Compensatory *inter vivos* gifts*

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Abstract

Empirical studies of intergenerational transfers usually find that bequests are equally divided among heirs while *inter vivos* gifts tend to be compensatory. Using the 1992 and 1994 waves of the Health and Retirement Study, we find that only 4% of parents who give, divide their gifts equally among their children. Estimating probit models, using family panels, we find that gifts are compensatory in the sense that a child is more likely to receive a gift if she works fewer hours and has lower income than than her brothers and sisters. These results carry over to the amounts given. Fixed effects Tobit estimations show that the fewer hours a child works and the lower her income is, the more the parents give. Gifts are compensatory. The empirical results are, therefore, consistent with the predictions of the altruistic model of intergenerational transfers.

Keywords: *inter vivos* gifts, altruism, compensatory transfers
JEL classifications: D10, D64, D91

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1. Introduction

Empirical studies of intergenerational transfers show that *post mortem* bequests are equally divided among heirs while *inter vivos* gifts tend to be compensatory.[1] The difference between bequest and gift behavior is a puzzle since established models of intergenerational transfers predict that there should be no difference.[2] Altruistic parents will make compensatory transfers, regardless of whether the transfer is *inter vivos* or *post mortem*.[3]

The determinants of intergenerational transfers are important in many fields in economics. In macroeconomics, for example, the Ricardian equivalence predictions rest on the assumption of dynastic, or altruistic, behavior. Intergenerational transfers are also important when discussing the distribution of income and wealth. The extent to which wealth is carried over from one generation to the next affects how equal opportunities really are.

A third field for which intergenerational transfers are important is savings. Strong bequest motives will affect savings behavior, as regards to both amounts and timing over the life cycle. Finally, there are also public finance aspects of intergenerational transfers. Depending on the determinants of transfer behavior, taxes on gifts and bequests may or may not create excess burdens.

The literature on intergenerational transfers is characterized by competing assumptions concerning the properties of the utility function. This is rare in economics. In most cases the utility function is taken as given. Within area field of intergenerational transfers, however, data are asked to guide us.

The objective of this paper is to find out empirically what explains the observed pattern of giving. An important question is if gifts are compensatory, i.e., if parents give more to a child with less resources of her own than her brothers and sisters.

There are several recent papers studying *inter vivos* gifts. Dunn and Phillips (1997) find, using U.S. data, that gifts are compensatory in the sense that higher income of a child makes a gift less likely. They use data from the Asset and Health

[1] Most empirical studies of estate division find equal division; see Menchik (1980, 1988) and Wilhelm (1996) for the U.S. and Arrondel et al. (1997) for France. Tomes (1981, 1988), however, finds that bequests are compensatory.

[2] See also the surveys by Laitner (1997) and Masson and Pestieau (1997).

[3] Cremer and Pestieau (1996), in a model of altruistic parents facing moral hazard and the samaritan's dilemma, generate the prediction that gifts are equal and bequests are compensatory. Lundholm and Ohlsson (2000) assume that gifts are private information while bequests are public information and that parents care about their reputation after death. Given these assumptions altruistic parents will choose compensatory gifts and equal bequests. Bernheim and Severinov (2000) and Balestrino (2000) also discuss theoretical models that generate results consistent with the empirical evidence.

Dynamics among the Oldest Old (AHEAD).[4]

In this paper we study data from the Health and Retirement Study (HRS).[5] The HRS has been designed and conducted by the University of Michigan's Survey Research Center. It is a panel data set, focusing on health and retirement related issues of the U.S. pre-retirement population (cohorts born between 1931 and 1941). It was launched in 1992 and is repeated biennually. We primarily focus on the 1992 wave. However, to get a better measure of the long-term giving behavior of the parents, we also use the amounts transferred to children from the 1994 wave and sum them with the amounts from the 1992 wave.[6]

The HRS is an excellent data set to study questions addressed in our paper. The coverage of the pre-retirement cohort includes those who have accumulated substantial wealth from life cycle savings. They are, therefore, in a position where they can afford to give away money. Moreover, as they are about to retire within the foreseeable future, they make conscious decisions about how to use the accumulated resources. Possibly even more importantly, the HRS contains information on two generations of the same family, parents and children.

We want to emphasize two features of our analysis. First, we—in contrast to most other studies—focus on data on the recipient level (children) rather than data on the donor level (parents). This makes it possible to control for fixed family effects. This is essential. The predictions of the *inter vivos* gifts models are predictions of the within family variation in gift behavior, not the between family variation.

Second, the child level data permit us to exploit recently developed econometric methodology for panel data. In particular, we can estimate the amounts of gifts received by the children in a family as a function of sibling's characteristics such as income and demographics, taking into account the high frequency of zero observations by means of a family fixed effects Tobit model for unbalanced panel data.

Conditional on giving at all, we find that only 4% of parents in the HRS divide their gifts equally among their children. Equal sharing is decreasing in the number

[4]Some other empirical papers on gifts are Altonji et al. (1992), Altonji et al. (1997), Arrondel and Laferrère (1998), Arrondel and Wolff (1998), Cox (1987), Cox and Rank (1992), Cox et al. (1997), Guiso and Jappelli (1991), Poterba (1997), and Poterba (1998).

[5]McGarry and Schoeni (1995) use data from the HRS while McGarry (1998, 1999) combine the HRS and the AHEAD.

[6]More information on the structure of HRS is available in Juster and Suzman (1995), data quality issues are discussed in Juster and Smith (1997). The HRS web site at <http://www.umich.edu/~hrswww> is the main source of information. We use the public release data files that are available for the 1992 wave (fully cleaned and imputed) and the 1994 wave (partly cleaned and imputed). The sample is not representative. African Americans, Hispanics and Florida residents are oversampled.

of children: 9% of the parents with two children share equally while less than 1% of the parents with 5 children or more give the same amounts. Allowing some variation from the intrafamily mean, up to 7% of the parents give amounts to each child.

Our main result is that the empirical findings suggest that gifts are compensatory. This is consistent with the predictions of the altruistic model of intergenerational transfers.

Estimating probit models, using family panels, we find that gifts are compensatory in the sense that a child is more likely to receive a gift if she works fewer hours and has lower income than than her brothers and sisters.

These results carry over to the amounts given. Estimations of fixed and random effects models, conditional on positive family gift amounts, and fixed and random effect Tobit estimations show that the fewer hours a child works and the lower her income is, the more the parents give.

The paper is structured as follows: The testable predictions from competing theoretical models of intergenerational transfers are discussed in Section 2. Section 3 describes the HRS sample. We give some general information and summary statistics for key variables. The estimates for a probit model (family level), a random effects probit model, fixed and random effects conditional amount models, and fixed and random effects Tobit model are reported in Section 4. Section 5 concludes.

2. Theoretical framework

Gifts are voluntary intergenerational transfers. Different theoretical models of voluntary intergenerational transfers have been proposed in the literature.[7] We will discuss the altruistic model, the egoistic model, and the exchange model.

Throughout our review of the theoretical models we will assume that the behavior of those receiving transfers (children) is not affected by the decisions of those making transfers (parents). Hence, we rule out any strategic interactions between donors and donees (cf. Cremer and Pestieau, 1996). There will, for example, be no samaritan's dilemma in the models discussed.

