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# Intervivos Giving Over the Lifecycle

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Abstract

We use longitudinal data from the Health and Retirement Study on money parent give to adult children over sixteen years. We study the scale of giving, regularity over time, and factors shaping it. Parents give $5,000 to children with the one-third of parents who give, averaging $14,000 over two years. There is persistence in giving declining with age and resulting in total gifts of $50,000 from age 53 to death excluding bequests. Single parents who expect a long life span and are risk averse give less money to children; consistent with a lifecycle model of consumption including transfers.

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## 1. Introduction

Inter-vivos cash transfers between family members total hundreds of billions of dollars each year. These transfers may take several forms: Adult children may give money to aging parents. Siblings may exchange money with other family members. The majority of money, however, flows from parents to children. Cash transfers from parents may finance higher education, for example, or the purchase of a house, enhancing the well being of their adult offspring. Parental transfers, as insurance against unexpected economic shocks to a child such as job loss can mitigate their negative consequences. That is, the purpose for the transfer as well as its magnitude will affect how we measure and conceive of economic vulnerability. Parents may benefit as well, if monetary gifts to children are reciprocated by care giving.

Beyond any effects within families, cash transfers from parents to adult children may contribute to the transmission of socio-economic inequalities more broadly over time. If some families give their adult children considerable financial resources, while middle class and poor households are unable to do so, this may extend wealth inequality across generations.

The amount and timing of gifts of this type may have specific policy implications as well. For example, when children provide care in exchange for cash transfers as a parent ages, this has an impact on the demand for long-term care. How Social Security policy affects the well being of individuals will depend on the motivation for cash transfers between generations. If generations are strongly linked, reducing benefits in response to the financial problems facing Social Security and Medicare will have a less severe impact on the beneficiaries: in response to a decrease in benefits, the elderly may simply reduce their transfers to children maintain consumption or may begin receiving money from children.

Yet as important as intergenerational cash transfers are in all of these ways, our understanding of them is limited. This is at least in part because prior research on the topic has relied largely on cross-sectional data, failing to fully exploit longitudinal data that would permit analysis of inter-vivos cash transfers over the life cycle. Cross-sectional data do not address, for example, the magnitude of money given to children over the parent's lifetime because, lifetime levels will depend on the regularity of the transfer. Cross-sectional data cannot shed light on why some parents give money to children but others do not - the heterogeneity of giving across families– because viewing transfers at a point in time does not provide information about the extent to which parents' gifts to children average out over many years across families. Longitudinal data can be used to shed light on these issues and econometric methods may be employed to remove potential biases in estimates of the factors that shape this behavior.

To improve our understanding of this phenomenon, we use longitudinal data on inter-vivos transfers of money from middle aged and older parents to adult children from the Health and Retirement Study. These data span over three decades of time—which is often a large part of the remaining life span of the parents making such gifts to their children. We contribute to the literature a study of the scale of giving, how regular it is over time, and the factors that shape it. The factors we study are motivated and guided by a lifecycle model extended to include inter-vivos transfers. A life-cycle model with inter-vivos transfers as an argument in the utility function generates hypotheses about the age pattern of transfers and how mortality risk, risk aversion and economic resources affect giving behavior in a dynamic setting.

Results show that there is substantial inequality across households in transfers to adult children. Just over one-third of households give money to children each survey wave. Conditional on giving, the average amount is $14,000. Because less than half of households are giving at a given point in time, the median transfer amount is zero. But at the 95$^{th}$ percentile, parents are giving $24,000. In terms of the regularity of transfers, over a period of 16 years, most parents gave at some time to their adult children (75 percent), some not at all (21 percent), and only a few *always* give to children (4 percent). Monetary transfers to children are correlated across time; giving in the past is associated with an increase in the likelihood of giving in the future. This heterogeneity in transfers is important for how we conceive of lifetime intervivos transfers. We calculate that the total average amount of money parents give to children over their remaining years of life beginning at age 53 is around $50,000.

Our results indicate that a single parent's age, mortality risk, level of aversion to risk, and economic resources—both wealth and income—are important factors governing giving behavior of single parents as is consistent with the predictions of a lifecycle model of giving. For couples, economic resources are important but there is not the expected association with mortality risk and risk aversion. This implies that a lifecycle of model describes financial giving to children but incompletely. There remains a large role for household-specific heterogeneity in explaining the giving behavior of parents.

Lastly, we find that parents' transfers respond to the onset of a disability or acute condition with an increase in the likelihood of giving money. One interpretation is that disability onset may elicit services from children and parents respond by giving money to them although empirical evidence of this is scant. Alternatively, it may be an indicator of an unexpected decrease in expected lifespan so parents respond by increasing transfers to children.

