.038)	(0.035)	(0.037)
Between 5 and 25 km away	0.115**	0.112**	0.101	0.105***	0.107***	0.083***
	(0.047)	(0.046)	(0.063)	(0.026)	(0.026)	(0.028)
Between 25 and 100 km away	0.061	0.037	0.072	0.068***	0.061***	0.056***
	(0.042)	(0.043)	(0.051)	(0.022)	(0.022)	(0.021)
Between 100 and 500 km away	0.049	0.046	0.036	0.032	0.029	0.028*
	(0.044)	(0.044)	(0.039)	(0.021)	(0.022)	(0.016)
Co-residence	0.222***	0.212***	0.104	-	0.150***	0.064***
	(0.070)	(0.064)	(0.067)	-	(0.033)	(0.022)
Observations	947	947	1894	2902	2902	5804
Chi squared	106.205	121.753	73.654	304.621	342.323	245.131

Robust standard errors in parentheses, * *p < 0.1,* ** *p < 0.05,* *** *p < 0.01*
Cross-sectional logit models and panel logit, re model presents individual marginal effects.
SHARE 2004, 2006.

Neither financial nor real wealth has a positive significant relation to receiving attention from children for *single parents***.** Therefore, I do not find evidence for the strategic bequest motive as Bernheim et al. (1985), Perozek (1998) or Angelini (2007) do. Public annuities are negatively related to contact in the cross-sectional regression of 2004 which is not in line with my argument in the introduction. However, the result is not robust and its economic importance is negligible. Private annuity wealth as well as inter-vivo transfers show no relation to providing attention at least once a week. In contrast to the financial variables, some parent and child characteristics have a significant impact on intensive contact to single parents. If the parent is female, the probability of close contact increases by about ten percentage points but only in the cross-sectional models. A female child increases this probability in the same models by nine percentage points. Thus, there seem to be closer ties between mothers and their daughters. The distance dummies have the largest impact on intensive attention. Co-residence has the largest positive effect in the cross-sectional results. It makes it 22 percentage points more likely to have contact for at least once a week with a lone parent. This relation does, however, not prevail when unobserved heterogeneity is taken into account. Living up to 5 km away from the parent's residence increases the probability of contact by about 21 percentage points compared to living more than 500 km away. The likelihood decreases to about 11 percentage points for a distance of 5 to 25 km. The relation is insignificant for distances longer than 25 km compared to those over 500 km. As far as the panel random-effect results are concerned, only living up to 5 km away from one's parents has a significant positive effect on contact of 16 percentage points. The reason for this could lie in the rough contact measure which not only includes visits but also phone calls and e-mail contact. There is, of course, no reason why contact in these latter two categories should be any different dependent on the distance to the parent's place of living.

Like in the single sample, neither financial nor real wealth is significant in the *couples sample* for all estimated logit models. As far as the other financial variables are concerned, only private annuity wealth is negatively related to contact in 2004. The relation is not economically important though. Again, only the parent and child characteristics have a larger significant impact on the probability of having contact for at least once a week. Having an additional child decreases the probability of this amount of attention by about three percentage points in the panel regression results. This implies that children act as substitutes or do not compete against each other. This result is somewhat surprising under the strategic bequest motive. One would think that children whose parents have a high amount of bequeathable wealth would try to outperform their siblings in providing contact to parents.

However, it could also be the case that parents with more than one child might demand relatively less attention from a respective child when other siblings are around. In addition, the relative threat point for siblings is also lower as their legal portion decreases with the number of brothers and sisters. Like in the single sample, further results illustrate that having a female child increases the probability of intensive contact by up to five percentage points in the panel regression results. Furthermore, the distance dummies are significantly positive again. Contrary to the single sample panel results, the distance dummies for a distance of 5 to 25 km as well as the one for 25 to 100 km is significant while their influence is monotonically decreasing. Co-residence has again a significantly positive effect on intensive contact from children. Contrary to the single parent sample, individual differences in contact behavior prevail in the panel results.

Country dummies are included in all regression equations. I use the usual classification[9] into Northern, Central and Southern European countries to capture country differences which might stem from traditional family relationships as well as from institutional differences. The impact on intensive contact is mostly highly significant at the 1-percent level. The contact probability for Northern and Central countries is lower than for Southern countries which are the reference group here. The contact probability for Central countries is even less than the one for Northern ones. To distinguish even better between European countries, single country dummies have been included into the regression function as a robustness check. This shows that closer contact in the Southern group is mainly driven by Greece whose citizens have a 19 percentage point higher probability of intensive contact to single parents than German parent-child pairs. However, this is also true for Sweden (14 pp) which belongs to the Northern country category. For the couple samples not only Greece (~8 pp) but also Italy (~6 pp) show stronger family ties among Southern countries. Living in Sweden is again positively related to parent-child contact. The negative effect of belonging to the Central country group in the couple sample compared to the Southern country group is mainly due to the large negative effect of 15.3 percentage points that a Swiss citizenship has on parent-child attention.[10]

[9] The classification is as follows: Northern countries: Sweden, Denmark, The Netherlands; Central countries: Austria, Germany, Belgium, France, Switzerland; Southern countries: Italy, Spain, Greece.
[10] The results are available from the author on request.

5.1 Comparison to previous results - imputed values vs. listwise deletion

The coefficients of the wealth variables are in sharp contrast to those of Angelini (2007) although she uses SHARE data reshaped into a child level data set as well. The main reason for these differences is the financial information that is employed. Angelini (2007) uses self-imputed wealth data to estimate her results while I make listwise deletion when respondents did not fill in the amount or bracket value.

On the one hand, item non-response in the original financial asset variables from SHARE is only large for the value of saving and checking accounts where 23.5 percent either do not fill in the bracket values or directly refuse to answer. For all other financial variables employed here, this percentage is below 5 percent (Börsch-Supan/Jürges, (ed.), 2005). Nevertheless, the samples used in this paper are reduced by half because the missing value problem accumulates with the number of variables used. Fortunately, I am left with more than 900 observations to conduct the analyses in this paper. But in general, multiple imputation could be used to obtain results if too few observations are left for analysis. On the other hand, it is said in the SHARE methodology that "there are substantial differences between the distribution of imputed values and the distribution of observed values" (Börsch-Supan/Jürges, (ed.), 2005, p.135). It is also pointed out that this can be the case if missing values do not occur at random (missing at random or MAR). In the present case, the MAR assumption would be violated if the distribution for those observations with missing data on the respective financial variable was significantly higher (or lower) than the distribution for those individuals with complete data on that variable, controlling for all other covariates. This assumption can obviously not be tested as the distribution of missing values is unknown. It is, however, widely accepted in econometric research that individuals with higher income or wealth are more likely to refuse answers on these questions which would lead to the conclusion that it is most likely that MAR does not hold for the financial variables used in this study. Allison (2001) states that "listwise deletion is the method that is most robust to violations of MAR among independent variables in a regression analysis" (p. 6) but not multiple imputation. If the probability of observing a missing value of a financial variable is independent of the values of the dependent variable intensive contact, the coefficients of the regression analyses will be unbiased. The mathematical proof can be found in Allison (2001, p. 87). To test if this is the case for the samples used here, I construct a dummy which is one if the value is missing and would, therefore, be deleted in my analysis (or imputed in Angelini's case) and zero if it is non-missing. I then estimate a logit model of the binary missing value indicator on the variable intensive contact and test if its coefficient is

significant. As this turns out to be the case, it is likely that the presented coefficients in this paper are biased. Nevertheless, if the reason for observing missing values in the regressors is their values itself, imputations cannot solve or mitigate this bias as well.