Transfers within families are also discussed in the literature on risk sharing within families. In situations when insurance markets are missing intrafamily

[7] Bequests, on the other hand, may arise accidentally because of imperfect markets for annuities. The accidental model of Davies (1981) is a version of the life-cycle model. Households cannot insure because of adverse selection in annuities markets. Instead they have to save for a long retirement. If they die young, their unused resources become accidental bequests. If they live a long time, they may die with little or no estate. Friedman and Warshawsky (1990) report rather ambivalent support for the model.

transfers may be the result of informal insurance arrangements within the family. Kimball (1988), Coate and Ravallion (1993), and Kocherlakota (1996) are some of the papers in this tradition.[8]

2.1. The altruistic model

This is the Becker (1974) and Barro (1974) framework.[9] Consider a parent who has two children. The parent's total income is Y^p, the children's incomes are Y_1^c and Y_2^c. In the altruistic model, the parent cares about her own consumption, C^p, and the children's total resources, $Y_1^c + G_1$ and $Y_2^c + G_2$. Specifically, the parent solves:

$$\max_{C^p, G_1, G_2} \quad U(C^p) + \beta \left(V\left(Y_1^c + G_1\right) + V\left(Y_2^c + G_2\right)\right), \tag{1}$$

subject to

$$C^p + G_1 + G_2 = Y^p, \tag{2}$$

$$G_1 \geq 0, G_2 \geq 0 \tag{3}$$

with $U(.)$ and $V(.)$ concave and increasing and with $U'(0) = \infty = V'(0)$. The price of consumption is 1. $V(.)$ measures parental utility from a child's consumption and β registers the strength of the parent's altruistic sentiments. Despite the simplicity of (1)–(3), the behavioral implications seem quite general.

Let $B_i = B(Y^p, Y_1^c, Y_2^c; \beta), i = 1, 2$ be the gifts that maximize utility in absence of the constraint $G_i \geq 0, i = 1, 2$, so that:

$$G_i = \max\{0, B(Y^p, Y_1^c, Y_2^c; \beta)\}. \tag{4}$$

Solving the first-order conditions of utility maximization, assuming interior solutions, yields:[10]

$$G_2 - G_1 = Y_1^c - Y_2^c. \tag{5}$$

The parent will equalize the consumption opportunities of the children. We can also compute the partial derivatives of the behavioral equations. Higher income for

[8] Di Tella and MacCullogh (1999) discuss intrafamily transfers interact with a public unemployment insurance system.

[9] The presentation is inspired by Laitner and Juster (1996).

[10] Drazen (1978) discusses the situation when the parent wants to make negative transfers but are forced to the corner solution.

a child reduces the gift it receives. The total resources of the child will, however, still increase. The derivatives are:

$$-1 < \frac{\partial G_1}{\partial Y_1^c} = \frac{\partial G_2}{\partial Y_2^c} < 0$$

Higher income for the parent leads to more gifts. Similarly, higher income for a sibling also increases the gift. It turns out that these two partial derivatives are identical. What matters are the total resources of the other people in the family, not the distribution within the family.

$$0 < \frac{\partial G_1}{\partial Y^p} = \frac{\partial G_1}{\partial Y_2^c} = \frac{\partial G_2}{\partial Y^p} = \frac{\partial G_2}{\partial Y_1^c} < 1$$

A child will only get more resources if family income increases. This is related to the Rotten Kid theorem, see Becker (1974) and Bergstrom (1989). The theorem says that if all family members receive gifts from an altruistic parent, it will be in the interest even of selfish family members to maximize total family income.

The partial derivatives can be combined to yield an adding–up condition. If the parent gains a dollar while a child loses the same amount, a one dollar gift will restore the initial optimal allocation of resources.[11]

$$\frac{\partial G_i}{\partial Y^p} - \frac{\partial G_i}{\partial Y_i^c} = 1, i = 1, 2$$

2.2. The egoistic model

In another frequently used model (e.g. Blinder, 1974; Andreoni, 1989; Hurd, 1989), a parent derives utility from the amount it gives (joy of giving) but not from the utility the child actually derives from the resulting transfer. This is sometimes called the egoistic model. The maximization problem of the parent can be written:

$$\max_{C^p, G_1, G_2} \quad U(C^p) + \beta V^*(G_1 + G_2), \tag{6}$$

subject to (2) and (3). The partial derivatives of the behavioral functions become:

$$0 < \frac{\partial (G_1 + G_2)}{\partial Y^p} < 1$$

[11] Altonji et al. (1997) test this condition.

Compared to the altruistic model, there are no differences of the effects of the parent's income. The models differ in the implications of children's incomes. Behavior according to the egoistic model is not affected by the incomes of the children.

2.3. The exchange model

Bernheim et al. (1985) and Cox (1987) present versions of the exchange model. In this model, the parent does not care about the consumption possibilities of the children. Instead she values the attention of the children more than services otherwise purchased in anonymous markets. Suppose a parent obtains such attention in proportion to the amounts she gives to her children—$G_i = p_i C_i^s, i = 1, 2$. Since the opportunity cost of each child's time is increasing in its income $Y_i^c, i = 1, 2$, the implicit price the parent pays for attention, p_i, will tend to be increasing in $Y_i^c, i = 1, 2$. The quantity of services bought from each child is represented by C_i^s. The parent solves:

$$\max_{C^p, C_1^s, C_2^s} \quad U(C^p) + V_1(C_1^s) + V_2(C_2^s), \tag{7}$$

subject to

$$C^p + p_1(Y_1^c)C_1^s + p_2(Y_2^c)C_2^s = Y^p, \tag{8}$$

$$C_1^s \geq 0, C_2^s \geq 0. \tag{9}$$

Higher income of the parent will tend to result in more gifts but also more own consumption. The parent's consumption will respond to changes in income of child 1 according to:

$$\frac{\partial C_1^s}{\partial Y_1^c} < 0$$

The impact of the children's incomes on gifts and the parent's own consumption is, however, ambiguous. The signs of the partial derivatives will depend on the price elasticity of the demand for child services. If it is low enough for expenditure to increase when the price increases, e.g., because there are no close substitutes to the services of a particular child, we find the following:[12]

[12] The condition for a low enough demand elasticity is $C_1^s > -V_1'/V_1''$, where V_1' is the marginal utility of consuming C_1^s while V_1'' is the second derivative of $V_1(C_1^s)$. If this condition does not hold the signs are reversed.

Table 2.1: Theoretically predicted effects on parental gifts to a child.

model	parent's resources	child's own income	sibling's income
the altruistic model	+	−	+
the egoistic model	+	0	0
the exchange model	+	+[a]	−[a]

a. Provided that the demand elasticity for child services is low enough.

$$\frac{\partial(p_1 C_1^s)}{\partial Y_1^c} > 0$$
$$\frac{\partial C^p}{\partial Y_1^c} < 0$$
$$\frac{\partial(p_2 C_2^s)}{\partial Y_1^c} < 0$$

The partial derivatives with respect to Y_2^c are analogous.

2.4. Summing up

Table 2.1 summarizes the predictions of the different gift models. All models share the prediction that more resources for the parent will increase the gifts. The empirical analysis of this variable cannot help us to distinguish between different theories. It is, however, a consistency requirement to empirically verify that more resources for parents result in higher gifts.

The different assumptions concerning the utility function show up in the predictions of how the children's incomes affect gift behavior. The within family variation in income has different effects according to the three theories. Here the empirical analysis can shed light on the question which model is consistent with the data.

