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Transfer Behavior Within the Family: Results From the Asset and Health Dynamics Study

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When individuals fall on hard times, can they rely on their family for financial support? In view of proposed reductions in public assistance programs, it is important to understand the mechanisms through which families provide support for their members. In this article we provide evidence that intrafamily transfers are compensatory, directed disproportionately to less well-off members. In a given year, adult children in the lowest income category are 50 percent more likely to receive a financial transfer from their parents, and on average they receive over \$300 more than their siblings who are in the highest income category. The dataset used in the new Asset and Health Dynamics (AHEAD) study contains information on all children in the family; therefore, we are able to estimate models that control for unobserved differences across families. Our results are robust to these specifications. In addition, we do not find evidence that parents provide financial assistance to their children in exchange for caregiving.

ECONOMISTS have long been interested in the allocation of resources within families, and with the recent availability of data on this topic, researchers have begun to address the issue empirically. This article focuses on a particular type of reallocation — monetary transfers from parents to children. This behavior is important for several reasons. First, and most fundamentally, financial transfers provide a direct means through which parents can transmit their financial wealth to children. If transfers are significant economically, then an accurate measurement of the child's well-being ought to include the resources potentially available to the child. Second, the motivation behind private transfers has potential consequences for the effectiveness of government redistribution policies (Barro, 1974; Becker, 1974; Cox & Jakubson, 1995; Rosenzweig & Wolpin, 1994; Schoeni, 1994, 1995) and for the role transfers play in aggravating or alleviating financial inequality across generations (Becker & Tomes, 1979; Behrman, Pollak, & Taubman, 1990; Menchik, 1980, 1988; Tomes, 1981; Wilhelm, 1996). Finally, although we do not discuss it here, researchers have examined the links between intergenerational transfers and savings behavior (Kotlikoff, 1988; Modigliani, 1988), and between transfers and fertility decisions (Caldwell, 1976).

In this report we take advantage of a new dataset, used in the Asset and Health Dynamics (AHEAD) study, both to quantify transfers from elderly parents to their adult chil-

dren and to examine the possible motivation behind the transfers. In our discussion of the motivation for transfers we focus on the two most frequently cited models: (a) an altruism model wherein parents care about the well-being of their children, and (b) an exchange model in which parents "pay" for services provided by the child. In the altruism model, transfers to a child are a function of the child's well-being. Thus, as a child's income increases, other things being equal, the amount transferred to a child will decrease. In the pure version of the altruism model, if parents are transferring money to a child, and the child's income increases by one dollar while the parent's income decreases by one dollar, transfers will decrease by exactly one dollar (Atonji, Hayashi, & Kotlikoff, 1994; Becker, 1974; Cox & Rank, 1992). With an exchange model, the predicted response to a change in the child's income is ambiguous (Cox, 1987). As the child's income increases, the child demands a higher "price" from the parents for every hour that the parent "buys." The parent will therefore purchase fewer hours, but at this higher price per hour the total amount spent may increase or decrease. The direction of the change therefore depends on the elasticities of supply and demand for the child's services. Thus, although the altruism model predicts a negative relationship between the income of the recipient and the magnitude of the transfer, either a positive or a negative relationship is consistent with the exchange model.

As stated earlier, the distinction between the two models has important implications for the effectiveness of public transfer programs. For example, suppose a parent is behaving altruistically and is transferring resources to a child according to the child's need. If the child's income is then increased through other means, say through an expansion of a public assistance program, then the altruistic parent will respond to the increase in government assistance by reducing his or her own transfers to the child. Public assistance will have "crowded out" private support. Conversely, if transfers are exchange-based, an increase in government support need not reduce private transfers.

Evidence from empirical tests of the altruism and exchange models using inter vivos transfers has been mixed. Cox (1987) and Cox and Rank (1992) find that, controlling for other factors, children with higher incomes receive greater financial transfers from their relatives than do low-income children. This result is inconsistent with the predictions of the altruism model. However, more recent evidence based on richer data has found the reverse: Those with greater incomes receive lower financial transfers (Altonji et al., 1994; Dunn, 1994; McGarry & Schoeni, 1995). These results are consistent with both the altruism and the exchange models. However, in each of these studies the prediction of the pure altruism model that an increase of one dollar in the child's income and an equal decrease in the parent's income be met by a dollar decrease in transfers is consistently rejected.

This article provides additional empirical evidence on the relationship between the income of the (potential) recipients and on the likelihood and magnitude of cash transfers. Data are drawn from a survey of individuals aged 70 and over. Most of their children are, therefore, past the age at which gifts are most often given for reasons such as college education or a first home purchase. Furthermore, the respondents are at an age at which they may begin to demand services such as home health care from children. Therefore, we view this as an interesting group against which to test the alternative hypotheses. Furthermore, a number of unique features of AHEAD are not present in other data sets: We are able to examine transfers over a 10-year period (reported retrospectively), to investigate the relationship of current transfers with expected bequests and time-help, and to analyze the association between transfers and both the absolute and relative financial well-being of parents and children. This article begins with a description of these data. The section on empirical studies examines the correlation between transfers and the income of the child; the section begins by examining the bivariate relationship between transfers received by adult children and their income, both across families and within families. Building on this simple correlation, we then control for potentially confounding factors in a multivariate regression analysis; here we also examine differences in the relationship between income and transfers across and within families. The robustness of the estimated relationship is then tested in various ways. In the section on additional evidence we use additional information on assistance in the form of time help, expected future assistance, and expected inheritance to provide further evidence on the motives for transfers. The final section sum-

marizes our findings and offers suggestions for improving the AHEAD survey instrument.

The Asset and Health Dynamics Study

The Asset and Health Dynamics (AHEAD) study is a new panel survey of individuals born in 1923 or before, as well as their spouses or partners. When appropriately weighted, the sample is representative of the noninstitutionalized population in this age group. Our study is based on data available in an early release and contains a subset of 7,911 of the eventual 8,224 respondents. AHEAD contains comprehensive information on income, wealth, and health status of the respondents and, important for this study, a good deal of information on the children of the respondents. In addition to questions about the schooling, income, and family structure of each child's household, the family section of the survey contains questions on financial transfers to children. Past studies of transfers were often based on reliable information for only one of the two parties involved in the (potential) transfer. The problem with those studies was that omitted variables were potentially biasing the results (Cox, 1987).

