

PRIVATE INTERHOUSEHOLD TRANSFERS OF MONEY AND TIME: NEW EMPIRICAL EVIDENCE

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There is a growing awareness that it is important to understand patterns of family assistance; however, there is still a great deal of information about private transfers that is not known. This study begins to fill this void by presenting results from a new survey and integrating these findings with evidence from recent studies that use other new data sets. It is found that: (i) a large share of households participate in private transfer networks, (ii) a greater amount of financial assistance is provided to lower income family members, (iii) altruism does not fully explain transfer behavior, and (iv) people in their 20s and 30s receive more assistance than people of other ages, even the very old.

Within the family workers are born, goods are produced, tastes are formed, decisions to work are made, and resources are redistributed. This paper investigates the last of these roles, that is, the transfer of resources (i.e., money and time help) among family members and friends.¹ Understanding private transfers is important for a number of reasons. First, they provide a means through which individuals can transmit their well-being to others. Second, private transfers have potential consequences for the effectiveness of government redistribution policies (Barro, 1974; Becker, 1974; Roberts, 1984; Andreoni, 1988; Bernheim and Bagwell, 1988; Laitner, 1988; Bergstrom, 1989; Andreoni, 1989; Bruce and Waldman, 1990; Kotlikoff *et al.*, 1990; Altonji *et al.*, 1994). For example, if publicly provided benefits to an individual become more generous, then that individual's family members and friends may respond by decreasing the amount of private assistance they give to the individual. Third, intergenerational flows of resources within the family have been identified as one determinant of fertility (Caldwell, 1976; Willis, 1982). The greater the flows of resources from children to parents, the higher will be desired fertility. As flows begin to reverse direction, going from parents to children, fertility will fall.

Private transfers may also be one mechanism through which families transmit inequality across generations (Becker and Tomes, 1979; Behrman, Pollack, and Taubman, 1990; Menchik, 1980; and Tomes, 1981). Wealthy families may give larger intergenerational assistance, including bequests, leading to persistent inequalities. At the same time, families may give compensatory transfers to their least wealthy members, which would mitigate inequality. Finally, intergenerational

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¹Unless otherwise indicated, throughout the paper private transfers will refer to *interhousehold* transfers of money and time. There is very little data on *intra*household transfers.

transfers are important because of the role they may play in determining savings and in the accumulation of wealth (Modigliani, 1988; Kotlikoff, 1988). The Life Cycle Model of Savings claims that savings are accumulated primarily for retirement, not for intergenerational transfers, and the proportion of wealth due to private transfers has been empirically analyzed, with a wide range of estimates being identified.²

Despite the fact that there are a number of reasons for studying private transfers, historically there has been little reliable empirical information on this behavior, at least in the U.S. Indeed, the most basic information such as the frequency and size of private transfers has not been well established. This has changed in the past 5–10 years, with several new surveys providing information on private transfers from nationally representative samples. The objective of this paper is to integrate empirical findings from this new and burgeoning literature and provide additional estimates from one data set, the 1988 Panel Study of Income Dynamics, which arguably has the highest quality information on transfers among all nationally representative data sets in the U.S.

The paper begins with a discussion of the behavioral models that have been posited to explain private transfers. This section is followed by a summary of findings from previous empirical analyses. The subsequent sections describe the 1988 Panel Study of Income Dynamics and the empirical results based on these data. A concluding section synthesizes the new results and the earlier findings in an attempt to establish a group of “stylized facts” regarding private interhousehold transfers.

I. BEHAVIORAL MODELS OF TRANSFERS

Several models of transfer behavior have been posed, including altruism, exchange, “warm glow,” and insurance. The altruism model (Becker, 1974; Barro, 1974) states, in terms of parent-child relations, that the parent’s well-being is directly related to the well-being of her child (i.e., $U_p = U_p(X_p, U_c)$, where X_p are goods consumed by the parent and U_c is the utility of the child). The model predicts that parents will decrease the amount of assistance provided to their children in response to increases in the children’s income. Altruism also implies that if parents are initially transferring some positive amount to a child, and the parent’s income increases by \$1 while the child’s income decreases by \$1, then the parent will transfer an additional dollar to the child. In this framework, the coefficient on the parent’s income less the coefficient on the child’s income should sum to one (Cox and Rank, 1992; Altonji *et al.*, 1994).

The altruism model has been extended by Andreoni (1989) to include simultaneous “warm glow” giving. That is, parents not only care about the well-being of their children, they care about the amount of gifts they give their children. Moreover, if the behavior is only motivated by warm glow, then the amount of the transfer given to the child is independent of the characteristics of the child. A third model, exchange, has been the most widely analyzed alternative to altruism

²Kotlikoff and Summers’ (1981) estimates are 45–80 percent, while other estimates are less than 25 percent.

(Cox, 1987; Bernheim *et al.*, 1985; Cox and Rank, 1992; Cox and Jakubson, 1995). The basic presumption is that, using the parent-child notation again, children provide something to their parents, such as assistance in old age, a sympathetic ear, or contemporaneous help in household production, and in return parents give their children cash. The parent-child relationship can be viewed as a market transaction where the parent demands services, which perhaps only the child can provide or for which there are no close market substitutes, and the child provides services in return for remuneration. As a result, the relationship between the income of the children and the amount of assistance they receive from their parents is a function of the elasticities of supply and demand for the services provided by the child, and it could be either positive, negative, or zero (Cox, 1987). In sum, one test of these models is to examine the effects of child's income on the amount of transfers they receive, with altruism predicting a negative effect, (strict) "warm glow" predicting no effect, and the exchange model being consistent with any relationship.³

Transfers may also be used to smooth consumption across time and to overcome liquidity constraints (Kotlikoff and Spivak, 1981; Cox, 1990; Cox and Jappelli, 1990). The family may provide insurance during periods of unemployment or low income, and parents may assist their liquidity constrained children with purchasing a home or financing their schooling. Each of these factors is addressed in the empirical analyses.

Although these models have been discussed in terms of income, in general, anything that effects the well-being of the child or parent may alter transfers. Examples of these factors include health status and the existence of grandchildren within an adult child's household. If the adult child has children of their own, and their parent cares about these grandchildren, then the amount of assistance would be altered (i.e., increased under altruism). Or if a family member is in poor health, which in turn lowers their well-being, then altruistically motivated family members would increase the amount of assistance they give to the person in poor health.

The approach in this paper is to investigate the empirical support for these various models. To this end, these models provide a conceptual framework for the empirical specification. The general specification which subsumes each of these models is one in which indicators of the well-being of the potential donor (e.g., parent) and the well-being of the potential recipient (e.g., adult child) are included. In addition, the exchange model implies that the time value of potential providers of services (i.e., children) may also be important. The models that we estimate will incorporate various measures of well-being, including income and health, allowing us to discriminate among some of the models.

II. PREVIOUS STUDIES

Frequency and Magnitude of Private Interhousehold Transfers

Table 1 summarizes the evidence on the frequency and magnitude of *inter vivos* financial transfers reported in studies that have examined nationally

³One weakness of the exchange model is that its prediction of the effect of income on transfers cannot be refuted.

representative samples of individuals or households.⁴ Despite differences in survey design, some common patterns emerge.⁵ Approximately 8 to 20 percent of households receive financial assistance in a given year, while a slightly higher share of households report giving financial help. Among all households, not just those receiving assistance, the average amount of help received annually is \$300 to \$500 [expressed in 1987 dollars, which is the year of the transfer supplement to the Panel Study of Income Dynamics (PSID)].⁶ Moreover, the distribution of monetary transfers is highly skewed (Rosenzweig and Wolpin, 1990; Cox and Raines, 1985; Gale and Scholz, 1991).