The remainder of the paper is structured as follows. Section 2 discusses giving to children within a lifecycle model framework and discusses the predictions of the model. The next section describes the scale of giving at a point in time and over much of the remaining life of parents. Section 4 estimates an empirical model of transfers using the longitudinal nature of the data to account for unobserved heterogeneity and examines if giving behavior is consistent with the predictions of a life-cycle model. The final section summarizes our main conclusions.

## 2. Background

Economic theory provides several reasons why parents transfer financial resources to children. Altruistic parents transfer resources to children within their lifetimes or posthumously because they care about their children's welfare (Barro, 1974; Becker, 1974, 1981). With an exchange motive, children provide care to elderly parents in exchange for money from them or in anticipation of future bequests (Cox, 1987; Bernheim, Shleifer and Summers, 1985). Altruistic giving implies transfers will tend to go to those children than most need them while giving under an exchange motive implies that inter-vivos transfers or bequests will tend to go to those children who provided the most net transfers to their parents.

Empirical research that has found compensatory behavior, for example, an increase in transfers in response to a decline in income, finds effects that are far smaller than what a purely altruistic compensatory theory would predict (Altonji et al., 1997). In contrast a positive association between a child's economic circumstances and the amount of money she receive has been found in other studies (Cox, 1987 and Cox and Rank 1992) and is more consistent with the exchange model. In such a model, the effect of a recipient's income is ambiguous because it depends on the elasticity of supply of and demand for the recipient's services (Cox, 1987).[1] Light and McGarry (2004) take a different approach to understanding transfer motives by exploring data from the few respondents (less than 10 percent) that intend to give unequal

[1] For example, a parent may be able to, as it were, buy more of a lower-income child's time, yet because the price is lower, spend less in total.

bequests and report explanations consistent with both altruism and exchange. The persistent empirical finding of equal division of bequests among children is difficult to reconcile with either altruism or exchange (Hurd and Smith, 2002; Menchik, 1980; McGarry, 1999). The empirical literature has been silent on how transfers from parents to children evolve over time due in large part to data limitations discussed in the introduction.

In this paper, we motivate our empirical work with a life-cycle model of consumption of retired singles by Yaari (1965) and extend it to include inter-vivos transfers.[2] The model does not a prior assume a specific motivation for transfers and in fact accommodates several reasons for transfers. Transfers may be an implicit purchase of services such as attention from a child. As such, they are like expenditures on any consumption item except that they can only be purchased from specific people and the purchase price will depend on the characteristics of those people. They may take place to augment lifetime resources of a child or simply for the pleasure of giving. In the case of a single, retired person, (s)he maximizes expected lifetime utility where utility depends on the flow of consumption and transfers:

$$\max \int_0^N u(c_t, g_t) e^{\rho t} a_t dt \qquad (1)$$

Subject to: $$\frac{dw_t}{dt} = rw_t - c_t - p_t g_t + A_t; \quad w_t \geq 0 \qquad (2)$$

$w_t$ = wealth; $c_t$ = consumption; $g_t$ = transfers; all at time t

$\rho$ = subjective time rate of discount; N= fixed age of death; r = fixed real interest rate

[2] See also Modigliani, 1988 for life-cycle models of consumption and wealth and Hurd (1995) for a model of couples.

u(, ) = utility flow from consumption and transfers; $p_t$ = price of transfers (we assume it equal to one); $a_t$ = probability of survival to t; $A_t$ = annuities at t

The first order conditions involve the equality of the marginal utility of consumption and the marginal utility of inter-vivos transfers and can be solved for the equations of motion of the marginal utilities of consumption and transfers, that, with p=1 have the same form:

$$\frac{du_t}{dt} = u_t(h_t + \rho - r) \tag{3}$$

$u_t$ = marginal utility of consumption at time t; $h_t = m_t / a_t$ = mortality risk

In this model, inter-vivos transfers are simply another consumption item. We assume that once a transfer is made it cannot be called back as it has been 'spent.' Therefore, risk-averse parents will not transfer all they might eventually like to give; rather some transfers will be delayed until they become bequests.[3] We also assume that the marginal utility associated with a transfer in not changing over time. This assumption may be most applicable for older children whose socio-economic status is stable relative to younger children.