Our analyses of transfers to adult children are based on responses to the question: "In the past 12 months, did you [or your (husband/wife/partner)] give financial help or gifts of \$500 or more to any child (or grandchild)?"

Subsequent questions allow reporting the amount of the transfer for up to five children. We note two particular features of the question. First, the question asks only for transfers of \$500 or more. Transfers of under \$500 could well be of substantial economic importance for low-income families. However, of perhaps greater concern than the sample selection problem is the issue of misreporting. McGarry and Schoeni (1995) demonstrate that the imposition of the \$500 cut-off induces rounding up: Rather than report no transfers, individuals who have given less than \$500 report transfers of exactly \$500. In the Health and Retirement Study (HRS), which has a similar \$500 cut-off, 17% of transfers were for exactly \$500. In the AHEAD study we find that 18% of transfers were for exactly \$500. Conversely, in the Panel Study of Income Dynamics (PSID), where the cut-off is \$100, only 3% of transfers of \$500 or more were exactly equal to \$500.

A second issue in the questioning is the use of the phrase "financial help or gifts." The inclusion of the word "gifts" is important to our analysis. The HRS asked only about financial "help." One might be concerned that the strong negative relationship between transfers and the income of the child found in the study of McGarry and Schoeni (1995) was an artifact of asking only for "help" to children; in fact, well-off children may receive transfers equal to those of less well-off children, but parents might consider these transfers to be "gifts" rather than assistance and might not report the transfer. While this does not appear to have been the case in HRS, the question in the AHEAD study includes both types of transfers, which eliminates this problem.

Transfers are often associated with life-course events such as graduation or the purchase of a first home (MacDonald, 1990). As a result, transfers in any one year may not be representative of transfers throughout one's life.

In the multivariate analyses, we control for such events when possible. As an alternative, we model the probability that the child received a large amount of assistance from his or her parents over the 10 years prior to the survey. Specifically, we analyze the answer to the question: "Please think about the past 10 years. Not counting any shared housing or shared food, have you [and your (husband/wife/partner)] given financial help or gifts including help with education, of \$5,000 or more to any child?" If the answer is yes, parents were asked to identify which children received such assistance.

For this study, we limit our attention to children who are 18 years old or older. In eliminating children under age 18 from the analysis, we exclude most transfers such as child support that are required by law, and that probably differ in their motivation from transfers to older children. A more important restriction is the exclusion of coresident children. We omit these observations because of data limitations. While shared food and housing certainly represent significant transfers, it is not obvious how to quantify those amounts. Even if we could impute a value, we do not know how much the coresident child contributes to the running of the household. The survey asks only, "Does (he/she) contribute financially to the running of the household?" No attempt is made to measure the amount of the contribution. Despite the importance of coresidence for those involved, for three reasons we do not expect our results to be altered significantly by this exclusion. First, the number of coresident parent-child pairs in our sample is small. Only 997 out of a total of 14,620 adult children live with their parents. Second, the incidence of observed financial transfers for the coresident and non-coresident children is similar. Twelve percent of those children with a shared living arrangement receive a transfer compared with 13.2% of those who do not live with their parents. The cash amounts given to coresident children are somewhat lower, perhaps in response to the implicit value of shared food and housing. The mean (over positive values) amounts given to coresident and non-coresident children are \$3,125 and \$4,234, respectively.

To check the robustness of our results, we examined the probability of receiving a transfer for all children, including coresident children, treating coresidence as a transfer from the parent to the child if the parent stated that the shared living arrangement was for the benefit of the child or for the benefit of them both. The findings from this test, which are discussed below, are similar to the results that exclude the coresident children.

Because the primary competing hypotheses are altruism and exchange, we look briefly for evidence of exchange in the section on additional evidence. AHEAD does not ask about phone calls or visits from children, but it does provide some measure of assistance with personal care needs. Respondents are asked whether or not they require help with a series of activities of daily living (ADLs) and instrumental activities of daily living (IADLs). For those who do receive help, the identification of the primary, and in the case of IADLs, the secondary helper is obtained, as well as information on hours of help provided, which is used in the analysis.

Empirical Results

In earlier work using the Health and Retirement Survey (HRS), substantial evidence was presented to show that recipients of transfers differed significantly from those who did not receive such assistance (McGarry & Schoeni, 1995). Most importantly for the present analyses, McGarry and Schoeni found that less well-off children were significantly more likely to receive a transfer, and they received larger amounts of cash assistance. The results based on the AHEAD data confirm these findings. In addition, models using an alternative measure of transfers (assistance in the past 10 years) and an alternative measure of income substantiate the results. Finally, the AHEAD data allowed us to analyze the relationship between the financial assistance given to children and the current and expected future time-help received by that child.

Comparison across families. — Table 1 presents the means of the variables used in our study for the child-based sample. Each eligible child is treated as an independent observation. Thus, a family with four non-coresident adult children would contribute four observations to the sample. The means are presented for the entire sample, as well as separately by whether or not the child received a financial transfer.

The variables are self-explanatory except for the indicators for the child's income. The AHEAD respondents were asked to report a categorical value for the child's income. While the first four income categories are straightforward (i.e., income less than \$20,000, \$20,000–\$30,000, \$30,000–\$50,000, and \$50,000 or more), the remaining three deserve some explanation. Each of these three categories spans a larger income range than the first four categories. These broad groups are obtained when respondents were capable, for example, of answering that their child's income was less than \$30,000 but did not know if that income was greater or less than \$20,000.

From a comparison of the two transfer groups we see a weak relationship between the probability of receiving a transfer and the child's income. Recipient children are more likely to have incomes below \$20,000 or between \$20,000 and \$30,000, but they are also significantly more likely to have incomes above \$50,000. A possible explanation for this last observation is that parents with higher income and wealth have children who earn more and can afford to give more to their children. This possibility will be explored below in the multivariate analyses.