3. Descriptive facts

3.1. The 1992 HRS wave

The 1992 wave of the HRS comprises information on about 7,000 households with some 25,000 children. The sampled population is U.S. residents of the pre-retirement cohort born during 1931-1941 (either family head or spouse), excluding institutionalized persons households. The core sample aims to be representative, although there is deliberate oversampling of Blacks, Hispanics, and Florida residents (186:100, 172:100, 200:100, respectively).

There are almost 13,000 respondents. Within a household there are two main respondent types: the primary respondent, who is considered most knowledgeable of household financial matters, and the family respondent who is usually the female member in a couple.

Apart from family structure and transfers, the questionnaire covers the demographic background, health status, housing, employment, last job and job history, retirement plans, assets and liabilities, income, information on children, and a number of additional, experimental modules.

We use information from the parts on demographics, assets, income, health, family relations and transfers, and on children. Information on the latter two parts was provided by the family respondent. It contains data on the number, sex, age, education etc. of all children of the family, and on *inter vivos* transfers from parents to their children during the preceding year.

For the present study, the information on *inter vivos* transfers is of crucial importance. The questionnaire asks the following question:

> (Not counting any shared housing or shared food,) Have you [and your (husband/partner)] given (your child/any of your children) financial assistance totaling $500 or more in the past 12 months?
>
> [DEFINITION: By financial assistance we mean giving money, helping pay bills, or covering specific types of costs such as those for medical care or insurance, schooling, down payment for a home, rent, etc. The financial assistance can be considered support, a gift or a loan.]

We interpret this as gifts. If the answer is affirmative, the respondent is then asked to give the total amounts transferred, per child.

The sample we select for the present study includes only families with children. We lose some, but not many, observations due to some inconsistencies in the data, and due to missing values in selected variables.

Information on net worth is available for all households, although it is not quite clear which observations have been imputed and to which extent imputation error might be an issue. The number of missing observations of children's annual income is due to the fact that this information has only been requested for children not living at home. For children living at home, only labor income has been probed.

3.2. The 1994 HRS wave

The Health and Retirement staff provides the 1992 wave with full imputations of all variables. The degree of imputation for the 1994 wave is much lower. In particular, missing values for the amounts transferred have not been imputed. We imputed values for the missing amounts ourselves, conditional on parents reporting that amounts were given, and conditional on bracket information available in the second wave.

Note that the wording of the questions was slightly different in the 1994 wave compared to the 1992. Whereas in the 1992 wave, all amounts exceeding USD 500 were requested, in the 1994 wave, amounts exceeding USD 100 were asked. In order to achieve full comparability we disregard (set to zero) all those amounts that fell below USD 500 in either wave (even in wave one some amounts below the threshold were reported). Also note that we converted all amounts to 1991 dollars (which is the reference year of the 1992 wave of HRS), using the CPI. Prices increased by about 7.8% between the waves.

We used the information in the 1994 wave to update the 1992 wave information. In particular those values for children's non time varying characteristics and age that had been imputed in the 1992 wave but had valid values in the 1994, were updated to reduce the impact of imputation error on the estimates.

3.3. Descriptive statistics across waves

The data contains 7,000 families with 24,700 children in the 1992 wave, and 6,200 families with 22,900 children in the 1994 wave. After applying some exclusion restrictions, we retain 5,400 families with 18,900 children: We drop all observations where a change in family structure has taken place. To be precise, we drop those households that participated only once in the survey, where the family respondent changed between waves, where a household was split in subhouseholds between the waves, where a main respondent had died between the waves, or where the number or identity of children changed (for instance, because children not mentioned in the first wave were added in the second, or because children had died between waves). This way, we retain only complete and intact households that are comparable in family structure over time. The reason for these exclusions is that it is not clear how to deal with these observations in our model. In addition, the proper econometric handling would be substantially more involved.

Table 3.1 shows that 38% of the families gave in 1992 while 16% of the children received gifts. The corresponding numbers for 1994 are almost the same. The amounts given and received are, however, slightly lower in 1994 compared to 1992.

We next look at the joint incidence of gifts on family level and child level, see

Table 3.1: Summary statistics across waves.

	mean		std dev		median	
	HRS 1992	HRS 1994	HRS 1992	HRS 1994	HRS 1992	HRS 1994
incidence:						
family level	0.38	0.37	0.48	0.48	0	0
child level	0.16	0.15	0.37	0.36	0	0
amount:						
family level,						
unconditional	2,029	1,703	7,740	5,251	0	0
conditional	5,412	4,611	11,897	7,826	2,500	1,855
child level,						
unconditional	580	487	3,165	2,365	0	0
conditional	3,627	3,236	7,179	5,322	1,500	1,391

Note. We use the sampling weights. Amounts are in 1991 dollars. Conditional refers to the statistics obtained conditional on only using observations with positive gift amounts.

Table 3.2: Joint incidence of gifts, percent.

		1994 wave			
		family level		child level	
		0	1	0	1
1992 wave	0	48.5	14.0	76.2	7.8
	1	14.6	22.9	8.8	7.2
number of observations		5,394		18,883	

Table 3.2. There were no gifts to any child in about half of the families. One out of four families gave in both years. However, three quarters of the children in the sample did not receive any gifts at all, and only 7 percent received gifts both years.

The correlation of gift incidence across waves is 0.38 on the family level. The corresponding correlation on the child level is 0.37. If we instead compare the amounts in the two waves the correlations are lower. On the family level the correlation is 0.29, on the child level it is 0.26.

3.4. Descriptive statistics, combined sample

Table 3.3 cross-tabulates the number of children in the family against the fraction of parents who have given financial assistance. Slightly more than half of par-

Table 3.3: Fraction of households giving and giving equally.

number of children	total	giving:	%	number of families: equal giving	± 2%	± 5%	± 10%	± 20%
					from the intrafamily mean			
1	515	255	49.5	-	-	-	-	-
2	1,434	777	54.2	68	72	81	102	148
3	1,260	699	55.5	12	16	16	19	26
4	909	485	53.4	7	7	7	7	9
>4	1,276	563	44.1	1	2	2	2	3
total	5,394	2,779	51.5	88	97	106	130	186
share of those giving, %[a]		100.0		3.5	3.8	4.2	5.2	7.4

a. We use sampling weights.

ents have made gifts. For families with more than two children, this fraction is decreasing in the number of children. Conditional on giving anything at all, the table also shows that 4% of the parents with more than one child give the same amount to all children. Equal sharing is decreasing in the number of children, 9% of the parents with two children give equally while less than 1% of the parents with 4 children or more give the same amounts. Allowing some intrafamily variation, 7% of the parents give amounts to each child in the interval ± 20% from the intrafamily mean.

Table 3.4 shows dollar amounts given by parents. In other words, these are the per family gifts given, not the per child gifts received. Clearly, the amounts given are decreasing in the number of children. The table also shows that parents who use equal sharing give more than other parents.

To put things in perspective, the last row in the table reports the accumulated spending on the children's schooling by parents.[13] The amounts are considerable. The differences in schooling expenditure between parents who give equally and other parents are not as accentuated as the differences in amounts given.

Table 3.5 suggests that not only are richer parents more likely to give at all, but also that higher net worth increases the likelihood of equal giving. Similarly, the total amount spent on children's education increases if one restricts the sample to those who give at all, give to all, and share equally (not reported in the table).

In Table 3.6 we switch to child level data. The idea is to get a first indication if gifts are compensatory or not. We do not know the exact income of the children, only the income range of each child as reported by the parent. As is clear from the

[13]This is available only on the family level, not per individual child.