TABLE 1
FINDINGS FROM PREVIOUS STUDIES

Authors	Data	Reporting Period for Transfers	Share Receiving (Giving)	Mean Amount Received (Given) Conditional on Positive Transfer*
Moon (1983)	1978 Panel Study of Income Dynamics	Past Year	8.4% (9.8%)	\$3,753 (\$2,977)
Cox and Raines (1985)	1979 President's Commission on Pension Policy	Past Year	12.3% (15.8%)	\$3,144 (\$3,256)
Morgan (1985) ^A	1980 Panel Study of Income Dynamics	Past Five Years	22.0% (29.0%)	NR
MacDonald (1990)	1988 National Survey of Families and Households	Past Five Years	16.8% (19.5%) Gifts 11.5% (19.4%) Loans 2.8% Home Assist.	\$5,592 (\$7,081) Gifts \$6,334 (\$6,157) Loans \$11,381 (NR) Home Assist
Gale and Scholz (1991)	1983-86 Survey of Consumer Finances	Past Three Years	~5.3%(9.4%)	~\$16,247 (\$17,714)
Cox and Rank (1992)	1987/88 National Survey of Families and Households	Past Five Years	25.9%	\$6,461
Altonji <i>et al.</i> (1996) ^A	1988 Panel Study of Income Dynamics	Past Year	19.4%	\$1,459

Notes: *Expressed in 1987 dollars and excluding bequests. ~Includes only transfers of at least \$3,000 over the three year period. NR = not reported. ^AMorgan's estimates are for "emergency help," and Altonji *et al.*'s estimates are for transfers from parents to children.

An alternative form of transfer is bequests, and in Cox and Raines' (1985) data bequests are received by just 0.8 percent of the respondents in the single year, and they account for 25 percent of the total amount of transfer dollars received. MacDonald (1990) reports similar magnitudes with the NSFH; bequests are received by 1.4 percent of the respondents over the five year period, and they account for 19.2 percent of the total amount of private transfers received.

⁴Analyses using the National Longitudinal Survey, Health and Retirement Survey, and Asset and Health Dynamics Survey are not included in Table 1 because these data are not representative of all ages.

⁵For example, the analyses reported by Gale and Scholz using the Survey of Consumer Finances is restricted to transfers of at least \$3,000 over the previous three years. Moreover, while the National Survey of Families and Households collects information on transfers made in the previous five years, most other studies collect information on transfers in the previous one year.

⁶The average amount of assistance received from all three types of transfers in the National Survey of Families and Households is \$1,986 over the five year period, which, if annualized by dividing by five, is \$397.

The direction of the relationship between recipient's income and the amount of money received has been identified as a test of the altruism model, with the altruism model predicting that as the income of a recipient increases, *ceteris paribus*, the amount of private transfers received will decrease (Becker, 1981). Cox (1987) and Cox and Rank (1992) analyzed this relationship empirically and find a positive relationship between the amount of assistance received and the (potential) recipient's income. The findings of Cox (1987) and Cox and Rank (1992) are corroborated by those of MacDonald (1990).^{7,8}

However, other studies found a negative relationship between the amount (or probability) of transfers received and income. Rosenzweig and Wolpin's (1990) point estimates imply that a \$5,000 increase in the adult child's earnings reduces the probability of co-residing by 11.1 percent and reduces the probability of receiving a monetary transfer while not residing at home by 10.9 percent. In a recent paper using the 1988 PSID, Altonji *et al.*, (1996) specify a Tobit model and find that the respondent's income has a negative effect on the amount of transfers received from parents. Shelton and Sueyoshi (1993), using information on private transfers collected annually in the PSID, finding that having the lowest household income among the households in the family increases the probability of receiving private transfers from 11 percent to 20 percent. Work by McGarry and Schoeni (1995, 1996) using the Health and Retirement Survey and the Asset and Health Dynamics Survey finds that larger financial transfers are given to adult children with lower income, and this result holds when they look within families by controlling for family fixed effects. Using the Asset and Health Dynamics Survey, Dunn and Phillips (1995) also find that *inter vivos* transfers are more likely to be given to poorer children within a family, but that children of different income levels are equally likely to receive parental transfers at the time of the death of a parent.

Most studies have found that individuals with more years of schooling both give and receive greater amounts of money transfers (MacDonald, 1990; Cox and Raines, 1985). However, McGarry and Schoeni (1995, 1996) demonstrate that the effects of schooling are mitigated substantially when family fixed effects are controlled for by examining differences in transfers among siblings. This pattern is consistent with the hypothesis that parents who make larger transfers to their children are also parents who invest more in their children's education.

A popular belief about black families is that they have a more active support network than white families. However, with regard to interhousehold assistance, most recent studies have not found support for this belief (MacDonald, 1990; Silverstein and Waite, 1992). For example, MacDonald (1990) shows that, among

⁷MacDonald (1990) uses a two-step estimation procedure, in which he excludes life-course events (divorce, marriage, births, home-leaving, non-work and non-school spells) from the Probit model. Furthermore, he estimates a Tobit regression as an alternative to the two-step procedure and does not find consistently positive effects of recipient's income.

⁸In Cox's (1987) analyses of the PCPP, only characteristics of the respondent are available. Using the NSFH, Cox and Rank (1992) are able to control for parent's income. Both studies use a two-step estimation procedure.

recipients, whites receive \$3,500 more than Mexican-Americans, and Mexican-Americans receive \$700 more than blacks.

Most studies have found that monetary transfers flow primarily from the old to the young (Cox and Raines, 1985; MacDonald, 1990; Gale and Scholz, 1991). Cox and Raines (1985) find that monetary transfers given to younger generations account for 64 percent of the total dollar amount of transfers. And Gale and Scholz (1991) also find that the probability of giving money increases with age, peaking at ages 55–64. The probability of receiving peaks at ages 35–44, with the elderly very unlikely to receive money transfers.

Several studies restrict analyses to transfers from parents to children. MacDonald (1990) reports that the individual from whom the respondent most commonly receives transfers is a parent. Similarly, using the Survey of Consumer Finances, Gale and Scholz (1991) estimate that monetary transfers received from parents account for 84 percent of the total amount of transfer dollars received.

Most of the theories of private transfers posit that the characteristics of both the potential donor and potential recipient are important, and some studies have examined the effects of parental characteristics since most transfers are between parents and their children. Cox and Rank (1992) find that parent's income positively influences the amount of money received by adult children even when controlling for the adult child's income. Similarly, Rosenzweig and Wolpin (1990) find that a rise in parental income by \$5,000 increases the probability that the adult child will receive a monetary transfer while living outside the home by 2.2 percent and decreases the probability of co-residence by 2.5 percent. Using the 1988 PSID, Altonji *et al.* (1996) also find that parent's income positively influences the amount of money received by adult children.

These studies have begun to provide some information on private transfers, but there are still many unresolved issues. The various surveys report a wide range of estimates of the share of households receiving financial transfers, from about 8 to 20 percent. The extent to which households are connected through any type of private transfer, whether it be cash assistance or time help, and whether it be through giving or receiving assistance, is not known, yet is important for evaluating the implications of various models (Bernheim and Bagwell, 1988). The age pattern of transfers is also important as the age structure of the population continues to change. One of the focal relationships is the effect of income on the amount of transfers received, and the evidence is still mixed. Our analyses of the 1988 PSID will help address some of these issues.

III. THE DATA: 1988 PANEL STUDY OF INCOME DYNAMICS

The data that receive primary attention come from a supplement to the 1988 PSID that investigates private interhousehold transfers.⁹ The question regarding private parental monetary transfers asks, "During 1987, did (you or your family living there) receive any loans, gifts, or support worth \$100 or more from your

⁹Throughout the paper the term "household" will refer to the nuclear family which consists of the PSID respondent and his/her family living there.

parents?"¹⁰ These transfers do not include court ordered assistance such as child support or alimony. Furthermore, the PSID asks about transfers with each of the respondent's parents and parents-in-law. With regard to time help, the question asked is: "About how many hours in 1987 did they [your parents] spend helping (you/your family living there)?" Respondents are also asked to report the amount of transfers given to parents in both time and money. Finally, transfers of money and time with other relatives and with friends are each reported.¹¹

In addition to the information on private transfers, the households are asked to provide information regarding each of the head's parents and, if there is a spouse, each of the spouse's parents. This information includes the parents' net wealth, education, distance in miles from respondent's residence, and marital status.