Some parents do not know the amount of their child's income, even in these broad categories; as a result, the child's income is reported as missing. We would expect that children whose parents could give no information about their income are less inclined to interact with the parent and would be less likely to receive a transfer. This is, in fact, the case; those children who did not receive cash assistance were nearly three times as likely to have had their income not reported at all by their parents.

We also find that children who receive a transfer are on average younger, and are less likely to be married, to have children of their own, or to have completed 12 or fewer years of schooling; they are more likely to be White. The

Table 1. Comparison of Means in the AHEAD sample

	All Children <i>n</i> = 12947		Received Cash <i>n</i> = 1386		Did Not Receive Cash <i>n</i> = 11561	
	Mean	<i>SD</i>	Mean	<i>SD</i>	Mean	<i>SD</i>
Child's Characteristics:						
Total Income						
Less than \$20,000	0.115	0.290	0.126	0.312	0.114	0.287
\$20,000–30,000	0.117	0.291	0.155	0.340	0.112	0.285
\$30,000–50,000	0.229	0.382	0.225	0.392	0.230	0.380
\$50,000+	0.234	0.385	0.325	0.440	0.223	0.376
Less than \$30,000	0.021	0.130	0.019	0.128	0.021	0.131
\$30,000+	0.056	0.210	0.046	0.197	0.058	0.211
Less than \$50,000	0.039	0.176	0.030	0.160	0.040	0.178
Income missing	0.188	0.355	0.074	0.246	0.203	0.382
Age	47.13	8.106	45.72	7.817	47.32	8.126
Male	0.492	0.454	0.495	0.328	0.491	0.452
Own their own home	0.757	0.390	0.745	0.469	0.758	0.387
Currently married	0.746	0.395	0.709	0.409	0.751	0.391
Live within 10 miles	0.346	0.432	0.356	0.450	0.344	0.430
Completed schooling						
Less than high school	0.112	0.287	0.046	0.196	0.121	0.295
High school	0.396	0.444	0.268	0.416	0.413	0.445
13–15 years	0.179	0.348	0.228	0.394	0.173	0.342
16 years	0.188	0.355	0.258	0.411	0.178	0.346
More than 16 years	0.125	0.454	0.200	0.375	0.115	0.288
Working full time	0.691	0.420	0.737	0.413	0.695	0.421
Not working/missing	0.214	0.372	0.158	0.343	0.221	0.375
Has at least one child	0.835	0.337	0.809	0.369	0.838	0.333
Respondents' Characteristics						
Age of head	77.15	5.46	76.87	5.36	77.18	5.47
Race:						
White	0.825	0.345	0.939	0.225	0.810	0.355
Black	0.104	0.278	0.036	0.175	0.113	0.286
Other	0.071	0.233	0.025	0.148	0.077	0.241
Highest grade completed	10.48	3.53	12.77	2.92	10.19	3.51
Total household income	21799	25279	42620	52888	19105	18105
Wealth	171682	450874	370797	813148	145970	379093
Head or spouse not employed	0.938	0.219	0.925	0.248	0.939	0.216
Poor health	0.428	0.449	0.341	0.445	0.440	0.449
Married	0.439	0.451	0.531	0.469	0.427	0.447
Number of living parents	0.062	0.235	0.073	0.261	0.060	0.232
Number of living children	4.33	2.21	3.22	1.76	4.47	2.23

parents of children receiving assistance are better off in terms of income, wealth, and education, and the differences are large. The mean income of parents of children who receive transfers is \$42,620, compared to \$19,105 for parents of those not receiving transfers. The corresponding average values for wealth are \$370,797 and \$145,970. Parents of those children receiving transfers have an average of 2.5 additional years of schooling. Children who receive cash are about 25% less likely to have a parent in poor health than children who do not receive assistance. This result is consistent with the fact that the parents' own need for resources is greater when they have health problems.

Comparison within families. — Clearly, there is a difference between the children who receive transfers and those who do not. The theories of transfer behavior, however, are more concerned about transfer behavior within the family

than across the population. In Table 2, we begin to examine behavior within families. Families are grouped by the number of children they have, as shown at the head of each column. The final column reports the relevant figures for all families taken together. The first row of the table reports the number of observations for each family size, and the second row reports the proportion of those families who make a cash transfer to at least one child. Moving from left to right, no obvious pattern is evident in the proportion making at least one transfer. Overall, the share of parents giving transfers is 25%.

The subsequent rows focus only on those families in which at least one sibling is receiving a transfer. We ask whether all children in the family receive a transfer or whether parents differentiate and give to some children but not to others. The proportion of children receiving a transfer decreases as the number of children in the family increases. Among families with two children (in which at least one child receives a trans-

Table 2. Characteristics of Interhousehold Transfers by Number of Non-Coresident Children 18 or Older

	Number of Children						Total
	1	2	3	4	5	6+	
Number of families	1064	1373	954	554	342	495	4782
Proportion giving to children	0.24	0.28	0.24	0.25	0.25	0.16	0.25
Of those families giving to at least one child,							
Proportion of children receiving	1.00	0.73	0.61	0.43	0.41	0.33	0.68
Proportion giving the same to each child	1.00	0.33	0.29	0.13	0.14	0.12	0.25
Mean amount to each child	\$4,029	\$3,105	\$2,121	\$1,126	\$965	\$1,947	\$2,596
Of those children receiving, proportion receiving same amount	1.00	0.78	0.73	0.53	0.52	0.40	0.65

fer), on average 73% or 1.46 children are recipients. The proportion decreases as the number of children in the family increases. Over all family sizes, 68% of children in a transferring family themselves receive a transfer.

The next row examines whether or not children are treated equally. In only on third of all two-child families, in which a transfer is made, are children treated equally. Again, this proportion declines with family size so that among families with six or more children, only 12% treat all children equally. The sample average is 25%. These results change little if we consider transfers that are approximately equal.

In the following row, we note that the mean amount given per child also decreases with family size. The last row demonstrates that even among children who do receive a transfer, the amounts often differ. In two-child families in which both children receive a transfer, the transfers are equal in only 78% of the cases.