Table 3.4: Amounts given.

number of children	number of families giving	amount: family mean USD	standard deviation	number of families giving equally	amount: family mean USD	standard deviation
1	225	6,203	10,847			
2	777	4,705	8,725	68	9,686	20,637
3	699	2,584	4,831	12	7,458	20,985
4	485	1,885	3,472	7	2,686	3,381
>4	563	1,019	1,483	1	600	
total gifts	2,779	3,101	6,614	88	8,665	19,731
total acc. spending on schooling	2,489	20,441	22,379	69	22,385	24,597

Note. We use the sampling weights.

Table 3.5: Parents' net worth.

	number of families	family net worth: mean USD 1,000	standard deviation
total	5,394	238.9	493.4
giving	2,779	293.9	569.9
equal giving	88	522.0	1,051.7

Note. We use the sampling weights.

Table 3.6: Gifts and children's incomes.

	number of children	gift amounts: mean USD	standard deviation
children not living with their parents:			
annual income < USD 10,000	2,948	1,084	4,038
annual income USD 10,000 – 25,000	5,410	790	3,675
annual income > USD 25,000	6,602	801	3,716
annual income missing	160	1588	2,997
children living with their parents	3,763	2,694	7,286
total	18,883	1,219	4,728

Notes. We use the sampling weights. For children living with their parents there is only information on labor income, not total annual income.

table, children with annual incomes above USD 10,000 get less than children with incomes below. This suggests that gifts are compensatory. There seems, however, not to exist so big differences between the children with annual incomes of USD 10,000 – 25,000 and those with more than USD 25,000 in annual income. Children still living with their parents received considerably more than other children.

4. Empirical evidence

This section reports our estimation results. The presentation is organized around six tables. We use the same baseline specification (in terms of regressors) across all models. We have done extensive specification search. For instance, in preliminary regressions we included the gender of the child as explanatory variable without finding significant differences between the sexes. We have also, without success, used an array of possible interactions between explanatory variables. To preserve a parsimonious specification, we do not consider these anymore.

We use splines for the age and years of education variables. The years of education variable is, however, topcoded. We include a dummy variable for 17 years or more of education. The number of children is captured by a set of dummy variables for one child, two children, ..., up to ten or more children with one child used as reference because the impact may be nonlinear.

Measurement error is likely to affect our estimates. The variables are based on recall information from the parents. Parents are unlikely to know exactly what their children earn, especially when they don't live at home. This could lead to a downward bias in the estimates (i.e. towards zero). Hence our result would be expected to be even stronger had there not been any measurement errors.

Table 4.1 presents the results from a family level probit model. The dependent variable is a binary indicator equal to one if parents give anything to *any* of their children. The explanatory variables for the children are averages for all children in the family while the variables for the parents are represented by the characteristics of the family respondent. The exceptions are net wealth and income which refer to both spouses. We report marginal effects of the regressors on the estimated probabilities.

There are several important results in the table. Parents with higher net worth and higher income are more likely to give. The probability of giving increases with age and the years of education of the parent. African American parents are less likely to give. The better health of the parent, the more likely are gifts. This may indicate that healthy people have more possibilities to give. A Wald test rejects the joint significance of the set of dummy variables for the number of children, p–value $= 0.202$.

More children being married, on average, decreases the probability of giving. The probability decreases with the average age of the children. But many of the child characteristic variables are not significant. More homeowners among the siblings decreases the probability of gifts while more school children, on average, increases it.

Most importantly, the working hours and income variables, that measure the children's resources on average, point in different directions. If the children work more, on average, the gift probability decreases (the p–value of a Wald test of the joint significance of the two variables is $= 0.037$) whereas higher income, on average, has a positive but insignificant impact on the gift probability (p–value $= 0.533$). Below we will return to the question if this is a result of using family averages. Contrasting these results with estimations using child level data shows that using family level data hides important patterns in the data.

In Table 4.2 we use child level data based on 15,000 children in 4,900 families. We can now control for family specific effects. In general, these can be modeled as fixed effects. This has, however, drawbacks in our particular case. Only observations from families where some children receive gifts while others do not, can be used. A fixed (family) effects logit model, for example, can only use observations where there are within family differences in the dependent variable. Hence, all observations of equal sharing would have to be dropped.

We rely instead on a random (family) effects probit model. In terms of estimation, we have decided to use a simulation estimator when estimating the nonlinear

Table 4.1: Gift probability, marginal effects, probit, family level.

Child characteristics, family averages			Parent characteristics, family respondent		
works $<$ 30 hours per week	-0.030	(0.59)	log net worth	0.013	(6.91)
works $\geq$ 30 hours per week	-0.083	(2.48)	log income	0.062	(8.99)
income USD 10,000 – 25,000	0.000	(0.01)	age (age $<$ 55)	0.009	(2.91)
income $>$ USD 25,000	0.026	(0.76)	age (age $\geq$ 55)	0.004	(0.96)
married	-0.084	(2.84)	years of education ($<$ 12)	0.017	(2.72)
grandchildren	-0.018	(0.60)	years of education (12 – 16)	0.032	(4.78)
age (age $<$ 30)	-0.016	(4.46)	years of education ($>$ 16), dummy	0.031	(0.78)
age (age 30 – 39)	-0.014	(3.20)	number of children	9 dummies	
age (age $\geq$ 40)	-0.067	(2.06)	male	-0.018	(0.55)
years of education ($<$ 12)	0.018	(0.79)	African American	-0.101	(4.36)
years of education (12 – 16)	0.002	(0.23)	Hispanic	-0.055	(1.60)
years of education ($>$ 16), dummy	-0.142	(2.60)	other non–Caucasian	0.015	(0.25)
natural child	0.021	(0.91)	health, fair	0.078	(2.11)
lives $<$ 10 miles from parents	0.032	(1.53)	health, good	0.095	(2.77)
homeowner	-0.106	(4.07)	health, very good	0.102	(2.91)
school child	0.311	(7.26)	health, excellent	0.113	(3.10)
number of families	4,908				
$\chi^2(27)$	939.3				
pseudo R^2, McFadden	0.138				
pseudo R^2, McKelvey & Zavoina	0.294				
log likelihood	-2,932.3				

Notes. Absolute z–values in parentheses. Reference categories are “does not work at all”, “income $<$ USD 10,000”, and “health, poor”. For summary statistics, see Appendix A.

Table 4.2: Gift probability, marginal effects, random effects probit, child level.

Child characteristics			Parent characteristics, family respondent		
works < 30 hours per week	-0.002	(0.19)	log net worth	0.007	(9.00)
works ≥ 30 hours per week	-0.027	(3.37)	log income	0.038	(17.5)
income USD 10,000 – 25,000	-0.014	(1.86)	age (age < 55)	0.001	(0.59)
income > USD 25,000	-0.063	(7.32)	age (age ≥ 55)	0.005	(2.90)
married	-0.025	(3.88)	years of education (< 12)	0.009	(3.21)
grandchildren	0.031	(5.36)	years of education (12 – 16)	0.015	(5.66)
age (age < 30)	-0.010	(8.69)	years of education (> 16), dummy	0.030	(2.03)
age (age 30 – 39)	-0.006	(4.74)	number of children	9 dummies	
age (age ≥ 40)	-0.014	(2.29)	male	-0.014	(1.21)
years of education (< 12)	0.011	(1.69)	African American	-0.040	(5.41)
years of education (12 – 16)	-0.000	(0.15)	Hispanic	-0.014	(1.08)
years of education (> 16), dummy	-0.011	(0.97)	other non–Caucasian	0.006	(0.23)
natural child	0.039	(5.31)	health, fair	0.044	(2.16)
lives < 10 miles from parents	0.031	(5.17)	health, good	0.041	(2.31)
homeowner	-0.035	(5.85)	health, very good	0.051	(2.76)
school child	0.065	(4.65)	health, excellent	0.057	(2.80)
number of children	14,927		number of families	4,905	
pseudo R^2, McFadden	0.131				
pseudo R^2, McKelvey & Zavoina	0.333				
log likelihood	-5,876.8				

Notes. Absolute z–values in parentheses. Reference categories are “does not work at all”, “income < USD 10,000”, and “health, poor”.

random effects models. Here we draw random effects from their estimated distribution instead of integrating them out. This is in some sense less arbitrary and gives more reliable estimates than the standard way of integrating out the effects. The standard way depends heavily on the approximation chosen to evaluate the function, i.e., the number of quadrature points. We have done sensitivity checks to ensure that the estimates we obtain are reliable. The number of draws is set to 100 per observation for all estimates.