Combined with the information collected annually, the PSID data on private transfers have several advantages over data available from most other surveys:

- Demographic and income characteristics of both the donor and the recipient are available for parental transfers. Furthermore, the information regarding the parent is more extensive than in other surveys.
- Data on transfers of money and time assistance, both given and received, are collected.
- Data on both where a transfer was made and the magnitude of the transfer are collected.
- In households where there is a spouse, transfers are recorded to and from the spouse's parents. Furthermore, characteristics of the spouse's parents are ascertained.
- The PSID has an extensive set of socioeconomic information on the household being interviewed and the individuals within the household.
- Since it is a panel study, the PSID has information for more than one year, although the reliable data on private transfers are only available in 1988.¹²

Two sample selections were made for the analyses below. First, households in which the head changed between 1987 and 1988 were eliminated, which consisted of 492 cases; this is done to insure that private transfers that were made in 1987 and reported in 1988 are attributed to the correct household head. Second, if the head of the household and the head's parents or parents-in-law live in the same household, the observation is dropped. This reduces the sample size by 420, leaving 6,202 households. The question regarding transfers with non-parents conditions on the transfer being with someone outside the household, i.e., it asks about interhousehold transfers. The question regarding transfers with parents does not make this condition. Thus, in order to restrict attention to interhousehold transfers, this second selection is made.¹³ Additional selections are made for some

¹⁰Underscore included in questionnaire.

¹¹Note that the PSID interviews the head of the household, and they assume that the head of the household is the male in two-parent households. We follow their convention.

¹²Two surveys that also have some of these attractive qualities are the Health and Retirement Survey and the Asset and Health Dynamics Survey, although both are restricted to older populations.

¹³Among the 912 households that were dropped due to these two selections, 3.2 percent received AFDC, which is very similar to the share receiving AFDC in the retained sample (2.8 percent, see Table 2).

of the analyses, and these selections are identified when the results of those analyses are discussed. Robustness to these selections is also examined.

IV. FREQUENCY AND MAGNITUDE OF PRIVATE INTERHOUSEHOLD TRANSFERS: NEW EVIDENCE FROM THE PSID

Table 2 reports household income in 1987 broken down by source of income as reported in the 1988 PSID. The average household income from all sources is \$35,414. Fifty-two percent of total household income is derived from labor income of the head of the household, while 15 percent is attributable to labor income of the spouse.¹⁴ The average amount of private *inter vivos* transfers received in 1987 is \$398 for the entire sample and \$2,104 for the 19 percent receiving them. This compares favorably with MacDonald's (1990) annualized estimate of \$397 reported in the NSFH and Moon's (1983) estimate of \$316 with the PSID.

Private transfers are small relative to labor income. However, relative to public transfers (excluding Social Security), private transfers are received by a

TABLE 2
DESCRIPTIVE STATISTICS OF HOUSEHOLD INCOME BY SOURCE OF INCOME FOR ALL HOUSEHOLDS ($N=6,165$).

Income Source	Mean for Entire Sample (1)	Coefficient of Variation (2)	Percent Receiving (3)	Percent of Total Income (4)
<i>Total Household Income:</i>	\$35,414	0.963	100	100
<i>Market Income:</i>				
Labor income—Head	18,346	1.339	69.1	51.80
Labor income—Spouse	5,150	1.853	36.6	14.84
Other income of Head and Spouse	5,140	3.479	58.2	14.51
Income of Others in the Family Unit	2,259	3.073	23.4	6.41
<i>Private Transfers:</i>				
<i>Inter vivos</i> transfers	398	6.299	18.9	1.12
Inheritance	312	15.667	1.8	0.88
<i>Social Insurance:</i>				
Social Security	1,874	1.967	26.2	5.29
Unemployment Compensation	94	5.617	5.4	0.27
Worker's Compensation	79	10.456	2.2	0.22
<i>Public Assistance:</i>				
Aid to Families with Dependent Children	88	7.091	2.8	0.25
Supplemental Security Income	87	7.184	2.8	0.25
Veteran's Pensions	167	7.964	3.8	0.47
<i>Other Assistance:</i>				
Other welfare	27	11.593	1.1	0.08
Other retirement	1,141	3.535	15.2	3.22
All other transfers	111	8.853	5.2	0.31
Child support	130	6.335	4.4	0.37

Note: The statistics within the table are calculated using the 1988 PSID family weights. Households with non-positive total household income are excluded.

¹⁴Note that some households do not have a spouse, and income from this source is zero for these households.

large share of the population and are sizable. Moreover, the average amount received from private transfers is greater than the total amount received from SSI, AFDC, Unemployment Insurance (UI), and Workers Compensation (WC). However, the average amounts of SSI, AFDC, and WC conditional on receipt from the respective program are each larger than the average amount of private transfers received conditional on receipt. Moreover, the most common type of non-market income is Social Security; just over one quarter of all households receive Social Security benefits for an average of \$7,152 among recipient households.

Several studies (Tomes, 1981; Menchik, 1980, 1988; Wilhelm, 1996; Kotlikoff, 1988; Modigliani, 1988) have analyzed bequests to test theories of private transfers and theories of savings. Table 2 shows that *inter vivos* transfers are 28 percent larger than bequests. However, although bequests are received by less than 2 percent of respondents in a given year, when a bequest is received it is quite large, with an average of over \$17,000.

Table 3 reports the proportion of respondents with each type of transfer (i.e., money given, money received, time help given, and time help received) and the average amount transferred by the relationship to the head of the household of the person with whom the transfer was made. Monetary transfers are given by 13 percent of all households for an average of \$291 for the entire sample. As was shown in Table 2, monetary transfers are reported being received much more frequently; 20 percent of the households received a transfer in 1987 and the mean amount received for the entire sample is about \$400.^{15,16} Assistance in the form of time help is made more frequently; 28 percent of the respondents receive time help for an average of 332 hours per year for those receiving help. Time transfers are reported as being given more often than received (33 percent give), and the amount given, conditional on giving, is higher (354 hours are given).

TABLE 3
PRIVATE TRANSFERS BY RELATIONSHIP TO THE HEAD OF THE HOUSEHOLD (N = 6,202)

Person with whom transfer was made	Monetary Transfers				Time Transfers (Hours)			
	Percent Giving	Mean Given	Percent Receiving	Mean Received	Percent Giving	Mean Given	Percent Receiving	Mean Received
Any individual	13.3	\$291	20.2	\$405	33.2	117	28.4	93
Parent/parent-in-law	3.1	56	17.6	328	24.0	82	20.3	66
Child	5.3	175	0.9	5	3.8	10	3.5	6
Sibling	1.7	14	1.7	21	4.0	6	3.8	6
Other relative	1.7	30	1.6	25	2.8	7	1.7	3
Non-relative	2.0	11	1.5	26	7.5	12	7.1	10

Note: Means are for the entire sample. The 1988 PSID family weights are used in the calculations above.

¹⁵The calculations reported in Table 3 are slightly different than those in Table 2 because in Table 2 we restrict the analysis to those households with positive household income. This reduces the sample by 37 cases, and the results reported in Table 2 are not sensitive to this selection.

¹⁶In the aggregate for a representative cross-section, the mean amount of money given to other households should equal the mean amount received from other households. Differences in the reported amounts may exist because transfers received include loans and gifts, while transfers given do not explicitly include loans, and loans and gifts cannot be separated in the data. In addition, a separate question regarding monetary transfers received is asked explicitly about each parent and all other relatives, perhaps eliciting a greater amount of assistance than from the one catch-all question about transfers given to others.