In terms of the model's predictions for age patterns of transfers, if the subjective time rate of discount is greater than the real interest rate then consumption and transfers will always

[3] There is empirical support for this assumption. Few children give money to parents and the amount they give is low (Zissimopoulos, 2002). If money is given to children with the expectation that a parent will co-reside with the child later in life, this assumption is violated. Using the HRS to examine co-residency, we find about 20% of parents co-reside with a child in any given wave. Using data on who the move helped, we find that 60% said the move was to help the parent (33% to help both, 7% to help the child). Overall only 12% of parents co-reside with children primarily for their benefit.

decline (that is $du_t/d_t > 0$ and $dg_t/d_t < 0$) under the usual assumption about the concavity of u(.,.) with u"<0). If the subjective time rate of discount is less than the real interest rate, then when $h_t$ (mortality risk) is small, as is true at young ages transfers and consumption may initially rise but at older ages, mortality risk ($h_t$) rises approximately exponentially so at some age consumptions and transfers begin to decline.[4]

The model also predicts that if economic resources increase, positive transfers will increase, and may become positive if previously zero. More specifically, for someone with few resources, and, therefore, a low level of total spending, all spending will be on consumption and none on transfers because the marginal utility of consumption will be greater than the marginal utility of transfers, even at zero transfers. As resources increase and consumption increases, the marginal utility of consumption will fall until at some value of consumption, the marginal utility of consumption equals the marginal utility of transfers evaluated at zero transfers.

Further increases in resources will cause transfers to become positive. The elasticity of transfers with respect to increases in resources will depend on the relative slopes of the marginal utility curves. Should the slope of the transfer curve be substantially greater (in absolute value) than the slope of the consumption curve, most of the increase in resources would be spent on consumption. In addition, an increase in mortality risk will cause transfers to increase because an increase in mortality risk acts like an increase in the discount rate. Finally, highly risk-averse individuals will choose a flat path of transfers and consumption, causing transfers and consumption to be reduced and wealth to be higher.

In this paper, we examine whether the data on transfers from parents to children is consistent with these four predictions of how transfers respond to a parent's age, resources,

[4] E.g if $r= 0.03$, $\rho=0$ consumption will fall at age 66 for males and 74 for females (Hurd, 1992).

mortality risk and level of risk aversion.[5] The predictions are generated from a model of singles. A model for couples is similar in form to singles. However, couples have a utility function defined over consumption while both spouses are alive, and they get utility from the bequests they would get if his/her spouse died (Hurd, 1995). This implies that with the usual assumption of concavity of utility, the consumption and transfer paths flatten and could even rise with age (see Hurd, 1995, for the model and its solution).

**3. Data Description**

Our research for the U.S. relies on longitudinal data from the Health and Retirement Study (HRS), a set of biennial surveys first fielded in 1992 and 1993 by the University of Michigan with the objective to monitor economic transitions in work, income, and wealth, as well as changes in many dimensions of health status among those over fifty years old.[6] We use

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[5] The model is easily extended further to include bequests. A strong bequest motive will flatten the transfer and consumption trajectories, causing a reduction in transfers and consumption. More wealth will be held with the result that expected bequests will increase; that is, resources will be shifted from transfers to bequests. Actual bequests depend on longevity, and for an unexpectedly long life, the reduction in transfers will not increase bequests.

[6] The initial survey began as a national sample of about 7,600 households (12,654 individuals) with at least one person in the birth cohorts of 1931 through 1941 (about fifty-one to sixty-one years old at the wave one interview in 1992). The second, the Assets and Health Dynamics of the Oldest Old (AHEAD), began in 1993 and included 6,052 households (8,222 individuals) with at least one person born in 1923 or earlier (seventy years old or older in 1993). In 1998, HRS was augmented with baseline interviews from at least one household member from the birth

eight waves of survey data extremely rich in content and including the following measures central to our research: inter-vivos transfers, household wealth and income, subjective survival, risk aversion, health measures. The surveys provide other information pertinent for this study: demographic and socio economic data on respondents and their family members.

Our measures of inter-vivos transfers are based on questions to respondents about financial help provided to children in the basic form "*Including help with education but not shared housing or shared food (or any deed to a house), in the last two years did you or your spouse give financial help totaling $500 or more to any of your children (or grandchildren)?*" If yes, there are subsequent follow-on questions about the amount of money and to whom the money was given. In the 1992 and 1994 survey waves of the original HRS respondents, the transfer questions varied slightly from the more recent waves. In 1992 financial help of $500 or more over *one* year is asked about and in 1994, the threshold was $100. To make transfers over waves comparable, we assume that two-year transfer amounts are two times the annual giving amount in 1992 and censor to zero amounts less than $500 for survey year 1994. For the 1931 to 1941 birth cohort entering the survey in 1992, we use a total of 8 waves of data spanning 16 years of transfers. For the birth cohort 1923 or earlier, that entered the survey in 1993, we use 7 waves of data covering 14 years of transfers. We use five survey waves, from 1998 to 2006, or ten years of comparable data on transfers for *all birth cohorts* 1947 and earlier. The birth cohort 1948 to 1953 entered the survey in 2004 thus only two waves of data are used in the analysis.