Comparing with Table 4.1 it is clear that going from family level data to child level data produces much richer results. Almost all estimated marginal effects are significant at the conventional 5%–level.

Here we find, in contrast to the family level estimations reported in Table 4.1, that the probability of giving decreases if the child has higher income. The Wald test of joint significance yields a p–value of 0.000. This clearly shows the potential pitfalls of using family level data and the advantages in using child level data to detect the patterns in the data. The table also shows that more working hours for the child decreases the probability of the parents giving, p–value = 0.001.

The gift probability decreases with the child's age. Children living close to their parents, and children still in school are also more likely to receive a gift. Moreover, a natural child is more likely to receive than, for example, a step child or an adopted child.[14]

The probability decreases if the child is married, and if she owns a home. Parents are, on the other hand, more likely to give to a child if the child has children of her own.

Looking at the parents' characteristics, we find that higher net worth and higher income increases the gift probability. If parents have many children they are less likely to give. The point estimates of the dummy variables are all significant and increasingly negative. The p–value of the Wald test for joint significance is 0.000. Note that the set of dummy variables for the number of children was not significant in the family level probit.

On the other hand, the gift probability increases with age, the years of education, and the health of the parents.

The remaining four tables focus on the amounts received by children as dependent variable. The predictions of the theoretical models reviewed in section 2 have more to do with gift amounts than gift probabilities. The results in the tables that follow are, therefore, closer to test of the predictions of the theoretical models than the estimated models for gift probabilities.

In Table 4.3 we report estimates of a model with fixed family effects. The dependent variable, in this and the remaining tables, is log (amount in USD + 1). Only children from families where the parents have made gifts to at least one

[14]We have defined a natural child as being natural to both partners in the surveyed household.

of the children, but not necessarily to each child, are included.

This leaves us with 2,400 families and 6,900 children. When the family effects are modeled as fixed, only the child characteristics can be included among the explanatory variables. The estimation results are similar to those reported for the gift probabilities. Working more and having higher income reduce the gift amount received. The p–values of joint tests are 0.001 and 0.000. This is consistent with gifts being compensatory.

Being a natural child, living close to the parents, being at school, and having children of ones own all increase the amounts that parents give, while being older, married and a home owner decreases the amounts. It is also interesting to note that the years of education variables are not significant in this estimation, in contrast to the previous.

In Table 4.4 we repeat the analysis including random family effects instead of fixed.[15] The estimated effects of child characteristics are similar to those of the fixed family effects model. The p–values of joint tests for the child's working time and income are 0.001 and 0.000.

In the random effects case, we can also include parent characteristics. Higher net worth and higher income increases the amount that the parents give to a child. The amount is also increasing in the age and the years of education of the parent. More children, on the other hand, reduces the amount given to each child. The p–value of the Wald test for joint significance of the set of dummy variables is 0.000. Figure 4.1 shows the estimated coefficients (solid line) and the confidence intervals (dashed lines). African American parents give less. The health of parents does not affect the amounts.

The parameter estimates in the previous two models tell us the impact of characteristics on amounts given in families where parents have decided to make a gift. The estimates are, however, potentially biased estimates when addressing our question to any parent with children. Viewing the decision to give nothing at all or a positive amount as being governed by the same process, we can estimate family effects Tobit models. Now we can also include children from families where there are no gifts. We use the approach of Honoré (1992) when estimating the fixed effects Tobit for the gift amounts. The sample increases to almost 4,000 families and 13,500 children.

Honoré's estimator was developed for "ordinary" panel data with two "time periods" (in our case two children) per family. We use the estimator for censored observations that is based on a smooth conditional moment condition. Since our sample includes families with more than two children (unbalanced panel data set), we can estimate the model for all perceivable pairwise combinations of children

[15] A Hausman test of the fixed effect specification against the random effects rejects the random effects specification with a p–value of 0.000.

Table 4.3: Gift amounts, fixed effects model, conditional on positive family amounts, child level.

Child characteristics		
works < 30 hours per week	0.155	(0.70)
works ≥ 30 hours per week	-0.438	(2.98)
income USD 10,000 – 25,000	-0.489	(2.82)
income > USD 25,000	-1.516	(7.88)
married	-0.426	(3.30)
grandchildren	0.687	(5.36)
age (age < 30)	-0.154	(6.73)
age (age 30 – 39)	-0.117	(5.07)
age (age ≥ 40)	-0.112	(1.33)
years of education (< 12)	0.104	(0.79)
years of education (12 – 16)	-0.005	(0.11)
years of education (> 16), dummy	-0.155	(0.70)
natural child	1.466	(4.29)
lives < 10 miles from parents	0.645	(5.44)
homeowner	-0.558	(4.45)
school child	0.758	(3.96)
constant	6.634	(4.30)
number of children	6,926	
number of families	2,444	
R^2 within	0.123	
R^2 between	0.053	
R^2 overall	0.073	
pseudo R^2, McKelvey & Zavoina	0.333	

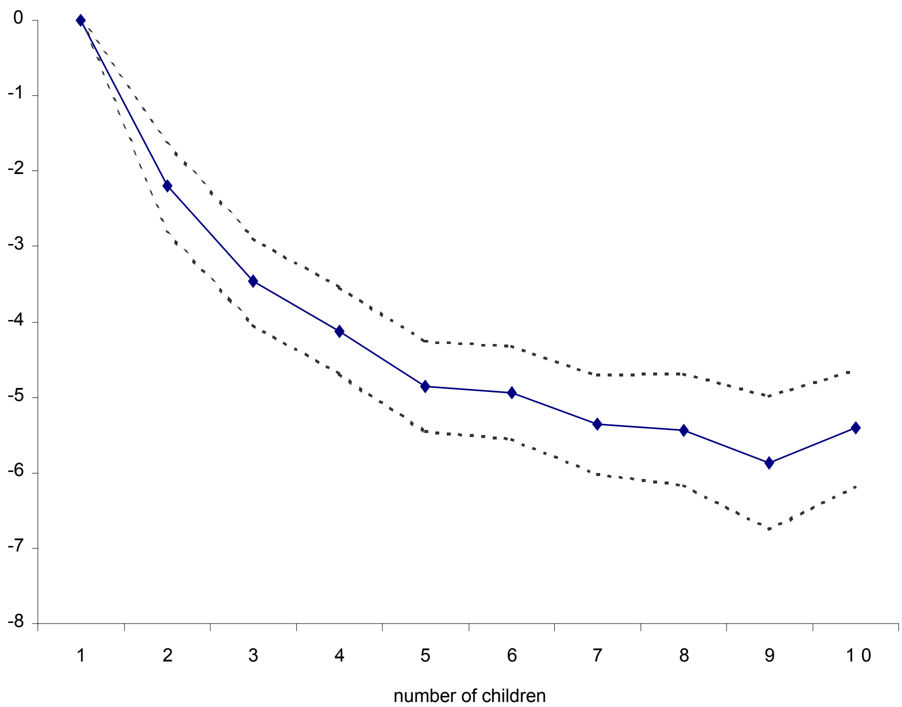
Notes. The dependent variable is log (amount in USD + 1). Absolute t–values in parentheses. Reference categories are "does not work at all", and "income < USD 10,000".

