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Abstract

It has been recognized for a long time in the literature that there are altruistic relations within a family of parents and their biological children. The dispute on the sources of altruism refers usually to sociobiology and genetic fit improvement, even though there are also arguments for another mechanism in operation based rather upon social than biological relations. The changes in family formation, tenure and structure that took place over the previous century might have affected significantly the relations within family. In addition to these processes Europe is facing opportunities and threats coming from ageing which makes mechanisms determining intergenerational interactions especially relevant. For these reasons the hypothesis on kinship altruism's presence within families shall be investigated in more detail. We found evidence over the sample of 50+ population in Europe showing that there is no reason to believe that parents over 49 treat the biological children in a different way than non-biological children as far as the intervivos transfers are concerned. However, children among which there is a non-biological one are less likely to provide financial and non-financial transfers to parents.

Keywords: kinship altruism, private transfers, ageing, family
JEL Classification: D10, D64, J14, Z13.

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1 Introduction

The issues of donation of time, money and also physical parts of the self are being discussed within economics, sociology, and psychology, each of the disciplines applying own methods and all of them referring to the concept of altruism. The most pronounced topics in this field are the motivation underlying helping behavior (e.g. Elster (1999)), the nature of the processes of development of altruism in children and adults (e.g. Bernheim and Stark (1988)), and the possibility of existence and nature of altruistic personality (e.g. Rushton (1982), Piliavin and Charng (1990)). Among the questions raised by the researchers investigating giving and altruism, the possibility of a genetic component to altruistic inclinations remains an open issue. Anthropologists tend to distinguish altruism within family, the so called kinship altruism, from the one linking individuals of lower genetic relatedness. The kinship altruism is defined as being performed according to the underlying biological impulses towards the relatives without many rational deliberations (Vine (1983)), thus is believed to be more pronounced than other types of altruism. It is worth to stress that kinship altruism can be treated as an evolution mechanism of genetic fit improvement and it does not need to be connected with any emotional affects.

Regardless of the definitions of altruism specific to the science disciplines, it is usually assumed that this feature of an individual has evolved in the processes of genetic fit improvement (Wilson (1976)). As sociobiology states, each individual chooses such behavior that would maximize a probability of own genes transmission. This hypothesis is difficult to prove but also there are no sufficient reasons to reject it. The hypothesis is in line with the observation found in numerous studies of the prevalence of altruistic behavior towards relatives i.e. individuals with similar genetic code (Cigno, Giannelli, and Rosati (1998), Warzywoda-Kruszyńska (2007)). Such hypothesis is also close to Becker (1981), who believes that altruism is present in the family, especially parents are altruistic towards their children, and not in the market behavior. If the kinship altruism is responsible for all the transfers, then giving should not be observed between unrelated individuals.

In this paper we address the question of altruistic behavior between parents and their biologically unrelated children and find that parents treat biological and non-biological children in equally altruistic way.

Although the biological reasoning may seem unconvincing to a social scientist, one shall not reject the genetic roots of altruistic behavior without proper considerations (Okasha (2002)). In fact, biological concepts can be successfully incorporated into economic theory (e.g. Margolis (1982) modeled the development of altruism according to the evolution theory applying economic methodology). The vast majority of tests verifying the hypothesis on the genetic background of altruism were conducted by psychologists (e.g. Crawford et al. (1989), Reykowski (1986)) and sociologists (e.g. Segal (1984), Rushton et al. (1986)). To our best knowledge there is no main-stream economic study testing empirically the hypothesis of biological background of altruism.

In our research we investigate private transfers that take place within a family between the parents and children only and aim to verify the hypothesis whether private transfers both financial and non-financial between the 50+ population and their children are driven by kinship altruism. Since the relationship between parents and children differs substantially from other family relations (such as between siblings or grandparents and grandchildren) we decided to analyze the one type of relations only. Furthermore, in the literature it is usually assumed that parents are altruistic toward their children (Barro (1974)) and we continue the discussion within the parent-child framework. Kinship altruism would predict that children who inherited parent's genes are more likely to receive a transfer than non-biological children who do not have common genes with the parent. We distinguish parents of their own biological children and parents who have at least one non-biological child (step, foster or adopted) and compare the mechanisms underlying transfers from and to parents of biological and non-biological children and test whether they differ.[1]

We assume the altruistic nature of private transfers after discussing other possible motivations for financial and non-financial private transfers in Section 2. Then we proceed to empirical analysis based upon the SHARE (The Survey of Health, Aging and Retirement in Europe) data set described in Section 3 applying econometric methods presented in Section 4 that allow verification of our assumption on altruistic transfers and test the role of genetic relatedness in private transfers between parents and children. The results are presented and discussed in Section 5. Conclusions follow

[1]Non-biological children include also biological children of a partner from his or her previous relationship. We consider them together with adopted children due to the low number of observations, however we are aware of the fact that there might be different relations between parents and the two types of non-biological children.

in Section 6.