Parents are the most common source of private transfers; over three-fourths of transfer dollars received are received from parents, and almost three-fourths of time help received is received from parents (Table 3). Transfers of either form are received relatively infrequently from siblings, other relatives, and non-relatives. The amount of private transfers varies widely, with a mean of \$2,095 and standard deviation of \$5,438. The most common transfer reported is \$500. Time help also has a wide distribution. The average number of hours received for recipients is 298 hours and the standard deviation is 573.

Bernheim and Bagwell (1988) show that if all households are altruistically linked, either directly or indirectly through intermediary households, redistribution may be completely neutralized. Table 4 reports additional evidence on the extent to which households are linked through transfers of money or time help. While 20 percent of the households receive monetary transfers, 13.3 percent give money transfers, 28.4 percent receive time transfers, and 33.2 percent give time transfers. Over 30 percent participated in some form of money transfer in the single year 1987, with only 2.2 percent simultaneously giving and receiving money transfers. Time transfers were more frequent, with 46 percent either giving or receiving time help. Time help is also more frequently given and received by the same household in a given year; 16 percent both give and receive time help. In general, households appear to be fairly well linked, with almost 60 percent of the households either receiving or giving money or time assistance during the single year 1987.

Some households give transfers to, or receive transfers from, more than one household within the same time period. This may extend the chains of private

TABLE 4
PERVASIVENESS OF PRIVATE INTERHOUSEHOLD TRANSFERS (N = 6,202)

Type of Transfers	Percent with these Transfers	Type of Transfers	Percent with these Transfers
Receive money	19.5	Received or gave money	30.6
Gave money	13.3	Received money or time	38.7
Received time	28.4	Received money or gave time	44.1
Gave time	33.2	Gave money or received time	38.2
Received and gave money	2.2	Gave money or time	40.5
Received money and time	9.2	Received or gave time	45.6
Received money, gave time	8.5	Received or gave money, or received time	47.4
Gave money, received time	3.5		
Gave money and time	6.0	Received or gave money, or gave time	50.5
Received and gave time	16.0	Gave money, or received or gave time	51.7
Received and gave money, and received time	1.1	Participated in any form of transfer	58.7
Received and gave money, and gave time	1.3		
Gave money, received and gave time	2.3		
Participated in all forms of transfers	0.9		

Note: The 1988 PSID family weights are used in the calculations above.

assistance across more households. For households receiving money transfers, on average they receive from 1.35 different people. (Each transfer was associated with one person to whom it was given or from whom it was received. For example, a transfer received from the respondents "parents" would be counted as being received from one person.) The average number of different people to whom money was given is 1.49. Time help is similar, with households giving time help to 1.25 different people and receiving time help from 1.27 different people, on average. Although the data suggest that many households are linked through transfers, as demonstrated in Table 3, most of the links are made between households within the same family lineage. Transfers between non-relatives are not common, which is consistent with dynastic families without substantial linkages across families.

V. MULTIVARIATE MODELS: NEW EVIDENCE FROM THE PSID

It is assumed that respondents, in optimizing their own utility, determine a latent amount of desired transfers they would like to give to family members. For some, they prefer to receive transfers rather than give transfers; however, they cannot force others to give them assistance. Therefore, the amount of transfers they give is censored at zero. This is described by equations (1a) and (1b) where F^* is the (latent) amount of desired transfers, and X is a set of regressors to be discussed below.

$$(1a) \quad F_i^* = \beta_x' X_i + u_i.$$

$$(1b) \quad F_i = \begin{cases} F_i^* & \text{if } F_i^* > 0 \\ 0 & \text{otherwise.} \end{cases}$$

Assuming that u is distributed normally, a Tobit model is specified and estimated by maximum likelihood procedures. Transfers received by the respondent are simply transfers that were given by someone else; therefore, the Tobit model is specified for transfers received as well.^{17,18} Thus, determinants of four dependent variables are examined: amount of money received, amount of money given, amount of time received, and amount of time given. We also report selected parameter estimates from Probit models of the probability of receiving/giving assistance. No attempt is made to examine the simultaneous decision of time and money transfers—they are examined separately.¹⁹

The estimated effect of a change in an explanatory variable on the latent amount of transfers (F^*) in the Tobit model is β_x . The estimated effect on the

¹⁷Altonji *et al.* (1996), Behrman, Pollak, and Taubman (1990) and Cox and Raines (1985) also posit a Tobit model of monetary transfers received.

¹⁸The survey question regarding monetary transfers received asks about transfers greater than or equal to \$100. For money given, however, the censoring is at zero, as it is for time given and received. The likelihood function for the Tobit model is modified slightly when the censoring is at 100 instead of zero. The point estimates are very similar in the two cases; therefore, the estimates discussed are those which use zero as the lower bound.

¹⁹However, the ordinary least squares versions of the Tobit regressions in Table 6 were estimated and the correlation between the errors in all equations were never greater, in absolute value, than 0.065, implying little gain from simultaneous estimation.

expected value of the actual amount of transfers ($E[F]$) is $\beta_x \Phi(\cdot)$, where $\Phi(\cdot)$ is the cumulative normal distribution function. For the discussion below, the effects will be evaluated at the (weighted) proportion participating in the given form of transfer, P , i.e., $\Phi(\cdot) = P$.²⁰ The effect of a change in X on the expected value of participating in a transfer (P) when the Probit model is specified can be expressed as:

$$(2) \quad \frac{dE[P_i]}{dX_i} = \phi(\beta'_x X_i) \beta_x,$$

where $\phi(\cdot)$ is the standard normal density function. The effects discussed below are evaluated at the mean value of the explanatory variables and the estimated coefficients. For example, in Table 7 the coefficient estimate of annual earnings in the Probit equation for money received is -0.029×10^{-4} , and the density evaluated at $\beta'_x X$ is 0.2697. Equation (2) implies that a \$10,000 increase in annual earnings reduces the probability of receiving a transfer by $0.2697 \times (0.030 \times 10^{-4} \times 10,000) = 0.0084$ percentage points, which is a modest effect.

TABLE 5
DESCRIPTIVE STATISTICS OF EXPLANATORY VARIABLES IN THE REGRESSION ANALYSES
($N = 6,202$).

Explanatory Variable	Mean	Std. Dev.	Explanatory Variable	Mean	Std. Dev.
Earnings of head and spouse	23,416	(28,649)	Marital status change of head:		
Years of schooling, head	12.42	(3.202)	Became widowed	0.0022	(0.0476)
AFDC	87.97	(623.5)	Became divorced/separated	0.0132	(0.1145)
SSI	86.62	(624.9)	Became married	0.0110	(0.1046)
Veteran's Benefits	166.8	(1,327)	Head female	0.2934	(0.4553)
Unemployment Compensation	93.42	(527.8)	Head white	0.8660	(0.3406)
Worker's Compensation	78.86	(824.1)	Size of family	2.506	(1.403)
Social Security	1,879	(3,691)	Age	48.12	(17.80)
Number of parent-households:			Age squared	2,633	(1,890)
One	0.3121	(0.4633)	Head's parents' net wealth.		
Two	0.3027	(0.4594)	These parents don't exist	0.7133	(0.4522)
Three or more	0.0677	(0.2512)	In debt	0.0278	(0.1646)
Number of siblings	4.965	(3.627)	Just break even	0.0256	(0.1580)
Head is unemployed	0.0842	(0.2778)	\$1-24,999	0.0246	(0.1551)
Head is disabled	0.0238	(0.1527)	\$100,000-250,000	0.1172	(0.3217)
Head is a student	0.0087	(0.0930)	More than \$250,000	0.0166	(0.1278)
Health status of head:			Head's father's education:		
Very good	0.3209	(0.4668)	Don't know	0.0647	(0.2460)
Good	0.2664	(0.4421)	6-8 years	0.3858	(0.4868)
Fair	0.1272	(0.3332)	9-11 years	0.0943	(0.2923)
Poor	0.0494	(0.2167)	12 years	0.2045	(0.4034)
Child under 3 in household	0.1067	(0.3087)	More than 12, no BA	0.0776	(0.2675)
Bought home in past year	0.0352	(0.1843)	BA or more	0.1064	(0.3083)
Head's marital status:			Miles to head's parents:		
Never married	0.1443	(0.3514)	Less than 1 mile	0.0382	(0.1918)
Widowed	0.1247	(0.3304)	miles	0.0826	(0.2753)
Divorced or separated	0.1586	(0.3653)	miles	0.0728	(0.2598)

Omitted Categories: Number of parent-households: None; Health status of head: Excellent; Marital status of head: Currently married; Head's parent's net wealth: \$25,000-100,000; Head's father's education: 0-5 years; Distance to head's parents: More than 100 miles.