**Sample.** Pooling data from all waves on all households with children provides us with 88,483 household observations where at least one individual of the household is age-eligible.

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cohort 1924-1930 and 1942-1947 and was representative of all birth cohorts born in 1947 or earlier. In 2004, the HRS was augmented with interviews from the birth cohort 1948-1953.

Table 1 shows a few select characteristics of the sample by birth cohort. Birth cohorts vary by mean and median income, with more recent cohorts having much higher incomes (CPI adjusted) due to income growth over time. Since income variation with age has mostly peaked by these ages, cohort differences are the main source of income variation Differences in income across these cohorts are much larger than differences in wealth as wealth continues to grow with age much more than income does. Birth cohort 1924-1930 has the most children (3.65) and the youngest birth cohort has the fewest (2.97). These data suggest that age patterns of financial transfers from parents to children will likely have cohort effects due to differences in wealth, income and fertility across cohorts and thus longitudinal data is necessary for describing age patterns of transfers.

**Financial Cash Transfers**. Table 2 shows the distribution of the amount of money given to children over a two-year time period and the probability an amount of $500 or more is given to children by cohort and for all households. The top panel represents financial cash transfers to children for all households with children and the bottom panel shows the distribution of financial cash transfers for those household that gave $500 or more to children over a two year period. Over one-third of households made a cash transfers to their children (36 percent) over a two-year period. Average two-year cash transfers to children are $5,124. The dispersion of cash transfers to children is large: while the median transfer is zero and the 75$^{th}$ percentile is $2,474; the 95$^{th}$ percentile is $24,000 and the 99$^{th}$ is $70,244. Thus, while the average annual amount a child receives (average number of children in 3.3) is small, approximately $800, the children of parents at the high end of the distribution are receiving substantial amounts.

The latest birth cohorts are the most likely to give and give the most to children at all points in the distribution. The latest birth cohorts are also younger and wealthier than earlier birth cohorts and a life-cycle model of transfers predicts these factors lead to higher transfer amounts. As a percentage of household income, however, the later birth cohorts give a smaller percentage of their income to children than the earlier birth cohorts. Annual cash transfers (two-year transfers divided by two) are approximately eight percent of a household's annual income ($32,988) for the birth cohort born 1923 or earlier, but are only about 3 percent of a household's annual income ($103,967) for birth cohort 1942-1947. Cohort differences in amount of money as a percentage of parent's income likely reflect differences in the need of the cohort's children.

The bottom panel of Table 2 shows the distribution of cash transfers among the sample of household that give at least $500 to children over a two-year period. Conditional on giving, the dispersion of transfers remains large with mean transfers of $14,051 and median transfers of $4,947 for a ratio of mean to median transfers of 2.8. This dispersion is greater for older respondents than younger respondents. For the birth cohort 1923 or earlier, the ratio of mean transfers to median transfers is 3.8 and for the birth cohort 1948-1953, the same ratio is 2.5. Indeed, the ratio is higher for transfers compared to wealth (ratio=2.6) and income (ratio=1.7). The dispersion in transfers is larger than the dispersion in wealth because of the heterogeneity in giving behavior: some families give money to children and give a large amount and many families give nothing.

**Age Pattern of Transfers.** A basic prediction of the life-cycle model described above is that at sufficiently advanced ages total consumption and total financial transfers will decline with age. These data offer an unexplored and powerful method for testing this fundamental implication of the theory because of the panel nature of the survey with many observations of monetary transfers made at older ages. We first show simple tabulations of transfers by age and then explore age effects predicted by the life-cycle model in a multivariate framework.

Table 3 shows the probability a parent makes cash transfers and the amount of money given to children by age of the parent. For married couples, the age of one of the partners is randomly selected. The probability a parent makes a cash transfer to any child declines with age, for both singles and married couples. At all ages, married couples are more likely to make a transfer than singles. This is expected given that on average, married couples are wealthier than singles. At ages 55 or younger, 49 percent of parents give children cash transfers. In contrast, only 20 percent of parents ages 86 and older give cash transfers to their children. The amount of money parents give children is highly non–linear in age. These patterns may be in part picking up some of the cohort differences we saw in Table 1 as well as the fact that children are becoming increasingly more independent of their parents over time.

We illustrate the probability of cash transfers by cohort in Figure 1. By cohort, the probability parents make cash transfers to children declines with age without much of a discernable cohort effect. At ages 60 and younger, the younger birth cohorts are more likely to give than the older birth cohorts but at older ages, the likelihood of giving is similar across birth cohorts.