Table 2 and 3 examine the consequences of using imputed values and, in addition, a continuous attention index to estimate strategic bequest behavior. All results are for 2004 only to make results comparable to Angelini's (2007) results and as imputed SHARE data is not available for 2006 yet. Detailed results can be found in Table A4 and A5 in the appendix. The first three columns present the results for the econometric model specification used throughout this paper. The Table then further distinguishes between the results from non-imputed data (as already shown in this section), imputed data for financial variables and, in addition, from using an attention index which is constructed as the one in Angelini's (2007) paper. Table 3 shows these categories when I use Angelini's econometric specification. The first column presents the coefficients with imputed values, the second one with non-imputed values and in the third one I exchange the attention index with the binary dependent variable intensive contact which I used so far. Unfortunately, I cannot fully re-produce the results presented in Angelini's (2007) paper as I do not know how exactly she imputed missing data.[11] I, therefore, use the imputed values from SHARE to conduct the comparative analysis. It is interesting to note that the descriptive means of the imputed wealth measures from SHARE are higher than the one's in my samples under listwise deletion. This would make sense if one assumes that individuals with higher income and wealth tend to refuse to answer these variables. Angelini's (2007) imputed wealth measures have a lower mean than mine which is rather unexpected in the wake of this argument. However, in both imputed cases the respective standard deviations are lower as the variables' distributions are smoothed by imputing data.

[11] In addition, I refrain from using instrumental variable methods for estimation.

Table 2: Comparison between imputed and non-imputed values in Meng's (2009) specification

	Parents living alone			Parents living as couples		
	Logit 2004	**Meng with imputed values**	**+ with attention index**	**Logit 2004**	**Meng with imputed values**	**+ with attention index**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Financial assets	0.568	0.140**	-0.003	0.003	0.027	0.003
	(0.447)	(0.071)	(0.025)	(0.005)	(0.026)	(0.017)
Real assets	0.221	0.219***	0.041***	0.051	0.016**	0.008***
	(0.481)	(0.061)	(0.011)	(0.042)	(0.012)	(0.003)
Observations	947	8,590	8,590	2,789	15,101	15,101
R-squared			0.478			0.496
Chi squared	106.205	918.332		304.621	1,394.371	

*SHARE 2004. Standard errors in parentheses, * p < 0.1, ** p < 0.05, *** p < 0.01.*
Variables are measured in millions per child.
Columns 1, 2, 4, 5 present individual marginal effects and are estimated with logit models. All other columns present OLS results.

Table 3:
Comparison between imputed and non-imputed values in Angelini's (2007) specification

	Parents living alone			Parents living as couples		
	Angelini's model with imputed values	**Angelini's model without imputed values**	**+ with binary dependent variable**	**Angelini's model with imputed values**	**Angelini's model without imputed values**	**+ with binary dependent variable**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Financial assets	-0.004	-0.123	0.570	0.000	0.001	0.003
	(0.029)	(0.133)	(0.481)	(0.019)	(0.001)	(0.006)
Real assets	0.037***	0.071	0.162	0.009***	0.000	0.057
	(0.012)	(0.144)	(0.388)	(0.003)	(0.001)	(0.048)
Observations	8,038	877	877	14,058	2,752	2,752
R-squared	0.436	0.461		0.482	0.509	
Chi squared			67.038			227.921

*SHARE 2004. Standard errors in parentheses; * p < 0.1, ** p < 0.05, *** p < 0.01.*
Variables are measured in millions per child.
Column 4 and 7 present individual marginal effects and are estimated with logit models. All other columns present OLS results.

If I use the average of the five imputed values from SHARE to impute missing wealth data, I indeed receive a significant positive coefficient for financial and real bequeathable wealth in million per child in the sample of single parents. When I estimate my model specification with imputed values and a continuous attention index by OLS, only real wealth remains significantly positive. Real wealth is also significantly positive in the sample of parents living as couples when I use imputed values and then, in addition, an attention index. Again, the economic significance of the coefficients further decreases. I find a similar development in the results when I re-estimate Angelini's (2007) specification. When imputed values are used

for the regression, real wealth still has the significantly positive effect in both samples. However, when I delete originally missing data, the effect becomes insignificant and much larger. In summary, using imputed values or listwise deletion has a substantial impact on the significance and the size of the coefficients in these analyses. The former case confirms the positive reaction of children to their parent's wealth. The latter case can neither reject nor confirm this relation.

5.2 Comparative care behavior regression

Contact is something parents would like to get from their children. However, they could do without it physically. This might change when parents are in need of care or substantial help around the house or with other aspects of daily life like paperwork. Some parents might have a high enough regular income or enough wealth to pay for a professional to provide those services. However, a large part of individuals is likely to prefer care or help from close relatives whom they trust and whom they get along well with. Therefore, I exchange the dependent variable "intensive contact" with a binary variable which is equal to one if care or help is received from children who live in or outside the parent's household. I expect to find either no relation of bequeathable wealth again or even a negative relation as wealthier parents could on the one hand afford professional service providers and, on the other hand, are more likely to have children whose opportunity costs of giving help themselves are high.

The results that are presented in Table 4 are for comparative reasons to the usual strategic bequest regression function only. However, the model has obvious limitations in that it is unable to separately identify demand and supply effects.

Table 4: Care behavior regression

	Parents living alone			Parents living as couples		
	Logit 2004	**Logit 2006**	**Panel Logit, RE**	**Logit 2004**	**Logit 2006**	**Panel Logit, RE**
Financial assets in million per child	-0.135	-0.900*	-0.687	-0.001	0.006	0.001
	(0.255)	(0.538)	(0.530)	(0.002)	(0.096)	(0.031)
Real assets in million per child	-0.262	0.085*	0.016	-0.022	-0.083	-0.022
	(0.278)	(0.048)	(0.119)	(0.017)	(0.059)	(0.014)
Present value of public annuity in million euros	-0.003	-0.050	-0.006	-0.018**	0.021*	-0.001
	(0.016)	(0.034)	(0.010)	(0.008)	(0.011)	(0.002)
Present value of private annuity in million euros	0.453***	-0.122	0.397***	-0.001	-0.008	-0.001
	(0.117)	(0.354)	(0.154)	(0.007)	(0.015)	(0.003)
Inter-vivo transfer to the child in thousand euros	0.003	-0.003	0.002	0.000	-0.001	0.000
	(0.003)	(0.006)	(0.004)	(0.000)	(0.001)	(0.000)
Parent is female	0.090**	0.066*	0.077**	-0.001	-0.003	-0.001
	(0.038)	(0.035)	(0.038)	(0.011)	(0.011)	(0.004)
Number of ADL help needed	0.455**	0.637***	0.455	-0.015	0.022	0.007
	(0.194)	(0.138)	(0.287)	(0.046)	(0.096)	(0.063)
Number of IADL help needed	0.430***	-0.135	0.186	0.085	0.066	0.055
	(0.162)	(0.134)	(0.237)	(0.099)	(0.096)	(0.068)
Only child	-0.112**	-0.068	-0.080*	-0.026	-0.029*	-0.012*
	(0.049)	(0.044)	(0.044)	(0.017)	(0.017)	(0.007)
Up to 5 km away	0.201***	0.257***	0.242**	0.077*	0.031	0.025*
	(0.070)	(0.082)	(0.099)	(0.041)	(0.026)	(0.015)
Between 5 and 25 km away	0.106*	0.122*	0.154*	0.052	0.022	0.017
	(0.064)	(0.073)	(0.084)	(0.038)	(0.026)	(0.013)
Between 25 and 100 km away	0.076	0.120	0.129	0.068	0.001	0.014
	(0.068)	(0.078)	(0.087)	(0.045)	(0.024)	(0.014)
Between 100 and 500 km away	0.010	0.079	0.038	0.008	-0.011	-0.002
	(0.067)	(0.078)	(0.062)	(0.032)	(0.023)	(0.008)
Co-residence	0.194**	0.311***	0.316**	0.109	0.012	0.027
	(0.088)	(0.102)	(0.136)	(0.068)	(0.036)	(0.024)
Observations	947	933	1894	2902	2902	5804
Chi squared	159.611	129.364	165.549	108.041	127.936	126.184

Robust standard errors in parentheses, $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

Cross-sectional logit models and panel logit, re model present individual marginal effects.