Other Notes: The 1988 PSID family weights are used in the calculations above.

²⁰The weighted and unweighted proportions giving and receiving money and time transfers differ by only 1-4 percentage points; therefore, the estimated affects are not altered substantially when the unweighted versus the weighted proportion is used.

The parameter estimates from the Tobit analyses are reported in Table 6, the parameter estimates on income for the Profit models are reported in Table 7, and the mean and standard deviation of each regressor are reported in Table 5.

Controlling for the respondent's education and parental wealth and education, total annual earnings of the head and spouse, which accounts for almost 70 percent of total household income, negatively influences the amount and incidence of money transfers received, and it positively influences money given. This is consistent with findings by Altonji *et al.* (1996) and Cox and Raines (1985) and lends support to both the altruism and insurance models. The magnitude of this effect is small, which is also consistent with Altonji *et al.* (1996), with a \$10,000 increase in annual earnings associated with a \$130 decline in the (latent) amount of transfers received and a \$240 rise in the (latent) amount of money transfers given.

Annual earnings are negatively related to time assistance, both given and received, but the relationship is statistically significant only in the time given equation. The point estimates imply that a \$10,000 increase in annual earnings is associated with a drop in the (latent) amount of time help given by 18 hours. The same change in annual earnings reduces the probability of giving a time transfer by 0.013 percentage points, which is a modest decline given that 33 percent of the respondents give time help. This relationship is consistent with the fact that households with greater income are more likely to have working spouses, and working spouses may be less likely to provide their parents with time help than non-working spouses. However, when we added an indicator variable for whether the spouse worked, its coefficient estimate was not statistically significantly different from zero. This result is consistent with Soldo and Hill (1995) who find a "weak" (page S127) relationship between hours worked and hours of time help given to elderly parents by women 51–61.

The specifications reported in Table 6 assume a monotonic relationship between annual earnings and private transfers. This assumption is relaxed by re-estimating the models reported in Table 6 but with earnings specified as a step function (parameter estimates not shown here) with the categories given in Figure 1. A variety of other functional forms were examined, and this set of indicator variables most accurately represented the observed patterns. The expected values of transfers for each income group are plotted in Figures 1 and 2, where:

$$E[F_i | X_i] = \Phi\left(\frac{\beta' X_i}{\sigma}\right)(\beta' X_i + \sigma \lambda_i),$$

and λ is the inverse mills ratio.

The amount of monetary transfers given increase monotonically with annual earnings (Figure 1), with an exception occurring at the \$72,000–84,000 category. The expected amount given increases from just under \$300 for households with no labor earnings to over \$900 for the highest earners. However, the amount of monetary transfers received does not follow a similar monotonic pattern (Figure 2). For individuals with annual earnings of between \$0 and \$60,000, the amount of transfers received decreases with annual earnings in a fairly monotonic fashion. For people with annual earnings greater than \$60,000, however, the relationship

TABLE 6
TOBIT ESTIMATES OF THE AMOUNT OF PRIVATE TRANSFERS ($N = 6,202$).

Explanatory Variable	Money Received		Money Given		Time Received		Time Given	
	Beta	t-stat	Beta	t-stat	Beta	t-stat	Beta	t-stat
Earnings of head and spouse	-0.01326	(2.03) [*]	0.02395	(3.95) [*]	-0.00101	(1.27)	-0.00181	(2.67) [*]
Years of schooling, head	243.89	(4.64) [*]	390.39	(6.74) [*]	-1.1270	(0.19)	-0.60139	(0.12)
AFDC	-0.15897	(1.11)	-0.38606	(1.37)	-0.04240	(2.50) [*]	-0.00410	(0.28)
SSI	-0.06168	(0.30)	-0.16354	(0.57)	-0.00327	(0.15)	-0.00898	(0.49)
Veteran's Benefits	0.03753	(0.45)	0.29972	(4.11) [*]	-0.00169	(0.14)	0.00223	(0.24)
Unemployment Compensation	-0.14203	(0.67)	-0.01690	(0.05)	-0.02360	(0.87)	0.01105	(0.51)
Worker's Compensation	-0.13995	(0.91)	0.11906	(0.77)	-0.01603	(0.85)	0.00831	(0.64)
Social Security	-0.05040	(0.73)	0.27206	(4.48) [*]	-0.00435	(0.58)	0.00144	(0.24)
Number of parent-households:								
One	2339.9	(4.48) [*]	2429.5	(4.75) [*]	146.53	(2.54) [*]	377.58	(8.48) [*]
Two	3140.4	(5.35) [*]	1933.0	(3.18) [*]	313.74	(4.78) [*]	407.77	(7.89) [*]
Three or more	3742.5	(5.46) [*]	2474.9	(3.23) [*]	374.77	(4.79) [*]	408.40	(6.47) [*]
Number of siblings	-142.16	(3.78) [*]	50.138	(1.17)	-17.786	(4.11) [*]	-1.5135	(0.437)
Head is unemployed	1136.6	(3.00) [*]	-343.37	(0.63)	68.122	(1.45)	87.866	(2.23) [*]
Head is disabled	1546.2	(1.82) [*]	-1135.5	(1.07)	179.34	(2.01) [*]	61.256	(0.773)
Head is a student	1377.8	(1.30)	-766.89	(0.41)	78.639	(0.56)	-93.643	(0.709)
Health status of head:								
Very good	-447.99	(1.44)	207.70	(0.52)	20.908	(0.54)	5.5916	(0.17)
Good	150.43	(0.43)	-47.565	(0.11)	-17.716	(0.42)	22.263	(0.64)
Fair	-511.27	(0.99)	-582.59	(1.01)	140.12	(2.51) [*]	31.310	(0.67)
Poor	796.20	(1.01)	-2279.2	(2.43) [*]	162.92	(1.97) [*]	-137.66	(1.85) [*]
Child under 3 in household	679.64	(1.97) [*]	159.32	(0.32)	294.32	(7.19) [*]	85.369	(2.33) [*]
Bought home in past year	1208.6	(2.15) [*]	-1282.5	(1.52)	166.09	(2.35) [*]	52.400	(0.84)
Head's marital status:								
Never married	-1227.7	(2.04) [*]	-206.64	(0.28)	-142.52	(1.97) [*]	-115.76	(1.92) [*]
Widowed	-1348.2	(1.62)	-474.07	(0.57)	54.918	(0.63)	-171.65	(2.36) [*]
Divorced or separated	-532.97	(0.89)	226.18	(0.33)	14.182	(0.20)	-197.89	(3.41) [*]

Marital status change of head:

