

# **Interdependent transfers and individual needs: Parental support to children in the Netherlands**

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## Abstract

Inter-vivos transfers from parents to children are the most common type of transfers in the family. Parents usually transfer part of their wealth, help with every day activities or give support and advice to their children. These transfers depend on parents' giving patterns, particular needs of children in a given time, but also on transfers given to the other children or the same child over time. But to what extent the likelihood of transferring money, services or support to one of the children will be influenced by transfers to other children (and/or to the same child in different years)?

We use Netherlands Kinship Panel Study data for 2005 and 2007 to explore both the "between-children" and "between-time" interdependence of different transfers. The transfers we have considered include money transfers, household help, odd-jobs help, advice, and interest given to children. We examine the correlation of different transfers focusing at the effect that transfers to other children (or to the same child over the years) have on the likelihood of transferring particular transfers. We are able to distinguish both the "equity" effect and the "exhaustion" effect of parents. Parents tend to transfer similar transfers to both children, and also positively associate transfers among them. However, parents seem to "exhaust" their resources and do not always relate different transfers with each-other when it comes to different children.

JEL Classifications: D10; D13; D31; J13

Key words: inter-vivos transfers, family solidarity, intergenerational, equity

# 1. Introduction

Throughout their lives parents give to their children both money and non-monetary support. The non-monetary support includes service rendered but also interest and advice. Children tend to be different in their particular needs at a given time. Characteristics of parents and particular needs of children will determine the occurrence of transfers. But, what happens if the parent transfers to a child at a given time: Will this transfer happen at the cost of reducing transfers to the other children for that year? And, will the parent reduce transfers to the same child for the next years?

This paper looks at the intergenerational inter-vivos transfers of money and non-monetary support, and aims to explore giving patterns of parents by analyzing their allocation of resources among different children. We look at parental transfers of money/valuables, housework help, odd job help, expressing of interest, and advice giving. The empirical approach followed in this paper explores both cross-sectional variation of transfers and also their dependence over time. We use Netherlands Kinship Panel Study data for 2005 and 2007 to explore both the “between-children” and “between-time” interdependence of different transfers. Our main results show that in general such parental transfers depend on gender, age, education, wealth/income, distance, health status, but also on marital status of parent and child. Exploring the interdependency of the transfers we find that: (1) Transfers of the same kind are positively correlated both between children and between years (i.e. whenever a parent transfers money to one of the child he is also likely to transfer to the other child). Financial transfers in particular are the most highly correlated transfers. (2) Parents seem also to positively associate different transfers with each-other when transferring to the same child. This is the case for transfers like: money and advice, money and household help, household help and odd job help, or advice and interest. (3) However, when checking for the combination of these transfers given to different children, we observe an “exhaustion” effect. For instance, when a parent gives financial transfers and advice to child 1 he is also likely to give financial transfers to child 2. But, at the same time he is also less likely to give advice to child 2. (4) The exhaustion effect is not observed if we consider transfers over time to the same child. Parents here seem to “care” more about the combination of the transfers that they give to the child and they do not seem to “substitute away” or “exhaust” their resources.

Inter-vivos transfers from parents to children are certainly the most intense transfers within the family. The motives behind parents to children transfers may relate to altruism, intergenerational transfer of wealth, exchange, etc. These transfers involve transfers of money, time or other resources and can be complex, especially if multiple children are involved. Other studies show that parents tend to equalize between children by using the amount transferred as an instrument for this (Menchik, 1980; Dunn & Philips, 1997; Jellal and

Wolff, 2007). In fact, parental equity concerns can be materialized in two main dimensions; (1) horizontal equity (own children are treated equally), and (2) vertical equity (different children's needs are treated differently). Parents may choose the timing and the type of transfers by considering these two different dimensions. If they choose to treat children the same (horizontal equity), timing and transfers to all children will be interdependent to each other, and if they will try to address particular inequalities (i.e. particular drops in incomes of one of the children), they would try to equalize children's incomes by using compensatory transfers. In this later case, we would observe transfers directed to the neediest child. Theoretical and empirical evidence on this is mixed. Stark and Zheng (2002) argue that in fact parents may choose to mandate non-compensatory inter-vivos to their children. But, what happens if parents have more than just financial transfers to address their equity concerns? Will the different transfers be compensatory or equitable (and how would parent behave over time)?

Many studies show that inter-vivos transfers are dependent on children's characteristics and vary over time. These empirical studies have demonstrated that parents use inter-vivos cash transfers to 'equalize' between their children's incomes by giving more to those with lower incomes and less to those with higher (Menchik, 1980; Dunn & Philips, 1997; Jellal and Wolff, 2007). On the other hand, parent's equity concerns towards all children may lead them to transfer to all of them simultaneously. Evidence shows that parents carefully consider all other children whenever they decide to help any of their heirs (Bernheim and Severinov, 2003). Studies of parent bequests have shown that these transfers tend to be generally more 'equally' distributed children wise than the inter-vivos (Light and McGarry, 2004; Berhman and Rosenzweig, 2004).

The paper begins in Section 2 with a review of the main theoretical concepts and empirical evidence explaining equity behind inter-vivos intergenerational transfers. Section 3 and 4 discuss the nature of data and the empirical model we use. Results from both steps of our analysis are given in Section 5. In section 6 we discuss both the implications of these results and the main findings.