SHARE 2004, 2006.

The bequeathable wealth relations for the logit models in Table 4 are quite inconclusive. Financial wealth only has a significant and negative effect for single parents in 2006. In the same specification, real wealth is positively related to the probability of receiving care/help. However, when one looks at the OLS results in Tables A6 and A7, financial wealth tends to be negatively related to providing care by children (A6) while real wealth is negative related to care/help giving for parents living as couples (A7). In a cautious interpretation, this might indirectly confirm a tendency of wealthier people to rely on professional help. Private annuity wealth tends to be positively related to contact for singles. Further analysis is needed to interpret this effect. The number of ADL in which help is needed has a positive effect in the

cross-sectional single sample. IADL needs also show a positive effect for receiving care/help for single parents in 2004. In the couple sample, however, no explanatory power can be assigned to these two variables. Thus, these correlations are different compared to the contact regressions. In addition, there are other significant family characteristics in these analyses: Being a lone mother increases the probability of receiving care/help by 7.7 percentage points in the panel results. If a single parent has only one child, this probability decreases by 8 percentage points. The effect is mitigated for parents living as couples to 1.2 percentage points. The positive effect of the distance dummies is mitigated, especially in the couples samples. This implies that non-physical contact like telephone calls which were included into the dependent contact variable were responsible for the high effects in these dummy variables. Receiving help is only restricted to physical contact though and the effect of distance is not capturing spurious regression anymore. As the significant relation prevails for distances up to 25 km for parents who live alone, they seem to have more contact with children than couple parents. The effect of co-residence is strong and positive in the single sample. One reason for this finding might be that lone parents move together with their children when they are in need of care as long as the parent does not possess a substantial amount of wealth. Thus, the relation could be overestimated because of an endogeneity problem between these two variables. However, I do not go into more details here as I am interested in the wealth effects compared to the one's in contact behavior.

6 Conclusion

The results of this study must be considered from several perspectives.

From the *contact behavior* regression results, one can conclude that bequeathable wealth in financial or real asset form does not have a significant influence on attention that parents receive from their children. This is true for parents living as couples or alone. Whenever a significant financial variable coefficient is estimated, it can only be found in one of the two years in this study and it is always economically small. This is also true for public and private annuity wealth as well as for inter-vivo transfers. In addition, the relations are not economically important. Only family characteristics like the parent's sex, as well as the sex of the child, the number of children of parents and the distance of the child's residence are significant determinants of contact behavior throughout samples and econometric specifications.

One can conclude that past studies on a strategic bequest motive have been too optimistic in finding the expected positive effect wealth is supposed to have on attention. The results in this

analysis neither confirm nor reject the possibility of strategic behavior of parents. Nevertheless, the econometric model cannot say if parents act strategically in holding bequeathable wealth. It can only tell us if contact behavior provided by children is correlated with their parent's wealth. However, as no valid and strong instruments are available for solving the endogeneity problem, this study as well as the ones of Bernheim et al. (1985), Perozek (1998), and Angelini (2007) have to be cautious in interpreting the results as causal effects. To get to know the motives of parents, direct questions on their reasons for holding wealth or on their intention to divide their wealth unequally among their children would be necessary. This data is, however, not available in SHARE.

Several technical limitations of the strategic bequest analysis from the past could not be solved here. First, the dependent variable *contact* comprises physical and non-physical attention. This is not only distorting the distance measure. One would assume that physical contact is much more valued to telephone or e-mail contact by most parents. The transaction costs of non-physical contact are lower and, therefore, the "price" that children are paying to provide it is lower as well. Another shortcoming is the missing information on the children's earnings and household income. Those who earn more might live farther away and be less constrained by travel costs but at the same time their opportunity costs are likely to be higher.

I agree with Menchik (1980) that the rather inconclusive results are affected by the large variance of the wealth and annuity variables which is also true for my analysis. When I estimate the same model with imputed values from SHARE, the effects of real wealth in particular becomes significantly positive and smaller in magnitude. Therefore, using listwise deletion or imputed values can make a substantial difference for interpretation. The reason seems to be a smoother distribution of wealth variables when imputed values are used. Although employing one or the other technique is still an issue, Allison (2001) points out that listwise deletion is more robust than imputation if the reason for missing information in an independent variable is correlated with the variables that need to be imputed.

In the third step of this paper, we have seen that the financial wealth variable in the *care behavior* regression tends to have a significantly negative influence on receiving care or help from children for lone parents. Its economic importance is small and has to be interpreted with some caution as this does not necessarily imply that they rely more on professional services than parents living still together. As real wealth mainly comprises housing wealth its positive coefficient might indicate that parents who live alone and own a house are less willing to move out of their homes which brings their children to help their parents more

often. The effects of the distance dummies is also a measure of the children's opportunity cost for providing care. Moving closer to the parent's home might be difficult due to occupational reasons. A cautious policy implication from both behavioral regressions would thus imply that parents should rather invest in private annuity wealth than keep their money in bequeathable form. First, wealth does not influence their children in providing attention as we have seen in the contact behavior equation. Second, the literature on informal care provision suggests that parents might not be able to rely heavily on care or help provided by their children due to an unfavorable demographic development in Europe. Parents might also fear to be a burden to their children and prefer formal help. Professional services could also be of better quality which is especially true if children are rather reluctant to provide care or help. This could also be advantageous for children who have high opportunity costs to care for their parents. Private care insurance could, therefore, serve as a means to pay for professional services and mitigate care risk at the same time.

Future research should try to give some answers to this quite speculative conclusion. One has to keep in mind that the above effects represent the market outcome of giving care to parents conditional on financial incentives (which might have been promised or given as a reward if parents want to influence their children strategically). It is necessary to disentangle the demand and supply effect which works behind this scene. An instrument that explains the demand of parents and which is as well highly correlated with their wealth has to be independent of the children's supply of services at the same time. The parent's health or disability status does not fulfill these characteristics.