**Lifetime Transfer Amounts.** To understand total giving to adult children over a lifetime, we ideally would like to follow parents from a given age (e.g. 50) as they transition to single status with the death of a spouse and to their death and calculate money given to children at each age and sum it over the rest of their lifetime. We have sixteen years of data and birth cohorts than span all ages thus we take advantage of the long panel on transfer amounts and age expectations of death from the life tables to calculate 'rest of life' transfers to adult children. Given the differences in the amount of giving by cohort and marital status and general declines in giving with age, we estimate a linear model of transfer amount (CPI adjusted, $2006) as a function of age, age-squared, birth cohort group (four) indicators and gender separately by marital status and use the estimates to predict transfer amounts at each age 53 and older, for married couples and male singles and female singles separately (single are assumed not to remarry). With the predictions, we calculate the value of discounted, expected lifetime transfers for each cohort.

Life tables are used to calculate these transfers at each age given age and sex specific mortality risks.[7] For example, at each age a married couples' expected transfers are a function of the probability both survive, the husband dies only or the wife dies only. We use a discount rate of 3 percent. Finally, transfers are summed across all ages, separately for each of the four birth cohort groups to arrive at an estimate of lifetime transfers. These are weighted by the percent of households married and percent of households with children in 2006 for a population representative estimate. We calculate that the average lifetime transfers by birth cohort are as follows: $53,903 for the birth cohort 1923 and earlier; $54,732 for the birth cohort 1924-1930; $45,601 for the birth cohort 1931-1941; $50,159 for the birth cohort 1942-1947 and $50,465 for the birth cohort 1948-1953.[8]

To get a sense of how large total transfers to children are including bequests we use data from Hurd and Smith (2002) on expected bequests and wealth for the 1923 and earlier birth cohorts and perform some 'back-of-the-envelope' calculations for this cohort. Hurd and Smith report average estimated bequests are $129,600 for the 1923 and earlier birth cohorts and discounted 20 years is $71,756.[9] Our estimate of this cohort's expected, discounted intervivos

[7] Lifetables from http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56_09.pdf

[8] Lifetime transfers for Early Boomers are calculated based on observed transfers over 4 years.

[9] See Hurd and Smith (2002) for calculations of expected bequests. We use discount rate 0.03.

transfers over twenty years, from ages 75-95, is $17,346. Thus intervivos and bequests ($89,102 total) are about 30 percent of wealth at age 75 ($303,600).

**Persistence of Cash Transfers.** To the extent that inter-vivos transfers respond principally to transitory shocks (e.g. unemployment) or expected or unexpected changes in circumstances (e.g. going to college), they may appear to be quite episodic with some state dependence. Cross-sectional data on such transfers cannot tell us about the persistence of transfers. That is, some families may be more connected than others and parents of these families may transfer to children regularly over time. Others may give money to children episodically. To conduct an analysis of persistence, we restrict the sample by cohort to households that are present in all possible waves. Thus the analysis is representative of this particular sub-sample, which is on average healthier and wealthier than the full sample.

There is a lot of heterogeneity in the regularity of transfers to children across households and cohorts (Table 4). Among respondents in the 1923 and earlier birth cohorts, 35 percent did not give transfers in any wave and only 2 percent gave in all seven waves demonstrating more persistence in not giving than in giving.

The younger cohorts compared to the older cohort tend to give more equally over time. For example, for the 1942 to 1947 birth cohort the percent giving in any number of waves is almost equal with only about 7 percent less giving in all waves compared to never giving (19 percent and 12 percent respectively). The 1948 to 1953 birth cohorts are striking with 35 percent never giving and 35 percent giving in both waves. This difference in giving over time by cohort may suggest that we need to look at difference in the children of these cohorts to understand giving behavior of parents. For example, if parents in the youngest birth cohorts are giving to help with a down payment for a house, we may expect this pattern as multiple 'young' children age through the purchase of their first home. The children of the older cohorts may have less age-related expected need but parents may give in response to unexpected events.

To further explore and describe the heterogeneity of giving over time, we estimate models of the probability of transfers in one wave as a function of all lead and lags of cash transfers by cohort. For the 1931-1941 and 1923 and earlier birth cohorts entering in 1992 and 1992 respectively, we estimate the probability of giving in year 2000 as a function of giving in all lead and lag years. For the 1942 to 1947 and 1924 to 1930 birth cohorts entering in 1998, we estimate the probability of transfers in year 2002 as a function of whether the household gave a financial transfer in 1998 and/or 2004 and 2006. With only two waves of data for the 1948-1953 birth cohort, we do not estimate the probability of giving.