## **2. The Theoretical Framework**

Generally, inter-vivos transfers from parents to children are supposed to be dependent on two main factors: 1) a pre-decided pattern of giving (like giving birthday gifts, or financing education), and 2) the specific needs that arise during the life course of their children. Many authors argue that parents tend to direct their inter-vivos financial transfers towards children with higher needs (driven by the second set of factors) favouring those children with lower incomes. Nevertheless, limited evidence exists on how the overall simultaneous transfers of

financial resources, services, and general support would vary over time when more than one child is considered. Will these transfers favour more the needy child (supporting therefore the second set of factors)? Would parents be more 'equalitarian' over time between the two (or more) children? And even if they are, do they value the financial transfers the same as non-financial transfers? Can these transfers be substitutes to each-other?

Menchik (1980) and Dunn & Philips (1997) demonstrate that inter-vivos financial transfers tend to be directed towards poorer children, and bequest distributed more equally between all children. Wilhelm (1996) looking at the distribution of bequests and testing for motives of altruism also found that the difference in characteristics between children (like large earnings differentials) have little effect on the equality of bequests. He also mentioned that given the existing empirical evidence gives little hope in determining whether parents have long-term equalization objectives, and therefore are more likely to equalize between their children using complex transfers (including inter-vivos, human capital, or bequests). Jellal and Wolff (2007) modelling the behaviour of altruistic parents reach to the conclusion that parents use inter-vivos for compensating disutility of children (whenever children show observable efforts, like attending education), and bequests to equalize children's marginal utility of consumptions (thus if we consider incomes of children bequests can be compensatory, while inter-vivos can be either positive or negative).

Light and McGarry (2004) mention that often parents tend to play 'favourite' by giving unequally transfers to their heirs. They look specifically at bequests (real estate) and explore questions on the reasons of giving equal/unequal transfers. They analyse the reasons behind transfers of bequests and mention among other motives; altruism (people give transfers according to children's needs), exchange (particular children have given more than others in earlier relationship), evolutionary (favouring biological children), and equality (children are seen equally).

Berhman and Rosenzweig (2004) investigating the effect of bequests on shaping the behaviour of children, conclude that bequests are usually distributed equally among offsprings and this is consistent throughout the income distribution of parents. They argue that this contradicts with the hypothesis that parents perform compensatory transfers (based on altruistic model) and that this implies that they use different means (i.e. human capital investments) to pursue their strategic objectives and influence children's behaviour.

Bernheim and Severinov (2003) develop a theoretical model where they test the distribution of parent's transfers to multiple children when information is available to all parties. They conclude that transfers tend to be equal when they are observable to all children, and that the same argument could be brought to argue for unequal distribution of inter-vivos transfers.

Stark and Zheng (2002) argue that given the fact that bequests are divided equally between children, there is no any particular reason why inter-vivos transfers should be addressed mostly to the ‘needy’ child. They argue that there are reasons to believe that altruistic parents rely on altruistic siblings, and that these parent-child relations rely on a web of horizontal and vertical transfers which is extended over their life-times. In fact, Borghans & Tomini (2008), investigating the likelihood of Dutch parents in giving inter-vivos financial transfers to their children and friends, find that transfers between randomly selected children are correlated among them.

### 3. Data and Descriptive Statistics

Our data come from Netherlands Kinship Panel Study. This is a panel survey exploring kinship ties in the Netherlands. Our data come from 2005 and 2007 waves of the survey. The variables include individual characteristics as well as transfer attitudes with selected kinship members. The survey is designed to get as much information on the individual respondents (so called ‘anchors’), and the surrounding kinship members. Anchors have provided information on their selected kinship members (referred to as ‘alters’), among whose, two of their randomly selected biological/adopted children aged 15 or over (Dykstra et al, 2005). As we are interested on ‘parents to children’ transfers we have selected only those variables describing giving patterns of parents. The transfers include financial transfers, help with housework, odd-jobs, interest showed in children, and advice given.<sup>1</sup>

The children of the anchors in the study are chosen randomly from all possible living children of the anchor. Although this selection has been random, the ordering of the children in the survey (in most of the cases) puts oldest children first (see Table A1 in the appendixes). We suspect this may create biases in our analysis. For this, we reorder children so that the oldest child is always the first. We then reorder them again randomly using the family identification number.<sup>2</sup> This ensures us that to have a random selection of both child 1 and 2 (Table A1). We therefore refer mostly to child 1 during the description of the data and analysis.<sup>3</sup>

Table 1 gives a brief overview of the incidence of transfers during 2005 and 2007 for child 1. As we can observe from this table, transfers of money and advice have increased significantly from 2005 to 2007, while housework and odd jobs have not changed. Interest has been more or less stable, while advice given to both children has increased more significantly than other transfers.

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<sup>1</sup> Help with children is omitted here due to absence of such question in 2005 wave.

<sup>2</sup> This is done by reordering child 1 and 2 so that in families where the identification number corresponds to an uneven number child 1 (the oldest) is always is the first and vice versa. Choosing a random order for sorting the families gives very similar results, but our method allows for replication of the analysis by whoever is interested.

<sup>3</sup> Variables for Child 2 do not have any significant differences and are available on request by the authors.

**Table 1. Incidence of transfers from parents to children for 2005-2007**

Incidence of transfers between `07 and `05 for Child 1						
Year		Financial	Housework	Odd Jobs	Interest	Advice
2005	Yes (Once/twice or several times)*	0.23**	0.33	0.46	0.96	0.81***
	<i>N</i> **	3,221	2,468	2,468	3,221	3,221
2007	Yes (Once/twice or several times)	0.26**	0.33	0.46	0.96	0.85***
	<i>N</i>	2,090	2,090	2,090	2,484	2,484
	Mean for both years	0.24	0.33	0.46	0.96	0.83

\* - Financial transfers include both transfers smaller and larger than 500 Euros.

