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Intergenerational Transfers of Time and Money in Scandinavian Welfare States

NEKM01

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Abstract

The purpose of this thesis is to study the incidence and size of financial and time transfers across generations in Scandinavia and look for any common determinants of transfer patterns. The study is based on two different theoretical models studying slightly different views on intergenerational transfer behaviour. By using cross-sectional data from the 2nd wave of the SHARE database (2006/2007) binary and linear regression models are performed with the amount or binary outcome of financial or time transfer used as a dependent variable. The empirical results show that for both financial and time transfers the explanatory variables linked to the monetary status of the donor (and the recipient in the financial transfer model) are significant determinants of both the probability and the amount of money or time transferred. Furthermore, the results indicate that slightly different explanations for both financial and time transfers are significant depending on whether you look at the propensity to transfer or at the amount transferred.

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1. Introduction

When the child still lives at home the parents transfer an enormous amount of resources, both in terms of time and money, to the child. However, the money that parents continue to give to the child after the child has reached adulthood could, depending on the timing of the transfer, be of importance for the child's decision to, for example, aim for a higher educational level or buy a first home. Transferring money to the adult child may affect the economic inequalities across households if the wealthy transfer resources to their children whilst the households that are less well off do not, or transfer only small sums to a larger extent (see for example McGarry, K and Schoeni, R.F. 1995). We have seen an expansion of higher education in later years which could affect both the parent and the child. Within the area of intergenerational transfers this could mean that financial transfers to help with the education of children have increasingly become a preoccupation of many parents (Attias-Donfut, et.al, 2005).

Data from several European countries in the SHARE database (Survey of Health, Ageing and Retirement in Europe) reveal that monetary transfers between generations constitute an important part of the household income. There are geographical differences in transfer patterns, like between the countries in the south of Europe and the northern European countries, where parents make the financial transfer in the north while children transfer money in the south (SHARE, wave 2 2006/2007). Empirical evidence has also shown that intergenerational monetary transfers is one of the main elements determining wealth accumulation in the United States, making it an essential part in discussions within family economics and wealth inequalities (Kotlikoff, L.J. and Summers, L.H. 1981). In the United States, and in some European countries, about one-fifth to one-quarter of the parents transfer money to their adult children (Zissimopoulos, J.M. and Smith, J.P. 2010).

In the "upward" generational direction (to own parents), the family helps in the form of time transfers to older parents in ill health. Time transfer across generations is an area that has been less explored in the scientific literature. One important implication of time transfer patterns is the smaller role it could have in strong welfare states. In such countries the state often takes a greater responsibility in elderly care, enabling a separation of the different generations of the family into different households, thus decreasing the time support given to elderly parents. It is discussed that in for example the Nordic countries, which are seen as strong welfare states,

the family ties are weaker than in the southern European countries, and that this displays itself with less direct time support between the generations (Albertini, M. et. al. 2007). It could also be that higher-income children substitute time-related transfers with financial transfers to a greater extent than lower-income children. However, families with strong family ties will probably transfer more time between the generations independently of the elderly support provided by the state (see theoretical arguments on altruism in section 2).

There are also demographic changes, like an increased longevity in the population, which makes the prevalence of three- to four-generation families more common and has been argued to increase the middle-generation's transfers both upward and downward and both in financial support and in time support. This has expanded the discussions about the importance and width of the contemporary family, where the family members are no longer confined to a single household, highlighting the relevance of intergenerational transfers (Attias-Donfut, et.al, 2005).

1.1 Aim

The aim of this thesis is to investigate the patterns of transfers between generations in Scandinavian welfare states, here represented by Sweden and Denmark, and see if there are any common characteristics explaining transfer behaviour. Based on theoretical and empirical reasoning (see section 2 below) I have chosen to focus my study on financial transfers made to the younger generation and time transfers made to the older generations.

The general question asked is; *what are the determinants of incidence and size of monetary and time transfers between generations*?

More explicitly I will investigate; *if certain observable characteristics, of donors, respectively recipients, are of significant importance in explaining intergenerational transfer patterns of time and money in Scandinavian welfare states?*

1.2 Data

The data used is from the Survey of Health, Ageing and Retirement in Europe (SHARE). This data contains information about intergenerational transfers, focusing on adults aged 50 and

above in eleven different European countries. It is a relatively unique dataset as it contains very detailed observations on financial and time transfers given and received in the European countries. There are two waves of SHARE, the first one took place in 2004 and the second wave was collected in 2006-2007. The countries involved in the first wave were Sweden, Denmark, the Netherlands, France, Germany, Austria, Switzerland, Spain, Italy, Belgium and Greece. In the second wave three new countries were included; the Czech Republic, Ireland and Poland.

1.3 Method

In this thesis the second wave of the SHARE database will be used, and pooled data over transfers in Sweden and Denmark will be analyzed. The reason for pooling the data is that since I will look at very explicit data on characteristics there are many missing values, probably due to the unwillingness of many respondents to give answers to such in-depth questions. This makes it hard to get enough observations from just one country, and pooling data from relatively similar countries could therefore be a good method.

I will use two different econometric approaches to study transfer patterns. I will use a logistic binary regression model to study the propensity of transferring time and money between generations. I will also use a linear regression model to look at the explanatory variables affecting the amount of time and money transferred. By using both a binary logit model and a linear regression model I can investigate if there are any significant differences; i.e. that the variables affecting the propensity to transfer could be different than the variables affecting the amount transferred.

However, using the method with pooled data implies that the underlying model that determines transfer behaviour is similar for Swedish and Danish families. The assumption could be valid since Sweden and Denmark are two strong, neighbouring welfare states having relatively similar values, government structures and historical backgrounds. So I will only separate transfer behaviour between the two countries by a country dummy.

1.4 Limitations

In the discussion about transfer patterns across generations I will assume that the father and mother behave as a unit, and I will thus not take into account any couple decision-making

process into the transfer decision. This is mainly because I will only be able to control for transfers on the household level, and will therefore not be able to separate transfers according to the gender of the respondent.

For this study I have to make a decision about the directions of transfers. So this thesis will cover transfers in three to four generations, grandchild-child-parent-grandparent[1]. Financial transfers are gifts (not loans) given to a family member and will be observed in up to three generations; from respondent to children and/or grandchildren, with the child being 18 years of age or over. This means that the discussion on financial transfers is limited to only one part of the family transfers, any transfers to siblings and to cousins/aunts/nieces etc will not be included. Time transfers are the time given to helping another person with different chores and will be observed from the respondent towards his/her parent, which means that no sibling, aunt, uncle etc. will be included.

A great limitation in my study will be due to the fact that the SHARE data does not cover information about the income of the respondent's children. This is a variable that might have a great effect on the propensity for financial transfers to children. I will instead look at the occupation of the child, focusing on the case where the child is in education, which I will use as a proxy variable for the monetary status of the child, assuming that being in education is a sign of being in a more economically challenged situation.