2 Altruism and other motivations for intergenerational private transfers

The phenomenon of giving has entered the field of interest of social sciences through anthropology (Mauss (1924)). Since then numerous explanations for non-selfish behavior(such as blood donation, kidney donation, rescuing Jews during the second world war, providing first aid, private transfers of time, money and services, and other minor actions (see Rushton (1982))) have been developed among which the most pronounced theory credits giving to altruism. However, there are explanations that credit giving to non-altruistic motivation. The most influential within economics are:

- strategic consideration, where transfers are exchanged not given (Bernheim, Shleifer, and Summers (1985)),
- warm-glow, where individuals enjoy the sole fact of giving (Andreoni (1990)),
- the demonstration effect, where parents support own parents in order to give example to own children (Cox and Stark (2005)).

Usually the alternative approaches recognize the altruistic motive for giving and extend it with an additional feature. In our research we allow for strategic considerations when providing private transfers and test whether the strategic or altruistic motive prevails. We reject the possibilities of warm-glow or demonstration effects since they do not fit to the assumed parent-child framework (warm-glow concerns usually charity donations to the unrelated individuals and demonstration effect operates over three generations).

The concept of altruism has been used for a long time in numerous writings of authors coming from very differentiated backgrounds and as a consequence there are many definitions of altruism or, if one will, many types of altruism (see for example Hill (1984), Krebs (1987)). The main-stream economics defines altruism following Becker's (1976) seminal paper on genetic fit and rational behavior, where anyone whose utility depends positively on utility of others is altruistic.[2]

[2]Other ways of thinking of altruism are present in sociology, where an altruistic individual is someone who would value more utility of the other one than his or her own felicity (Wilson (1975)),

Social science usually investigates issues where individuals interact revealing social inclinations acquired through social learning. The strategic exchange, warm-glow and demonstration effects evoke from feelings and can be classified as purely social values developed through symbolic interaction and internalized during socialization processes. This is not the case when altruism is analyzed, especially kinship altruism, as there is evidence on animals such as ants, bees, wasps, birds, dogs dolphins and chimps whose behavior would be classified as altruistic if performed by humans (Rushton (1982)). The distinction between the social and the biological is interesting as the biological features are less vulnerable to changes in social environment, while social values change relatively frequently over time. Thus, the biological inclinations remain relatively permanent even if the behavior to which they lead is modified by social rules.

The theoretical discussions on the roots of giving are interesting *per se*, but at the same time they are crucial for social practice and for policy makers as there is no doubt that intergenerational private transfers constitute an important part of social exchange. Altruistic behavior plays an important role in developing societies where markets are underdeveloped or cannot provide all services needed, and also in the developed societies that face growing population of the elderly in need of financial and non-financial support and at the same time the need to provide financial and non-financial transfers to the younger generations. The situation of the elderly depends partially on the private transfers, which in turn, in grand proportion result from the altruistic motivations (Logan and Spitze (1995)). It is important to recognize what features they have in order to better understand the phenomenon of giving. If the giving is motivated by the kinship altruism, the disintegration of biologically related families may affect the situation of the elderly.

3 Data

The Survey on Health, Ageing and Retirement in Europe (SHARE) collects longitudinal information concerning economic, health and social situation of individuals aged 50

or even would not care about own felicity at all (Durkheim (1933)) and in psychology, where the consciously formulated intention to benefit is crucial for the definition of an altruist (Sober (1988)). Another distinction that is often raised while defining altruism is a tension between intensions and actions. Sociobiologists usually emphasize the role of behavior while other behavioral scientists emphasize the role of intensions when defining altruism, having psychologists in between who claim that both actions and motivation are the two constitutive features of altruism (Rushton (1982)).

and more in Europe.[3] The data from two bi-annual waves (2005 and 2007) have been released. We focus our analysis on the second wave that provides data on 33,281 individuals from 12 countries. Although the sample is limited to the 50+ population, we find the survey adequate for our purposes as apart from the basic socio-demographic characteristics there is also detailed information on different types of private transfers allowing analysis of the amounts, donors, recipients, frequencies and reasons for transfers.

The data concerning financial transfers given and received by respondents are reported at the household level. The non-financial transfers are divided into three categories (within household, outside household and care over grandchildren) and are reported at the individual level.[4] We do not analyze care over grandchildren (as it demands a presence of grandchild, which is not necessary condition for other intergenerational transfers). The classification of the two remaining types of non-financial transfers depends strongly on the household composition. All the transfers concern the time between first and second wave, and the last 12 months prior to interview for Poland and the Czech Republic. Important advantage of the SHARE data set is its international nature allowing plausible comparisons between countries.

[3]Originally the first wave sample covered: Austria, Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Spain, Switzerland, Sweden and Israel. We exclude Switzerland and Israel from our analysis and focus on EU countries only.