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Table A1: Descriptive statistics

Variable	Single sample				Couple sample			
	Mean of parents	Std.	Mean of non-parents	Std.	Mean of parents	Std.	Mean of non-parents	Std.
Contact / Attention	5.44	1.57			5.66	1.26		
Contact - several times a week	0.60	0.49			0.63	0.48		
Financial assets	15,168.70	61,200.30	39,132.26	196,806.70	59,382.80	1,272,306.00	29,637.37	150,728.50
Financial assets per child	7,338.00	35,378.27			26,863.91	605,645.00		
Real assets	93,505.23	370,873.30	97,481.80	187,178.60	378,033.90	3,881,497.00	151,997.90	798,240.30
Real assets per child	45,163.44	147,912.00			170,344.60	1,764,323.00		
Housing wealth	90,753.39	369,964.70	94,820.04	185,810.80	365,672.80	3,871,672.00	146,981.10	79,7092.10
Housing wealth in thousand per child	43,832.50	147,082.10			164,746.00	1,761,643.00		
Present value of annuity wealth	358,876.20	957,249.10	364,877.40	1,314,424.00	390,824.30	2,979,712.00	177,952.40	883,651.30
Present value of annuity wealth	11,237.68	103,339.40	19,251.98	162,730.50	25,831.55	325,684.00	5,461.43	59,546.37
Inter-vivo transfer to the child	494.79	2,822.37	1.29	27.85	971.21	5,244.01	7.14	109.00
Parent is female	0.79	0.41	0.51	0.50	0.45	0.50	0.49	0.50
Parent’s age	69.47	10.21	65.13	9.69	66.59	8.31	62.30	9.28
Parent’s age squared	4,930.23	1,439.51	4,334.87	1,305.54	4,503.19	1,127.44	3,967.87	1,219.27
Retired	0.62	0.49	0.57	0.50	0.62	0.49	0.36	0.48
Self-employed	0.03	0.17	0.05	0.22	0.04	0.19	0.03	0.16
Overall earnings from work	3,693.69	10,381.14	4,908.39	11,285.65	6,115.92	34,413.34	9,246.26	21,921.85
Number of ADL help needed	0.26	0.81	0.19	0.71	0.16	0.69	0.13	0.68

Variable	Single sample				Couple sample			
	Mean of parents	Std.	Mean of non-parents	Std.	Mean of parents	Std.	Mean of non-parents	Std.
Number of IADL help needed	0.37	0.96	0.21	0.69	0.20	0.78	0.15	0.62
Number of children	2.12	1.12			2.26	1.05		
Number of grandchildren	2.15	2.86			2.72	2.80		
Number of children of the child	1.49	1.19			1.39	1.18		
Child is female	0.52	0.50			0.51	0.50		
Child's age	42.69	10.58			38.74	7.83		
Child's age squared	1,934.31	912.79			1,562.22	619.14		
Child is married	0.68	0.47			0.72	0.45		
Co-residence	0.07	0.25			0.04	0.19		
Up to 5 km away	0.31	0.46			0.34	0.47		
Between 5 and 25 km away	0.24	0.43			0.25	0.44		
Between 25 and 100 km away	0.17	0.38			0.16	0.37		
Between 100 and 500 km away	0.12	0.32			0.14	0.34		
More than 500 km away	0.09	0.29			0.08	0.27		
Child is working	0.79	0.41			0.85	0.36		
Nordic country	0.26	0.44	0.28	0.45	0.33	0.47	0.34	0.47
Central country	0.47	0.50	0.38	0.49	0.43	0.50	0.33	0.47
Southern country	0.27	0.44	0.34	0.47	0.24	0.42	0.33	0.47
Observations	**1,894**		**464**		**5,804**		**420**	

SHARE 2004, 2006 (pooled), weighted results; $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

Table A2: Contact behavior regression for single parents (single sample)

	OLS 2004	Logit 2004	OLS 2006	Logit 2006	Panel OLS, RE	Panel Logit, RE
Financial assets in million per child	0.498**	0.568	-0.025	-0.063	0.041	0.023
	(0.247)	(0.447)	(0.554)	(0.461)	(0.320)	(0.346)
Real assets in million per child	0.189	0.221	0.059	0.048	-0.025	-0.018
	(0.287)	(0.481)	(0.074)	(0.068)	(0.081)	(0.114)
Present value of public annuity wealth in million euros	-0.035**	-0.029*	0.019***	0.062	0.006	0.006
	(0.018)	(0.015)	(0.007)	(0.055)	(0.008)	(0.01)
Present value of private annuity wealth in million euros	0.012	0.016	0.094	0.019	0.015	0.022
	(0.110)	(0.077)	(0.261)	(0.287)	(0.064)	(0.098)
Inter-vivo transfer to the child in thousand euros	0.003*	0.009	0.007	0.005	0.002	0.004
	(0.002)	(0.011)	(0.006)	(0.006)	(0.003)	(0.008)
Parent is female	0.103***	0.099**	0.103***	0.101**	0.098***	0.105
	(0.036)	(0.044)	(0.036)	(0.043)	(0.034)	(0.066)
Parent's age	-0.011	-0.016	-0.021	-0.022	-0.016	-0.021
	(0.021)	(0.024)	(0.021)	(0.024)	(0.019)	(0.026)
Parent's age squared	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Retired	0.064**	0.057	0.014	0.007	0.027	0.024
	(0.031)	(0.036)	(0.033)	(0.035)	(0.024)	(0.03)
Self-employed	0.072	0.078	0.013	0.023	0.018	0.018
	(0.061)	(0.069)	(0.110)	(0.104)	(0.048)	(0.057)
Number of ADL help needed	0.252	0.168**	-0.173	-0.193	0.112	0.070
	(0.168)	(0.077)	(0.145)	(0.190)	(0.110)	(0.058)
Number of IADL help needed	-0.132	-0.181	0.234	0.156**	-0.053	-0.067
	(0.164)	(0.233)	(0.146)	(0.074)	(0.122)	(0.187)
ADL help needed by age	-0.003	-0.000	0.002	0.002	-0.002	-0.002
	(0.002)	(0.004)	(0.002)	(0.002)	(0.001)	(0.002)
IADL help needed by age	0.002	-0.000	-0.003	-0.003	0.001	0.001
	(0.002)	(0.004)	(0.002)	(0.002)	(0.002)	(0.002)
Number of children	-0.017	-0.017	-0.010	-0.013	-0.014	-0.018
	(0.015)	(0.015)	(0.015)	(0.015)	(0.012)	(0.017)
Child is female	0.092**	0.090**	0.112***	0.096**	0.088***	0.093
	(0.039)	(0.042)	(0.040)	(0.042)	(0.031)	(0.058)
Only child	0.004	0.009	0.025	0.023	0.025	0.024
	(0.043)	(0.045)	(0.044)	(0.045)	(0.042)	(0.036)

	OLS 2004	Logit 2004	OLS 2006	Logit 2006	Panel OLS, RE	Panel Logit, RE
Child's age	-0.003	0.001	0.005	0.007	0.003	0.005
	(0.013)	(0.012)	(0.012)	(0.01)	(0.011)	(0.011)
Child's age squared	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Child is married	0.011	0.013	0.067*	0.055	0.022	0.022
	(0.039)	(0.036)	(0.040)	(0.038)	(0.032)	(0.032)
Daughter is married & working	-0.028	0.011	-0.032	0.005	-0.015	0.007
	(0.050)	(0.023)	(0.050)	(0.022)	(0.038)	(0.024)
Up to 5 km away	0.260***	0.210***	0.236***	0.205***	0.229***	0.157*
	(0.055)	(0.063)	(0.053)	(0.059)	(0.051)	(0.09)
Between 5 and 25 km away	0.154**	0.115**	0.140**	0.112**	0.131***	0.101
	(0.060)	(0.047)	(0.058)	(0.046)	(0.051)	(0.063)
Between 25 and 100 km away	0.082	0.061	0.036	0.037	0.100*	0.072
	(0.063)	(0.042)	(0.062)	(0.043)	(0.057)	(0.051)
Between 100 and 500 km away	0.073	0.049	0.043	0.046	0.040	0.036
	(0.067)	(0.044)	(0.065)	(0.044)	(0.056)	(0.039)
Child is working	0.042	0.034	0.092**	0.078*	0.033	0.029
	(0.042)	(0.042)	(0.043)	(0.046)	(0.029)	(0.037)
Number of children of the child	0.004	0.002	-0.010	-0.010	-0.007	-0.007
	(0.013)	(0.012)	(0.013)	(0.012)	(0.010)	(0.012)
Co-residence	0.319***	0.222***	0.282***	0.212***	0.290***	0.104
	(0.057)	(0.070)	(0.058)	(0.064)	(0.054)	(0.067)
Nordic country	-0.063	-0.103**	-0.120***	-0.193***	-0.111***	-0.206**
	(0.039)	(0.055)	(0.036)	(0.064)	(0.033)	(0.103)
Central country	-0.141***	-0.168***	-0.202***	-0.246***	-0.177***	-0.215**
	(0.033)	(0.056)	(0.031)	(0.064)	(0.028)	(0.101)
Constant	0.904	0.479	1.074*	0.574	1.032*	0.593
	(0.638)	(0.678)	(0.645)	(0.706)	(0.553)	(0.676)
Observations	947	947	947	947	1894	1894
Adjusted R^2	0.088		0.106			
Chi-squared		106.205		121.753	247.072	73.654