Lastly, since the data is cross-sectional any conclusions made about the pattern of monetary and time transfers at a single point in time need assumptions about the persistence of such patterns in order to hold in the long run. So in the conclusive arguments, the results only have a limited interpretation about any persistence in the pattern of transfer behaviour of families in Scandinavian welfare states.

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[1] The 'parent' within this division is the respondent in the SHARE data, i.e. the one transferring money to child/grandchild and the one transferring time to his/her parent, the grandparent. In only one or two cases the time transfers concern the grandparent of the respondent, i.e. the great-grandparent within this division, so I will not put any special emphasis on this.

1.5 Outline of the thesis

In section 2 I will be introducing the relevant theoretical models used in order to help explain motives and behaviour of transfers across generations. In section 3 I will define how I will use the notions of transfers and of 'intergenerational transfers' within this thesis.

Then I will begin the empirical part of my thesis by presenting my dataset in section 4, how it has been collected and introducing the variables I have constructed. I will continue in section 5 by presenting some descriptive statistics, which will hopefully illustrate some of the interesting patterns within the intergenerational transfer behaviour in Scandinavia, and also motivate the choices of econometric specifications. In section 6, I will explain the econometric methods and models that I will use to analyze transfer patterns. Thereafter I will present the results from the econometric analysis in section 7 and discuss the obtained results. Finally I will draw some conclusions in section 8.

2. Theoretical Framework – motives and behaviour

Intergenerational transfer patterns could partially depend on the existence and structure of public transfer systems that provide money and care. In the case of Sweden and Denmark the government provides strong social protection. However, different families will respond differently to the public structure depending on the transfer motives; for example, an altruistically linked family's private transfers might undo any government distribution program.

There are two competing theories present when discussing the motives behind the monetary and time transfers within families and between generations. In the first section I will present the altruistic model of transfer behaviour between family members, which was originated by Gary Becker (1974). Thereafter an exchange model, brought up by Bernheim, Shleifer and Summers (1985), and expanded by Oded Stark (1995) will be presented. The theoretical models here are concerned with transfer motives; however, in my econometric study I can only examine the determinants of transfers, which means I will only be able to weakly link the empirical results to the assumptions made in the theoretical models.

2.1 Altruism in the Family

Gary Becker (1981) formulated a theoretical model concerning the importance of distinguishing the altruistic behaviour of transfers within families from the typical market transfers where utility is maximized by own consumption. Within Becker's model an individual who is part of a family is *altruistic* if his/her utility function depends positively on the well-being of another family member. This means that an altruist maximizes his/her own utility subject to the family budget constraint. If a family member in an altruistic family is met with a sudden disaster that greatly reduces his/her income (a negative income shock), the whole family income will be reduced by the whole amount. So, looking at the consumption of the person met with the disaster, it would only be reduced by a smaller amount, because the reduction in family income induces the altruists to spread the consequences of the income reduction by lowering the consumption of all family members. The same pattern, but in the opposite direction, would apply to an altruist receiving an unexpected positive income shock. (Becker, 1981, pp. 279-281)

In the case where an altruist has many beneficiaries; children, spouses, parents, siblings etc. the equilibrium condition for the altruist's utility maximization will be that the altruist will receive the same marginal utility from a marginal increase in his own income or in the income of any beneficiary. An altruistic individual would refrain from actions that would raise his income if they at the same time lowered the other member's utility more than his own is raised (ibid. pp. 280-281).

When the children are too young, i.e. too inexperienced to know what is best for them, the altruistic parents do not just accept the children's utility functions. This means that the utility function of the young child living at home with the parent will probably not be maximized (ibid. pp. 296-299). The type of altruistic family transfer behaviour presented in this section will therefore be better in explaining the transfer patterns between the altruist and adult members of the household, meaning that the discussion concerning parents' behaviour towards the children will be limited to adult children. This is also the limitation that will be used in the empirical analysis.

Becker has also formulated the 'Rotten kid theorem', which is applicable when an altruist has several beneficiaries, children, spouses, parents and/or siblings. The theorem states that:
"*Each beneficiary, no matter how selfish, maximizes the family income of his benefactor and thereby internalizes all effects of his actions on other beneficiaries.*" [2]
(Becker, 1981, pp. 288)
The 'Rotten Kid theorem' has an extension that states that each beneficiary, however envious of the other beneficiaries or the benefactor, will still maximize the family income of the benefactor, thus helping those he envies. The notion of e*nvy* is here used by Becker (1981) to explain the *selfish* behaviour that could be present between for example siblings, but also between other family members. A selfish family member is someone who cares more about increasing his own utility than increasing the family's utility. However, Becker means that altruism from the parent can induce selfish children to act altruistically, whereas envy from the parent instead induces selfish children to behave enviously. [3] For example, if a non-altruistic parent was envious of his selfish children, the children would then try to lower the parent's utility instead of trying to raise it, whereas for an altruistic parent the behaviour of the

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[2] Within this theorem the assumption is made that the altruist knows the utility function and consumption of his beneficiary although it is not necessary that he knows the cause of changes in them.

[3] For more information on how envy affects children's behavior, see for example Elster (1989).

envious children can be controlled in order to raise the family's utility. The implication from the 'Rotten Kid Theorem' is that for rotten kids to act rotten their parents must be rotten; so even selfish and envious children act as though they are altruistic towards their parents, if their parents are altruistic towards them (ibid. pp. 288-292).

The 'Rotten Kid Theorem' can explain why a parent might want to delay some contributions until later in his/her lifetime: giving the children a long-run incentive to care for the *family's* interests. However, some smaller contributions could be made earlier in life in order to establish trust with the children. Such behaviour could then imply that richer families induce more altruistic behaviour from their adult children than less wealthy families since they can contribute both non-human and human capital to a greater extent, and also that wealthy families could compensate less endowed children with gifts. This would mean that the distinction between gifts and bequests is important. So if gifts can fully compensate the children, bequests would extract the same amount of altruism from all other children. But if bequests compensated less-endowed children, less altruism would be extracted from the better-endowed children (Becker 1981, pp. 292-293).

An important distinction between the altruistic family model and for example the exchange model presented below is that the altruistic parent in Becker's model takes different actions (for example making different types of contributions) in order to increase the family's utility level rather than actions to increase his/her own utility.

2.2 Exchange models

There is a lot of criticism to the view that altruistic behaviour always leaves the family members in a better position. Some feel that altruism is a counterproductive force that encourages exploitability and therefore causes the behaviour of family members to be such that the family is left in a worse-off position. For example, Bernheim and Stark (1988) criticize the power of altruism in families by showing some empirical evidence suggesting that altruism often restrains the enforcement of intergenerational transfers. They point out that altruistic parents will not be able to punish children who have gone back on their promises, thus undermining the credibility of the parents' threat (pp. 1034-1035).

Instead intergenerational transfers of money and in-kind services can partly be motivated by exchange considerations. As an example, the monetary gifts given to children might be attached to a string, meaning that the transfer is made by the parent with an expectation of a future repayment. Some evidence supporting this idea is presented by Lucas and Stark (1985), Bernheim, Schleifer and Summers (1985) and Cox (1987). The question is what kind of mechanisms are behind these transactions.