[4]The question on financial transfers captures all transfers between households larger than 250 Euro. For the countries with national currencies the threshold value was calculated according to purchasing power. One shall keep in mind that within household financial transfers are also frequent and often large (Butz and Stan (1982)).

Table 1: Descriptive statistics of SHARE dataset.

	Austria	Belgium	Czech Republic	Denmark	France	Germany	Greece	Italy	Netherlands	Poland	Spain	Sweden
Population average												
- age	67.07	65.22	64.21	64.30	65.22	65.28	64.43	65.68	64.17	64.27	66.87	66.81
- no. of children	2.00	2.10	1.95	2.18	2.20	1.94	1.86	2.03	2.34	2.52	2.37	2.27
- education years	8.66	11.72	11.67	13.06	11.18	12.48	8.54	7.90	11.06	9.20	7.27	11.19
- household size	1.80	1.96	1.99	1.80	1.99	1.97	2.22	2.44	2.00	2.94	2.53	1.86
Population percentage												
- female	55.19	53.92	55.49	52.86	54.31	54.38	53.63	54.86	53.02	56.99	54.12	52.84
- married	71.84	68.30	61.66	68.44	68.11	62.61	79.77	73.34	70.18	63.69	71.26	62.74
- widowed	23.59	17.96	19.01	14.57	14.04	20.69	13.84	18.03	14.82	26.66	16.70	15.25
- divorced	1.18	10.19	16.01	11.19	8.30	10.29	2.88	3.17	9.97	4.76	2.69	15.67
- never married	3.40	3.23	3.32	5.74	9.55	6.37	3.51	5.46	4.94	4.89	9.36	4.54
- working	19.64	23.90	30.21	38.48	31.94	26.44	26.90	18.93	31.70	16.39	21.09	40.04
- retired	63.97	49.54	64.04	50.59	50.81	56.40	44.41	53.80	37.28	60.99	38.41	54.88
- without children	14.88	13.44	7.05	12.09	12.95	14.52	12.61	14.62	13.21	9.34	17.90	10.60
- with a non-biological child	9.44	9.35	11.81	17.91	7.39	10.06	2.43	2.41	8.91	4.44	2.55	18.77
N individuals	1341	3169	2830	2616	2969	2568	3243	2983	2661	2467	2228	2745
N households	987	2135	1943	1758	2060	1698	2172	1888	1846	1771	1413	1970

Source: Author's own calculations based upon SHARE, 2009.

Table 1 presents basic characteristics of individuals in the analyzed countries. In Greece, Italy, Poland, and Spain there are on average more than 2 persons living in a 50+ households. The overall average age of respondents is 65 though the populations in the Czech Republic Denmark, Greece, the Netherlands, and Poland are slightly younger (64 on average). The gender structure reflects the gender difference in life expectancy between men and women, as females represent about 55% of the 50+ population. In all the countries a vast majority of individuals aged over 49 are married or widowed and only few were never married (from 3% in the Czech Republic and Belgium to 9% in Spain and France). The fractions of divorcees are high in the Czech Republic and Sweden (16%). Individuals aged over 49 have on average most children in Poland (above 2.5) and least in the Czech Republic, Germany, and Greece (below 2.0). According to the years of schooling as a measure of education, population 50+ is most educated in Denmark, Germany, Belgium, the Czech Republic, and Sweden. Similar structure is observed in labor activity as above 30% of Sweden, Denmark, France, the Netherlands, and the Czech Republic citizens aged more than 49 work. The lowest fraction of working individuals was recorded in Poland, where only 16% of respondents work and 61% are retired. The fractions of the retired in EU-15 are larger than in Poland only in Austria and the Czech Republic as they level below 56%. According to patterns observed in Table 1 we grouped countries into two categories: North Europe with Austria, Belgium, Czech Republic, Denmark, Germany, Netherlands, Sweden and South Europe with France, Greece, Italy, Poland, Spain. We conduct analysis over all EU countries grouped into South and North, and if possible separately for Poland and the Czech Republic as new EU country members.

According to the initial insight into the data one observes that private transfers play an important role for 50+ individuals in all European countries. Private transfers are most common between family members and the elderly that receive financial help usually receive it from children and usually support financially their own children and grandchildren in all the regions (Kalbarczyk and Nicińska (2009)).[5] Similarly large role of children is observed in case of non-financial transfers received and given by the elderly, however the non-financial transfers between respondents and unrelated individuals are also very frequent (Kalbarczyk and Nicińska (2009), see also Kalwij,

[5]In the North it is also common in population 50+ to receive financial transfers from their own parents.

Passini, and Wu (2009)).

Table 2 reports donors and recipients of the financial and non-financial transfers between households for the two European regions. Due to the relatively low number of observations of parents with non-biological children in new EU country members, we include the Czech Republic in the North and Poland in South according to the observed similarities in descriptive statistics. The subsamples of parents with non-biological children are small but comparable with the subsamples of parents with all children being biological. The fractions of reported private transfers by parents of non-biological children are similar to the fractions of parents with non-biological children (about 4% in South and 11% in North Europe).