Standard errors in parentheses, $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$
Cross-sectional logit models and panel logit, re model present individual marginal effects.
SHARE 2004, 2006

Table A3: Contact behavior regression for parents living as couples (couple sample)

	OLS 2004	Logit 2004	OLS 2006	Logit 2006	Panel OLS, RE	Panel Logit, RE
Financial assets in million per child	0.001	0.003	0.125	0.145	0.001	0.028
	(0.002)	(0.005)	(0.093)	(0.127)	(0.030)	(0.053)
Real assets in million per child	0.004***	0.051	-0.002	-0.003	0.003**	0.005
	(0.001)	(0.042)	(0.007)	(0.01)	(0.001)	(0.027)
Present value of public annuity wealth in million euros	-0.000	0.000	-0.030	-0.021	-0.000	0.000
	(0.001)	(0.001)	(0.021)	(0.013)	(0.001)	(0.001)
Present value of private annuity wealth in million euros	-0.033	-0.023*	0.014*	0.025	-0.013	-0.008
	(0.022)	(0.012)	(0.007)	(0.02)	(0.012)	(0.010)
Inter-vivo transfer to the child in thousand euros	0.001	0.002	0.000	0.000	0.001	0.000
	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Parent is female	0.014	0.013	0.016	0.012	0.014	0.012
	(0.014)	(0.014)	(0.014)	(0.014)	(0.010)	(0.01)
Parent's age	-0.005	-0.007	0.008	0.009	-0.002	-0.006
	(0.012)	(0.014)	(0.013)	(0.014)	(0.009)	(0.009)
Parent's age squared	0.000	0.000	-0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Retired	-0.000	-0.001	0.013	0.011	-0.001	0.001
	(0.017)	(0.017)	(0.017)	(0.017)	(0.012)	(0.009)
Self-employed	-0.001	-0.005	0.022	0.027	-0.014	-0.007
	(0.029)	(0.035)	(0.035)	(0.037)	(0.025)	(0.024)
Number of ADL help needed	-0.078	-0.098	0.157	0.109***	0.040	0.029
	(0.100)	(0.178)	(0.115)	(0.040)	(0.082)	(0.047)
Number of IADL help needed	0.080	0.091	-0.102	-0.117	-0.019	-0.006
	(0.097)	(0.065)	(0.089)	(0.147)	(0.069)	(0.059)
ADL help needed by age	0.001	0.000	-0.002	-0.003	-0.001	-0.001
	(0.001)	(0.002)	(0.002)	(0.003)	(0.001)	(0.001)
IADL help needed by age	-0.001	0.001	0.002	0.001	0.000	0.000
	(0.001)	(0.004)	(0.001)	(0.002)	(0.001)	(0.001)
Number of children	-0.032***	-0.026***	-0.049***	-0.040***	-0.040***	-0.027***
	(0.008)	(0.008)	(0.008)	(0.009)	(0.007)	(0.009)
Child is female	0.084***	0.088***	0.060***	0.062***	0.072***	0.054***
	(0.020)	(0.025)	(0.021)	(0.024)	(0.017)	(0.02)
Only child	-0.026	-0.013	-0.040*	-0.018	-0.032*	-0.011
	(0.022)	(0.028)	(0.023)	(0.029)	(0.019)	(0.02)

	OLS 2004	Logit 2004	OLS 2006	Logit 2006	Panel OLS, RE	Panel Logit, RE
Child's age	-0.001	-0.006	-0.012	-0.026**	-0.004	-0.006
	(0.008)	(0.009)	(0.008)	(0.013)	(0.007)	(0.007)
Child's age squared	-0.000	-0.000	0.000	0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Child is married	0.039*	0.041**	0.005	0.007	0.015	0.012
	(0.020)	(0.02)	(0.020)	(0.018)	(0.015)	(0.012)
Daughter is married & working	-0.015	0.006	0.007	-0.002	-0.002	-0.001
	(0.024)	(0.014)	(0.025)	(0.014)	(0.018)	(0.009)
Up to 5 km away	0.221***	0.185***	0.209***	0.167***	0.220***	0.114***
	(0.030)	(0.038)	(0.031)	(0.035)	(0.026)	(0.037)
Between 5 and 25 km away	0.142***	0.105***	0.151***	0.107***	0.154***	0.083***
	(0.032)	(0.026)	(0.032)	(0.026)	(0.026)	(0.028)
Between 25 and 100 km away	0.093***	0.068***	0.087**	0.061***	0.110***	0.056***
	(0.034)	(0.022)	(0.035)	(0.022)	(0.028)	(0.021)
Between 100 and 500 km away	0.042	0.032	0.044	0.029	0.053*	0.028*
	(0.036)	(0.021)	(0.036)	(0.022)	(0.029)	(0.016)
Child is working	0.016	0.016	0.014	0.015	0.011	0.006
	(0.022)	(0.022)	(0.024)	(0.025)	(0.016)	(0.014)
Number of children of the child	-0.003	-0.001	0.002	0.002	-0.001	0.001
	(0.008)	(0.007)	(0.007)	(0.006)	(0.008)	(0.005)
Co-residence	0.227***	-	0.208***	0.150***	0.222***	0.064***
	(0.030)	-	(0.033)	(0.033)	(0.027)	(0.022)
Nordic country	-0.063***	-0.115***	-0.082***	-0.132***	-0.076***	-0.104***
	(0.014)	(0.032)	(0.015)	(0.033)	(0.012)	(0.035)
Central country	-0.096***	-0.145***	-0.116***	-0.159***	-0.111***	-0.119***
	(0.014)	(0.034)	(0.015)	(0.035)	(0.012)	(0.037)
Constant	1.044***	0.618	0.872**	0.491	1.017***	0.541*
	(0.345)	(0.421)	(0.383)	(0.439)	(0.282)	(0.293)
Observations	2902	2789	2902	2902	5804	5804
Adjusted R^2	0.108		0.111		470.495	
Chi-squared		304.621		342.323		245.131

Standard errors in parentheses, $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$
Cross-sectional logit models and panel logit, re model present individual marginal effects.
SHARE 2004, 2006

Table A4: Comparison between imputed and non-imputed values in Meng's (2009) specification