Table 4.4: Gift amounts, random effects model, conditional on positive family amounts, child level.

Child characteristics			Parent characteristics, family respondent		
works < 30 hours per week	0.138	(0.76)	log net worth	0.061	(4.88)
works ≥ 30 hours per week	-0.306	(2.56)	log income	0.235	(5.91)
income USD 10,000 – 25,000	-0.292	(2.15)	age (age < 55)	0.012	(0.82)
income > USD 25,000	-1.088	(7.39)	age (age ≥ 55)	0.126	(5.31)
married	-0.385	(3.71)	years of education (< 12)	0.042	(1.02)
grandchildren	0.565	(5.45)	years of education (12 – 16)	0.092	(2.69)
age (age < 30)	-0.138	(7.60)	years of education (> 16), dummy	0.468	(2.44)
age (age 30 – 39)	-0.084	(4.54)	number of children	9 dummies	
age (age ≥ 40)	-0.104	(1.46)	male	-0.326	(1.68)
years of education (< 12)	0.112	(1.21)	African American	-0.566	(4.06)
years of education (12 – 16)	0.015	(0.49)	Hispanic	-0.121	(0.58)
years of education (> 16), dummy	-0.137	(0.81)	other non–Caucasian	-0.299	(0.87)
natural child	0.504	(4.38)	health, fair	0.221	(0.85)
lives < 10 miles from parents	0.397	(4.52)	health, good	-0.067	(0.28)
homeowner	-0.281	(2.80)	health, very good	0.152	(0.63)
school child	0.661	(4.42)	health, excellent	0.083	(0.34)
constant	5.628	(4.00)			
number of children	6,926		number of families	2,444	
$\chi^2(40)$	1,743.3				
R^2 within	0.121				
R^2 between	0.318				
R^2 overall	0.210				
pseudo R^2, McKelvey & Zavoina	0.216				

Notes. The dependent variable is log (amount in USD + 1).
Absolute t–values in parentheses. Reference categories are “does not work at all”, “income < USD 10,000”, and “health, poor”.

Figure 4.1: The impact of the number of children on gift amount.



within a family. This yields a set of estimates which will differ numerically, but we can impose overidentifying restrictions using a minimum distance criterion to obtain a single estimator. Note that in our approach, the involved moment conditions do not lead to an efficient estimator, unlike in the approach of Charlier et al. (2000).

In order to form pairwise combinations of children, one needs to know which children to compare—some order is needed (in traditional panels this is clear). In our case, we order children according to age. The convergence of the estimator is sensitive to the amount of censoring. We had to disregard all pairwise combinations of children where more than 90% of the observations were censored (no gifts). Also, we disregarded all combinations of children comprising less than 100 households in order to have identification, and we disregard all those estimates where the covariance matrix was singular.

Table 4.5 reports the results. Once more, we obtain results consistent with parents having a compensatory gift behavior. If the child works more or has higher income the gift amount will be reduced. The Wald tests of joint significance have the p–values 0.007 and 0.000.

Being a natural child, living close to the parents, and being at school increases the gift amounts. The gift amounts are also higher for children with children of their own. Married children get less and so do home owners. The amounts are decreasing in age. The signs of the estimated coefficients remain the same compared to Tables 4.3 and Table 4.4.

Table 4.6 reports the estimation of a random effects Tobit model.[16] As with the random effects probit estimator, we simulate the likelihood contributions, using 100 random draws per observation.

The Wald tests of joint significance for working time and income have the p–values 0.001 and 0.000. Maybe the most important difference compared to the conditional random effects model is that the parents' health here has a positive impact on the amounts.

As there is no information on the total incomes of children living at home with their parents, there are families in our sample where only some of the children are included in the estimations. In order to check if the results are sensitive to this we have also estimated using a subsample with families with only adult children. Appendix B reports these estimations. The general pattern of results stay the same using this subsample. Most importantly, gift amounts and gift probabilities remain compensatory.

[16] A Hausman test of the fixed effect specification against the random effects rejects the random effects specification with a p–value of 0.001.

Table 4.5: Gift amounts, fixed effects Tobit, child level.

Child characteristics		
works < 30 hours per week	0.326	(0.96)
works ≥ 30 hours per week	-0.484	(1.93)
income USD 10,000 – 25,000	-0.841	(3.01)
income > USD 25,000	-3.262	(10.6)
married	-0.017	(0.09)
grandchildren	1.280	(5.59)
age (age < 30)	-0.322	(8.99)
age (age 30 – 39)	-0.169	(4.23)
age (age ≥ 40)	0.164	(1.08)
years of education (< 12)	-0.660	(3.40)
years of education (12 – 16)	0.082	(1.07)
years of education (> 16), dummy	-0.457	(1.23)
natural child	2.908	(7.01)
lives < 10 miles from parents	1.445	(7.17)
homeowner	-0.969	(4.59)
school child	0.491	(1.77)
number of children	13,454	
number of families	3,992	

Notes. The dependent variable is log (amount in USD + 1).
The table reports final estimates from unbalanced Honoré LS [MDE]. Absolute t–values in parentheses.
Children are ordered according to age.
Reference categories are "does not work at all", and "income < USD 10,000".

Table 4.6: Gift amounts, random effects Tobit, child level.

Child characteristics			Parent characteristics, family respondent		
works < 30 hours per week	-0.213	(0.44)	log net worth	0.301	(8.53)
works $\geq$ 30 hours per week	-1.134	(3.61)	log income	1.668	(15.2)
income USD 10,000 – 25,000	-0.619	(1.79)	age (age < 55)	0.029	(0.65)
income > USD 25,000	-2.692	(6.71)	age (age $\geq$ 55)	0.222	(2.94)
married	-1.089	(4.07)	years of education (< 12)	0.420	(3.57)
grandchildren	1.416	(5.02)	years of education (12 – 16)	0.644	(5.37)
age (age < 30)	-0.416	(8.13)	years of education (> 16), dummy	1.005	(1.49)
age (age 30 – 39)	-0.270	(5.11)	number of children	9 dummies	
age (age $\geq$ 40)	-0.669	(2.48)	male	-0.731	(1.26)
years of education (< 12)	0.500	(1.87)	African American	-2.104	(4.91)
years of education (12 – 16)	0.002	(0.02)	Hispanic	-0.551	(0.91)
years of education (> 16), dummy	-0.384	(0.83)	other non–Caucasian	0.226	(0.21)
natural child	1.823	(4.82)	health, fair	1.839	(2.67)
lives < 10 miles from parents	1.326	(5.36)	health, good	1.754	(2.72)
homeowner	2.072	(4.82)	health, very good	2.099	(3.17)
school child	0.644	(1.38)	health, excellent	2.235	(3.29)
constant	-23.13	(6.00)			
number of children	14,927		number of families	4,905	
pseudo R^2, McFadden	0.062				
pseudo R^2, McKelvey & Zavoina	0.313				
log likelihood	-14,290.1				

Notes. The dependent variable is log (amount in USD + 1).
Absolute t–values in parentheses. Reference categories are "does not work at all", "income < USD 10,000", and "health, poor".