Became widowed	3224.4	(1.18)	398.35	(0.11)	342.01	(1.12)	-585.15	(1.41)
Became divorced/separated	1547.6	(1.48)	2787.9	(2.06) ^y	-193.42	(1.33)	-162.50	(1.34)
Became married	561.01	(0.58)	-426.11	(0.35)	-138.72	(1.15)	60.211	(0.61)
Head female	1366.6	(2.87) ^x	-761.33	(1.34)	219.43	(3.94) ^x	89.617	(1.88) ^x
Head white	920.46	(2.89) ^x	-192.26	(0.51)	83.158	(2.27) ^y	30.728	(1.01)
Size of family	-127.39	(1.13)	-593.55	(4.27) ^x	0.0548	(0.01)	-39.273	(3.57) ^x
Age	-182.17	(2.94) ^x	303.54	(4.19) ^x	-52.369	(7.91) ^x	12.420	(2.05) ^y
Age squared	1.0591	(1.60)	-2.4323	(3.35) ^x	0.39970	(5.96) ^x	-0.17206	(2.72) ^x
Head's parents' net wealth:								
These parents don't exist								
In debt	-901.29	(1.71) ^z	-161.96	(0.22)	69.655	(1.01)	199.65	(3.34) ^x
Just break even	-1739.9	(2.25) ^y	-1558.5	(1.37)	-210.90	(2.25) ^y	-155.21	(1.88) ^z
\$1-24,999	-1289.3	(1.79) ^z	1414.9	(1.55)	-55.561	(0.67)	46.485	(0.65)
\$10,000-250,000	-820.17	(1.12)	2051.8	(2.18) ^y	71.368	(0.84)	50.085	(0.66)
More than \$250,000	1155.2	(2.31) ^y	-1013.7	(1.34)	-21.544	(0.33)	-55.295	(0.96)
Head's father's education:								
Don't know	431.10	(0.46)	-624.45	(0.41)	97.012	(0.80)	-255.59	(2.15) ^y
6-8 years	-725.74	(1.05)	-979.46	(1.32)	-23.503	(0.32)	-136.70	(2.28) ^y
9-11 years	46.131	(0.08)	333.65	(0.05)	17.880	(0.29)	-30.480	(0.63)
12 years	649.25	(1.03)	-855.75	(1.20)	-12.250	(0.17)	-78.433	(1.35)
More than 12, no BA	265.74	(0.44)	-1218.9	(1.85) ^z	50.490	(0.76)	-75.478	(1.38)
BA or more	-66.414	(0.09)	-1956.7	(2.32) ^x	-53.744	(0.65)	-176.27	(2.57) ^y
Miles to head's parents:								
Less than 1 mile	1374.8	(2.02) ^y	-1548.7	(1.95) ^z	-1.9984	(0.02)	-200.18	(2.96) ^y
1-10 miles	-1073.0	(1.67) ^z	-1446.5	(1.53)	423.62	(5.51) ^x	294.72	(4.31) ^x
10-100 miles	-430.53	(0.85)	-840.05	(1.16)	319.87	(4.96) ^x	198.37	(3.42) ^x
Constant	-191.05	(0.36)	-612.57	(0.81)	170.37	(2.47) ^x	155.43	(2.52) ^x
	-5143.9	(2.97) ^x	-213959	(9.63) ^x	428.11	(2.13) ^x	-839.17	(4.83) ^x

Omitted Categories: Number of parent-households: None; Health status of head: Excellent; Marital status of head: Currently married; Head's parent's net wealth: \$25,000-100,000; Head's father's education: 0-5 years; Distance to head's parents: More than 100 miles.

Other Notes: Absolute value of *t*-statistics in parentheses. Superscripts denote significance: *x* = 0.01 level, *y* = 0.05 level, *z* = 0.10 level.

TABLE 7

COEFFICIENT ESTIMATES ON THE INCOME VARIABLES IN THE TRANSFER REGRESSION EQUATIONS USING VARIOUS SPECIFICATION ($N=6,202$).

Explanatory Variable	Probit*				Tobit			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Panel A Dependent Variable: Money Received								
Earnings in 1987 (Y_{1987})	-0.0290 [*] (2.23)				-0.0145 [*] (1.85)			
Average earnings 1984-1987, (\bar{Y})		-0.0423 [*] (2.72)		-0.0424 [*] (2.72)		-0.0223 [*] (2.38)		-0.0225 [*] (2.39)
$Y_{1987} - \bar{Y}$			0.0041 (0.17)	0.0052 (0.20)			0.0049 (0.33)	0.0059 (0.38)
Panel B Dependent Variable: Money Given								
Earnings in 1987 (Y_{1987})	-0.0588 [*] (4.49)				-0.0404 [*] (4.67)			
Average earnings 1984-1987, (\bar{Y})		-0.0726 [*] (4.84)		-0.0733 [*] (4.86)		-0.0463 [*] (4.62)		-0.0467 [*] (4.62)
$Y_{1987} - \bar{Y}$			0.0183 (0.69)	0.0189 (0.77)			0.0263 (1.45)	0.0234 (1.42)
Panel C Dependent Variable: Time Received								
Earnings in 1987 (Y_{1987})	-0.0134 (1.09)				-0.0019 [*] (1.92)			
Average earnings 1984-1987, (\bar{Y})		-0.0204 (1.42)		-0.0205 (1.42)		-0.0025 [*] (2.11)		-0.0225 [*] (2.11)
$Y_{1987} - \bar{Y}$			0.0054 (0.23)	0.0058 (0.24)			-0.0004 (0.21)	-0.0004 (0.20)
Panel D Dependent Variable: Time Given								
Earnings in 1987 (Y_{1987})	-0.0410 [*] (3.49)				-0.0021 [*] (2.58)			
Average earnings 1984-1987, (\bar{Y})		-0.434 [*] (3.14)		-0.0433 [*] (3.16)		-0.0022 [*] (2.17)		-0.0022 [*] (2.18)
$Y_{1987} - \bar{Y}$			-0.0323 (1.51)	0.0346 (1.55)			-0.0021 (1.39)	-0.0023 (1.42)

Notes: Absolute value of *t*-statistic in parentheses. In addition to the explanatory variables listed in the table, each regression includes all the control variables listed in Table 7 except the income variables. Superscripts denote significance: $x = 0.01$ level, $y = 0.05$ level, $z = 0.10$ level. Earnings are those of the head.

*The coefficient estimates on the Probit models are multiplied by 10,000.

is strongly positive. Individuals earning \$48,000–60,000 are expected to receive \$250 while those earning more than \$84,000 are expected to receive \$470. Several studies have placed great importance on the sign of the effect of income on the amount of money received (Cox, 1987; Cox and Rank 1992; Altonji *et al.* 1996; Lee *et al.* 1994), yet most have only examined this relationship in its monotonic form. (The recent study by Altonji *et al.* (1996) is an exception.) Greater caution should be taken when inferring the motivation of transfers because the relationship between the recipient's income and monetary transfers is not monotonic.

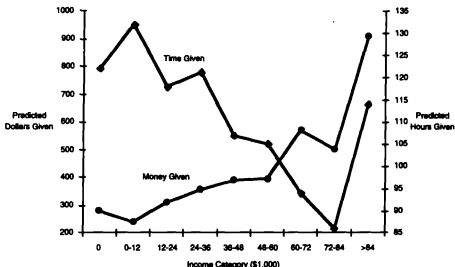


Figure 1. Predicted Amount of Money and Hours Given by Income

The earnings measure analyzed in the regressions is annual earnings of the head and spouse in the single year 1987. However, it may be that permanent earnings is the determining variable for transfers. For example, individuals may have assets that they can spend down when they experience periods of low earnings, which mitigates their need for assistance and in turn reduces the amount of help they actually receive. However, if they have low permanent earnings, they are perhaps less likely to have assets to smooth their consumption, placing them in greater need.²¹ To capture this notion, the Tobit and Probit regressions were re-estimated using the average annual earnings of the head over the past four years instead of annual earnings. The coefficient estimates on this variable are reported in Table 7. When included individually (columns 1 and 2), in each case the coefficient estimate of permanent earnings is larger (in absolute value) than the corresponding estimate of annual earnings. The largest difference is for the amount of money received (Panel A), where the point estimate of annual earnings

²¹Data on assets, which would allow us to examine this hypotheses more directly, are not available in 1988.