	Parents living alone			Parents living as couples		
	Logit 2004 (1)	**Meng with imputed values (2)**	**+ attention index (3)**	**Logit 2004 (4)**	**Meng with imputed values (5)**	**+ attention index (6)**
Financial assets in million per child	0.568	0.140**	-0.003	0.003	0.027	0.003
	(0.447)	(0.071)	(0.025)	(0.005)	(0.026)	(0.017)
Real assets in million per child	0.221	0.219***	0.041***	0.051	0.016**	0.008***
	(0.481)	(0.061)	(0.011)	(0.042)	(0.012)	(0.003)
Average public annuity wealth in 2003 in million euros	-0.029*	0.010	0.004	0.000	-0.009	0.004
	(0.015)	(0.018)	(0.008)	(0.001)	(0.009)	(0.005)
Average private annuity wealth in 2003 in million euros	0.016	0.028	-0.001	-0.023*	-0.042**	-0.003
	(0.077)	(0.033)	(0.011)	(0.012)	(0.021)	(0.014)
Inter-vivo transfer to the child in thousand euros	0.009	-0.001	-0.000	0.002	0.003	0.001***
	(0.011)	(0.001)	(0.000)	(0.002)	(0.001)	(0.000)
Parent is female	0.099**	0.107***	0.037***	0.013	0.017**	0.006**
	(0.044)	(0.013)	(0.005)	(0.014)	(0.006)	(0.003)
Parent's age	-0.016	-0.015**	-0.001	-0.007	0.012	-0.005**
	(0.024)	(0.007)	(0.003)	(0.014)	(0.005)	(0.002)
Parent's age squared	0.000	0.000	0.000	0.000	0.000	0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Retired	0.057	0.001	0.005	-0.001	0.008	0.004
	(0.036)	(0.011)	(0.004)	(0.017)	(0.008)	(0.003)
Self-employed	0.078	-0.031	0.012	-0.005	0.024	0.024***
	(0.069)	(0.029)	(0.011)	(0.035)	(0.013)	(0.006)
Number of ADL help needed	0.168	-0.052	-0.026	-0.098	-0.066	0.049**
	(0.168)	(0.057)	(0.023)	-(0.098)	(0.053)	(0.021)
Number of IADL help needed	-0.181	0.036	0.046**	0.091	-0.021	-0.049**
	(0.233)	(0.044)	(0.023)	(0.065)	(0.048)	(0.020)
ADL help needed by age	-0.004	0.000	0.000	0.001	0.001	-0.001**
	(0.003)	(0.001)	(0.000)	(0.002)	(0.001)	(0.000)
IADL help needed by age	0.002	0.000	-0.000*	-0.001	0.000	0.001***

	Parents living alone			Parents living as couples		
	Logit 2004 (1)	**Meng with imputed values (2)**	**+ attention index (3)**	**Logit 2004 (4)**	**Meng with imputed values (5)**	**+ attention index (6)**
	(0.002)	(0.001)	(0.000)	(0.002)	(0.001)	(0.000)
Number of children	-0.017	-0.016***	-0.032***	-0.026***	-0.030***	-0.046***
	(0.015)	(0.004)	(0.001)	(0.008)	(0.004)	(0.001)
Child is female	0.090**	0.060***	0.033***	0.088***	0.048***	0.037***
	(0.042)	(0.013)	(0.006)	(0.025)	(0.009)	(0.004)
Only child	0.009	0.005	0.284***	-0.013	-0.005	0.285***
	(0.045)	(0.015)	(0.011)	(0.028)	(0.012)	(0.009)
Child's age	0.001	-0.003	-0.002	-0.006	-0.008	0.001
	(0.012)	(0.003)	(0.002)	(0.009)	(0.004)	(0.001)
Child's age squared	0.000	0.000	0.000	0.000	0.000	-0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Child is married	0.013	0.023***	-0.008	0.041**	0.016	-0.005
	(0.036)	(0.012)	(0.005)	(0.02)	(0.008)	(0.004)
Daughter is married & working	0.011	-0.008	0.010	0.006	-0.008	0.006
	(0.023)	(0.007)	(0.007)	(0.014)	(0.006)	(0.005)
Up to 5 km away	0.210***	0.263***	0.170***	0.185***	0.184***	0.158***
	(0.063)	(0.022)	(0.007)	(0.038)	(0.017)	(0.005)
Between 5 and 25 km away	0.115**	0.151***	0.088***	0.105***	0.111***	0.086***
	(0.047)	(0.016)	(0.007)	(0.026)	(0.012)	(0.005)
Between 25 and 100 km away	0.061	0.074***	0.047***	0.068***	0.056***	0.052***
	(0.042)	(0.014)	(0.007)	(0.022)	(0.009)	(0.006)
Between 100 and 500 km away	0.049	0.051***	0.041***	0.032	0.046***	0.036***
	(0.044)	(0.015)	(0.008)	(0.021)	(0.009)	(0.006)
Child is working	0.034	-0.009	-0.005	0.016	-0.006	-0.009**
	(0.042)	(0.013)	(0.006)	(0.022)	(0.009)	(0.004)
Number of children of the child	0.002	-0.005	-0.004**	-0.001	-0.002	0.000
	(0.012)	(0.004)	(0.002)	(0.007)	(0.003)	(0.001)
Co-residence		0.238***	0.325***		0.153***	0.286***
		(0.022)	(0.010)		(0.015)	(0.007)

	Parents living alone			Parents living as couples		
	Logit 2004 (1)	**Meng with imputed values (2)**	**+ attention index (3)**	**Logit 2004 (4)**	**Meng with imputed values (5)**	**+ attention index (6)**
Nordic country	-0.103**	-0.111***	-0.085***	-0.115***	-0.066***	-0.078***
	(0.055)	(0.018)	(0.006)	(0.032)	(0.012)	(0.004)
Central country	-0.168***	-0.138***	-0.098***	-0.145***	-0.117***	-0.096***
	(0.056)	(0.016)	(0.006)	(0.034)	(0.013)	(0.004)
Constant	0.479	0.584***	0.239**	0.618	-0.006	0.480***
	(0.678)	(0.219)	(0.094)	(0.421)	(0.147)	(0.072)
Observations	947	8,590	8,590	2,789	15,101	15,101
R-squared			0.478			0.496
Chi squared	106.205	918.332		304.621	1,394.371	

Standard errors in parentheses, $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$
Columns 1, 2, 4, 5 present individual marginal effects.
SHARE 2004

Table A5: Comparison between imputed and non-imputed values in Angelini's (2007) specification

	Parents living alone			Parents living as couples		
	Angelini's model with imputed values (1)	**Angelini's model without imputed values (2)**	**+ with binary dependent variable (3)**	**Angelini's model with imputed values (4)**	**Angelini's model without imputed values (5)**	**+ with binary dependent variable (5)**
Financial assets in million per child	-0.004	-0.123	0.570	0.000	0.001	0.003
	(0.029)	(0.133)	(0.481)	(0.019)	(0.001)	(0.006)
Real assets in million per child	0.037***	0.071	0.162	0.009***	0.000	0.057
	(0.012)	(0.144)	(0.388)	(0.003)	(0.001)	(0.048)
Disposable share	0.011	0.013	0.010	0.038***	0.056***	0.039
	(0.011)	(0.039)	(0.103)	(0.009)	(0.019)	(0.047)
Parent's age	-0.001	0.002	0.108*	-0.001	-0.004	0.016
	(0.003)	(0.008)	(0.055)	(0.002)	(0.006)	(0.016)
Parent's age squared	0.000	-0.000	0.006	0.000	0.000	-0.006
	(0.000)	(0.000)	(0.023)	(0.000)	(0.000)	(0.013)
Parent is female	0.041***	0.044**	0.000	0.005	0.001	0.000
	(0.005)	(0.017)	(0.000)	(0.003)	(0.007)	(0.000)
Bad health	-0.003	0.013	0.028	0.001	0.030*	0.042
	(0.007)	(0.024)	(0.051)	(0.006)	(0.016)	(0.028)
Depression	-0.003	0.002	-0.054	0.001	0.002	0.001
	(0.005)	(0.017)	(0.041)	(0.004)	(0.009)	(0.021)
Child's age	-0.001**	-0.000	-0.008	-0.003***	-0.004***	-0.008
	(0.000)	(0.001)	(0.003)	(0.000)	(0.001)	(0.002)
Child is female	0.040***	0.049***	0.077***	0.044***	0.053***	0.077***
	(0.004)	(0.012)	(0.033)	(0.003)	(0.006)	(0.018)
Child is married	-0.008	-0.007	0.005	-0.002	-0.012	0.038**
	(0.005)	(0.015)	(0.035)	(0.003)	(0.008)	(0.018)
Number of children of the child	-0.004**	-0.004	0.008	-0.000	0.001	-0.002
	(0.002)	(0.006)	(0.013)	(0.001)	(0.003)	(0.007)
Between 1 to 5 km	-0.078***	-0.138***	-0.188**	-0.071***	-0.073***	-0.096**
	(0.007)	(0.023)	(0.090)	(0.005)	(0.011)	(0.051)
Between 5 to 25 km	-0.129***	-0.156***	-0.258***	-0.115***	-0.109***	-0.205***
	(0.007)	(0.023)	(0.084)	(0.005)	(0.010)	(0.055)