In one specification of an exchange model by Bernheim, Shleifer and Summer (1985) the motives behind bequests, which can be seen as one form of intergenerational monetary transfers, was analyzed. In the strict theoretical framework the testator is altruistic, but is positively affected by the actions taken by the beneficiaries (for example receiving attention from his children). In such a situation the testator would want to influence the beneficiaries' actions by saying that the division of bequests is conditioned on the actions they take. Showing some empirical evidence the authors suggest that bequests are often used as payment for the services provided by the beneficiaries, a strategic action that ultimately benefits both parties (pp. 1046-1048). The problem with this model is that the motives may be particularly weak in non-wealthy families with no or very small potential bequests, and depending on the laws of testamentary freedom it might not be applicable at all (Stark 1995, pp. 49-50).

Oded Stark's theoretical model (1995) is concerned with economically analyzing transfers and exchanges within families. Stark's model does not completely neglect the altruistic behaviour of family members, but he argues that instead of only gaining utility through other family members' higher utility there is a personal gain from helping your family at present time. What Stark (1995) proposes is an idea called "preference shaping" which, he argues, is an important tool in facilitating and securing exchanges, particularly exchanges involving different types of support. What the term implies is that one person influences another with the aim to honour the terms of an agreement. As an example a parent might plant a sense of guilt for bad behaviour in the child, securing that the child upholds any agreement between them. Guilt is said to be an internal enforcement mechanism; and when present, the individual will supervise himself accordingly [4] (Stark 1995, pp. 50-51).

In an example of a parent and a child who cannot borrow from, or lend money to, a third party, the child earns little money today but considerably more tomorrow and the converse is

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[4] For more information see for example Elster (1989)

true for the parent. To facilitate consumption-smoothing and increase the well-being of both parties the parent could make an agreement to lend money to the child today and be repaid tomorrow. The problem in this situation is that the parent's words might not have enough effect to ensure repayment. The question is thus how the parent should 'manipulate' the child's preferences in order to secure repayment. One option mentioned by Stark (1995) is to let the child participate in school or the church, institutions that are said to create a sense of guilt for going back on such agreements. Another method, the main focus in Stark's model, is to use direct influence, i.e. the "demonstration effect". This would mean that parents teach their children the right way to act by setting an example with their own behaviour. In order for this method to work the children must be close by and the action must be visible, preferably repeated, to shape the children's preferences. The demonstration effect facilitates intergenerational exchanges through the parent's visible and continuous exchanges to his/her parent, i.e. to the grandparent. The key notion is that the preferences and characteristics of the child are affected by the transfers from the parent to the grandparent. This also means that transfers from the parent to the grandparent depend positively on the existence of the child. This effect is the opposite from the standard allocation theories concerning time and money, since those models predict that the presence of children would *reduce* transfers from the parent to the grandparent, all else being equal (ibid. pp. 50-52).

3. Intergenerational transfers

3.1 Definitions

Due to the use of data from the Survey of Health, Ageing and Retirement (SHARE) in Europe the definition of intergenerational transfers in this thesis will follow a specific structure based on the restrictions in the data set.

Financial transfers are defined as the total sum of all gifts (not loans), monetary or material, made the year prior to the interview amounting to at least 250 Euros. These transfers will be observed from the respondent towards the child, or grandchild. In the case of *time transfers*, the number of hours transferred the year prior to the interviews is studied. These transfers are observed towards the respondents' parents.

In the intergenerational framework several generations are followed, where the middle generation will be the respondent in the dataset. This respondent is 50 years or older, and transfers are studied in the direct intergenerational context; i.e. transfers in an upward direction are transfers from the respondent to his/her parents (father, mother, mother-in-law, father-in-law, step-father or step-mother).[5] In the downward direction transfers are made to the respondent's children (biological children, adopted children, foster-children, step-children), and also transfers to the respondent's grandchildren. I have set the lower age limit of the child/grandchild to 18 years of age so as to only include adult children; this to incorporate the theoretically argued importance of continued transfers after the child has reached adulthood.

3.2 Direction of transfers

The theory presented in section 2 speaks of the motives behind transfers. However, analyzing the motives is not possible within the framework and method of this thesis. I will instead study transfer patterns, where the explanatory variables will try to catch the determinants of transfers, linked to the underlying motives, but without being able to directly test the motives.

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[5] And in one or two cases the grandparent of the respondent

The theoretical models highlight how the transfers between generations are controlled by the parent's (the middle-generation's) transfer motives. The middle-generation often has it more economically stable whereas young adults, around 18-30 years of age, often experience a more economically challenged situation (see for example SCB, 'Earnings statistics' for Sweden or DST, 'Earnings statistics' for Denmark). Based on this type of reasoning I could then motivate studying the parent's (i.e. the respondent's) financial transfers downwards, towards their adult children/grandchildren.

Looking in the upward direction however, it is not as easy to interpret what type of transfer behaviour the parent might direct towards their parent. In strong welfare states, such as Sweden and Denmark, the elderly does not face as big of a challenge economically as in many other countries due to well-defined social protection programs. Statistically, Sweden and Denmark's percentage share of GDP on health and old age expenditures compared to many other OECD countries' is relatively high. (OECD Statistics, 2010) This could give some implications on a higher prevalence of time transfers instead, or maybe even more likely, less of both time and financial support. However, as explained above, the degree of altruism within families might undo any government programs. Thus there is some interest in looking at transfers from parent to grandparent, and specifically time transfers since they might occur independently of the monetary status of the older generation.

4. Data

4.1 Definition of the data

I use the second wave of SHARE, where interviews were taken in 2006/2007. The variables in the database are at individual, household and couple level. The financial transfers were measured 12 months prior to the interview and the respondents were asked questions like "Not counting any shared housing or shared food, have you [or] [your] [husband/wife/partner] given any financial or material gift or support to any person inside or outside this household amounting to 250 euro or more?" If they answered positively, the interviewer then asked them to specify to whom these transfers were given to from a list of alternatives. This question was asked up to three times if they answered positively, i.e. for up to three different recipients. Furthermore, there were also questions asked to specify the reason for the financial gifts, like for meeting the basic needs, to buy an apartment, to help with unemployment or further education, or for no specific reason etc. Additionally, there were similar questions asked but about transfers received instead.

Concerning the time transfers, the SHARE data contains information about different types of support received or given from outside the household in the last 12 months. The time transfers are defined as the amount of hours given annually to helping another person with chores within three different categories. These three different categories are defined as follow: *personal care* (dressing, showering, eating etc), *practical household help* (home repairs, gardening, shopping etc.) and *help with paperwork* (filling out forms and settling financial and legal matters). Questions were then asked about the identity of the recipient or donor. Within the specification of the categories some caution should be taken since there might be time assistance given in some other form that is unrecorded within this definition.