These results suggest strongly that transfers given to children within families vary across siblings. In order to test the implications of the altruism and exchange models, we now look at the correlation between the children's relative income and the relative magnitude of the transfers they receive. Within each family in the sample, we assign children one ranking based on their relative income, and a second ranking based on the relative magnitude of the transfer they received. For example, in a three-child family a child who has the largest income and the smallest transfer would receive an income ranking of 1 and a transfer ranking of 3. Over all families, the correlation between these two rankings is $-.150$ and is significantly different from zero at a 1% level, indicating that, on average, children with higher relative incomes receive lower transfers. If calculated separately, the correlations for two-, three-, and four-child families are $-.218$, $-.154$, and $-.141$, and all are significant at a 1% level.

By this measure, it appears that parents are indeed giving greater assistance to their least well-off children. However, this simple correlation does not control for other characteristics of the child, nor does it take advantage of the dollar value of the difference between amounts of transfers. In the following section we use a regression framework to investigate the absolute amounts of transfers and to control for confounding factors.

Regression estimates. — In addition to our main variable of interest, the child's income, our list of covariates in-

cludes the child's age, sex, and highest grade completed, whether or not he or she owns a home, is married, lives within 10 miles of the respondent, currently works, or has children. Transfers to grandchildren are included in the amount given to a child. Therefore, we expect that transfers to children with children of their own will be greater, simply because there are more potential recipients. Also included are characteristics of the respondent's household: the head's (male in a couple) race, because the sociological literature points to racial differences in family giving; the household's income, wealth, and marital status, to control for the ability of the respondent to make a transfer; whether anyone in the household is not working and thus may have time available to offer to the child; or whether anyone in the household is in only fair or poor health, requiring time-help themselves. We also include a variable for the number of the respondent's parents (and in-laws) who are alive, the hypothesis being that respondents may offer less help to children if they also have parents to assist, or that they may offer less assistance to their children if the grandparents are also transferring resources to their children. In addition, we include a variable for the number of potential child recipients (i.e., the number of non-coresident children age 18 and over). Additional siblings, like grandparents, provide competition for the parent's limited resources and, as shown in Table 2, may reduce the probability of a transfer.

Beginning with the question of whether or not a transfer was made, we estimate a logit model with the dependent variable equal to one if the child is reported to have received assistance, and zero otherwise. The results are very similar to McGarry and Schoeni (1995). Of special relevance, we find that children in lower income categories are significantly more likely to receive a transfer. The coefficients on categories representing income of less than \$30,000 are positive and significantly different from zero at a 1% level. The probability of receiving a transfer increases from 6% to 12% as one moves from the highest category (\$50,000 or more) to the lowest category (less than \$20,000).

Taken straightforwardly, the coefficient on the "Less than \$30,000" category should be a weighted average of the coefficients on the first two categories. However, as shown in the table of means, the fact that the parent could not provide a more detailed accounting of the child's income is itself conveying additional information. In earlier work we

found that if a parent were unable to report a child's income, the child was significantly less likely to receive a transfer; the amount of the transfer was also significantly less than if the parent could only approximate the income (McGarry & Schoeni, 1995). One explanation for this phenomenon is that those parents who have not taken an interest in the child's financial situation are less likely to be able to report their child's income. Under this scenario, a child in the "Less than \$30,000" range ought to have a probability of receiving a transfer that is somewhat lower than a weighted average of the \$0 to \$20,000 and the \$20,000 to \$30,000 estimates. This result is, in fact, what is found. In the extreme, children whose parents cannot provide any information (i.e., those for whom the child's income-missing dummy variable equals one) have the lowest probability of receiving a transfer.

Even after controlling for income, younger children are more likely to receive transfers. Children who live closer to their parents and who have children of their own are more likely to receive parental assistance. Children who own their own home are less likely to receive a transfer, as are children who are married.

Turning to the characteristics of the respondents, the probability of receiving transfers is lower if the family is Black, and it is higher if the parents are more educated and have greater income or wealth. As was the case in Table 2, in which the mean transfer was seen to decrease with the number of children in the family, the probability of a transfer decreases as the number of siblings of the potential recipient increases.

Both the altruism and exchange models predict a negative relationship between the potential recipient's income and the *probability* of receiving a transfer. However, with regard to the *amount* of transfers received, the altruism model predicts a negative relationship while either a positive or negative correlation is consistent with exchange. The last two sets of columns in Table 3 examine the relationship between the *amount* of the transfer and the observed characteristics of the (potential) donor and the (potential) recipient, first, using an ordinary least squares (OLS) specification, and second, using family fixed effects. The OLS estimates do not show a strong negative relationship, although there is evidence of a weak negative correlation. The lower two income categories have positive coefficients, indicating that children with incomes below \$30,000 receive larger transfers than the omitted category of children with incomes about \$50,000. However, the lowest category does not receive the largest amount, and only the coefficient on the \$20,000 to \$30,000 indicator is statistically significantly different from zero. Furthermore, the estimate of the coefficient on the \$30,000 to \$50,000 category is negative, indicating that those with incomes in this range receive less than their better-off siblings; however, this difference is not statistically significant. Children in the remaining categories — those reflecting the partially reported information — receive less generous transfers as a group, a finding that is consistent with the hypothesis that parents who cannot report a child's income have a more distant relationship with such children and therefore help them less. Transfers are the lowest in the completely missing category, averaging \$170 less than those

in the highest income category and \$368 less than those in the \$20,000 to \$30,000 range. However, other than the coefficient on the missing category, the coefficient estimates are not significantly different from zero.

The OLS coefficient estimates for the remaining variables are consistent with previous studies. Children who own a home, live near their parents, and have more than a high school degree receive statistically significantly larger transfers, while married children receive significantly less. Children whose parents are more educated or who are in the upper-income or wealth brackets also receive greater transfers, while those with a greater number of siblings receive less from their parents. The coefficients on the head's age (male in a couple) are difficult to interpret; parents who are older than 79 or younger than 70 give significantly more than parents in their 70s. Perhaps those over 80 are making transfers to their children in anticipation of their own death and to avoid payment of estate taxes by their children. On the other hand, those in poor health are no more or less likely to provide assistance to their children.