Figure 2 shows thirty-seven percent of households in the 1931 – 1941 birth cohort give to children in 2000. The probability of giving in 2000 conditional on not giving in any other wave is 0.09. On the other hand, if a household gave in 1998, the probability the household gives in 2000 is 0.30. Going back another wave, giving in 1996 and in no other wave implies a 0.17 probability of giving in 2000 and is substantially lower than if the household gave in 1998. The further in time from year 2000, the lower is the probability of giving in that year. Looking forward to years 2000 and 2002, we find symmetry in the results although imperfect. The probability of giving money to children in 2000, given a transfer two years later is 0.27--remarkably similar to the results for 1998. Giving in 2000 for those who also gave four years later is 0.17 – the identical effect of giving 4 years earlier. The more waves in which a household gives, the more likely is the household to give in 2000. Figure 3 illustrates the results of the probability of giving in 2000 as a function of all leads and lags for the 1923 and earlier cohort. The pattern and magnitude is similar to that of the 1931-1941 cohort with lower probabilities with successive years away from 2000 and relative symmetry between lead and lag years. The results for the other cohorts are similar and figures are available upon request.

The pattern of giving over time of the birth cohort groups is consistent with giving in response to an expected or unexpected change in need of a child. The persistence in both giving and not giving suggests that some families are 'givers' others are not.

**4. Econometric Specification and Results**

We use multivariate regression to estimate the effect of age and other donor characteristics predicted by a life-cycle model to influence giving behavior on parents' transfers to children. As described in Section 2, we expect the behavior of singles and couples to be different and thus we estimate the model separately for each group. We allow transfers to be a non-linear function of age. The precise age pattern of transfers is unknown however we expect it to be non-linear with declines accelerating at older ages based on simulations from Hurd and Smith (2002). Financial resources, enter in the models as income and wealth quartiles.

We include a measure of mortality risk, calculated as the deviation of self-reported subjective survival 10 to 19 more years and 20 to 29 more years from survival probabilities based on age, race and sex specific life-tables.[10] Given that we control for survival variation due to age and sex, we interpret the deviation as information about survival known to the individual but unobservable to the econometrician. For couples, each spouse's survival expectation is included in the model. Risk aversion (a separate measure for each spouse) is included in the model. Our risk aversion measure is based on a respondent's response to the choice between pairs of jobs where one guarantees current family income and the other offers a chance to increase income but also carries the risk of loss of income. The resulting measure of risk

[10]Data source for life tables is found at http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56_09.pdf

aversion is a one to four scale with four indicating the most risk averse.[11] Other measures are included that we expect to vary by cohort and affect transfers. The number of children of the parents is included as indicators for one child, two to four children and five or more children. We also include indicators for years of schooling and birth cohort to control for other unobservable cohort differences.

Also included in the model is the onset of acute events (heart attack, stroke, cancer), onset of chronic diseases (diabetes, lung, arthritis) and onset of a new difficulty with an activity of daily living (ADL). These health conditions are another source of heterogeneity that likely affect giving to children. If poor health proxies for elevated mortality risk, then transfers will be higher among those with a lower survival probability. We examine the hypothesis that onset of disability or a health shock may induce transfers because of a change in mortality risk. An alternative explanation would be that transfers increase because care-giving help is needed and transfers are acting as payment for services. Alternatively, poor health may negatively impact the marginal utility of transfers resulting in lower financial transfers. Moreover, poor health and illness may lead to higher medical expenditures or expectations of increases in future medical expenditures and thus would have a negative effect on transfers. Thus, the overall effect of a decline in health status on transfers is an empirical question. Finally, we also include the receipt of a lump sum amount through insurance, other legal settlement, or inheritance. While not exogenous shocks to income, the timing of the receipt of this income may be unexpected.

Appendix table A shows the means and standard deviations of these variables for singles and couples (average across both spouses) respectively. As expected, singles are older and have

[11] The 'income gamble' questions are only asked among workers. We carry-forward the initial response for respondents that retire between waves.

less income and wealth than couples. All underestimate their additional years survival rates compared to life tables but couples more than singles for the 10 to 19 years deviation from life tables. Couples are more likely to be in the highest risk-aversion category than singles. It may be that risk averse individuals are more likely to marry and stay married.

Given the significant fraction of non-giving households (64 percent), and data patterns that suggest differences in behavior between giving and not giving compared to amount conditional on giving a transfer, we first estimate the probability that a financial transfer is positive, and second the log value of the financial transfer conditional on giving money to children of $500 or more. Our analysis of transfers over time suggests that there are likely unobserved differences among families in transfer behavior. Some families are closer and more caring than others and transfers are more frequent and larger. Suppose our model is:

$$T_{it} = \gamma + \beta_1 Age_{it} + \beta_2 Age-squared_{it} + \beta_3 FinResources_{it} + \beta_4 MortalityRisk_{it} + \beta_5 Risk_i + \alpha_i + \varepsilon_{it}$$