4.2 Reliability

SHARE is a group of projects sponsored by the European commission. It is in the process of building up a bi-annual panel Survey of Health, Ageing and Retirement in Europe and has been created based on the ideas behind the HRS longitudinal study in the US and the ELSA longitudinal study in England. With the release of the second wave 2009 the SHARE has gotten a longitudinal dimension. A smaller drawback with this data is that it is based on individually reported facts, and there is thus no complete control of the validity of the

collected data. This will foremost be relevant when discussing the data on income from market work, since there might be unreported income for some of the respondents. (SHARE, 2010)

4.3 Outcome Variables

In the econometric study I will look at explanatory variables that I believe might be relevant when looking at the pattern of transfers. In both the ordinary least squares models and the binary models the dependent variable could be explained by different characteristics of the respondent and his/her children/parents. In line with the theoretical models presented above there could be many characteristics affecting the motives of transfer, and thus the transfer pattern. However, since the theory speaks of motives I cannot base all my variable selection on theoretical arguments. So I will shortly discuss the different variables that would be reasonable to include, based not only on the theory stated above.

4.3.1 Respondent's characteristics

If the respondent has several children both the propensity to transfer and the amount transferred to each child might be affected, either positively or negatively. Income is expected to have significant positive effects on the amount of financial transfers, but does not need to have similar effects on the propensity to transfer money. If the respondent is unemployed he/she is expected to give less financial transfers. Having a higher educational level is linked to the income level and might increase financial transfers, but also time transfers. If the respondent is married, this might have a positive effect on the amount of money transferred to the children, since being married often is seen as a signal of a stronger financial position.

I will also include the variables linked to the respondent's wealth in the time transfer model (income, education, marriage) since there might be a substitution effect (high-income children transfer money instead of time) affecting the time support to parents negatively. The number of siblings of the respondent will also be included in the time transfer models due to an expected (negative) effect on the amount of hours transferred toward the parent, since time support might be shared between siblings or be the 'responsibility' of just one of the siblings. Health level of the respondent should have a negative effect on the time transfers. If the respondent is childless this might affect the transfers made to the parent negatively according

too Stark's (1995) exchange model, since there is then no need for the 'demonstration effect'. However, having no children could also have positive effects on time transfers to the respondent's own parents due to altruistically motivated factors, which would be independent of the number of children of the respondent.

4.3.2 Child's characteristics

Looking at financial transfers to children, one situation motivating transfers would be transfers due to any financial difficulties the child might be facing. This could be illustrated in the form of the child being in education. Being married is also included as a characteristic of the child. I also included the age of the respondent's children, which I then divided into age classes to enable a comparison of children in different age groups.

4.3.3 Parent's characteristics

For the respondent's parents, there are not any specific parental characteristics that I can include due to a lack of observations in the data material. Inserting for example self-assessed health of the parent, or how close the parent lives to his/her child (the respondent), will result in a sample of about 300-400 observations (compared to having between 1100-1600 observations) used in the estimated models.

4.4 Variable construction

All variables need to be created out of the raw data in order to capture the intended characteristic of the individual. The list in table 4.1 below presents the variables I have produced from the data set and decided to include into the econometric models. It also contains an explanation of how I specified the specific variable.

Table 4.1 Variable description

Variables		Description
Money given (dummy)	=	1 if the respondent transfers money to any child/grandchild, 0 otherwise
Money given (continuous)	=	The amount of money transferred from the respondent to the child/grandchild, measured as the total of all transfers (trimmed at the 99th percentile)
Hours given (dummy)	=	1 if the respondent transfers time services to any parent, 0 otherwise
Hours given (continuous)	=	The amount of hours the respondent has transferred to his/her parents one year prior to the interview, the total of all transfers (censored at the 99th percentile)
Respondent's characteristics:		The respondent is the person answering the questions during the interviews in the SHARE data collecting. In this study it is the one who has been transferring money to the child and transferring time to the parent
Number of children:		The number of children of the respondent, divided into classes
Childless	=	1 if the respondent has no children, 0 otherwise
Has at least one child	=	1 if the respondent has at least one child, 0 otherwise
Has one child	=	1 if the respondent has one child, 0 otherwise
Has two or more children	=	1 if the respondent has two or more children, 0 otherwise
Household income:		Measures the total household income, divided into quartiles
Q1	=	1 if the household's level of earnings is in the 1st quartile, 0 otherwise
Q2	=	1 if the household's level of earnings is in the 2nd quartile, 0 otherwise
Q3	=	1 if the household's level of earnings is in the 3rd quartile, 0 otherwise
Q4	=	1 if the household's level of earnings is in the 4th quartile, 0 otherwise
Educational level:		Measures the average education of the respondent and/or partner, divided into different levels
High school	=	1 if the respondent (and/or partner) has at most a high school degree on average, 0 otherwise
College	=	1 if the respondent (and/or partner) has a college degree on average, 0 otherwise
Some higher education	=	1 if the respondent (and/or partner) has 13-14 years of education on average, 0 otherwise
Highest education	=	1 if the respondent (and/or partner) has more than 14 years of education on average, 0 otherwise
Head or spouse unemployed	=	1 if the head or spouse is unemployed, 0 otherwise
Age:		The age of the respondent divided into age classes
Age<55	=	1 if the respondent is less than 55 years old, 0 otherwise
Age 55-64	=	1 if the respondent is between 55 and 64 years old, 0 otherwise
Age 65-74	=	1 if the respondent is between 65 and 74 years old, 0 otherwise
Age>74	=	1 if the respondent is older than 74, 0 otherwise
Number of siblings	=	How many siblings of the respondent (and or his/her partner)

In good health (self-assessed)	=	How healthy the respondent is reporting to be, valued in the range *excellent, very good, good, fair, bad,* where the variable takes the value 1 if the respondent is in the range between excellent and fair health, and takes the value 0 otherwise
Married/Living in couple	=	1 if the respondent is married or living in a couple, 0 otherwise
Child's characteristics:		
Child in education	=	1 if the child is currently in education, 0 otherwise
Age of child		Measures the average age of the respondent's children, divided into age-classes
Age 18-24	=	1 if the average age of the children is between 18 and 24, 0 otherwise
Age 25-34	=	1 if the average age of the children is between 25 and 34, 0 otherwise
Age 35-44	=	1 if the average age of the children is between 35 and 44, 0 otherwise
Age>44	=	1 if the average age of the children is over 44, 0 otherwise
Married/Living in couple (child)	=	1 if the child is married or living in a couple, 0 otherwise
Other:		
Sweden	=	1 if the observations are from Sweden, and 0 if the observations are from Denmark

One thing to note about the variable list is that the SHARE database is constructed to include very specific information on the micro-level. One problem I have noticed when working with the SHARE database is that there are sometimes too many missing values in the data on some of these in-depth variables, which restricts the type of variables I can include into my models making the model specification a bit more problematic.