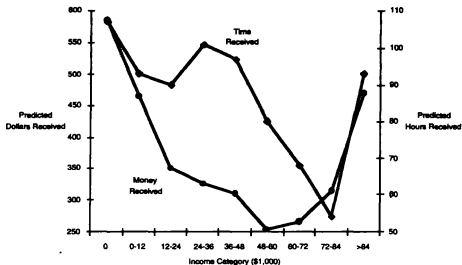


Figure 2. Predicted Amount of Money and Hours Received by Income

is two-thirds the size of the point estimate of permanent earnings.²² When permanent earnings and the deviation of current earnings from permanent earnings are included simultaneously, the coefficient estimates are virtually unchanged.

Another hypothesis is that transfers buffer income shocks, which would imply that a fluctuation in income may be more important than the level of income in determining transfer behavior. To test this theory, the difference between annual earnings of the head in 1987 and the average annual earnings of the head from 1984-87 is included as a regressor, with the coefficient estimates reported in Table 7 (column 3). None of the coefficient estimates are statistically significant, casting some doubt on the income smoothing hypothesis. However, being unemployed increases the amount of cash transfers received, which is consistent with income smoothing and liquidity constraints (Table 6).

We also test the hypothesis that a person's value of time is important in determining transfer behavior by examining the effects of the average hourly wage of the head.²³ The estimates of the effects of hourly wage on the amount of time given (not shown here) are small, implying that an increase in hourly wages by \$10 decreases the amount of time given by eight hours during the year. The multivariate analyses imply that an increase in education by three years increases the (latent) amount of money received by \$729 and increases the (latent) amount of money given by \$1,170.

²²Using the 1988 PSID, Altonji *et al.* (1996) estimate regressions of transfers from parents to adult children. Controlling for parental income, they find that a 10 percent increase in the permanent income of an adult child reduces the (latent) amount of transfers received by \$69. In column 2 of Table 6, the estimates imply that a 10 percent increase in permanent income of the recipient (about a \$2,340 increase), is associated with a \$52 reduction in the (latent) amount of transfers received. Thus, similar results are found in the two studies.

²³Twenty-two percent of the households have heads with non-positive hourly wages. No attempt is made to impute a positive time value for these individuals; their time value is assumed to be zero.

The family is not the only source of economic assistance; the state provides assistance to the unemployed, the retired, the disabled, and the poor. In the regressions reported here, income from AFDC, SSI, Veteran's Benefits, Unemployment Compensation, Worker's Compensation and Social Security are each analyzed.²⁴ The coefficient estimates suggest that a greater amount of each of the government transfers is associated with a reduction in the amount of private transfers received, both money and time. An exception is for the relationship between Veteran's Administration benefits and the amount of money received. However, the only coefficient that is precisely estimated is for AFDC in the regression for the amount of time help received. (Note that although the coefficient estimate on AFDC in the Tobit equation for money received is not precise, it is relatively large.) This may be because of distaste or stigma that family and friends place on welfare use; for example, the greater the extent to which a single mother uses AFDC, the more that her support network will isolate her as punishment for relying on welfare. It may also be the case that women who receive child care assistance from their family (i.e., time transfers) are more likely to hold a job and not receive welfare. The coefficient estimate suggests that a \$1,000 increase in AFDC benefits is associated with 42 fewer hours of (latent) time help received.

The size of the resource sharing network can have important implications for the amount of support given and received. Having more people to draw upon can lead to a greater amount of transfers received. However, the larger the network the more likely it is that there are others who are in need, which may lead to greater transfers given. As was seen in Table 3, the most important members of the resource sharing network are parents, children, and siblings. Furthermore, since parents are primarily providers of assistance, in some families siblings may be "competitors" in attracting resources from parents. Thus, the number of parents and the number of siblings are expected to have different effects.

The number of siblings is the total number of siblings of the head and the spouse who are alive, and its mean is 4.9 in the weighted sample. The number of parent-households is the total number of households containing parents and parents-in-law of the respondent.²⁵ The mean number of parent-households is 1.2 in the weighted sample. The estimates imply that the greater the number of parent-households, the greater the extent of resource sharing, both time and money, and both giving and receiving. Most of the increase in money help received associated with greater numbers of parent-households comes from having one parent-household. The (latent) amount of money received is \$2,339 greater if there exists one parent-household versus none. Having a second parent-household increases the amount of monetary transfers received by an additional \$800, and a third or fourth parent-household increases it by another \$600. Having one parent-household increases the (latent) amount of time help received by 150 hours, while

²⁴In addition to government transfers causing a reduction in the amount of private transfers received, private transfers may influence the amount of government transfers received. For the present analysis, the potential endogeneity of government transfers to private transfers is not addressed, though results from models which exclude government transfers as well as other potentially endogenous variables are discussed below. Schoeni (1995) investigates the endogeneity of government transfers in the context of AFDC, where it is found that AFDC does crowd out private transfers.

²⁵To reiterate, a respondent whose own parents are alive and married, and whose parents-in-law are alive and divorced, that respondent would have three parent-households.

adding a second increases the amount of help by an additional 150 hours. Having a third or fourth parent-household increases time help by just 60 hours.

Children who have a parent-household also give more money and time help. Having one parent-household increases the (latent) amount of dollars and hours given by 2,430 and 378, respectively. However, having second, third, or fourth parent-household does not substantially alter the amount of money or time assistance given, with the amount of money given actually falling for individuals with two parent-households relative to people with one parent-household.²⁶

Poor health directly affects the well-being of family members, and in response, the family may provide the person in poor health with assistance. In fact, the estimates imply that individuals who report themselves in poor health receive more time help and give less time help than those who are in excellent health. In addition, controlling for general health status, households in which the head is disabled receive 180 hours more time assistance than others.

The multivariate estimates imply that households in which there is a young child receive 294 more hours and \$679 more than others. In addition, controlling for annual earnings, female headed households receive \$1,366 and 219 hours more than male headed households. Households in which the head has never married receive less money and time help than households in which the head is currently married.

When adult children purchase goods such as cars and homes, parents often provide financial assistance to make the purchase. In the present analysis, a control variable for whether the respondent purchased a home in the past year is included. Just under four percent of the respondents did purchase a home between 1987 and 1988, and the purchase is correlated with an increase in assistance of both money and time. However, this effect should be interpreted with caution because the decision to purchase a home may be endogenous to private transfer assistance.

The number of family members living in the household is negatively related to the amount of money and time support given. This may happen for at least two reasons. First, the larger the number of people within the household the greater the need for resources, controlling for income. Secondly, controlling for the number of living siblings and parents, the greater the number of family members who live within the household, the fewer the number of relatives outside the household to whom transfers need be made.

A negative relationship is found between the age of the head of the household and transfers received. To more closely examine whether the relationship is monotonic, these regressions were re-estimated using indicators for each 5-year age group instead of the quadratic specification. Age is negatively related to transfers received, both money and time, up until ages 55-59 (Figures 3 and 4). The expected number of hours received falls from over 200 hours for people 25 and younger to just 50 hours for those 50-54. After age 55-59, transfers of time received then begin to increase steadily with age. Money transfers received follow a very similar pattern with age, with the amount received decreasing with age until ages 55-59,

²⁶However, it should be noted that there could be multiple parent-households because of in-laws or because the respondent's parents are divorced. These two cases may have distinct effects, and further analyses of this possibility has been conducted (Furstenberg, Hoffman, and Shrestha, 1995).

and then increasing modestly with age after that. Individuals who are less than 25 years old receive \$770, while those who are 55–59 receive \$230, and those who are 75–79 receive \$380. The relationship between age and the amount of transfers given is not as systematic. Time help given decreases slightly with age until about ages 50–54, then there is a positive jump in time given by people 55–65. The amount of money given increases with age until ages 65–69, though not monotonically, and it then drops.