\*\* - number of observations for each category

Stars indicate whether the mean for each group is significantly different from the total mean for both years (\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%).

Table 2 gives the incidence of simultaneous transfers to both child 1 and child 2 for each year (only for parents that have two or more children). As we can observe from the table, all transfers are very likely to be simultaneous. Interest shown and advice given to one child is highly simultaneous with interest or advice to the other child (but this is also due to the high incidence of these transfers – see Table 1). Simultaneous transfers appear to “fade away” with the increase in number of children (seems that parents can not cope with transferring to many children at the same time), but the effect remains still strong. Over the years we observe an increase in the particular share of simultaneous financial transfers and advice given, whereas there is a decline in the share of simultaneous housework and odd job help given (Table A3).

**Table 2. Simultaneous transfers to both children by number of Children**

Year	Number of children	Financial	Housework	Odd Jobs	Interest	Advice	Number of observations
2005	Anchor has 2 children	0.21***	0.23***	0.38***	0.96*	0.77***	1005 - 1396
	Anchor has 3 children	0.15**	0.20	0.32	0.95	0.73	577 - 836
	Anchor has 4 or more children	0.12***	0.11***	0.22***	0.93**	0.67***	429 - 577
	Total	0.18	0.20	0.33	0.95	0.74	2011 - 2809
2007	Anchor has 2 children	0.22***	0.23***	0.35***	0.96**	0.81***	837 - 1038
	Anchor has 3 children	0.16**	0.13***	0.28	0.94	0.78	507 - 624
	Anchor has 4 or more children	0.18	0.11***	0.21***	0.93*	0.70***	333 - 407
	Total	0.20	0.18	0.30	0.95	0.78	1677 - 2069

Stars indicate whether the mean for each group is significantly different from the total mean for that group (\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%).



Our main control variables include characteristics of parents and children, like: demographic variables of (gender, age, number of children), household information (number of household members, marital status), education, distance from each-other, and health status. We also include other specific characteristics for parents like: employment status and employment incomes (for parents and their partners), type of dwelling, etc). Specific “shocks” to children are also included, like: having a sudden illness, bankruptcy, having trouble with the law, etc.

#### 4. Empirical approach

Our empirical approach consists in testing for the determinants of the likelihood of transfers. The survey gives limited information on the financial amount transferred (smaller/larger than 500 Euros) no information on the quantity of time involved in time transfers, and very general information on the number of times transferred. As we are primarily interested in the probability of the transfers, and in order to be consistent over the measure of each transfer here we only consider a dichotomous variable indicating if the transfer has taken place or not. Our goal is to identify which of the children’s characteristics are important in determining whether he/she gives (or receives).<sup>4</sup>

We start by using separate cross-sectional data and controlling for the main determinants of all transfers. This is done by using a logit model, where transfer occurrence is represented by a binary variable and takes only two values coded 0 and 1, where:

$$P_t = \begin{cases} 1 & \text{if } \alpha + \beta_1 X_p + \beta_2 X_{chi} + v > 0 \\ 0 & \text{otherwise} \end{cases} \quad (1)$$

Where  $P_t$  refers to the dichotomous variable of transferring a particular of transfer from the parent to his/her child,  $\alpha$  is a constant,  $\beta_1$  and  $\beta_2$  are vectors of estimated coefficients that correspond to the characteristics of the parent and child, and  $v$  is a vector of residuals errors having a normal distribution.

Our other goal is to explore interdependence of such transfers both between children (for the same year) and between years (for the same child). This will allow us to identify both between children and between variations of such transfers. We do this by estimating separately standardized Pearson residuals for each of the logit models we ran previously (step 1). Our method consists in running the logit model for each transfers separately including the residuals of the other models of interest. This is repeated for all the possible combinations (between children and years) in our data. Here, the logit model takes the form as below:

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<sup>4</sup> We here also consider....

$$Pt = \begin{cases} 1 & \text{if } \alpha + \beta_1 X_p + \beta_2 X_{ch1} + \beta_3 \varepsilon_{ch1} + \beta_4 \varepsilon_{ch2} + v > 0 \\ 0 & \text{otherwise} \end{cases} \quad (2)$$

where  $\beta_3$  and  $\beta_4$  are vectors of estimated coefficients corresponding to error terms from previously estimated models,  $\varepsilon_{ch1}$  and  $\varepsilon_{ch2}$  are vectors of residuals errors for other models estimated for child 1 and 2 having a normal distribution. The sign and statistical significance of such error terms gives the extent of the correlations between different transfers.

In addition we also look at the correlations between giving the same child in different years. Here, the logit model takes the forms as below:

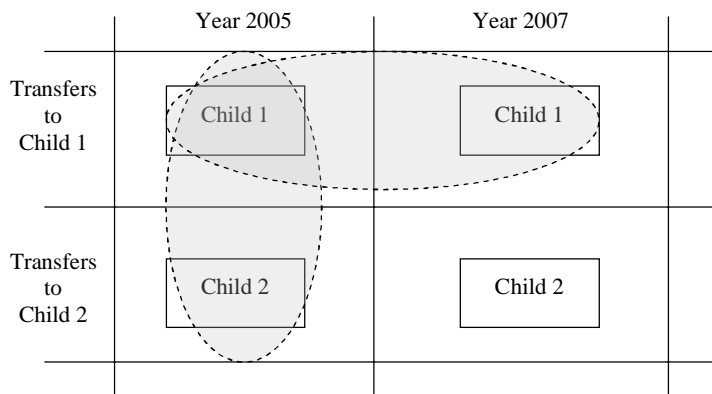
$$Pt = \begin{cases} 1 & \text{if } \alpha + \beta_1 X_{pt} + \beta_2 X_{ch1t} + \beta_3 \varepsilon_{ch1t} + \beta_4 \varepsilon_{ch1t+1} + v > 0 \\ 0 & \text{otherwise} \end{cases} \quad (3)$$

where  $\beta_{3j-1}$  refers to a vector of residuals corresponding to error terms from previously estimated models for the same child,  $\varepsilon_{ch1t}$  is the vector of residuals having a normal distribution in year t (2005) and  $\varepsilon_{ch1t+1}$  is the vector of residuals having a normal distribution in year t+1 (2007).