Transfers to children are truncated at zero dollars. Because of the truncation, we also consider a Tobit specification. The Tobit model requires that the error terms be normally distributed. We test for the normality of the distribution of the transfer amounts and for the distribution of the error terms from the OLS regression. In each case we reject normality at the 1% level. Furthermore, it is likely that the error terms are heteroskedastic. If heteroskedasticity does exist, then the estimates will be inconsistent (Maddala, 1983). Despite these concerns, we estimate a Tobit regression and compare the results with the OLS estimates. The income coefficients (not reported) exhibit an even stronger negative effect than is evident in the fixed effect model, discussed below. Less well-off children receive significantly greater transfers than their more well-off counterparts. Moving from the lowest income category (less than \$20,000) to the highest (greater than \$50,000) results in a decrease in expected transfer payments of \$343.

The relationship we focus on in this study is the decision of parents to provide greater assistance to one child relative to another. To address this question correctly, we need an unbiased estimate of the correlation between the child's income and the amount of the transfer. However, the ordinary least squares results presented above may be biased. It is likely that families have unobserved tastes for giving that affect the size of the transfers. If these unobserved variables are correlated with the explanatory variables currently included in the specification, then the coefficient estimates will be biased. For example, the amount of affection that parents have for their children may be positively correlated with the provision of assistance to their children and may be positively correlated with the amount that parents invested in their children's schooling and, therefore, with their children's current success in the labor market as measured by income. In this case, the estimate of the effect of a child's income on transfers they receive from their parents would be positively biased. To control for these unobservable family-level variables, we estimate a fixed effects version of the model. In doing so, variables that are constant within the family (i.e., those characteristics specific to the

Table 3. Logit, OLS, and Fixed-Effect Analysis of Financial Transfers to Children

	Logit		OLS		Fixed Effect	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Child's Characteristics:						
Total Income						
Less than \$20,000	0.716**	0.131	55.54	113.45	313.84**	75.90
\$20,000–30,000	0.584**	0.108	198.57*	100.67	279.87**	65.37
\$30,000–50,000	0.014	0.088	-64.07	80.56	141.38**	51.81
\$50,000+ (omitted)	—	—	—	—	—	—
Less than \$30,000	0.306	0.235	-96.36	188.9	245.10*	120.00
\$30,000+	-0.254*	0.150	-155.47	125.34	191.60*	84.86
Less than \$50,000	0.111	0.187	-56.51	145.23	289.76**	98.75
Income missing	-0.577**	0.123	-170.22*	88.02	94.95	78.00
Age						
Less than 40	0.112	0.077	88.69	66.23	13.42	40.01
40–55 (omitted)	—	—	—	—	—	—
Older than 55	-0.214*	0.103	-41.22	78.66	-38.23	53.01
Male						
Own their own home	-0.001	0.064	23.18	53.66	-31.04	30.99
Currently married	-0.144*	0.085	-265.56**	70.20	-39.62	41.76
Live within 10 miles	0.261**	0.066	105.07*	55.68	-21.46	34.97
Completed schooling						
Less than high school	0.085	0.148	83.07	90.43	-1.69	59.70
High school (omitted)	—	—	—	—	—	—
13–15 years	0.254**	0.088	-10.07	76.32	31.32	48.58
16 years	0.252**	0.091	168.67*	78.40	-45.47	52.81
More than 16 years	0.222*	0.103	425.75**	95.20	-50.06	65.12
Working full time	-0.095	0.109	-2.05	91.87	45.94	54.66
Not working/missing	-0.305*	0.125	36.50	100.65	-12.29	59.68
Has at least one child	0.367**	0.089	94.87	76.57	152.11**	45.95
Respondents' Characteristics						
Age						
Less than 70	0.027	0.106	254.60**	92.00	—	—
70–80 (omitted)	—	—	—	—	—	—
Older than 80	0.333**	0.079	306.78**	66.03	—	—
Race:						
White (omitted)	—	—	—	—	—	—
Black	-0.438**	0.138	-12.47	85.26	—	—
Other	-0.185	0.178	146.60	104.01	—	—
Highest grade completed	0.093**	0.011	40.48**	8.77	—	—
Income Quartile						
1st–lowest (omitted)	—	—	—	—	—	—
2nd	0.370**	0.145	-64.84	84.09	—	—
3rd	0.679**	0.131	-22.96	80.36	—	—
4th	1.383*	0.137	585.62**	96.14	—	—
Wealth Quartile						
1st–lowest (omitted)	—	—	—	—	—	—
2nd	0.102	0.126	-55.75	75.16	—	—
3rd	0.340**	0.123	-22.96	80.36	—	—
4th	0.800**	0.125	585.62**	96.14	—	—
Head or spouse not employed	-0.115	0.119	-483.19**	111.55	—	—
Head or spouse in poor health	-0.039	0.068	36.75	55.29	—	—
Married	-0.200**	0.071	-10.38	61.63	—	—
Number of living parents	-0.142	0.114	-325.82**	102.71	—	—
Number of living children	-0.255**	0.025	-46.22**	11.47	—	—
Constant	-3.533**	0.292	202.40	230.80	—	—
Number of Observations	12,947		12,947		12,245	

* $p = .10$; ** $p = .01$.

respondent) are not identified. Variables associated with characteristics of the children can, however, be identified because of differences across siblings.

The fixed-effect estimates produce a much more consistent story with regard to the relationship between a (potential) recipient's income and the magnitude of the transfer received (Table 3). Lower income children consistently receive greater transfers. Children in the lowest income category receive \$314 more than those in the highest. For comparison, the difference in the OLS estimation was only \$56.

There are other interesting differences between the OLS and the fixed-effect estimates. The positive effect of children's education is eliminated in the fixed-effect model, which is consistent with the hypothesis that parents who invest in their children's education, and as a result have more educated children, also give more assistance to their children when they are adults. In addition, the negative effect associated with parents' not reporting their children's income is eliminated once the family error component is absorbed.