5. Descriptive Statistics

I will present some descriptive statistics of the variables used in the models. I will also present some numbers on the incidence of transfers and some other statistics that might be of interest both in illustrating how financial and time transfers are divided across the age of the recipient but also in explaining the specifications of my econometric models.

Table 5. 1 Proportion of respondents that transfer money or time in Sweden and Denmark respectively

	Financial transfers to children/grandchildren	Time transfers to parents
Sweden	31.03%	15.86%
Denmark	29.07%	16.18%

In table 5.2 above we see some figures showing the incidence of financial and time transfers in Sweden and Denmark respectively according to the definitions of transfers described in section 3. This is just to show that the proportion of Swedes and Danes making these types of transfers is relatively similar, and that in both countries making financial transfers to children/grandchildren is more common than making time transfers to parents.

5.1 Variable presentation

The mean values in table 5.1 below are the average values for all individuals in the data.

Table 5. 2 Descriptive statistics

Dependent variables:	Obs.	Mean	Std. Dev.
Money given dummy	3714	0.3010232	0.4587645
Money given, in Euros (unconditional)	3714	1946.044	8723.141
Money given, in Euros (conditional)	1118	6464.764	14956.65
Hours given dummy	5326	0.1601577	0.3667867
Hours given (unconditional)	5326	1.437289	8.413744
Hours given (conditional)	853	8.974209	19.35787

Independent variables:

Respondent's characteristics:			
Number of children:			
Childless	3686	0.0949539	0.293191
Having at least one child	3686	0 .9050461	0 .293191
Has one child	3686	0.1527401	0.3597856
Has two or more children	3686	0.752306	0.4317317
Total household income	3626	4599.033	12618.18
Educational level:			
High school	5328	0.3040541	0.4600488
College education	5328	0.2128378	0.4093523
Some higher education	5328	0.2058934	0.4043909
HIghest education	5328	0.2772147	0.4476654
Head/spouse unemployed	4603	0.1016728	0.3022504
Age divided into age classes:			
Age <55	5360	0.1865672	0.3896
Age 55-64	5360	0.3649254	0.4814541
Age 65-74	5360	0.2561567	0.4365501
Age > 74	5360	0.1923507	0.3941839
Number of siblings	4597	2.308462	1.724283
In good health (self-assessed)	5351	0.7344422	0.4416711
Married/Living in couple	3425	0.7477372	0.4343747
Child characteristics:			
Child in education	3276	0.1892552	0.391771
Age 18-24	3322	0.0346177	0.182837
Age 25-34	3322	0.2375075	0.4256198
Age 35-44	3322	0.2922058	0.4548449
Age > 44	3322	0.1333534	0.3400075
Married/Living in couple	3281	0.7519049	0.4319731
Other:			
Sweden	5361	0.5120313	0.4999019

5.2 Transfers over the age

In figure 5.1 below the financial transfers are given over the age of the child. The figure is interesting since it shows that the transfers are centred around 23-40 years of age of the respondent's children, with some outliers in the upward direction. The figure also reveals some extreme outliers, i.e. a few very big sums transferred that might validate a censoring point to improve the estimations of my models, i.e. that the continuous dependent variable of financial transfers should be trimmed around the top percentile.

Figure 5. 1 Financial transfers over age of recipient
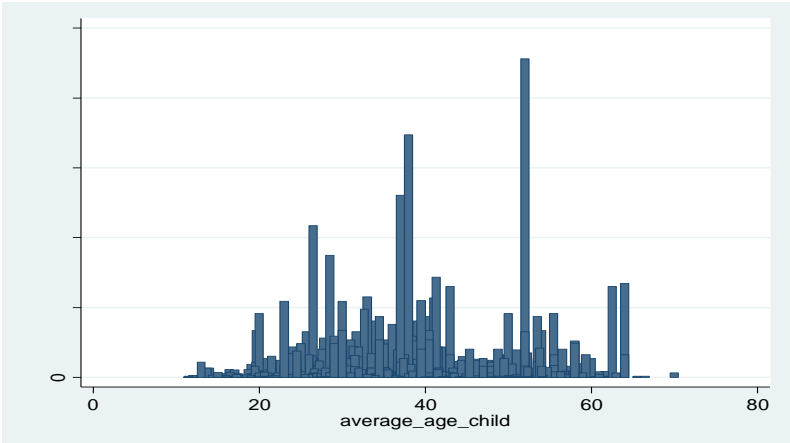
(Own calculations from SHARE wave 2, 2006/2007)

In Figure 5.2 below we see that the spread of time transfers over the age of the parent (i.e. the respondent's parent) lies mostly around 75-85 years of age. This figure also shows that the outlier of transferring 200 hours will probably bias the estimations and thus affect the results. Therefore it could be beneficial to censor around the top percentile in the model specification of the time transfer model.

Figure 5. 2 Time transfers over age of recipient

(Own calculations from SHARE wave 2, 2006/2007)

25
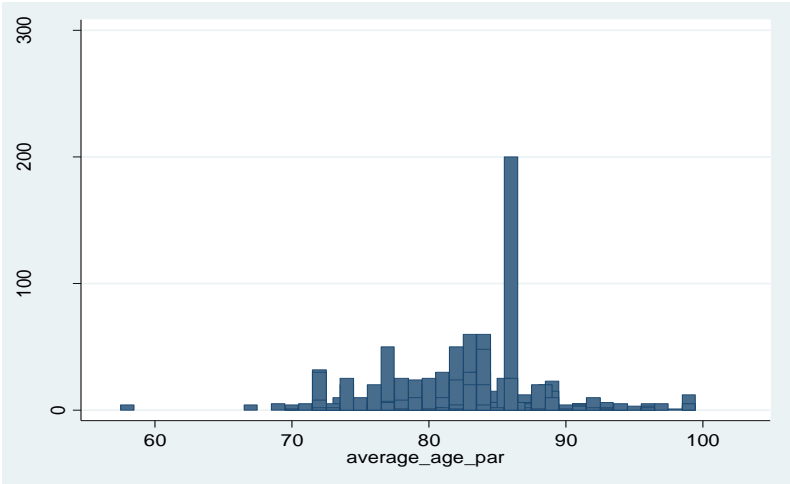
5.3 Reasons for financial transfers

When collecting the data from the SHARE database the respondents were asked about the reasons for *transferring money* to all. Table 5.2 below shows the respondent's reasons (in Scandinavia) for transferring money to two different children/grandchildren.