The parents having all biological children provide support to children with same frequency as parents having at least one non-biological child. However, as far as the received financial transfers are concerned, parents of only biological children are supported by their children more often than parents with at least one adopted child. This pattern holds both in South and North Europe. The fractions of transfers to non-biological children are larger than those to biological children for individuals with at least one non-biological child. 96% of individuals having a non-biological child have at most 4 children, 99% of such parents have no biological children. Thus, one shall not interpret this observation as a proof of unequal division of transfers between children in favor of the non-biological. Within the families with a non-biological child we observe interesting differences between the South and North Europe as such parents in North receive financial transfers from all biological children less often than from all non-biological children, while in South the reverse relation is observed. As far as the non-financial help is concerned, the fraction of SHARE respondents who receive and give is larger in North European countries, which may be partially credited to the different household's structure.

Table 2: Fractions of donors and recipients of the financial and outside household non-financial transfers of parents in North and South Europe.

	All parents		Parents with only biological children		Parents with non-biological child	
	North	South	North	South	North	South
Financial given						
to children	36.08	24.94	35.17	24.90	42.22	25.91
to biological children	31.95	24.30	35.17	24.90	10.42	10.14
to non-biological children	4.13	0.64			31.80	15.77
to others	8.47	11.79	8.37	11.76	9.11	12.39
N	12427	8728	10814	8373	1613	355
Financial received						
from children	4.06	5.58	4.19	5.66	3.13	3.72
from biological children	3.80	5.52	4.19	5.66	1.07	2.17
from non-biological children	0.26	0.06			2.06	1.55
from others	5.15	3.14	4.68	3.12	8.40	3.73
N	10354	7830	9045	7508	1309	322
Non-financial given						
to children	16.10	6.29	16.10	6.25	17.37	7.07
to biological children	14.47	6.10	16.10	6.25	3.94	2.88
to non-biological children	1.80	0.19			13.43	4.19
to others	31.95	18.59	31.12	18.26	37.27	25.65
N	12890	8644	11162	8262	1728	382
Non-financial received						
from children	19.92	13.97	20.73	14.30	14.32	6.13
from biological children	18.68	13.87	20.73	14.30	4.48	3.62
from non-biological children	1.24	0.10			9.84	2.51
from others	17.03	9.69	17.11	9.87	16.46	5.57
N	12569	8861	10983	8502	1586	359

Note: North includes the Czech Republic and South Europe includes Poland.

Source: Author's own calculations based upon SHARE, 2009.

4 Theoretical model

In order to test the motives of private transfers, the model proposed by Cox and Rank (1992) is used. It is assumed that there are two main motives for private transfers, i.e. altruism and exchange motive. The former is when one decides to give something just because a person needs help, whereas the latter when one decides to support somebody expecting some services in return, e.g. parents help their children, but they expect children to take care of them when they become old. Two parties participate

in a transfer: the donor d and the recipient r of the transfer. In the Cox and Rank (1992) model, the objective function of the donor is:

$$U_d = U(C_d, s, V(C_r, s)) \tag{1}$$

where U_d is the utility of the donor, V is the utility of the recipient, C is consumption and s are services the recipient provides to the donor.

We assume that donor well-being grows when recipients well-being raises. The authors focused their study on the question how the income of the recipient influences the probability and value of transfer. They showed that the probability of the transfer is positively related to the donor's income and inversely related to recipient's income. The relation between the recipient's income and the value of the transfer is more complicated and depends on the motives of the donor. When the transfer is motivated by altruism, the increase of the income of the recipient results in a decrease of the value of transfer, because the recipient can attain optimal consumption by himself and the aid is less needed. In the other case, when private transfers are motivated by exchange, let us define the value of transfer as

$$T = p * s, \tag{2}$$

where p denotes the price of service. When the income of the recipient increases, he or she can require higher "price" for his or her work and for given amount of services s a transfer of bigger value will be expected. Therefore, an increase of the recipient's income results in an increase of the value of transfer. Thus, we note that from the study of the dependence of value of financial private transfers on the recipients' income an information about the degree of altruism can be obtained.

As the assumption of altruistic motivation in private transfers is crucial for our test of its genetical roots, we aim to distinguish between altruism and exchange motive by analysis of the influence that the income of the recipient poses on transfers he or she obtains.[6] The impact of non-biological child's presence on the transfers is examined by estimation of two models. First, probit models of the probability of transfer as well financial as non-financial were estimated. In these models the dependent variable takes on value 1 if the household is a private transfer recipient/donor and 0 if it is

[6]Only transfers between parents and children were taken into account.

not. Secondly, tobit models were used to explain the value of the financial transfers received and given.