As discussed above, we excluded children who lived with their parents because of the difficulty of valuing housing assistance. However, to examine the sensitivity of the results to this exclusion, we have reestimated the logit model, thereby including coresident children and assuming that children who both live with their parents and whose parents state that the living arrangement is for the benefit of the child or for the benefit of both the child and parent are receiving transfers. We find that the relationship to the children's income is qualitatively unchanged. (The income measure for coresident children is yearly earnings rather than total family income as for non-coresident children.) The coefficients (standard errors in parentheses) on each of the seven indicator variables representing the child's income are, in the order listed in Table 3: .511 (.116), .472 (.103), -.032 (.086), .212 (.230), -.251 (.149), .031 (.185), and -.409 (.106). These estimates are very similar to those estimated when the coresident children are eliminated, as presented in Table 3. Therefore, although it is worthwhile for future studies to model living arrangements or value the amount of assistance that is given in the form of shared housing, we suspect that the relationship between income and the probability of receiving financial assistance is not likely to be altered substantially.

As discussed above, the strict version of the altruism model implies that, over positive transfers, an increase in the child's income of one dollar and a decrease in the parents' income of one dollar should imply a decrease of one dollar in transfers; in the regression framework, this means that the coefficient on the parent's income minus the coefficient on the child's income must sum to one. The regressions presented here cannot be used as a test of this prediction because they are based on an entire sample and are not restricted to positive transfers. Furthermore, the income variables are categorical, making interpretation somewhat more difficult. However, in an OLS regression estimated over positive transfers (not reported), using midpoints of the income ranges, we do not find coefficients that sum accordingly. Although this finding is inconsistent with the strict altruism model, it is consistent with other empirical work (Altonji et al., 1994).

Alternative specifications. — The baseline results from the fixed effect model, our preferred specification, suggest that transfers are compensatory. To examine the robustness of these results, we estimate a series of alternative specifications. First, we estimate the model separately for families of different sizes; this approach allows the effects of all explanatory variables, including the child's income, to vary with the number of siblings, and it allows for differences in the error structure by family size. Next, we examine transfers over a longer period of time by using our measure of transfers given in the past 10 years, rather than those given in the single previous year. And finally, we consider the possibility that transfers are based on a relative measure of income rather than on absolute income levels.

Analyses by family size. — The preceding analyses combined families of various sizes. Now, we repeat our analysis stratifying the sample by the number of children in the family. Table 4 reports the coefficients on the child's income variables for the logit, OLS, and fixed-effect models, as reported in Table 3, as well as for a fixed-effect logit model (Chamberlain, 1980). Though not reported, this specification includes all covariates listed in Table 3.

The results are similar to those for the entire sample. The logit and fixed-effect logit show a strong relationship between the child's income and the probability of receiving a transfer. As was the case for the entire sample, in general, in each of the three subsamples used here the less well-off a child is, the more likely he or she is to receive assistance.

The OLS results in Table 3 show some evidence that larger transfers were given to less well-off children, but the pattern was not strong. When the sample is divided by the number of children, even this weak result disappears for some family sizes. The child's income category appears to have no effect. However, earlier we made the argument that unobserved differences across families may bias OLS estimates. Here we see an even larger difference between the OLS and fixed-effect results. While no relationship between a child's income and the amount of the transfer is apparent in the OLS specification for some family sizes, a consistently negative relationship is observed when the unobserved differences across families are controlled for. However, statistical significance is not always achieved.

Transfer over a longer time period. — The analyses of annual transfers address the question of whether parents make transfers to compensate for contemporaneous differences in their children's well-being. However, parents may also care about equalizing transfers to children in the long run. Although the single cross-section available in the AHEAD study (or any other data) cannot examine total lifetime transfers, AHEAD did ask retrospective questions about transfers given to children during the previous 10 years. We estimate a logit model for whether or not the child received such assistance. The results presented in Table 5 agree with the logit estimates for the probability of transferring \$500 or more in the past year. (We report only the coefficients and standard errors for the income of the child in Table 5.) Parents are more likely to

Table 4. Effects of Child's Income on Family Transfers by Family Size

	Logit		Fixed-Effect Logit		OLS		Fixed Effect	
	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE
Number of Children = 2 (<i>n</i> = 2602)								
Less than \$20,000	0.779**	(0.245)	2.26**	(0.73)	236.8	(342.6)	717.3*	(288.9)
\$20,000–30,000	0.334*	(0.209)	1.98**	(0.63)	88.47	(300.9)	721.0**	(249.3)
\$30,000–50,000	0.051	(0.163)	1.18**	(0.45)	110.4	(234.6)	414.8*	(195.8)
\$50,000+ (omitted)	—	—	—	—	—	—	—	—
0–\$30,000	0.045	(0.525)	2.09	(1.78)	–3.7	(645.0)	724.9	(514.8)
\$30,000+	–0.170	(0.265)	1.30*	(0.78)	–56.9	(354.4)	389.3	(301.3)
Less than \$50,000	–0.036	(0.347)	0.90	(1.24)	11.6	(421.8)	631.6*	(366.2)
Income missing	–0.611**	(0.223)	–0.13	(0.75)	–187.2	(255.0)	289.1	(287.2)
Number of Children = 3 (<i>n</i> = 2703)								
Less than \$20,000	0.753**	(0.271)	2.53**	(0.65)	–198.2	(194.8)	260.5	(202.5)
\$20,000–30,000	0.468*	(0.214)	2.10**	(0.51)	–244.1	(171.4)	208.1	(171.8)
\$30,000–50,000	–0.647**	(0.189)	–0.26	(0.41)	–505.6	(133.9)	153.1	(134.0)
\$50,000+ (omitted)	—	—	—	—	—	—	—	—
0–\$30,000	–0.942	(0.762)	–0.75	(1.32)	–508.3	(336.2)	45.1	(321.1)
\$30,000+	–0.355	(0.323)	1.66*	(0.80)	–514.0*	(214.4)	70.3	(224.7)
Less than \$50,000	0.344	(0.363)	1.09	(0.72)	–33.77	(258.8)	507.9*	(265.7)
Income missing	–0.865**	(0.254)	0.63	(0.62)	–452.4**	(146.9)	–134.3	(196.9)
Number of Children = 4 (<i>n</i> = 2140)								
Less than \$20,000	1.100**	(0.373)	1.547*	(0.645)	58.3	(163.3)	209.2	(187.4)
\$20,000–30,000	0.836**	(0.299)	0.937*	(0.485)	–22.6	(139.5)	159.1	(154.1)
\$30,000–50,000	0.358	(0.232)	0.289	(0.401)	–89.4	(110.0)	5.3	(117.4)
\$50,000+ (omitted)	—	—	—	—	—	—	—	—
0–\$30,000	0.816	(0.607)	0.950	(0.990)	–51.1	(247.9)	195.9	(273.3)
\$30,000+	0.107	(0.398)	1.369*	(0.691)	178.7	(171.5)	426.4*	(204.6)
Less than \$50,000	–0.143	(0.570)	1.221	(0.937)	–171.6	(195.2)	131.9	(226.7)
Income missing	–0.392	(0.367)	1.049	(0.816)	–172.0	(125.2)	41.8	(190.6)