Table 5.2 Reasons for financial transfers

Reason given to:	Child/Grandchild	Child/Grandchild
	%	%
To meet basic needs	20.30	15.73
To buy or furnish a house or apartment	12.16	10.09
To help with a large item of expenditure	12.61	11.28
For a major family event (birth, marriage)	9.21	8.61
To help with a divorce	1.43	0.30
To help following a bereavement or illness	0.45	0.15
To help with unemployment	1.34	1.34
For further education	7.69	7.12
To meet a legal obligation (e.g. alimony)	0.09	0.45
No specific reason	24.15	32.34
Other reason	10.55	12.61
Total	100.0	100.00

(SHARE, wave 2, 2006/2007)

As can be seen in table 5.2 above two of the most common (specified) reasons for providing financial support is to help the child meet basic needs and to help with buying some larger item or house. There are also about 11 per cent of the respondents who transfer money for reasons not included in this list. However, between 24 to 32 per cent claimed that they transferred money for no specific reason, which could mean that the reason for the transfer

might be connected to some underlying characteristic of donor or recipient rather than being connected to any 'immediate' need facing the recipient. As discussed above, a parent with a higher income level might be more inclined to transfer money with no direct reason for it. It could also be that some financial transfers are made for altruistic reasons connected to the family's utility or that transfers are made due to an expected future repayment (exchange reasons). This would then mean that the transfers do not need to be directly linked to any of the reasons stated in table 5.2 above.

6. Method

6.1 Logistic regression model

In the types of regressions where you want to explain the probability of a dual outcome, for example you are posing a yes/no question for your outcome variable, a good method is to use a binary logistic regression. In a binary logistic regression you will get the conditional probability of an outcome y, given by different values on the explanatory variables.

$$P\{y_i = 1|X_i\} = G(X_i, \beta)$$

This equation says that the probability of having $y_i=1$ depends on the vector X_i, which is a vector of the explanatory variables.

In a logistic model the probabilities are presented in the form of odds that expresses the probability of an outcome in relation to the probability that the outcome does not happen. The following general formula will be used as a base for my own logistic model:

$$Logit(p_i) = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k$$

The X_k are the different explanatory variables used in the model, and the β_k are the coefficient values that will be estimated. This model will not include an error term since the predicted value in itself is a probability. (Verbeek, 2008, pp. 202-204)

In the logit regression McFadden's Pseudo-R^2 is used. This measure is comparable to the R^2 from as OLS regression, i.e. the higher the Pseudo-R^2, the better the specification of the regression model.

The choice between using a probit model or a logit model is often not very important. The two methods usually give very similar results, and the econometric literature does not really give any clear advice either. I chose the logit method in my analysis due to the fact that I got slightly higher significance in the regression results of my estimated models.

6.1.1 Maximum likelihood

The method used to estimate a binary logistic expression is the maximum likelihood estimation, MLE:

$$L(\beta) = \prod_{i=1}^{N} P\{y_i = 1|X_i; \beta\}^{y_i} P\{y_i = 0|X_i; \beta\}^{1-y_i}$$

This estimation formula is usually used in its logarithmic form, the log-likelihood function, making it a bit easier to do calculations. So by substituting $P\{y_i = 1|x_i; \beta\} = F(x_i'\beta)$ we obtain the logarithmic form. The maximum likelihood technique then maximizes the value of the log-likelihood function that indicates the probability that Y=1 given the values of the independent variables and the estimated parameters α, β_1, β_2, ..., β_k. (Verbeek 2008, pp. 203-204)

6.2 Linear regression model

I will also use the *Ordinary Least Squares* method to estimate a linear regression model of the amount of time or money transferred between generations. This model is used to capture any respondent (and child in the financial model) background effects on the amount of money or time transferred. The usage of the OLS method is one of the most commonly used in econometric analyses. Generally, an OLS regression model can be written as:

$$y = \beta_1 + \beta_2 X_{i2} + \cdots + \beta_k X_{ik} + \varepsilon_i$$

The y is the dependent variable and the x-variables are the independent, observable, explanatory variables. The β – coefficients are estimations of the true population parameters and explain the effects of the different independent variables on the dependent variable y. According to the Gauss-Markov assumptions the coefficient estimates are Best Linear Unbiased Estimators (BLUE) of the true population parameters. (Verbeek, 2008, pp. 15-18)

6.3 Interpreting the coefficient values

The interpretation of the β-coefficient values is straightforward in the linear regression model. If $\beta_k = 0.2$ this is interpreted as when X_k increases with one unit, the value of y will increase with 0.2. For the dummy variables; if $\beta_k = 0.2$ it means that when $X_k = 1$ the value of y is 0.2 higher than when $X_k = 0$. (Verbeek, 2008, pp. 18)

In the logistic regression model we are estimating probabilities, i.e. we are estimating the formula $p_i = P\{y_i = 1|x_i\}$, where p_i is the probability that the outcome of y =1. This means that we cannot interpret the coefficients in the same way as we do in the linear regression

model. I have chosen not to present the results of the logistic regressions in the form of odds ratios.[6] Instead, I will present the coefficient-values as the change in the log odds of the outcome. This means that the estimated coefficients give the change in the log odds of the outcome for a one-unit increase in the dependent variable. For example, if $\beta_k=0.2$ it means that a one-unit increase of X_{ik} increases the log of the odds by 20 per cent (ceteris paribus). For the dummy variables the coefficient value is a comparison between an included group and a reference group. In logistic regressions the beta coefficients tend to be overestimated. Increasing the sample size diminishes the overestimation and the estimated values approach the true population values. (Verbeek, 2008, pp. 200-203)

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[6] For more information on odds ratios see for example Verbeek 2008

7. Results

In this section I will present the results from the estimations of the different models where I investigate possible determinants of financial and time transfers. I will start by looking at the two models concerning financial transfers made from the respondent towards his/her child/grandchild, and then shortly compare the results from the models. After that I will present the models concerning time transfers from the respondent towards his/her parents and also briefly compare the outcome of the models.

7.1 Financial transfers

Below I have presented the models with the variables that I believe give the best fit after having tried many different specifications with different explanatory variables included. One of the reasons for testing many different models is that the amount of missing values sometimes present in the data forced me to re-specify the model a lot of times to adjust for too many missing values. What I then looked for when comparing the different models was if they had a good fit (R2-values and AIC/BIC) and if I got significant coefficient parameter values, but also how the amount of observations were affected by the inclusion of different variables.

7.1.1 The Binary Logit Model

The model for the binary logit concerning time transfers can be seen in model (1) below:

$$Log(Give\ money) = \alpha + \beta_i X_i + \gamma_i dum_i \qquad (1)$$

Here I looked at the propensity of the respondent to give financial transfers to his/her child/grandchild and the results from this model are presented in table 7.1 below.