Thus, we estimate the following equations for all types of transfers T (namely financial given, financial received, nonfinancial given and nonfinancial received between household), respectively:

$$P(T > 0) = \alpha_0 + \alpha_1 I_p + \alpha_2 nonbiological + \alpha_3 region + \alpha_4 X_p + \varepsilon, \tag{3}$$

where I_p stands for the logarithm of income of the parents's p household, *nonbiological* is a dummy equal to 1 if there is any non-biological (step, foster or adopted) child in the family, *region* denotes South vs. North Europe and X_p contains sociodemographic characteristics of the parent p: age, years of education, gender, employment status, marital status, subjective health condition, number of siblings, children (sons and daughters separately) and grandchildren, place of living and whether any parent of the donor is alive.

For the financial transfers both given and received we run tobit estimations of the transferred amounts T.

$$T = \beta_0 + \beta_1 I_p + \beta_2 nonbiological + \beta_3 region + \beta_4 X_p + \eta \tag{4}$$

5 Results

Table 3 presents the marginal effects for the average values of continuous variables and discrete change from 0 to 1 for dummy variables on the probability of existence of each type of transfer (nonfinancial received, nonfinancial given, financial received, financial given). The income of a parent is statistically significant for financial transfers between parent and children. The larger the income of the parent, the larger the probability that the parent will give both the financial and non-financial transfers to child. The reverse relation holds for the probability of receiving both financial and non-financial transfers from children, which is in line with the intuition that people with higher income are more likely to support others. These results are consistent with theory (Cox and Rank (1992)) and other empirical studies (Cox, Jimenez, and Okrasa (1997), Cai, Giles, and Meng (2006)).

Interestingly though the presence of a non-biological child in a family does not affect the probability of any of the transfers given by parents, which means that the mechanisms of intervivos transfers from parents to children do not differ between the families with only biological children and the families with a non-biological child. Therefore, there is no confirmation for the kinship altruistic giving as parents upbringing only biological children do not treat them differently from parents whose children do not inherit their genetic code.

The presence of a non-biological child in a family reduces the probability of receiving financial transfers from children in a statistically significant way. Even though parents treat the biological and non-biological children in the same way, the biological children and non-biological children do not treat their parents in the same way as far as private transfers are concerned.

Table 3: Estimation results of probit models - marginal effects.

	Non-financial		Financial	
	received	given	received	given
age	.0042**	.0001	-.0001	.0001
education	.0021**	.0007	.0007**	.0017**
non-biological	-.0202	.0072	-.0203**	.0396
female	.0676**	-.0087	.0247**	-.0510*
working	.0150	.0413**	-.0126	.0727**
no. of siblings	-.0039	.0056	.0016	-.0121*
no. of grandchildren	.0055*	.0058**	-.0000	-.0062
no. of sons	-.0097	-.0100	.0007	-.0000
no. of daughters	-.0145*	.0007	-.0004	.0093
rural	.0201	-.0097	-.0020	.0110
any parent alive	-.0330*	-.0004	-.0202**	.0302
log income	-.0027	.0068	-.0045*	.0244**
married	-.0230	.0051	.0035	-.0193
married*female	-.0329	-.0031	-.0221*	.0562
fair health	.0220	-.0162	.0078	-.0624**
bad health	.0921**	-.0340**	.0134	-.07161**
South region	-.0683**	-.0670**	-.0028	-.0223
Observations	6490	6490	6481	6481

Note: Health reference group: excellent health. Significance: * - 5%, ** - 1%.

Source: Author's own calculations based upon SHARE, 2009.

Gender of a parent affects almost all the transfers analyzed in a statistically significant way. Mothers are more likely to be given both financial and non-financial transfers than fathers and the opposite relation holds for the probability of receiving transfers. Subjective health condition of a parent is statistically significant for almost

all the analyzed types of transfers. The worse health condition of a parent limits the probability of giving transfers and raises the probability of receiving transfers (both financial and non-financial). Being married turned out to be insignificant for all types of the transfers.

It is worth noticing that there is a statistically significant and relatively large difference between the South and North Europe regions as far as giving and receiving of non-financial transfers is concerned.[7] There is no such regional differentiation in case of financial transfers. One may credit such result to the different household structure in the regions as on the South mutligenerational households are more popular (the model captures only non-financial transfers that were observed between and not within households).

If the child has a living grandparent, the child is less likely to support financially and non-financially own parents. The employment status of the parent is not relevant for the probability of receiving transfers, which might seem contradictory to the intuition that those who work do not need much support. However, working parents are more likely to give transfers to children probably due to the income effect. It is interesting to note, that neither the number of sons and daughters nor place of living is statistically significant for any of the analyzed transfers' probability.

The analysis of the amounts of financial transfers from parents to children and from children to parents was conducted using the tobit procedure and the results are presented in Table 4. Parental income affects the amount of transfers to children in a way consistent with the altruistic motive, which supports our assumption on the altruistic nature of intergenerational intervivos transfers. The higher income parent has, the larger the transfer given to children and the lower the transfer received from children.