Note: All covariates from Table 3 are also included in each model.

p* = .10; *p* = .01.

Table 5. Income Coefficients for Logit Estimation of Assistance Over the Past 10 Years

Income Category	Coefficient Estimate	Standard Error
Less than \$20,000	0.581**	0.138
\$20,000–30,000	0.387**	0.113
\$30,000–50,000	0.235**	0.085
\$50,000+ (omitted)	—	—
0–\$30,000	0.260	0.254
\$30,000+	–0.181	0.147
Less than \$50,000	0.005	0.202
Income missing	–0.286*	0.117

Notes: All covariates from Table 3 are also included in each model. The mean of the dependent variable is .1071.

p* = .10; *p* = .01.

have given assistance in the previous 10 years to their least well-off children.

Measurement of the economic status of children. — The income measures of the children are current annual measures. However, it may be that in making transfers, parents respond not to absolute levels of income, but to the incomes of children relative to themselves. In addition to reporting their child's income, the AHEAD respondents are asked

whether the child is better off, the same, or worse off than they themselves are. Moreover, this measure is likely to be a broader indicator of financial well-being than annual income because respondents are likely to factor in wealth status of children in determining their answer to this question.

In Table 6 we report the fixed-effect coefficients of the relative financial status variable instead of the child's income. Also included in the regressions, although not reported, are all other covariates included in the regressions in Table 3. The first set of columns replicates the original regression. The second set includes the relative financial status measure without the absolute income measure, while the last set includes both measures. We continue to find evidence of compensatory redistribution; parents are more likely to give assistance to their children who are worse off financially relative to themselves.

Additional Evidence on Transfer Motives

Although a negative correlation between financial transfers and the recipient's income is consistent with the altruism model, it is also consistent with exchange. As a result, we look for additional information that may reveal the underlying motivation for transfers. Specifically, we examine the relationship between time-help received from adult children and financial assistance given to them. The exchange

Table 6. Fixed Effect Coefficient Estimates for Income and Relative Income Measures

Income/Relative Income	Income Only		Relative Income		Both	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Income:						
Less than \$20,000	313.8**	(75.9)			173.5*	(83.9)
\$20,000–30,000	279.9**	(65.3)			198.9**	(69.3)
\$30,000–50,000	141.4**	(51.8)			106.9*	(52.8)
\$50,000+ (omitted)	—	—			—	—
0–\$30,000	245.1*	(120.0)			143.6	(123.3)
\$30,000+	191.6*	(84.9)			180.4*	(84.9)
Less than \$50,000	289.7**	(98.8)			224.2*	(100.6)
Income missing	95.0	(78.0)			58.3	(80.1)
Relative Income:						
Better than parents			–74.3	(45.4)	–41.7	(47.7)
Same as parents			—	—	—	—
Worse than parents			227.9**	(54.4)	206.1**	(55.9)
F-statistic	3.98		5.27		6.51	
Number of Observations	12,245		12,245		12,245	

Note: All covariates from Table 3 are also included in each model.

* $p = .10$; ** $p = .01$.

model implies that parents would give financial assistance to the children who are providing them with time-help.

To begin with, we look at the correlation between contemporaneous time-help provided by the children to their elderly parents and the amount of financial transfers the child receives. We measure the amount of time-help as the number of hours of assistance with ADLs and with IADLs provided by the child in the month preceding the survey. This amount was imputed on the basis of reports of the number of days that assistance was provided and the number of hours per day. The correlation between the amount of time-help to parents and the value of financial assistance is $-.007$ and is not significantly different from zero at conventional levels. Looking simply at the correlation between dummy variables indicating whether or not time or financial assistance was provided, we again find a negative relationship. Here the correlation coefficient is $-.025$, and it is significant at a 1% level. Thus, broadly speaking, children who provide assistance to an aging parent are less likely to receive a transfer.

An obvious explanation is that sickly parents who need help are likely to be poor and unable to provide contemporaneous financial reimbursement to their children. If we condition on the respondent having made a transfer to at least one child, thus suggesting that the parent can afford to make financial transfers, the correlation between the magnitudes remains negative and insignificantly different from zero. We do, however, find a positive relationship between the provision of assistance between parents and children in this case. The correlation is $.043$, and significant at a 1% level.

The exchange of money for time-help might not take place contemporaneously. One possibility is that current time-help is provided as compensation for past financial assistance. However, the correlation between whether or not a child is currently providing time-help to the parent and whether or not the child received financial assistance in the past 10 years is also negative, $-.026$, and is statistically sig-

nificantly different from zero. Interestingly, though, a positive correlation, $.055$, is found between the amount of cash transfers received by the child currently and a variable indicating whether or not the parent thinks the child will provide help at some future date. Thus, it may be that current financial transfers are investments that parents make with the hope that they will be paid off by the child taking care of the parent when his or her health deteriorates.