## 5. Empirical results

This section gives the main results from the estimation of models as described in section 4. We first examine the determinants of the likelihood of transferring for each of the transfers and then turn our attention at the correlation between children and between years. We have previously randomized the samples for child 1 and 2, and therefore do not expect any significant differences between child 1 and 2. For economy of space we display here only the results for child 1 as compared to child 2 in 2005 and compared to him/her in 2007.

**Figure 1. Comparisons of transfers to Child 1 with Child 2 and over time**



A graphical explanation of these relationships is given in Figure 1. This shows that for the correlation of the transfers we are using both between children comparisons, comparing transfers to child 1 and child 2 within the same year, and also between year comparisons, comparing transfers to child 1 in 2005 and 2007. Other combinations of children and years (i.e. comparing giving to child 2 to child 1 in 2005, and child 2 in 2005 and 2007) give similar results. All the results not displayed in this paper are available upon request from the authors.

### *5.1. Determinants of the transfers*

Table A4 and A5 give the results of the logit model for 2005 and 2007. From the tables we can notice that female parents are less likely to give financial transfers and help with odd jobs (though this is not statistically significant), but more likely to give household help, interest and advice. On the other side the main beneficiaries of transfers seem to be female children (the effect is statistically significant especially for household/odd-job help and advice given). The older parents (especially parents older than 65 years) are more likely to give financial transfers and interest, but less likely to help with housework, odd jobs and also less likely to give advice. Younger children (especially children younger than 25 years) seem to be mostly the beneficiaries of all the transfers.

Anchor's number of children reduces the likelihood of giving any forms of transfers to children, while the child's number of children usually influences positively transfers like odd-jobs and advice given, (though the effect is not statistically significant).

Wealth and employment income of the parents seem to have a general positive effect on the likelihood of transfer to children. Wealthy parents are more likely to help with their offspring especially with financial transfers, indicating for possible intergenerational transfers of wealth. Statistically, the effect of employment income is less significant and some of the times reversely related to the likelihood of transfers. For instance, higher employment income of parent's partner contributes to lower likelihood of household help for the child in 2005 or of financial help in 2007.

Education of both parents and children influences the likelihood of transfers. Higher educated parents tend to be more likely to transfer, and higher educated children are more likely to receive these transfers. This is consistent in both years and shows again for a consistent trend; higher educated parents invest more time and resources in their children (since education of the parent is correlated with the education of the child). Higher educated parents may also exchange more with their children as previous studies have shown (Borghans and Tomini, 2010).

Divorced parents are less likely to show interest or give advice to their children, while divorced children are more likely to get any of the transfers if compared to married children. This shows that in the divorce cases children turn more to their parents, but tend to transfer

less to their own children. Parents seem also to be more likely to transfer to the adopted or step-children (the coefficient for own child is negative and statistically significant).

The excellent health status of the parent also contributes to higher probability of transfers, while generally bad or very bad health status to lower probability. Higher urbanization residence area for the child does not have a clear effect on transfers, while distance on the other hand seem to lead parents to substitute way from time transfers to money transfers. Higher distance leads to higher probability of financial transfers, and lower probability of household/odd-job help, interest or advice.

### ***5.2. Interdependence of transfers***

Tables 3 and 4 give the results of the logit models with the residuals of our interest from the previously run logits. Residuals in Table 3 are introduced to compare transfers given to child 1 and child 2 in 2005. The results show that generally there exists a positive and high correlation between the likelihood of the same transfers to different children. The highest correlation exists between the likelihood of giving financial transfers to child 1 and 2. Giving advice and showing interest are also positively and highly correlated, while helping with housework or odd-jobs (though positively) are less correlated. These results demonstrate a strong effect when it comes to horizontal equity. Parents tend to equalize between their children despite their particular needs. If they give to child 1, they are also likely to give to the other child. It seems that parents, more than for anything else have “equality concerns” for financial transfers, but also for advice and interest.

In fact, the coefficients in Table 3 show that some of the transfers are correlated positively among them. Giving financial transfers is positively correlated with giving advice or giving household help to the same child. In the same way, giving household help is always positively correlated with giving odd jobs help. On the other hand giving advice seems to be positively correlated with all other transfers to the same child.