The presence of a non-biological child in the family turns out to be insignificant also for the amount of financial transfers. Thus, there is no reason to believe that parents of only biological children treat them in a different way than those with a non-biological child as far as the financial intervivos transfers are concerned.

[7]Initially, we conducted the estimations for the 12 countries. Due to the relatively low number of observations of individuals with non-biological child in each country we decided to use South versus North division.

Table 4: Estimation results of tobit models.

	Financial			
	received		given	
	Coeff.	z statistics	Coeff.	z statistics
age	-0.118	(2.42)*	0.005	(2.59)**
education	0.225	(2.60)**	0.409	(9.34)**
non-biological	0.392	(0.40)	0.449	(0.87)
female	2.568	(2.77)**	-1.458	(2.84)**
working	0.400	(0.51)	1.428	(3.65)**
no. of siblings	0.187	(0.74)	-0.226	(1.76)
no. of grandchildren	0.003	(0.02)	-0.009	(0.13)
no. of sons	0.450	(1.29)	0.255	(1.33)
no. of daughters	0.605	(1.68)	0.363	(1.87)
rural	0.379	(0.56)	0.608	(1.71)
any parent alive	1.205	(1.66)	0.636	(1.75)
log income	-0.478	(2.16)*	0.701	(5.83)**
married	-0.881	(0.90)	-0.350	(0.70)
married*female	-2.261	(1.79)	1.326	(2.01)*
fair health	-0.376	(0.50)	-1.586	(4.02)**
bad health	1.080	(1.32)	-1.751	(4.02)**
South region	-2.240	(3.18)**	-0.370	(1.02)
Constant	-19.880	(4.95)**	-17.468	(13.86)**
Observations	18308		16278	
Number of clusters	6423		6315	
Pseudo R2	1.36		2.54	

Note: Health reference group: excellent health. Significance: * - 5%, ** - 1%.

Source: Author's own calculations based upon SHARE, 2009.

The subjective health condition of a parent is statistically significant as the poor health decreases amount of a given financial transfer. There is no reason to believe that parents' subjective health condition affects the amount of the received financial transfer. Basic characteristics of a parent (age, gender, and working) are in line with the results for the probability of receiving and giving financial support.

Due to data limitations we were able to take into account in the above analysis only the characteristics of parents. The features of children are also relevant for the amount and presence of a transfer, especially provided to parents. Thus we tried to run initial regression over the limited sample taking into account only these dyads of parent and child, between whom the transfer took place as for them the detailed information on both individuals involved was available. Except from the parents' characteristics that remain the same as previous specifications, we covered children's features, namely: age, education, gender, contact with parent and the distance from parent's household. What is most important for the proposes of our research, we are able now to define not only whether there is an adopted child in a family but also

whether each transfer was given to or received from the biological or non-biological child. [8] The estimation results confirm that there is no reason to believe that parents treat biological children in a different way than non-biological. That is an important result as it is contradictory to the hypothesis of kinship altruism towards children.

The distance from parents and frequency of the contact with parents turn out to be statistically insignificant as far as the financial transfers are concerned. It would be interesting to test whether these variables are also irrelevant for the often time-consuming non-financial transfers, for which the distance and contact frequency may state a serious obstacle for such transfer's presence, which is not the case of financial transfers in Europe where financial markets are well developed.

6 Conclusion

The basic descriptive statistics of the SHARE sample do not provide evidence of the different relations within the families with all children being biological and the families with a non-biological child. This observation was investigated in more detail in the econometric research. The results of probit and tobit estimation are in line with the altruistic motive for giving private transfers. The results from the estimations show that the presence of a non-biological child is not statistically significant for the probability of giving both financial and non-financial transfers to children. The variable was also insignificant as far as the amount of given and received financial transfers were concerned. However, the children among which there is a non-biological one are less likely to financially and non-financially support their parents. The estimation results show that there is no reason to believe that parents over 49 in Europe treat biological children in a different way than non-biological.

The empirical results reveal the difference between families where all children are biological and families with a non-biological child. The children, among which there is a non-biological one, tend to provide less frequently financial support to parents. Since the data on non-biological children is limited and we do not know whether biological parents of such children are alive and maintain contact with children, one shall be careful in interpretation of the latter finding. However, this result is in line with the

[8] For the estimation results see Table 5 in Appendix.

upward kinship altruism hypothesis and is of a special relevance in the modern societies where traditional family with all children being biological becomes less frequent.

Our results are contradictory to the hypothesis of genetic roots of parental altruism towards children and in line with the hypothesis of genetic roots of children altruism towards parents. However, these findings are not definite as they are based upon the sample that is representative for the 50+ population in 12 European countries only. The further research on the kinship altruism is needed providing results representative for the whole population. Moreover, more detailed analysis where the characteristics both of a parent and a child are available would be crucial to test the kinship altruism hypothesis.