	Parents living alone			Parents living as couples		
	Angelini's model with imputed values (1)	**Angelini's model without imputed values (2)**	**+ with binary dependent variable (3)**	**Angelini's model with imputed values (4)**	**Angelini's model without imputed values (5)**	**+ with binary dependent variable (5)**
Between 25 to 100 km	-0.167***	-0.202***	-0.337***	-0.148***	-0.145***	-0.279***
	(0.007)	(0.022)	(0.096)	(0.005)	(0.011)	(0.066)
Between 100 to 500 km	-0.173***	-0.222***	-0.356***	-0.165***	-0.179***	-0.355***
	(0.008)	(0.026)	(0.097)	(0.005)	(0.012)	(0.072)
Over 500 km	-0.214***	-0.250***	-0.446***	-0.199***	-0.201***	-0.432***
	(0.008)	(0.024)	(0.097)	(0.006)	(0.013)	(0.076)
Only child	0.271***	0.265***	0.034	0.295***	0.000	-0.016
	(0.011)	(0.030)	(0.042)	(0.009)	(.)	(0.026)
Two children	0.000	0.000		0.000	-0.302***	
	(.)	(.)		(.)	(0.020)	
Three children	-0.102***	-0.109***	-0.031	-0.120***	-0.414***	-0.047*
	(0.004)	(0.013)	(0.040)	(0.003)	(0.020)	(0.027)
Nordic country	-0.080***	-0.091***	-0.120**	-0.083***	-0.108***	-0.117***
	(0.007)	(0.024)	(0.065)	(0.005)	(0.011)	(0.039)
Central country	-0.092***	-0.112***	-0.186***	-0.099***	-0.120***	-0.149***
	(0.007)	(0.020)	(0.062)	(0.005)	(0.011)	(0.039)
Constant	0.406***	0.310	0.308	0.514***	0.974***	0.861*
	(0.091)	(0.272)	(0.776)	(0.075)	(0.187)	(0.448)
Observations	8,038	877	877	14,058	2,752	2,752
R-squared	0.436	0.461		0.482	0.509	
Chi squared			67.038			227.921

SHARE 2004. Standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
Column 4 and 7 present individual marginal effects estimated by logit models. All other columns present OLS results.

Table A6: Care behavior regression for single parents with only children (single sample)

	OLS 2004	Logit 2004	OLS 2006	Logit 2006	Panel OLS, RE	Panel Logit, RE
Financial assets in million per child	-0.316	-0.135	-0.419**	-0.900*	-0.369**	-0.687
	(0.218)	(0.255)	(0.197)	(0.538)	(0.167)	(0.530)
Real assets in million per child	-0.118	-0.262	0.104*	0.085*	0.021	0.016
	(0.130)	(0.278)	(0.055)	(0.048)	(0.051)	(0.119)
Present value of public annuity wealth in million euros	-0.008	-0.003	-0.012**	-0.050	-0.010	-0.006
	(0.014)	(0.016)	(0.006)	(0.034)	(0.010)	(0.010)
Present value of private annuity wealth in million euros	0.475***	0.453***	-0.246	-0.122	0.469***	0.397***
	(0.056)	(0.117)	(0.235)	(0.354)	(0.072)	(0.154)
Inter-vivo transfer to the child in thousand euros	0.003	0.003	-0.001	-0.003	0.002	0.002
	(0.004)	(0.003)	(0.003)	(0.006)	(0.003)	(0.004)
Parent is female	0.079**	0.090**	0.052*	0.066*	0.068**	0.077**
	(0.033)	(0.038)	(0.029)	(0.035)	(0.029)	(0.038)
Parent's age	-0.003	0.008	0.001	0.005	0.003	0.007
	(0.022)	(0.022)	(0.023)	(0.021)	(0.019)	(0.021)
Parent's age squared	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Retired	-0.066*	-0.058*	-0.115***	-0.107***	-0.111***	-0.112**
	(0.034)	(0.035)	(0.034)	(0.042)	(0.029)	(0.051)
Self-employed	-0.137**	-0.149*	-0.104**	-	-0.076**	-0.094
	(0.065)	(0.080)	(0.044)	-	(0.032)	(0.282)
Number of ADL help needed	0.421**	0.455**	0.667***	0.637***	0.335**	0.455
	(0.180)	(0.194)	(0.198)	(0.138)	(0.149)	(0.287)
Number of IADL help needed	0.424**	0.430***	-0.250	-0.135	0.162	0.186
	(0.170)	(0.162)	(0.249)	(0.134)	(0.145)	(0.237)
ADL help needed by age	-0.006***	-0.006**	-0.008***	-0.007**	-0.004**	-0.004**
	(0.002)	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)
IADL help needed by age	-0.004*	-0.004**	0.004	0.003	-0.001	-0.001
	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)	(0.002)
Number of children	0.024	0.019	-0.005	-0.006	0.011	0.012
	(0.016)	(0.014)	(0.016)	(0.014)	(0.016)	(0.015)
Child is female	0.037	0.043	-0.020	-0.018	0.003	0.000
	(0.038)	(0.041)	(0.038)	(0.038)	(0.033)	(0.033)
Only child	-0.074*	-0.112**	-0.064	-0.068	-0.067*	-0.080*
	(0.042)	(0.049)	(0.044)	(0.044)	(0.038)	(0.044)