Where $\varepsilon_{it}$ is the random error and $\alpha_i$ is the unobserved heterogeneity. The panel data allow us to deal with unobserved heterogeneity and consistently estimate β. Using a random effects estimator (generalize least squares estimator or GLS), we estimate transformed data:

$$\tilde{T}_{it} = \tilde{X}_{it}\beta + \tilde{\varepsilon}_{it}$$

Where, for example: $\tilde{T} = T_{it} - (1-\theta)\bar{T}_i$ and likewise for X and ε and: $\theta = (\frac{\sigma_\varepsilon^2}{T\sigma_\alpha^2 + \sigma_\varepsilon^2})^{\frac{1}{2}}$

The covariates in our model (e.g. financial resources, mortality risk, risk aversion etc.) are given by $X_{it}$. Assuming $X_{it}$ and $\alpha_i$ are uncorrelated, a random effects estimator produces consistent and efficient estimates of β using the information from changes from the average value of X and variation across households. This analysis offers several analytical advantages over a cross-sectional approach including the ability to better control for unobserved heterogeneity. In addition, we use the long data panel to examine how changes over waves, such as onset of a health condition, and the arrival of a lump sum on income affect transfer behavior.

**GLS Results by Marital Status**. Tables 5 and 6 show estimation results from a GLS estimator for singles and couples respectively. Ordinary least squares results are provided in the appendix. Model (2) is the same as Model (1) with the addition of wealth and income quartile interactions with age and age-squared. The life-cycle model predicts that higher wealth will lead to greater transfers the older the age of the parent. Moreover, holding wealth constant we examine whether age patterns of transfers among wealthy couples is due to a changing sample of couples over time as the less wealthy (and healthy) couples become singles through widowing.

***Singles***. The first column of results in Table 5 shows, for a sample of singles, GLS estimates of the probability of making a transfer to children (Model 1). Our estimate of the fraction of the variation due to $\alpha_i$ is 0.26 suggesting an important role for heterogeneity in explaining the likelihood of giving money to children. There is a 15 percentage point (40 percent) difference in giving for parents in the lowest wealth quartile and the highest, and a 17 percentage point (43 percent) difference for parents in the lowest income quartile and the highest. Having received a lump sum of income (insurance, other legal settlement, or inheritance) in the last two years increases the probability of a transfers by almost 5 percentage points which is consistent with expectations that financial resources (possibly unexpected in terms of timing) lead to increases in giving. The effects of mortality risk and risk aversion are in the expected direction, but the magnitude is small and not statistically different than zero.

Looking to our estimates of the effects of health, the onset of a new ADL limitations or acute condition are associated with increases in the likelihood of giving money to children. This positive relationship may be driven by an increase in mortality risk or payment of care giving services from children or even payment of health expenses by children. Unlike the onset of disability of acute condition, the onset of a new chronic condition is associated with a small decline in the likelihood money is given. It may be that chronic conditions have a smaller effect on mortality and the need for care than acute conditions or disability onset and instead have a larger affect on the marginal utility of transfers thus decreasing the probability of a transfer. The likelihood of transfers may decline due to future expected increases in medical expenditures.

The results for amount of money (log value) given by single parents, conditional on giving are also shown in Table 5 (Amt M1). Our estimate of the fraction of the variation due to $\alpha_i$ is 0.28 suggesting a similar role for heterogeneity in the amount given and the probability of giving. Wealth and income again have large effects on transfers. In contrast to the model for the probability of giving, the effects of wealth are substantially larger than those of income. There is a 72 percent difference in the amount given for a parent in the lowest wealth quartile and the highest, and a 44 percent difference for a parent in the lowest income quartile and the highest. A lump sum cash receipt increases the amount of money given to children by 15 percent. Consistent with the expectations of a life cycle model, expectations of a long life decrease the amount of money given by 14 percent and a highly risk averse parent gives 8 percent less than one that is less risk averse. Among the onset of health condition variables, only the onset of an acute disease increases transfers and it does so by 13 percent.

Figure 4 shows simulated age effects from Model (1) for the probability of a transfer and the amount. For singles, the probability a parent gives money declines approximately linearly with age from 0.37 to 0.17. The amount of money a single parent gives to children, conditional on giving declines until age 75 and then rises just slightly. Figure 5 shows simulated age effects from Model 2 for both the probability of a transfer and the amount, conditional on giving at least

$500 to children. The probability of giving money declines fairly linearly for both high and low wealth singles with the probability of giving everywhere higher for high wealth singles. The amount of money declines slightly for low wealth singles until about age 75 and then begins to rise and is essentially flat for high wealth singles.

In sum, the results demonstrate that the predictions from a simple theoretical dynamic model that treats amount of money given to children as a consumption item is broadly consistent with the empirical findings on the amount of money single parents give children. The estimates also suggest substantial heterogeneity in giving unexplained by these observable characteristics.