References

Andreoni, J. (1990): "Impure Altruism and Donations to Public Goods: A Theory of Warm-Glow Giving," *Economic Journal*, 100(401), 464–477.

Barro, R. (1974): "Are government bonds net wealth," *Journal of Political Economy*, 82(6), 1095–1117.

Becker, G. S. (1976): "Altruism, Egoism, and Genetic Fitness: Economics and Sociobiology," *Journal of Economic Literature*, 14(3), 817–826.

Becker, G. S. (1981): "Altruism in the Family and Selfishness in the Market Place," *Economica*, 48, 1–15.

Bernheim, B. D., and O. Stark (1988): "Altruism within the Family Reconsidered: Do Nice Guys Finish Last?," *American Economic Review*, 78, 1034–1045.

Bernheim, D. B., A. Shleifer, and L. H. Summers (1985): "The Strategic Bequest Motive," *Journal of Political Economy*, 93(6), 1045–1076.

Butz, W., and P. Stan (1982): "Interhousehold transfers and household structure in Malaysia," *Population and Development Review*, 8, 92–115.

Cai, D., J. Giles, and X. Meng (2006): "How well do children insure parents against low retirement income? An analysis using survey data from urban China," *Journal of Public Economics*, 90, 2229–2255.

Cigno, A., G. Giannelli, and F. Rosati (1998): "Voluntary transfers among Italian households: altruistic and non-altruistic explanations," *Structural Change and Economic Dynamics*, 9(4), 435–451.

Cox, D., E. Jimenez, and W. Okrasa (1997): "Family safety nets and economic transition: a study of worker households in Poland," *Review of Income and Wealth*, 43(2), 191–209.

Cox, D., and M. R. Rank (1992): "Inter-vivos transfers and intergenerational exchange," *Review of Economics and Statistics*, 74, 305–314.

Cox, D., and O. Stark (2005): "On the Demand for Grandchildren: Tied Transfers and the Demonstration Effect," *Journal of Public Economics*, 89, 1665–1697.

Crawford, C. B., M. S. Smith, and D. Krebs (1989): *Sociobiology and Psychology*. Lawrence Erlbaum Association Inc.

Durkheim, E. (1933): *The Division of Labor in Society*. New York: Macmillan.

Elster, J. (1999): *Alchemies of the Mind*. Cambridge University Press.

Hill, J. (1984): "Human Altruism and Sociocultural Fitness," *Journal of Social Biology Structures*, 7, 17–35.

Kalbarczyk, M., and A. Nicińska (2009): "Finansowe i niefinansowe transfery w próbie SHARE," *Polityka Społeczna*, 4, 13–23.

Kalwij, A., G. Passini, and M. Wu (2009): "Homecare for the Elderly: Family, Friends and the State," Unpublished research report, Networks for Studies on Pensions, Aging and Retirement (NETSPAR).

Krebs, D. (1987): "The Challenge of Altruism in Biology and Psychology," in *Sociobiology and Psychology*, ed. by C. Crawford, M. Smith, and D. Krebs, pp. 81–118. Lawrence Erlbaum Assoc Inc.

Logan, J., and G. Spitze (1995): "Self-Interest and Altruism in Intergenerational Relations," *Demography*, 32(3), 353–364.

Margolis, H. (1982): *Selfishness, Altruism, and Rationality*. Cambridge University Press, Cambridge.

Mauss, M. (1924): "Essai sur le don, forme archaique de l'echange," *Annee Sociologique*, 1, 30–184.

Okasha, S. (2002): "Genetic Relatedness and the Evolution of Altruism," *Philosophy of Science*, 69, 138–149.

Piliavin, J. A., and H.-W. Charng (1990): "Altruism: A Review of Recent Theory and Research," *Annual Review of Sociology*, 16, 27–65.

Reykowski, J. (1986): *Motywacja, postawy prospołeczne a osobowość*. PWN, Warsaw.

Rushton, J. P. (1982): "Altruism and Society: A Social Learning Perspective," *Ethics*, 92(3), 425–446.

Rushton, P. J., D. W. Fulker, M. C. Neale, D. K. B. Nias, and H. J. Eysenck (1986): "Altruism and aggression: The heritability of individual differences," *Journal of Personality and Social Psychology*, 50, 1192–1198.

Segal, N. L. (1984): "Cooperation, competition, and altruism within twin sets: A reappraisal," *Ethology and Sociobiology*, 5, 163–177.

Sober, E. (1988): "What is Evolutionary Altruism?," *Canadian Journal of Philosophy*, 14, 75–99.

Vine, I. (1983): "Sociobiology and Social Psychology-Rivarly or Symbiosis," *British Journal of Social Psychology*, 22, 1–11.