Table 7. 1 Logit Analysis of Whether Given Financial Support to Children

	Coef.
Parent's characteristics	
Educational level:	
High school education	Ref.
College education	0.5334389***
	(0.202262)
Some higher education (13-14 years of education)	0.6111487***
	(0.1923187)
Highest education (more than 14 years)	0.8254773***
	(0.1884478)

Number of children:	
Has one child	Ref.
Has two or more children	0.0530527
	(0.1676411)
Household income quartile:	
1st	-0.2921709
	(0.1813575)
2nd	Ref.
3rd	0.5427984***
	(0.1788515)
4th	0.5950087***
	(0.1782332)
Head/spouse unemployed	-0.6346559***
	(0.1940271)
Age < 55	-0.2192611
	(0.1827142)
Age 55-64	Ref.
Age 65-74	-0.1342079
	(0.1957765)
Age > 74	0.057535
	(0.2686665)
Married/Lives in a couple	0.061622
	(0.1303093)
Child's characteristics	
Child in education	0.4678376***
	(0.1734505)
Married/Lives in a couple	-0.0534275
	(0.151009)
Age 18-24	-0.0973694
	(0.2179435)
Age 25-34	Ref.
Age 35-44	-0.147104
	(0.183464)
Age >44	-0.0025816
	(0.2722222)
Other	
Sweden	0.1435489
	(0.1573144)
Constant	-1.491216***
	(0.2924697)
Log likelihood	-849.96641
Number of observations	1446
Pseudo-R2	0.0671

*, ** and *** denote significance at the 0.10, 0.05 and 0.01 level, respectively

In table 7.1 it can be seen that education, income and if the head or spouse is unemployed seem to have significant effects on the propensity to give money to children/grandchildren, meaning that the variables linked to the economic status of the parent are significantly affecting the probability to transfer money. Using the variable 'Child in education' as a proxy for the child's monetary status showed that if the child is in education this has a significant positive effect on the parent's propensity to support the child financially. Neither the age of

the parent nor the age of the child had any significant effects on the propensity to transfer money. I also found no effect on financial transfers based on the respondent having one, or more than one, child. This could be due to that the number of children could translate in either more or less transfers (you give to all children, positive effect, or you do not have enough money to give to all so you give to none, negative effect), complicating any conclusions made on this variable. I did at first include a continuous variable for the number of children. This did not give me any significant result and I got a lower Pseudo-R^2 than I got with the current specification. However, the number of children could possibly have an effect on the amount transferred rather than on the propensity to transfer money, this due to the increased restrictions on transferring a financial amount to each child, the more children you have. Also to note is that I included marital status of the respondent into the model, even though the inclusion made me lose around 800 observations. Including this variable raised the Pseudo-R^2 of the model and also increased the significance of some of the other variables, even though the variable Married is not significant. I also tried to include a dummy variable for the child being unemployed. Doing this did not, however, add any explanatory power to the model so I excluded it from the model.

7.1.2 The Linear Regression Model

$$Financial\ amount\ given = \alpha + \beta_i X_i + \gamma_i dum_i + \varepsilon \qquad (2)$$

The results from model (2) above are presented in Table 7.2 below. One important thing to note is that the dependent variable, the amount of money given to children/grandchildren, is trimmed at the 99th percentile. This is to avoid too much bias from the extreme outliers, i.e. the top percentile of the persons transferring much more money than the mean, so they are excluded from the model in order to get rid of some of this bias, (the explanatory power of the model increased when trimming the dependent variable and I did not lose more than around 20 observations). I did some normal diagnostic tests on the model and confirmed the presence of heteroskedasticity with a Breusch-Pagan test. Since I do not know the basic structure of the heteroskedasticity I will continue with OLS but use a robust heteroskedasticity-consistent estimate of the variance (see for example Kennedy, 2008 pp. 117 for more information on dealing with heteroskedasticity).

Table7. 2 Linear Regression Analysis of Amount of Financial Support Given to Children: Trimmed at the 99th Percentile

	Coef.
Respondent's characteristics	
Educational level:	
High school education	Ref.
College education	400.3327
	(296.2001)
Some higher education (13-14 years of education)	546.179*
	(277.3357)
Highest education (more than 14 years)	979.3225***
	(291.9144)
Number of children:	
One child	Ref.
Two or more children	128.5132
	(277.0682)
Household income quartile:	
1st	-89.02038
	(299.7353)
2nd	Ref.
3rd	275.6043
	(309.4155)
4th	630.727**
	(322.7803)
Head/spouse unemployed	-204.2299
	(301.2298)
Age < 55	-717.873**
	(313.2501)
Age 55-64	Ref.
Age 65-74	111.2266
	(425.7852)
Age > 74	592.5074
	(568.7972)
Married/Lives in a couple	-495.7109**
	(271.8573)
Child's characteristics	
Child in education	796.0293***
	(377.3216)
Married/Lives in a couple	289.5772
	(292.361)
Age 18-24	-638.7036
	(301.4712)
Age 25-34	Ref.
Age 35-44	-36.24542
	(373.4342)
Age > 44	-514.4621
	(508.004)
Other	
Sweden	-932.2927***
	(193.3139)
Constant	1032.593**
	(400.9085)

F-statistic (model)	3.27***
Number of observations	1434
R-squared	0.0399

*, ** and *** denote significance at the 0.10, 0.05 and 0.01 level, respectively

In table 7.2 above we see that parents within the highest educational level transfer around 1000 Euros more over a year than those parents with only a high school degree. It can also be seen that being younger than 55 has a negative effect on the amount of money given to the child. If the respondent is married this has a negative effect on the amount transferred, which is a bit unexpected if you look at being married as a sign of economic stability.

The R^2-value is around 4%, which is low, but not that unexpected in this type of study. Cross-sectional studies of this kind usually give quite low explanatory values, especially in the linear models (see for example Zissimopoulos, J.M. and Smith, J.P. 2010). Looking at the dummy separating Sweden and Denmark, there seems to be a significant difference in the amount of money transferred, where the Danish transfer more money to their children than the Swedes. This can be seen in comparison to table 7.1 where the results indicated that there was no significant difference in the *propensity* to transfer money to children between the two countries.

7.2 Time transfers

7.2.1 The binary logit model

$$Log(Give\ time) = \alpha + \beta_i X_i + \gamma_i dum_i \qquad (3)$$

For the binary time transfer model (see model (3) above) the assumption was made that the propensity of time transfers from the respondent towards his/her parent is affected by the characteristics of the respondent. (The limitation in this model is that I am not able to include any characteristics of the parent due to too many missing values in the dataset). The model will thus focus on variables connected to the respondent's characteristics that might affect time transfer behaviour like for example the number of siblings of the respondent and also controlling for if the respondent is childless. (This is explained in greater detail in section 4.)