In a multivariate context, the lack of a relationship between current financial assistance by parents to children and current time-help from children to parents continues to hold true (this finding is not shown). When a dummy variable indicating whether or not the child provided time-help is included in the fixed-effects financial transfer equation, its coefficient is negative and insignificant. Similarly, a variable measuring the amount of time-help provided is also negative and insignificantly different from zero. The same results hold in an OLS regression. McGarry (in press) provides a more detailed analysis of these relationships, also using the AHEAD data.

Summary and Recommendations for Future Waves of AHEAD

The AHEAD study and its companion, the HRS, will without a doubt be used in many studies of aging as well as more general studies of economic behavior. The potential for studying intrafamily transfers with these studies is great. Over time, as additional observations on the same families become available, even more can be learned about the relationship between transfers and the incomes of the donor and recipient. There are, however, some improvements to the survey instrument that could be made in future waves.

Because the income of children is reported only as a bracketed amount, it often is not possible to unambiguously rank children in terms of their relative income within the family. We believe that by simply first asking respondents

to report a dollar figure for each child's income, a great deal of information could be gained without burdening the respondent with additional questions. If the respondent could not give an exact answer, the interviewer could then offer the brackets. Alternatively, after answering the current questions on children's income, respondents could be given another question attempting to elicit a ranking of children. For example, the question could read: "In most families some children do better than others in terms of financial success. Would you please rank your children's families in terms of their economic well-being, taking into account their income and assets?" This method would require an additional question, but the information collected would be well worth the investment.

The primary reason we restrict our examination to financial transfers flowing from parents to children is because surprisingly few respondents report that they received cash assistance from their children. It may be helpful at some point to conduct a special interview of the children of the AHEAD respondents to determine whether transfers reported by parents and children agree. Many of the questions in the HRS would be appropriate for such an interview, and the potential respondents could be identified easily by asking the AHEAD sample for names and addresses. If done on even a small scale, the information obtained would be valuable in analyzing the net flows of assistance (both financial and time) within the family.

In summary, this article offers evidence that inter vivos family transfers are compensatory; parents are more likely to make transfers and more likely to transfer larger amounts to their less well-off children. Contrary to earlier studies, our findings do not contradict an altruistic model of behavior based solely on the correlations between the size of the transfer and the income of the (potential) recipient. However, a more rigorous test, which examines the relationship between the coefficients on the income of the donor and recipients, rejects the altruism model. On further testing, the alternative model, that of exchange driven transfers, is also rejected. We do not find evidence that services to parents in the form of time-help are exchanged for financial transfers.

ACKNOWLEDGMENTS

We thank David Lam, two anonymous referees, and seminar participants at Boston College, the University of California–San Diego, the University of California–Santa Barbara, and the Maxwell School of Citizenship and Public Affairs at Syracuse University for comments. Professor McGarry gratefully acknowledges financial support from the Brookdale Foundation. Both authors received additional support from the National Institute on Aging.

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8

Patterns of In-Home Care Among Elderly Black and White Americans

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This study examines the use of informal and formal sources of care by elderly Black and White Americans (n = 2,847) who are functionally impaired and noninstitutionalized. The data are from the Asset and Health Dynamics Among the Oldest Old (AHEAD) study. Detailed baseline characteristics are provided and logistic regressions are used to assess the likelihood of (a) receiving in-home assistance from any source, (b) using any informal sources of in-home care, (c) using any formal sources, and (d) using formal sources of in-home care with informal sources of home care. Results of the logistic regressions indicate that, compared to Whites, Black elders were less likely to receive assistance and to use informal sources of home care.

MOST of the care given to community-dwelling elderly Black and White individuals is provided by lay or informal sources of support (Gibson & Jackson, 1988; Stone, Cafferata, & Sangl, 1987). Although formal sources of home care are used in conjunction with informal sources (Coward, Cutler, & Mullens, 1990; Short & Leon, 1990), relatively few Black and White elders rely solely on formal sources of in-home care (Kart, 1991; Soldo, Agree, & Wolf, 1989). However, home care studies of racial differences in the use of informal and formal sources of care report contradictory findings (Miner, 1995; Watson, 1990). Compared to elderly Whites, aged Blacks and other non-Whites have been reported as more likely to use formal home care services (Bass & Noelker, 1987; Rabiner, 1992; Soldo, 1985; Wolinsky & Johnson, 1991); other findings suggest the opposite pattern (Kemper, 1992; Mui & Burnette, 1994), while still others report no racial differences in home care patterns (Grabbe et al., 1995; Logan & Spitze, 1994; Miller, McFall, & Campbell, 1994).

This study describes baseline characteristics of functionally impaired, community-dwelling elderly Black and White individuals. It estimates the likelihood of receiving in-home assistance and using informal and formal sources of home care. The focus is on baseline characteristics because the data source, Asset and Health Dynamics Among the Oldest Old (AHEAD) study, is new and will eventually be longitudinal. The AHEAD study oversampled Black American elders and provides detailed information on a

variety of topics, including economic, health, and social resources of older individuals. Aspects of these areas have been shown by earlier research to affect care arrangements of older individuals. The AHEAD study adds to a growing bank of national data resources (Campbell & Alwin, 1996) for studying the relationship between home care patterns and individual and social structural factors.

Conceptual Model

The behavioral model of health services utilization (Andersen & Newman, 1973) is the most commonly used framework for understanding informal and formal home care use (Chappell, 1994). From this view, use is a function of a predisposition to use services, the ability to obtain care (enabling factors), and the need for care (see Wolinsky, 1990). Important predisposing, enabling, and need factors have been identified with the behavioral model (Soldo et al., 1989). However, race is typically used as a predisposing factor that directly affects informal and formal service use, with equivocal results. Our approach is slightly different. Race is conceptualized as a social status that shapes individual values, behavior, and the distribution of resources and rewards in society (House, 1981; Williams, 1990). Consequently, we assess the ways in which race may interact with individual and social structural factors to influence the receipt of help and the use of informal and formal sources of in-home care. Earlier research suggests that home care patterns are influenced by a complex interplay of individual