5. Concluding remarks

Empirical studies of intergenerational transfers usually find that bequests are equally divided among heirs while *inter vivos* gifts tend to be compensatory. Using the HRS data set, we find that only 4% of parents who give, divide their gifts equally among their children.

In this paper we take the sum of gifts over time into account by adding the gifts reported in the two available waves of HRS together. This should wash out some of the effects stemming from purely temporary gifts. To the extent that a time span of two years is long enough, one might interpret the results given here as supporting evidence for long–run giving behavior. Viewed this way, it is not the case that results are driven by smoothing of temporary shocks to income.

Estimating probit models, using family panels, we find that gifts are compensatory in the sense that a child is more likely to receive a gift if she works fewer hours and has lower income than than her brothers and sisters.

These results carry over to the amounts given. Estimations of fixed and random effects linear models, conditional on positive family gift amounts, and fixed and random effect Tobit estimations show that the fewer hours a child works and the lower her income is, the more the parents give.[17]

The empirical findings suggest that gifts are compensatory. This is consistent with the predictions of the altruistic model of intergenerational transfers.

Still, observations for only two years are probably only rough estimations of the long–run gift behavior. We would also have liked to combine further information from the 1994 HRS wave with the data of the 1992 wave, in particular the data of time-varying regressors on both children's and parents' characteristics. We found it difficult, however, to reconcile the varying variable definitions over time, so that we abstain from this for the moment. These are topics for future research.

[17] The qualitative results are the same if we only use gift data from the 1992 HRS wave.

A. Appendix. Sample statistics

The weighted sample statistics for the children can be found Table A.1. The columns to the left report sample statistics for the individuals while the columns to the right concern the sample statistics of the means of the children in each family.

Table A.2 report the weighted sample statistics for the parent who is the family respondent. The exceptions are net worth and income which refer to both spouses.

Table A.1: Sample statistics, children.

	individuals:					family means:				
variable	obs	mean	s d	min	max	obs	mean	s d	min	max
gift received	18,883	.256				5,394	.316	.369	0	1
gift amount, USD	18,883	1219	4,728	0	114,184	5,394	1,670	5,093	0	114,184
does not work at all	17,684	.191				5,286	.185	.265	0	1
works $<$ 30 h per week	17,684	.097				5,286	.105	.214	0	1
works $\geq$ 30 h per week	17,684	.712				5,286	.710	.314	0	1
income $<$ USD 10,000	14,960	.177				4,910	.165	.285	0	1
income USD 10,000-25,000	14,960	.347				4,910	.343	.364	0	1
income $>$ USD 25,000	14,960	.476				4,910	.492	.404	0	1
married	17,686	.544				5,286	.523	.351	0	1
grandchildren	17,686	.558				5,286	.516	.363	0	1
age	18,883	28.9	6.93	1	60	5,394	28.6	5.76	3	54.7
years of education	17,654	13.1	2.18	1	17	5,285	13.3	1.80	3.75	17
natural child	18,883	.755				5,394	.812	.369	0	1
lives $<$ 10 m from parents	14,960	.402				4,910	.407	.383	0	1
homeowner	15,672	.450				4,996	.447	.370	0	1
schoolchild	17,686	.124				5,286	.145	.265	0	1

Table A.2: Sample statistics, parents.

	family respondent:				
variable	n of obs	mean	s d	min	max
gift made	5,394	.538			
gift amount, USD	5,394	4,157	11,102	0	251,128
net worth, USD 1,000	5,394	239	493	-745	8,735
income, USD 1,000	5,394	46.6	47.0	-8.50	600
age	5,393	53.9	5.22	28	72
years of education	5,394	12.3	2.81	0	17
number of children	5,394	3.41	1.88	1	18
male	5,394	.067			
African American	5,394	.097			
Hispanic	5,394	.064			
other non–Caucasian	5,394	.023			
health, poor	5,394	.065			
health, fair	5,394	.124			
health, good	5,394	.253			
health, very good	5,394	.306			
health, excellent	5,394	.252			

B. Appendix. Subsample: Families with adult children only

This appendix reports estimations using the same specification as in Section 4 but restricting the sample to families with adult children only. This reduces the number of observations possible to use in the estimations from 4,905 families with 14,927 children to 2,363 families with 7,290 children. The qualitative results remain the same in general. Most importantly gifts are compensatory also in this restricted sample.

Table B.1: Gift probability, marginal effects, probit, family level.

Child characteristics, family averages			Parent characteristics, family respondent		
works $<$ 30 hours per week	-0.005	(0.07)	log net worth	0.013	(4.43)
works $\geq$ 30 hours per week	-0.004	(0.10)	log income	0.080	(6.81)
income USD 10,000 – 25,000	-0.039	(0.76)	age (age $<$ 55)	0.003	(0.54)
income $>$ USD 25,000	-0.061	(1.16)	age (age $\geq$ 55)	0.005	(0.81)
married	-0.019	(0.49)	years of education ($<$ 12)	0.020	(1.87)
grandchildren	0.009	(0.24)	years of education (12 – 16)	0.037	(3.95)
age (age $<$ 30)	-0.013	(1.85)	years of education ($>$ 16), dummy	0.012	(0.22)
age (age 30 – 39)	-0.007	(1.29)	number of children	9 dummies	
age (age $\geq$ 40)	-0.075	(2.06)	male	-0.077	(1.80)
years of education ($<$ 12)	0.070	(1.62)	African American	-0.084	(2.43)
years of education (12 – 16)	-0.010	(1.06)	Hispanic	-0.046	(0.79)
years of education ($>$ 16), dummy	-0.151	(2.19)	other non–Caucasian	0.140	(1.34)
natural child	0.058	(1.84)	health, fair	0.157	(2.96)
lives $<$ 10 miles from parents	0.053	(1.76)	health, good	0.136	(2.72)
homeowner	-0.178	(4.84)	health, very good	0.144	(2.87)
			health, excellent	0.139	(2.65)
number of families	2,363				
$\chi^2(27)$	356.8				
pseudo R^2, McFadden	0.111				
pseudo R^2, McKelvey & Zavoina	0.278				
log likelihood	-1,426.3				

Notes. Absolute z–values in parentheses. Reference categories are “does not work at all”, “income $<$ USD 10,000” and “health, poor”.

Table B.2: Gift probability, marginal effects, random effects probit, child level.