Important outcomes in Table 3 are also the cross-correlations between giving different kind of transfers to different children. Generally we observed that likelihood of giving certain types of transfers to the same child are positively correlated (i.e. giving financial transfers and advice). However, parents seem to “exhaust” their resources and do not always relate such transfers when it comes to different children. For example, parents seem to equalize between the likelihood of giving financial transfers and advice to the same child (positive correlation of these transfers to the same child). On the other hand, whenever they give financial transfers or advice to one child they tend to do so also for the other child (positive correlation of the

**Table 3. Logit estimations of Child 1 & 2 in 2005 with residuals of other models**

	Financial transfers		Household help		Odd-jobs help		Interest shown		Advice given	
	Financial to Ch1 2005	Financial to Ch2 2005	Household Ch1 2005	Household Ch2 2005	Odd jobs to Ch1 2005	Odd jobs to Ch2 2005	Interest to Ch1 2005	Interest to Ch2 2005	Advice to Ch1 2005	Advice to Ch2 2005
Residuals of the other models on transfers given to Child 1 and Child 2 in 2005	Financial to Ch1 2005	1.628***	0.241***	0.071	0.211***	-0.011	0.544*	-0.002	0.456***	-0.246**
	Financial to Ch2 2005	1.631***		-0.023	0.088	0.017	0.154*	-0.513*	-0.044	0.348***
	Household to Ch1 2005	0.254***	-0.171*		0.216***	0.273***	-0.034	0.178	-0.376	0.126
	Household to Ch2 2005	-0.191*	0.070	0.195***		-0.025	0.265***	-0.358	0.205	-0.150
	Odd jobs to Ch1 2005	-0.065	0.109	0.277***	-0.071		0.171**	0.077	0.054	0.368***
	Odd jobs to Ch2 2005	0.033	0.106	-0.045	0.316***	0.216***		0.374	0.315	-0.011
	Interest to Ch1 2005	0.156	-0.154	0.095	0.004	0.230**	0.137		1.491***	0.448***
	Interest to Ch2 2005	-0.030	-0.073	0.097	0.153	-0.016	0.175	1.336***		-0.302***
	Advice to Ch1 2005	0.478***	-0.180*	0.366***	0.056	0.310***	0.021	1.279***	-0.762***	
	Advice to Ch2 2005	-0.181*	0.290***	-0.113	0.287***	0.008	0.422***	-0.616**	1.480***	1.401***
Constant	-3.061	-0.502	-1.923	-3.204***	-0.943	-2.330**	-1.232	8.344	2.821	1.708
N										
Log likelihood										

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. \*\* Other control variables included are the same as in Table A3

**Table 4. Logit estimations of Child 1 in 2005 and 2007 with residuals of other models**

	Financial transfers		Household help		Odd-jobs help		Interest shown		Advice given	
	Financial to Ch1 2005	Financial to Ch1 2007	Household Ch1 2005	Household Ch1 2007	Odd jobs to Ch1 2005	Odd jobs to Ch1 2007	Interest to Ch1 2005	Interest to Ch2 2007	Advice to Ch1 2005	Advice to Ch2 2007
Residuals of the other models on transfers given to Child 1 in 2005 and 2007	Financial to Ch1 2005	0.521***	0.185***	0.067	0.182***	-0.055	0.006	0.295	0.199***	0.156*
	Financial to Ch1 2007	0.529***		0.001	0.044	-0.027	0.134**	0.045	1.070***	0.114
	Household to Ch1 2005	-0.089	-0.275			0.703**	0.621**	-1.241	0.738	-0.510
	Household to Ch1 2007	0.136	0.299	0.458***		-0.521*	0.449	1.568	-0.613	0.586
	Odd jobs to Ch1 2005	0.222	-0.449	0.370	0.169			0.671	-0.289	0.978***
	Odd jobs to Ch1 2007	-0.242	0.608**	-0.264	0.935***	0.273***		-0.598	0.730	-0.712**
	Interest to Ch1 2005	-0.011	-0.021	0.060	0.153*	0.201***	0.001		0.341***	0.362***
	Interest to Ch1 2007	-0.050	0.335**	0.095	0.011	0.091	0.214**	0.120		-0.037
	Advice to Ch1 2005	0.239***	0.110*	0.307***	0.039	0.329***	0.141**	0.777***	0.016	
	Advice to Ch1 2007	0.120*	0.057	-0.033	0.092	-0.032	0.174***	0.161	1.605***	0.289***
Constant	-0.189	0.140	-1.514*	0.177	0.452	5.232***	-0.971	10.649***	1.413	4.364***
N										
Log likelihood										

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. \*\* Other control variables included are the same as in Tables A3 and A4

same transfers to different children). Logically, one would think that the giving of these two different transfers (financial and advice) to different children would also be positively correlated to each other. Our results show that this is not always the case. Parents are likely to give financial transfers to both children; they are also likely to associate these financial transfers with advice. Whenever they give financial transfers and advice to child 1 they are also likely to give financial transfers to child 2. But, at the same time they are also less likely to give advice to child 2. This “exhaustion” effect may be due to two reasons: (1) Parents tend to equalize between the most “direct” and “visible” transfers (i.e. financial transfers or household help), but they “substitute away” less visible transfers (i.e. advice or interest shown), and (2) parents eventually “exhaust” their resources at a given time (i.e. they can give household help and help with odd-jobs to a child and they can also household to the other child, but they can not give both transfers to both children so they choose to give less help with odd-jobs). The main relationships where we observe this “exhaustion” effect between the two children are: (1) financial transfers– household help, (2) financial transfers – advice given, (3) household help – odd-job help, and (4) interest shown – advice given.

Table 4 gives the same type of results as Table 3, but now giving to child 1 is compared both in 2005 and 2007. Again here we observe that parents tend to “equalize” between giving to the same child over time, though the correlations of the transfers are not as high as giving to different children at the same year (Table 3). Parents again seem more likely to give financial transfers to the same child over the years more than any other type of transfers. Another likely transfer is also help with housework, while advice, odd-jobs and interest are less likely than this. The exhaustion effect here is less visible when looking at the correlations of different transfers. Giving financial transfers in 2005 is positively correlated to giving advice in 2005 and 2007, and more or less the same also holds for relationships between financial transfers and household help, or interest and advice. Parents here seem to “care” more about the combination of the transfers that they give to the child and they do not seem to “substitute away” or “exhaust” their resources.