	OLS 2004	Logit 2004	OLS 2006	Logit 2006	Panel OLS, RE	Panel Logit, RE
Child's age	-0.001	-0.003	-0.003	-0.002	-0.005	-0.004
	(0.010)	(0.011)	(0.010)	(0.011)	(0.009)	(0.010)
Child's age squared	-0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Child is married	0.012	0.018	-0.052	-0.059	-0.016	-0.015
	(0.037)	(0.038)	(0.036)	(0.041)	(0.030)	(0.039)
Daughter is married & working	-0.050	-0.023	0.033	0.015	0.002	-0.002
	(0.051)	(0.025)	(0.050)	(0.025)	(0.040)	(0.024)
Up to 5 km away	0.167***	0.201***	0.207***	0.257***	0.166***	0.242**
	(0.043)	(0.070)	(0.039)	(0.082)	(0.038)	(0.099)
Between 5 and 25 km away	0.075*	0.106*	0.081**	0.122*	0.085**	0.154*
	(0.045)	(0.064)	(0.039)	(0.073)	(0.035)	(0.084)
Between 25 and 100 km away	0.055	0.076	0.080*	0.120	0.066*	0.129
	(0.049)	(0.068)	(0.043)	(0.078)	(0.039)	(0.087)
Between 100 and 500 km away	0.003	0.010	0.049	0.079	0.016	0.038
	(0.049)	(0.067)	(0.043)	(0.078)	(0.035)	(0.062)
Child is working	0.026	0.030	0.002	0.012	0.017	0.015
	(0.044)	(0.044)	(0.042)	(0.040)	(0.036)	(0.036)
Number of children of the child	0.005	0.004	0.022*	0.022	0.018	0.019
	(0.013)	(0.013)	(0.013)	(0.014)	(0.011)	(0.013)
Co-residence	0.150**	0.194**	0.236***	0.311***	0.188***	0.316**
	(0.067)	(0.088)	(0.063)	(0.102)	(0.060)	(0.136)
Nordic country	0.065	0.076	0.009	0.024	0.042	0.064
	(0.044)	(0.048)	(0.041)	(0.042)	(0.038)	(0.046)
Central country	-0.076**	-0.076*	0.001	0.003	-0.036	-0.037
	(0.038)	(0.041)	(0.037)	(0.034)	(0.032)	(0.037)
Constant	-0.185	-0.986	-0.162	-0.796	-0.254	-0.930
	(0.682)	(0.710)	(0.734)	(0.697)	(0.579)	(0.725)
Observations	947	947	947	933	1894	1894
Adjusted R^2	0.146		0.141			
Chi-squared		159.611		129.364	305.889	165.549

Robust standard errors in parentheses, $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$
Cross-sectional logit models and panel logit, re model present individual marginal effects.
SHARE 2004, 2006

Table A7: Care behavior regression for parents living as couples (couple sample)

	OLS 2004	Logit 2004	OLS 2006	Logit 2006	Panel OLS, RE	Panel Logit, RE
Financial assets in million per child	-0.002	-0.001	-0.015	0.006	-0.001	0.001
	(0.001)	(0.002)	(0.060)	(0.096)	(0.048)	(0.031)
Real assets in million per child	-0.002***	-0.022	-0.004**	-0.083	-0.002***	-0.022
	(0.001)	(0.017)	(0.002)	(0.059)	(0.001)	(0.014)
Present value of public annuity wealth in million euros	-0.002***	-0.018**	0.027	0.021*	-0.001	-0.001
	(0.000)	(0.008)	(0.021)	(0.011)	(0.001)	(0.002)
Present value of private annuity wealth in million euros	0.000	-0.001	-0.002	-0.008	0.001	-0.001
	(0.006)	(0.007)	(0.004)	(0.015)	(0.003)	(0.003)
Inter-vivo transfer to the child in thousand euros	-0.000	0.000	-0.001	-0.001	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)
Parent is female	0.002	-0.001	-0.003	-0.003	-0.004	-0.001
	(0.011)	(0.011)	(0.011)	(0.011)	(0.008)	(0.004)
Parent's age	-0.015	-0.004	-0.034***	-0.018*	-0.022**	-0.005
	(0.010)	(0.008)	(0.013)	(0.009)	(0.009)	(0.003)
Parent's age squared	0.000*	0.000	0.000***	0.000	0.000***	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Retired	0.013	0.018	0.014	0.014	0.008	0.004
	(0.012)	(0.013)	(0.013)	(0.014)	(0.010)	(0.005)
Self-employed	0.001	0.005	-0.020	-0.024	-0.004	0.000
	(0.025)	(0.028)	(0.020)	(0.029)	(0.015)	(0.008)
Number of ADL help needed	-0.091	-0.015	0.038	0.022	-0.024	0.007
	(0.108)	(0.046)	(0.146)	(0.096)	(0.094)	(0.063)
Number of IADL help needed	0.069	0.085	0.007	0.066	0.069	0.055
	(0.092)	(0.099)	(0.115)	(0.096)	(0.098)	(0.068)
ADL help needed by age	0.002	0.000	-0.000	0.000	0.001	0.000
	(0.002)	(0.001)	(0.002)	(0.001)	(0.001)	(0.000)
IADL help needed by age	-0.001	-0.001	0.000	0.000	-0.001	0.000
	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.000)
Number of children	0.004	0.003	0.000	0.000	0.002	0.000
	(0.006)	(0.005)	(0.006)	(0.005)	(0.005)	(0.002)
Child is female	-0.002	-0.002	0.029*	0.033*	0.010	0.005
	(0.015)	(0.015)	(0.016)	(0.020)	(0.012)	(0.006)
Only child	-0.023	-0.026	-0.033*	-0.029*	-0.027*	-0.012*
	(0.017)	(0.017)	(0.017)	(0.017)	(0.015)	(0.007)

	OLS 2004	Logit 2004	OLS 2006	Logit 2006	Panel OLS, RE	Panel Logit, RE
Child's age	0.003	0.000	-0.004	-0.002	-0.003	-0.002
	(0.006)	(0.005)	(0.007)	(0.006)	(0.005)	(0.002)
Child's age squared	-0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Child is married	-0.012	-0.012	0.002	0.005	-0.000	0.000
	(0.014)	(0.015)	(0.014)	(0.015)	(0.010)	(0.005)
Daughter is married & working	0.002	0.003	-0.025	-0.020	-0.006	-0.003
	(0.019)	(0.015)	(0.019)	(0.016)	(0.015)	(0.006)
Up to 5 km away	0.056***	0.077*	0.029*	0.031	0.044***	0.025*
	(0.016)	(0.041)	(0.018)	(0.026)	(0.012)	(0.015)
Between 5 and 25 km away	0.032**	0.052	0.020	0.022	0.028**	0.017
	(0.016)	(0.038)	(0.018)	(0.026)	(0.013)	(0.013)
Between 25 and 100 km away	0.038**	0.068	0.000	0.001	0.023*	0.014
	(0.017)	(0.045)	(0.018)	(0.024)	(0.013)	(0.014)
Between 100 and 500 km away	0.003	0.008	-0.007	-0.011	-0.001	-0.002
	(0.016)	(0.032)	(0.019)	(0.023)	(0.012)	(0.008)
Child is working	-0.001	-0.001	0.013	0.015	-0.000	-0.001
	(0.018)	(0.017)	(0.018)	(0.018)	(0.014)	(0.007)
Number of children of the child	-0.009*	-0.009	0.001	0.001	-0.006	-0.002
	(0.005)	(0.006)	(0.005)	(0.005)	(0.004)	(0.002)
Co-residence	0.070**	0.109	0.003	0.012	0.040	0.027
	(0.032)	(0.068)	(0.030)	(0.036)	(0.029)	(0.024)
Nordic country	-0.007	0.002	-0.013	-0.008	-0.009	-0.001
	(0.015)	(0.013)	(0.015)	(0.013)	(0.012)	(0.005)
Central country	-0.028**	-0.025*	-0.037**	-0.032**	-0.030**	-0.011**
	(0.014)	(0.014)	(0.015)	(0.016)	(0.012)	(0.006)
Constant	0.410	-0.133	1.214***	0.444	0.770***	0.093
	(0.272)	(0.238)	(0.367)	(0.293)	(0.253)	(0.104)
Observations	2902	2902	2902	2902	5804	5804
Adjusted R^2	0.026		0.048			
Chi-squared		108.041		127.936	147.776	126.184

Robust standard errors in parentheses, $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$
Cross-sectional logit models and panel logit, re model present individual marginal effects.
SHARE 2004, 2006