Since the majority of transfers are between parents and their adult children, parental characteristics are good proxies for characteristics of the person with whom transfers are (potentially) made. The (latent) amount of money received is \$1,155 greater for children whose parent's net wealth is \$100,000–250,000 as opposed to \$25,000–100,000.²⁷ Households in which the head's parents "did not exist" gave a greater number of hours. This pattern may hold because if the head's parents do not exist (i.e., they are not alive), then the wife's parents may be more likely to be elderly and in greater need, and children respond by increasing the amount of assistance given to them.²⁸

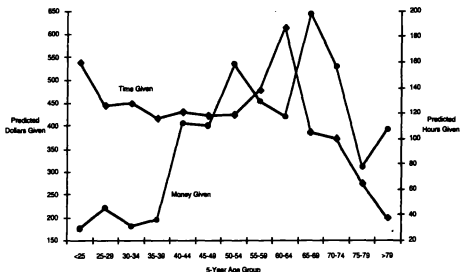


Figure 3. Predicted Amount of Money and Hours Given by Age

The distance between the parent's home and the respondent's home may affect money and time transfers in many different ways. The farther away parents live, the more costly it is for them to provide time assistance. Money transfers, however, are equally costly regardless of distance. Therefore, family members may substitute money for time assistance when they live farther apart. Conversely, the

²⁷The head's married parents' net wealth is used to control for donor's wealth. As mentioned in Section III, the head can have as many as four parent-households. The most common type of parent-household is the head's parents who are married, and this is why their wealth is used as the parental wealth control.

²⁸If the analysis is restricted to transfers with parents, then the coefficient estimates on the parental wealth variables are more precise, and the effects of own income are slightly larger. No other coefficient estimates change in a substantive way.

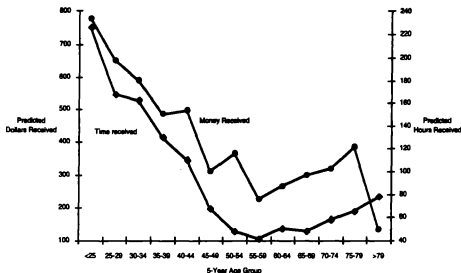


Figure 4. Predicted Amount of Money and Hours Received by Age

choice of location relative to parent's home may be endogenous to familial assistance; family members who choose to live close to each other may do so in order to draw more heavily on familial resource networks. Though endogeneity is not addressed in the estimation, the results are suggestive of some interesting patterns. The variable used is the distance to the head's parent's home as represented by four categories: lives less than 1 mile away, 1-10 miles away, 10-100 miles away, and more than 100 miles away, with the last category being the reference group. The estimates imply that children living closer to their parents receive less financial assistance but more time help, and they give more help to their parents. This result is consistent with the hypothesis that parents and adult children continue to share resources even when they live relatively far from each other. In order to cope with the physical distance, they substitute money assistance for time assistance.

As discussed above, government transfer income, the number of siblings, distance to the head's married parents' home, and whether a house was purchased in the past year are each potentially endogenous variables. Although identifying valid instruments for each of these variables is beyond the scope of this analysis, the regressions in Table 6 were re-estimated excluding these variables to determine the impact on the coefficient estimates of the remaining variables in the models. The coefficient estimates of these variables do not change in any substantive way when this is done.²⁹

²⁹An exception is the coefficient for whether the head's parents are alive and married. When the potentially endogenous variables are excluded one by one, it is determined that the elimination of the variables for distance to head's married parents' home causes the change. However, this change is expected. Without the control for distance, the effect of whether the head's parents are alive and married to each other is not conditioned on where the parents live. By controlling for distance, the effect becomes conditioned on a given distance to the head's married parents' home, and as a result the coefficient estimate changes.

VI. INTEGRATING THE FINDINGS AND DIRECTIONS FOR FURTHER STUDY

When addressing a problem, researchers often draw upon a group of empirical regularities. These regularities, or "stylized facts," guide the formation of questions and the design of analyses. One of the primary goals of this paper is to identify a group of stylized facts regarding private transfers. We conclude by summarizing these findings, emphasizing the contribution of the analyses presented here with the PSID.

Although there are some differences across data sets, it appears that private interhousehold transfers of money are received by 15–20 percent of households in a given year. If we would have relied on the inferior data from the NLS or the annual core survey of the PSID we would have concluded that only 4–7 percent of households received financial assistance. The amount received for people receiving cash transfers is about \$2,000 (in 1987 dollars), and the distribution is highly skewed. On average for the entire sample, cash transfers account for 1–3 percent of total household income and are 20–50 percent larger than bequests. The new evidence on time help from the PSID finds that it is received often, with 30 percent of the households receiving time help for an average of about 100 hours per year for the entire sample.³⁰ Other forms of support such as coresidence and in-kind transfers have not been addressed, but even ignoring these alternative forms of assistance, support networks across households appear to be pervasive, with almost 60 percent of all households either giving or receiving time or money assistance in the single year 1987. However, the PSID has also allowed us to determine that private transfers are made primarily within and not across a family lineage.

Most analyses of transfers have focused on the effects of income as a test of the altruism model. Evidence from previous studies has been mixed, with some finding positive effects (Cox, 1987; Cox and Rank, 1992; MacDonald, 1990) and others finding negative effects (Altonji *et al.*, 1996; McGarry and Schoeni, 1995; McGarry and Schoeni, 1997). We find that controlling for parental characteristics such as net wealth and education, annual earnings appear to be negatively related to monetary assistance received and time assistance given, while they are positively related to monetary transfers given. However, the relationship with the amount of money received is not monotonic. In sum, there is some evidence of altruistically motivated transfers, although the non-linear relationship and the small size of the income effect suggest that transfers are motivated by more than just altruism.

The analysis of the 1988 PSID also has shed light on several relationships that have not been previously explored. In particular, individuals reporting themselves in poor health (relative to those in excellent health) or with a disability receive greater amounts of time help. In addition, the (latent) amount of help received by female headed households is \$1,366 and 219 hours greater than the (latent) amount received by male headed households. Individuals who have a greater number of siblings receive fewer transfers, with each additional sibling reducing the (latent) amount of assistance received by \$142 and 18 hours. Having wealthier parents is associated with larger amounts of money received and smaller

³⁰An exception is for help in emergency situations, as reported by Morgan (1984).

amounts given. Finally, it has been shown that transfers of money and time received decrease with age until ages 55–59, then they begin to increase. However, the amounts of money and time received by individuals ages 20–29 are still more than twice the amounts received by people 70–79.

Ten to fifteen years ago there was very little reliable information on private transfers. Since that time new data sets and studies have significantly enhanced knowledge of private interhousehold transfers, as testified by the large number of patterns and results described in this study. However, we are still at the early stages of measuring and empirically analyzing private transfers. For example, a substantial amount of transfers occur *within* households and is not recorded in most surveys. In-kind transfers, such as meals, clothing, and other material goods are also likely to be important for some groups (Stack, 1974) and have not been systematically recorded in survey data. With the exception of two new longitudinal surveys that are now just providing second round data (the Health and Retirement Survey and the Asset and Health Dynamics Survey), there is not high quality panel data allowing analyses of the dynamic process of transfers. Moreover, transfers are usually reported by either the giver or the receiver—both parties are not interviewed—so the reports cannot be verified. (An exception is Altonji *et al.*'s (1996) use of the PSID who find some important inconsistencies.) As future analyses and data collection address these limitations, this relatively new field of study will be able to provide a more accurate and complete portrait of how families and friends assist one another.

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