## **5. Discussion**

Our analysis aims in exploring giving patterns of parents by exploring giving patterns for different transfers. We have looked in particular at transfers of money/valuables, help with housework or odd jobs, interest shown and advice given. Our interest relies on how transfers

from parent to a child change in the presence of transfer to the other child and also transfer to the same child in time.

Inter-vivos transfers from parents to children are the most common type of transfers in the family. Parents tend to transfer part of their wealth, help with every day activities or give support and advice to their children. The patterns of these transfers supposed to be dependent on two main factors: 1) a pre-decided pattern of giving (i.e. giving birthday gifts or financing education), and 2) the specific needs that arise during the life course of their children. Another and may be more indirect factor in this relationship is also the simultaneous transfers to the other child, and/or past or future transfers to the same child in different year. The most important question asked in this context is: To what extent transfers to other children (and/or transfers to the same child in different years) will influence the likelihood of transferring money, services or support to one of the children?

Empirical evidence suggests that inter-vivos financial transfers towards children with higher needs (driven by the second set of factors) favouring the children with lower incomes. However, specific needs of the other child, the sense of equity in parents' transfers and occurrence of transfers in time and between children may also determine the pattern of these transfers. In our approach we use both cross-sectional variation of transfers and also their dependence over time to explore giving patterns of parents by analyzing their allocation of resources among different children.

Our results from the analysis of the transfer determinants show that they depend on factors like; gender, age, education, wealth/income, distance, health status, but also on marital status of parent and child. The results confirm the results of earlier studies (see also Borghans and Tomini, 2010) that financial transfers flow mainly from old to young generations. Older parents seem to be more likely to help with monetary transfers and less likely to help with other forms of non-monetary support. The number of children seems to reduce the likelihood of receiving any transfers, and the effect of grandchildren, (though positive) is not statistically significant for most of the transfers. This seems to suggest that parents themselves tend to distribute their support upon all their children, and that the number of grandchildren does not affect the likelihood of receiving. In general, more educated parents seem more likely to transfer to more educated children.

Previous analysis using data on the Netherlands have revealed that transfers to different children are correlated with one another (Borghans and Tomini, 2010). We also find that similar transfers between different children are positively correlated. At the same time, the likelihood of giving certain types of transfers to the same child is also positively correlated

(i.e. giving money and advice, odd job help and housework help, interest and advice, etc). This evidence demonstrates for heterogeneity among parents in giving transfers to children. Some parents are more willing to transfer than others, and they transfer similar transfers to all children. On the other hand, parents also tend to group some of these transfers together. The same pattern is also observed if we consider the same children over time.

However, another effect that we observe here is that parents seem to “exhaust” their resources and do not always relate different transfers with each-other when it comes to different children. In other words, parents seem to be better in equalizing between the likelihood of giving similar transfer to different children or to the same child over time, but they fail to “keep up” when it comes to different transfers. This is what we call here the “exhaustion” effect. We argue that this effect may be due to the fact that parent tend to care more about visible effects of their transfers and their “reputation” (see also Lundholm and Ohlsson, 2000), and/or exhaustion of their financial and time resources.



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## 7. Appendixes

**Table A1. Reordering of the Child 1 and Child 2**

	Child A re-ordered as Child 1		Child B re-ordered as Child 2	
	Anchor giving to child A*	Anchor giving to child 1**	Anchor giving to child B*	Anchor giving to child 2**
Child selected is 1st Child	2,638	1,512	377	1,503
Child selected is 2nd Child	447	1,171	1,908	1,184
Child selected is 3rd Child	385	406	439	418
Child selected is 4th Child	118	113	111	116
Child selected is 5th Child	42	40	38	40
Child selected is 6th Child	11	17	19	13
Child selected is 7th Child	7	3	3	7
Child selected is 8th Child	3	5	3	1
Child selected is 9th Child	1		1	2
Child selected is 10th Child				
Child selected is 11th Child	1	1		
N sample	3,653	3,268	2,899	3,284

\* This is the original order of children as reported in the survey.

\*\* Child 1 & 2 are re-ordered in a random way by first ordering them by age and then re-ordering using the family ID (dividing families in those with even and uneven family ID). Whenever family ID is a even number the oldest child is always the first, and vice versa.