Table 7. 3 Logit Analysis of Time Support Given to Parents

Respondent's characteristics	*Coef.*
Educational level:	
High school	Ref.
College	1.06631***

	(0.3538587)
Some higher education (13-14 years of education)	0.8357406**
	(0.3530688)
Highest education (more than 14 years)	1.10829***
	(0.3420456)
Household income quartile:	
1st	0. 1378744
	(0.2963829)
2nd	Ref.
3rd	0 .1026586
	(0.2950507)
4th	0.5682055**
	(0.280876)
Age < 55	0. 3446387*
	(0.1766573)
Age 55-64	Ref.
Age 65-74	-1.26013***
	(0.2943984)
Age > 74	-3.862323***
	(1.01618)
Number of children:	
Childless	0.15532
	(0.2896489)
Having at least one child	Ref.
Other	
Head/Spouse Unemployed	0.0378921
	(0.2218003)
Married/Lives in a couple	0.128814
	(0.1850384)
In good health (self-assessed)	0.5879208**
	(0.2333712)
Number o f siblings	-0.055113
	(0.0542801)
Sweden	0.3894522*
	(0.2138943)
Constant	-3.148441***
	(0.4677452)
Log likelihood	-479.14173
Number of observations	1456
Pseudo R2	0.1750

*, ** and *** denote significance at the 0.10, 0.05 and 0.01 level, respectively

From table 7.3 above we see that the variables affecting the propensity to give time to parents are those concerning the educational level and the age of the respondent. Comparing to having only finished high school, those who have at least college education seem to have a higher probability of assisting their parents. Income does not have that much of a significant effect on the propensity of helping out your parents with time services, but since the educational level is linked to income there might be some correlation between these two variables causing

multicollinearity.[7] The number of children of the respondent does not seem to be significant in explaining time transfer behaviour. The age of the respondent is negatively affecting the propensity to support the parents. Lastly, it can be seen that having good self-assessed health is positively affecting the probability to help out your own parent. The Pseudo-R^2 of 17.50% is high, especially compared to the Pseudo-R^2 in the binary model studying financial transfers. This would implicate that the respondent's characteristics can explain quite a lot of the respondent's propensity to give time support to the parent.

7.2.2 The Linear Regression Model

Next I will look at the OLS regression estimation. The model is presented below:

$$Hours\ of\ time\ given = \alpha + \beta_i X_i + \gamma_i dum_i + \varepsilon \qquad (4)$$

In this regression the dependent variable is censored, again I have trimmed the variable at the 99th percentile. This is again due to the fact that the dependent variable is very biased; in this case with less than one per cent of the observations transferring up to about 200 hours the year before, while the mean number of hours transferred is only around 8.97 hours. So to avoid too much bias in the results I used this censoring point. One thing to note about this is that the R^2-value increased with about 0.3 percentage points after adjusting the model in this way without losing more than about 10 observations. In the linear time transfer models I also confirmed the presence of heteroskedasticity and I therefore used a robust estimate of its variance in the regression. The results from this regression are presented in table 7.4 below:

Table 7. 4 Linear Regression Analysis of Amount of Hours of Time Support Given: Censored at the 99th Percentile

	Coef.
Respondent's characteristics	
Educational level:	
High school	Ref.
College education	0.2668648
	(0.1523062)
Some higher education (13-14 years of education)	0.2448606
	(0.1569654)
Highest education (more than 14 years)	0.6952168***
	(0.1843087)
Household income quartile:	
1st	0.2169048
	(0.1845231)

---

[7] Multicollinearity does not reduce the predictive power of the model as a whole, it only affects calculations regarding individual predictors (see for example Kennedy (2008) for more information)

2nd	Ref.
3rd	0.2280758
	(0.214628)
4th	0.5089625**
	(0.2589059)
Age < 55	0.6959046***
	(0.3227921)
Age 55-64	Ref.
Age 65-74	-0.7120986***
	(0.1728754)
Age >74	-0.8147621***
	(0.1663123)
Number of children:	
Childless	-0.0466844
	(0.2354893)
Having at least one child	Ref.
Other	
Head/Spouse Unemployed	-0.313245
	(0.2461545)
Married/Lives in a couple	-0.0216881
	(0.1515688)
In good health (self-assessed)	0.2945631
	(0.1384344)
Number of siblings	-0.0370548
	(0.0355103)
Sweden	0.3620136
	(0.2049092)
Constant	0.2028771
	(0.2936598)
R-squared	0.0641
Number of observations	1446

*, ** and *** denote significance at the 0.10, 0.05 and 0.01 level, respectively

Having siblings or being married does not seem to have as significant of an effect on the amount of hours transferred to the parents as was seen from the estimation of the propensity to transfer time. Using a continuous dependent variable seems to give less supporting evidence of significant effects from most of the respondent's characteristics. This might partly be due to the bias in the spread in the amount of hours transferred to the parents across the data despite censoring the variable. Age has a very strong significant negative effect on the time services provided. Being in the highest income quartile seems to have a positive effect on time services provided, as well as being part of the highest educational level. So even though this model shows that most of the respondent's characteristics cannot be used to explain the amount of hours transferred, those variables linked to the economic status show that being in the highest income quartile and being part of the highest educational level affect the amount of time transferred to the parent positively. The R^2-value of around 6 per cent

shows that although the explanatory variables have lost a lot of significance in the linear model, they still add to the explanation of the respondent giving time support to his/her parent.

The "Childless" variable was included in both models to see if the support given to parents could be affected by having children. This inclusion showed no significant effects of not having any children on the time given to the parents. However, I have not studied the effect of being childless on any financial support given from the respondent to his/her parents. In both models it can also be seen that variables related to the income of the respondent have positive effects on time transfers to parents.

8. Conclusions

In Scandinavia, the incidence of financial transfers from parents to adult children is fairly high with relatively substantial amounts transferred (SHARE 2006/2007). However, the occurrence of these parents transferring time support to their own parents is fairly low, with few hours transferred on average. As I discussed in the introduction in section 1, other studies have shown results implying that this type of pattern is seen when studying strong, economically balanced welfare states where the incidence of financial transfers is much higher than the incidence of time transfers. (see for example Albertini, M. et. al. 2007)

The results in section 7 captured a significant positive effect on financial support given when the child is in education. This result suggests that parents are more prone to give money to children that are less well off. I also find a positive relationship between the income level of the respondent and both the propensity of financial transfers and the amount of money transferred. This is in line with the theoretical models implying that parents with more money can more easily make smaller contributions to the child. In the models concerning time transfers the propensity to give time support is positively related to the respondent having a higher educational degree, whereas in the linear model this relationship is only weakly observed (only the respondents within the highest educational level show significant positive effects on time transfers). So I find that time transfers are also positively affected by the monetary status of the respondent. This could imply that there might be some underlying motive for transferring time to parents that is positively linked to the financial situation of the donor.

Also, the relatively low explanatory power of the models (low R^2 and that some of the variables remained insignificant) could be due to that I used a fairly small sample. The variables that remained insignificant in my study, like number of children / age of child, might become significant if a bigger sample was used.

One interesting result in the financial linear model is that there seems to be quite a big difference in the amount transferred between Danish and Swedes where the Danish parents transferred up to ~900 Euros more the last year when controlling for these variables. I do not

know what this is due to, but there could be some important difference concerning the support the state gives to young adults, like student grants etc. between the countries.

The type of study done in this thesis is just one of many different approaches one can take when studying intergenerational transfer behaviour, since the study allows many different sets of limitations to be included. Different types of directions of transfers can be studied, with different recipients included. By pooling the data over all European countries included in the SHARE database one can also make use of the characteristic-specific variables that could not be used in a smaller sample (like the grandparent's characteristics) to try and get a deeper understanding of the transfer behaviour. Also, since the SHARE database is in progress of getting its longitudinal dimensions, there will soon be enough data enabling studies on the persistence of transfer patterns, either by pooling the data over all the European countries, but also by looking more closely at country-specific patterns.

9. References

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