Child characteristics			Parent characteristics, family respondent		
works < 30 hours per week	-0.015	(0.92)	log net worth	0.006	(5.69)
works ≥ 30 hours per week	-0.023	(1.90)	log income	0.040	(11.6)
income USD 10,000 – 25,000	-0.011	(0.92)	age (age < 55)	0.002	(0.57)
income > USD 25,000	-0.056	(4.02)	age (age ≥ 55)	0.004	(1.57)
married	-0.019	(2.05)	years of education (< 12)	0.014	(2.61)
grandchildren	0.036	(4.31)	years of education (12 – 16)	0.019	(4.71)
age (age < 30)	-0.008	(4.42)	years of education (> 16), dummy	0.024	(1.04)
age (age 30 – 39)	-0.007	(3.95)	number of children	9 dummies	
age (age ≥ 40)	-0.021	(2.19)	male	-0.013	(0.82)
years of education (< 12)	0.015	(1.30)	African American	-0.030	(2.23)
years of education (12 – 16)	-0.004	(1.29)	Hispanic	-0.002	(0.09)
years of education (> 16), dummy	-0.023	(1.43)	other non–Caucasian	0.047	(0.66)
natural child	0.043	(3.90)	health, fair	0.081	(2.24)
lives < 10 miles from parents	0.038	(4.16)	health, good	0.074	(2.44)
homeowner	-0.044	(4.75)	health, very good	0.080	(2.67)
			health, excellent	0.080	(2.44)
number of children	7,290		number of families	2,363	
pseudo R^2, McFadden	0.111				
pseudo R^2, McKelvey & Zavoina	0.315				
log likelihood	-2,964.9				

Notes. Absolute z–values in parentheses. Reference categories are "does not work at all", "income < USD 10,000", and "health, poor".

Table B.3: Gift amounts, fixed effects model, conditional on positive family amounts, child level.

Child characteristics		
works < 30 hours per week	-0.470	(1.18)
works ≥ 30 hours per week	-0.697	(2.74)
income USD 10,000 – 25,000	-0.352	(1.13)
income > USD 25,000	-1.391	(4.05)
married	-0.424	(2.00)
grandchildren	0.808	(3.84)
age (age < 30)	-0.147	(3.52)
age (age 30 – 39)	-0.157	(4.30)
age (age ≥ 40)	-0.291	(1.80)
years of education (< 12)	-0.048	(0.16)
years of education (12 – 16)	-0.009	(0.13)
years of education (> 16), dummy	-0.169	(0.44)
natural child	0.962	(1.59)
lives < 10 miles from parents	0.796	(4.10)
homeowner	-0.679	(3.42)
constant	9.434	(2.76)
number of children	2,953	
number of families	984	
R^2 within	0.103	
R^2 between	0.041	
R^2 overall	0.060	
pseudo R^2, McKelvey & Zavoina	0.103	

Notes. The dependent variable is log (amount in USD + 1). Absolute t–values in parentheses. Reference categories are "does not work at all", and "income < USD 10,000".

Table B.4: Gift amounts, random effects model, conditional on positive family amounts, child level.

Child characteristics			Parent characteristics, family respondent		
works < 30 hours per week	-0.012	(0.04)	log net worth	0.053	(2.68)
works $\geq$ 30 hours per week	-0.192	(0.96)	log income	0.193	(2.61)
income USD 10,000 – 25,000	-0.277	(1.18)	age (age < 55)	0.023	(0.81)
income > USD 25,000	-0.892	(3.58)	age (age $\geq$ 55)	0.124	(3.70)
married	-0.297	(1.83)	years of education (< 12)	0.100	(1.26)
grandchildren	0.754	(4.58)	years of education (12 – 16)	0.151	(2.92)
age (age < 30)	-0.097	(3.06)	years of education (> 16), dummy	0.418	(1.38)
age (age 30 – 39)	-0.134	(4.87)	number of children	9 dummies	
age (age $\geq$ 40)	-0.186	(1.42)	male	-0.104	(0.36)
years of education (< 12)	0.043	(0.20)	African American	-0.315	(1.32)
years of education (12 – 16)	-0.005	(0.11)	Hispanic	0.224	(0.56)
years of education (> 16), dummy	-0.094	(0.33)	other non–Caucasian	-0.563	(1.04)
natural child	0.768	(4.32)	health, fair	-0.255	(0.67)
lives < 10 miles from parents	0.480	(3.52)	health, good	-0.200	(0.55)
homeowner	-0.258	(1.69)	health, very good	-0.061	(0.17)
constant	4.441	(1.51)	health, excellent	-0.121	(0.33)
number of children	2,953		number of families	984	
$\chi^2(39)$	715.5				
R^2 within	0.098				
R^2 between	0.446				
R^2 overall	0.197				
pseudo R^2, McKelvey & Zavoina	0.188				

Notes. The dependent variable is log (amount in USD + 1).
Absolute t–values in parentheses. Reference categories are "does not work at all", "income < USD 10,000", and "health, poor". Parents' net worth measured in million USD.

Table B.5: Gift amounts, fixed effects Tobit, child level.

Child characteristics		
works $<$ 30 hours per week	-1.798	(4.12)
works $\geq$ 30 hours per week	-1.595	(4.51)
income USD 10,000 – 25,000	-0.782	(1.94)
income $>$ USD 25,000	-2.205	(4.80)
married	-0.934	(3.21)
grandchildren	1.743	(6.06)
age (age $<$ 30)	-0.443	(9.36)
age (age 30 – 39)	-0.286	(6.07)
age (age $\geq$ 40)	-0.425	(3.58)
years of education ($<$ 12)	-0.147	(0.49)
years of education (12 – 16)	0.138	(1.36)
years of education ($>$ 16), dummy	-0.957	(1.81)
natural child	1.220	(2.11)
lives $<$ 10 miles from parents	1.544	(6.60)
homeowner	-0.857	(3.68)
number of children	6,552	
number of families	2,046	

Notes. The dependent variable is log (amount in USD + 1).
The table reports final estimates from unbalanced Honoré LS [MDE]. Absolute t–values in parentheses.
Children are ordered according to age.
Reference categories are "does not work at all", and "income $<$ USD 10,000".

Table B.6: Gift amounts, random effects Tobit, child level.

Child characteristics			Parent characteristics, family respondent		
works $<$ 30 hours per week	-0.811	(1.04)	log net worth	0.265	(5.20)
works $\geq$ 30 hours per week	-0.931	(1.99)	log income	1.801	(8.44)
income USD 10,000 – 25,000	-0.471	(0.87)	age (age $<$ 55)	0.104	(1.11)
income $>$ USD 25,000	-2.333	(3.78)	age (age $\geq$ 55)	0.152	(1.40)
married	-0.835	(2.17)	years of education ($<$ 12)	0.633	(2.63)
grandchildren	1.586	(3.88)	years of education (12 – 16)	0.806	(4.28)
age (age $<$ 30)	-0.344	(4.29)	years of education ($>$ 16), dummy	0.725	(0.71)
age (age 30 – 39)	-0.298	(3.95)	number of children	9 dummies	
age (age $\geq$ 40)	-0.954	(2.36)	male	-0.706	(0.90)
years of education ($<$ 12)	0.682	(1.38)	African American	-1.659	(2.32)
years of education (12 – 16)	-0.158	(1.30)	Hispanic	-0.056	(0.05)
years of education ($>$ 16), dummy	-0.782	(1.16)	other non–Caucasian	1.356	(0.58)
natural child	2.071	(3.60)	health, fair	2.976	(2.73)
lives $<$ 10 miles from parents	1.600	(4.27)	health, good	2.981	(2.95)
homeowner	1.861	(4.63)	health, very good	3.151	(3.12)
constant	-35.97	(8.05)	health, excellent	3.117	(3.02)
number of children	7,290		number of families	2,363	
pseudo R^2, McFadden	0.052				
pseudo R^2, McKelvey & Zavoina	0.299				
log likelihood	-7,171.3				

Notes. The dependent variable is log (amount in USD + 1).
Absolute t–values in parentheses. Reference categories are “does not work at all”, “income $<$ USD 10,000”, and “health, poor”.

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