**Table A4. Logit estimations of the likelihood of transfers to Child 1 in 2005**

		Financial transfers		Household help		Odd-jobs help		Interest shown		Advice given	
		Coef.	st. error	Coef.	st. error	Coef.	st. error	Coef.	st. error	Coef.	st. error
Anchor: Gender and age	Anchor: Gender: female (Anchor: age less than 45)	-0,130	0,112	0,993***	0,144	-0,191	0,133	1,198***	0,250	0,567***	0,127
	Anchor: age 45-54	0,336*	0,185	-0,257	0,247	-0,394	0,261	0,759*	0,451	0,005	0,289
	Anchor: age 55-64	0,491**	0,224	-0,237	0,284	-0,893***	0,294	1,061*	0,583	-0,091	0,324
	Anchor: age 65 plus	0,566**	0,278	-0,588*	0,339	-1,223***	0,339	1,068*	0,648	-0,273	0,357
Anchor: children & siblings	Anchor: number of children	-0,191***	0,044	-0,331***	0,055	-0,120**	0,048	-0,065	0,073	-0,077*	0,040
	Anchor: number of siblings	-0,019	0,016	0,036**	0,018	0,036**	0,018	0,084**	0,036	-0,002	0,016
Anchor and partner: employmen t status	(Anchor: employed)										
	Anchor: unempl/housewife	-0,203	0,179	0,377*	0,205	-0,118	0,198	0,129	0,434	-0,227	0,217
	Anchor: pensioner/disabled (Partner employed)	-0,054	0,190	0,136	0,223	0,054	0,211	0,539	0,432	-0,039	0,221
	Partner unempl/housewife	-0,302	0,201	-0,291	0,266	0,490**	0,236	-0,013	0,461	0,263	0,230
	Partner pensioner/disabled	0,151	0,137	-0,132	0,160	0,027	0,153	-0,483	0,313	-0,071	0,150
Anchor: Dwelling	Anchor: : number of rooms	0,059**	0,027	0,107**	0,044	0,092**	0,043	0,083	0,090	0,052	0,038
Anchor/Part ner: Empl. income	Anchor:'s income (ln)	0,103*	0,056	0,094	0,067	0,073	0,065	0,170	0,112	0,040	0,066
	Anchor:'s benefits (ln)	0,009	0,018	0,029	0,021	0,010	0,020	0,008	0,036	0,010	0,018
	Anchor:'s partner inc. (ln)	0,034	0,031	-0,077**	0,038	0,011	0,034	0,030	0,070	-0,012	0,035
Anchor: Education	Anchor: Lower Educ. (Anchor: Intermed. Educ.)	-0,281**	0,115	0,064	0,135	-0,199	0,130	-0,437*	0,262	-0,375***	0,131
	Anchor: HigherEduc.	0,233*	0,120	0,034	0,149	0,159	0,143	0,748*	0,399	0,327**	0,164
Anchor: Marital Status	(Anchor: Married)										
	Anchor: Never married	-0,126	0,345	0,421	0,440	0,077	0,458	0,119	1,063	0,074	0,515
	Anchor: Divorced	-0,009	0,151	-0,464***	0,180	-0,647***	0,170	-0,801**	0,312	-0,309*	0,168
	Anchor: Widow	0,166	0,175	-0,037	0,205	-0,459**	0,196	-0,502	0,344	-0,294*	0,173
Anchor: Health Status	Anchor: Excellent health	0,001	0,141	0,220	0,169	0,196	0,162	0,167	0,311	0,017	0,153
	Anchor: Good health	-0,074	0,122	0,236	0,145	0,044	0,139	0,283	0,245	0,212*	0,126
	Anchor: Average										
	Anchor: Bad/v. bad health	-0,106	0,211	-0,341	0,265	-0,446*	0,249	0,192	0,375	0,025	0,196
Anchor: Other	Anchor: Born in The Netherlands	-0,182	0,176	-0,065	0,229	0,378*	0,225	0,907***	0,318	0,137	0,206
CHILD: AGE	Child gender: Female (Child age less than 25)	0,008	0,089	0,410***	0,104	0,205**	0,100	0,177	0,199	0,351***	0,099

and Gender	Child age 25-34	-0,570***	0,174	0,023	0,196	-0,166	0,193	0,389	0,453	-0,227	0,227
	Child age 35-44	-0,881***	0,233	-0,478*	0,260	-0,541**	0,250	-0,957*	0,542	-0,989***	0,268
	Child 45+	-0,762**	0,299	-0,823**	0,379	-1,220***	0,368	-0,971	0,626	-1,098***	0,312
Child: Education	Child currently enrolled	0,506***	0,175	0,164	0,213	0,462**	0,214	1,051**	0,458	0,637**	0,266
	Child low education ( <i>Ch intermed. education</i> )	-0,619***	0,120	-0,184	0,140	-0,327**	0,135	-0,199	0,224	-0,059	0,121
	Child high education	0,079	0,112	0,129	0,128	0,179	0,123	0,770**	0,304	0,414***	0,127
Child: Marital status	( <i>Child: married/cohab</i> )										
	Child: widow	1,230*	0,683	0,465	0,887	0,469	0,893	-1,312	0,842	0,918	0,809
	Child: divorced	0,311	0,267	0,200	0,315	0,308	0,293	0,231	0,464	0,560**	0,260
	Child: never married	0,143	0,135	-0,234	0,153	-0,212	0,147	0,109	0,328	0,299*	0,159
Child: other	Child: Hh member	-0,411*	0,239	0,419	0,296	0,658**	0,283	1,319***	0,494	0,372	0,319
	Child: Own child	-0,986***	0,333	0,487	0,500	-0,478	0,444	-0,112	1,085	-0,312	0,515
	Child: Resident in Netherlands	0,450	0,325	-0,274	0,395	-0,297	0,364	1,034	0,632	-0,103	0,370
	Child: Number of kids	0,013	0,058	-0,005	0,067	0,011	0,062	-0,048	0,103	0,006	0,052
Child: Urbanization and distance	Child urbanization (1 low density - 5 high density)	0,012	0,043	0,028	0,048	-0,003	0,046	0,072	0,090	0,005	0,043
	Child – Anchor distance (ln)	0,050*	0,029	-0,079**	0,032	-0,166***	0,031	-0,021	0,063	-0,085***	0,030
	Constant	-0,278	0,668	-1,406	0,880	0,620	0,836	-0,558	1,604	1,372	0,855
	N										
	Log likelihood										

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Reference categories in brackets.