Warzywoda-Kruszyńska, W. (2007): "Nieformalne sieci wsparcia ludności żyjącej w biedzie (na wsi i w małym mieście)," in *Państwo, samorządy, organizacje pozarządowe i wspólnoty lokalne wobec ubóstwa i wykluczenia społecznego*, ed. by Golinowska. Opracowania PBZ.

Wilson, E. O. (1975): *Sociobiology: The New Synthesis*. Harvard University Press, Cambridge, Mass.

——— (1976): "The War between the Words: Biological versus Social Evolution and some Related Issues: Section 2. Genetic Basis of Behavior- Especially of Altruism," *American Psychology*, 31, 370–371.

7 Appendix

Table 5: Estimation results of amount of financial transfers' regressions.

	Financial			
	received		given	
	Coeff.	t statistics	Coeff.	t statistics
age	-0.011	(-0.45)	-0.033	(-0.78)
education	-0.001	(-0.02)	0.034	(-0.70)
non-biological	-0.666	(-1.63)	0.594	(-0.65)
female	-0.386	(-1.82)	-0.827	(-1.79)
working	-0.357	(-1.51)	0.075	(-0.14)
number of sibling	-0.058	(-0.72)	-0.112	(-0.62)
number of children	0.12	(-1.04)	0.166	(-0.93)
rural	-0.36	(-1.44)	-0.235	(-0.42)
any parent alive	0.702	(2.84)**	0.729	(-1.34)
log income	0.246	(2.14)*	0.243	(2.76)**
South region	-0.02	(-0.06)	0.178	(-0.35)
child age	-0.01	(-0.44)	0.022	(-0.65)
child education	-0.164	(5.19)**	-0.117	(2.46)*
child gender	0.079	(-0.44)	-0.153	(-0.45)
child in the same town	1.241	(2.98)**	0.617	(-1.20)
child in other	1.455	(3.37)**	1.16	(2.36)*
contact at least second week	0.018	(-0.07)	-0.526	(-1.46)
contact at most once a month	-0.724	(-1.46)	-0.924	(-1.84)
Constant	6.342	(3.70)**	5.493	(-1.73)
Observations	190		82	
R-squared	0.49		0.38	

Note: Reference groups: distance - child in the parent's building, contact with child - daily. Significance: * - 5%, ** - 1%.

Source: Author's own calculations based upon SHARE, 2009.

Table 6: Estimation results of probit models.

	Non-financial				Financial			
	received		given		received		given	
	Coeff.	z statistics	Coeff.	z statistics	Coeff.	z statistics	Coeff.	z statistics
age	0.022	(7.40)**	0.000	(0.73)	-0.001	(0.33)	0.000	(0.44)
education	0.011	(6.55)**	0.004	(2.37)*	0.010	(4.22)**	0.006	(3.67)**
non-biological	-0.113	(1.49)	0.041	(0.60)	-0.409	(2.84)**	0.124	(2.16)*
female	0.362	(5.25)**	-0.049	(0.73)	0.375	(3.35)**	-0.164	(2.96)**
working	0.078	(1.28)	0.226	(4.38)**	-0.199	(2.24)*	0.229	(5.43)**
no. of siblings	-0.021	(1.13)	0.032	(1.88)	0.024	(0.96)	-0.039	(2.67)**
no. of grandchildren	0.029	(3.16)**	0.034	(3.53)**	-0.001	(0.06)	-0.020	(2.55)*
no. of sons	-0.051	(1.94)	-0.057	(2.08)*	0.011	(0.29)	-0.000	(0.01)
no. of daughters	-0.076	(2.75)**	0.004	(0.14)	-0.006	(0.17)	0.030	(1.30)
rural	0.104	(2.30)*	-0.056	(1.17)	-0.031	(0.47)	0.035	(0.91)
any parent alive	-0.177	(3.16)**	-0.002	(0.05)	-0.317	(3.88)**	0.097	(2.38)*
log income	-0.014	(0.88)	0.039	(2.35)*	-0.068	(3.15)**	0.079	(5.79)**
married	-0.120	(1.63)	0.029	(0.43)	0.052	(0.44)	-0.062	(1.13)
married*female	-0.184	(2.02)*	-0.018	(0.20)	-0.390	(2.77)**	0.176	(2.44)*
fair health	0.114	(1.89)	-0.095	(1.80)	0.112	(1.26)	-0.206	(4.74)**
bad health	0.451	(7.55)**	-0.201	(3.47)**	0.190	(2.12)*	-0.236	(4.99)**
South region	-0.384	(7.78)**	-0.412	(7.82)**	-0.042	(0.63)	-0.073	(1.82)
Constant	-2.836	(10.51)**	-1.555	(9.16)**	-1.616	(4.29)**	-1.239	(8.76)**
Observations	6490		6490		6481		6481	
Pseudo R-squared	12.27		4.45		7.08		4.30	

Note: Health reference group: excellent health. Significance: * - 5%, ** - 1%.

Source: Author's own calculations based upon SHARE, 2009.