**Table A5. Logit estimations of the likelihood of transfers to Child 1 in 2007**

		Financial transfers		Household help		Odd-jobs help		Interest shown		Advice given	
		Coef.	st. error	Coef.	st. error	Coef.	st. error	Coef.	st. error	Coef.	st. error
Anchor: Gender and age	Anchor: Gender: female (Anchor: age less than 45)	-0.233*	0.132	0.916***	0.135	-0.212*	0.126	0.404	0.321	0.398**	0.156
	Anchor: age 45-54	0.219	0.413	0.148	0.393	-0.185	0.402			-1.426	1.040
	Anchor: age 55-64	0.152	0.439	0.056	0.417	-0.523	0.424	0.198	0.585	-1.447	1.055
	Anchor: age 65 plus	0.263	0.477	-0.252	0.451	-0.950**	0.454	-0.152	0.670	-1.742	1.069
Anchor: children & siblings	Anchor: number of children	-0.153***	0.053	-0.329***	0.054	-0.089*	0.047	-0.031	0.099	-0.037	0.050
	Anchor: number of siblings	-0.006	0.019	0.033*	0.018	0.033*	0.018	-0.029	0.044	0.014	0.021
Anchor and partner: employmen t status	(Anchor: employed)										
	Anchor: unempl/housewife	-0.463*	0.246	0.274	0.229	-0.144	0.225	-0.168	0.751	-0.470	0.320
	Anchor: pensioner/disabled (Partner employed)	-0.337	0.242	0.000	0.233	0.044	0.225	-0.238	0.710	-0.463	0.313
	Partner unempl/housewife	-0.072	0.239	0.098	0.233	0.218	0.220	-0.608	0.563	0.043	0.278
	Partner pensioner/disabled	0.250	0.191	-0.036	0.185	-0.010	0.179	0.059	0.474	0.194	0.223
Anchor: Dwelling	Anchor: : number of rooms	0.327***	0.097	-0.000	0.094	0.175*	0.094	0.052	0.237	-0.012	0.103
Anchor/Part ner: Empl. income	Anchor:'s income (ln)	-0.048	0.032	0.010	0.029	-0.036	0.029	-0.091	0.080	-0.030	0.041
	Anchor:'s benefits (ln)	0.012	0.015	-0.010	0.015	-0.003	0.014	-0.024	0.033	0.026	0.017
	Anchor:'s partner inc. (ln)	-0.053*	0.028	0.013	0.026	-0.025	0.026	-0.093	0.086	-0.052	0.040
Anchor: Education	Anchor: Lower Educ. (Anchor: Intermed. Educ.)	-0.478***	0.170	-0.168	0.166	-0.327**	0.159	-0.052	0.419	-0.380*	0.206
	Anchor: HigherEduc.	0.026	0.161	0.121	0.162	0.181	0.157	0.321	0.449	0.119	0.215
Anchor: Marital Status	(Anchor: Married)										
	Anchor: Never married	0.161	0.198	0.551***	0.193	0.628***	0.185	1.080**	0.468	0.585**	0.236
	Anchor: Divorced	0.473**	0.224	0.635***	0.212	0.217	0.205	0.144	0.398	0.259	0.218
Anchor: Health Status	Anchor: Excellent health	0.165	0.181	0.134	0.173	0.058	0.167	-0.226	0.379	0.108	0.207
	Anchor: Good health	0.139	0.147	0.223	0.137	0.222*	0.132	0.711**	0.314	0.080	0.155
	Anchor: Average										
	Anchor: Bad/v. bad health	-0.281	0.316	-0.540*	0.298	-0.439	0.270	0.290	0.510	0.283	0.299
Anchor: Other	Anchor: Born in The Netherlands	-0.325	0.226	-0.105	0.228	0.262	0.224	1.429***	0.397	0.114	0.280
CHILD: AGE	Child gender: Female (Child age less than 25)	0.014	0.109	0.403***	0.104	0.203**	0.101	0.800***	0.270	0.360***	0.125

and Gender	Child age 25-34	-0.609***	0.190	-0.137	0.186	-0.439**	0.189	-0.239	0.646	-0.465	0.302
	Child age 35-44	-0.757***	0.247	-0.323	0.237	-0.758***	0.233	-0.991	0.709	-0.920***	0.339
	Child 45+	-0.530*	0.316	-1.113***	0.328	-1.511***	0.315	-0.451	0.806	-1.093***	0.381
Child: Education	Child low education	-0.320**	0.150	-0.130	0.137	-0.280**	0.134	-	0.316	-0.364**	0.161
	( <i>Ch intermed. education</i> ) Child high education	0.046	0.131	0.131	0.126	0.210*	0.122	0.896***	0.528	0.385	-0.095
Child: Marital status	( <i>Child: married/cohab</i> )										
	Child: widow	0.304	1.112	0.405	0.890	1.442*	0.869			-0.504	0.915
	Child: divorced	0.290	0.287	0.355	0.276	0.643**	0.264	1.154	0.757	0.878***	0.334
	Child: never married	0.457***	0.147	0.368**	0.145	0.245*	0.144	-0.119	0.413	0.307	0.201
Child: other	Child: Own child	-0.759*	0.419	0.610	0.501	-0.354	0.448			-0.166	0.641
	Child: Resident in Netherlands	-0.191	0.342	-0.393	0.339	-0.338	0.320	-1.044	0.764	-0.446	0.401
	Child: Number of kids	-0.012	0.055	0.196***	0.051	0.117**	0.050	-0.111	0.123	0.002	0.059
Child: Urbanization and distance	Child urbanization (1 low density - 5 high density)	-0.059	0.048	0.029	0.045	-0.006	0.044	-0.029	0.114	-0.010	0.053
	Child – Anchor distance (ln)	0.025	0.031	-0.073**	0.029	-0.188***	0.029	0.043	0.077	-0.054	0.036
	Constant N Log likelihood	1.525*	0.780	-1.957**	0.802	1.505*	0.776	3.869***	1.452	4.717***	1.395

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Reference categories in brackets.

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