***Couples***. The first column of results in Table 6 shows, for a sample of couples, GLS estimates of the probability of making a transfer to children (M1). Our estimate of the fraction of the variation due to $\alpha_i$ is 0.35 suggesting a larger role for heterogeneity for couples compared to singles. We find smaller wealth and income effects for couples than for singles on the probability of giving money to children. There is an 8 percentage point difference in giving for parents in the lowest wealth quartile and the highest, and a 14 percentage point difference for parents in the lowest income quartile and the highest. The estimate for having received a lump sum of income in the last two years is consistent with expectations and increases the probability of giving money by 2.4 percentage points. Being in the most risk averse category is associated with a decline in the probability of making a transfer to children for wives but there is no effect for husbands and expectations of a longer life increase transfers. That is, the results for singles display consistency with the predictions of our model, however the estimates for couples do not. A lifecycle of model describes financial giving to children but incompletely. There remains a large role for household-specific heterogeneity in explaining the giving behavior of parents, with observable factors only explaining a part of giving behavior.

Looking to our estimates of health, onset of a new ADL increases transfers by 1.1 and 1.5 percentage points for men and women respectively. Onset of an acute condition (men only) increases the likelihood of transfers by almost 2 percentage points. The results are similar to the estimates for single parents and consistent with the hypothesis that a health shock increases mortality risk and thus transfers or money given is payment for services from children.

The results for amount of money given by couples, conditional on giving are also shown in Table 6. Our estimate of the fraction of the variation due to $\alpha_i$ is 0.47 suggesting a large role of heterogeneity for couples compared to singles and for amount of money compared to the probability of giving money. Wealth and income again have large effects on transfers. There is a 45 percent difference in the amount given for parents in the lowest wealth quartile and the highest, and a 26 percent difference for parents in the lowest income quartile and the highest. As we found for the likelihood of giving, these effects are smaller than for singles.

The effect of a lump sum cash receipt is also positive and smaller than the effect for singles (13 percent increase). Expectations of a long life and high risk aversion are associated with a small decline in giving as predicted by the model but are not statistically different than zero. Taken together, the effect of onset of a negative health condition on money is positive although the gender differences for married couples and by condition suggest further study is need to fully understand the behavioral response to health shocks.

Figure 6 shows simulated age effects from Model (1) for the probability of a transfer and the amount. For couples, the probability a parent gives money declines approximately linearly with age from 0.44 to 0.22. The amount of money a couple gives to children, conditional on giving initially declines until age 68 and then begins to rise. We examine the extent to which this rise in the amount of money given is driven by couples with high wealth that may be substituting bequests with gifts of money to children while they are alive. The data, however, do not support this hypothesis. The probability of giving money declines fairly linearly for both high and low wealth couples (Figure 7). The amount of money declines slightly more rapidly for low wealth couples than for high wealth couples however the age patterns are similar with decreasing then increasing transfers with age. For low wealth (high wealth) couples the amount of money given to children declines until age 70 (65) and then begins to rise. There is the expected level difference in giving between low and high wealth couples.

In sum, the estimation results for singles and couples show that a lifecycle of model provides a good framework for understanding the amount of money given to children by single parents but less so for couples. That is, the model is useful for understanding giving to children but incomplete. There remains a large role for household-specific heterogeneity in explaining the giving behavior of parents, with observable factors only explaining a part of giving behavior.

## 6. Conclusions

This study increases our understanding of family transfer behavior over a part of the lifecycle by analyzing the scale of giving, how regular it is over time, and the factors that shape it. Over one-third of parents give money to children. Parents, who give money to children over a two-year period, give just over $14,000. Giving is highly unequal. At the median, the amount transferred to children is zero and at the 95$^{th}$ percentile, cash transfers are $24,000. Linking data on the money given by parents to children over time, we calculate that 'rest of lifetime' intervivos giving by parents children is about $50,000 to their adult children from their early 50's to death. Taken together with expected bequests (Hurd and Smith, 2002) parents from the birth cohort 1923 and earlier give close to $90,000 on average (discounted expected value) to their children from ages 75 until death, which is 30 percent of age 75 wealth. Using longitudinal data, we are able to examine age patterns in transfers parsing out cohort effects. Cross-tabulations of transfers by age revealed that the probability of giving money to children declines with age but the amount of money increases. We find that the increasing amount with age is due to both difference in giving behavior by cohort and by whether the parent is single or in a couple. Indeed, we find that for singles, the probability a parent gives money and the amount of money given declines with age.

These averages, however, do not reveal the enormous variation in giving by households over time. Some parents give to their children others never give. The younger cohorts compared to the older cohort tend to give more equally over time. The children of the younger cohorts are more likely to have age-related expected needs for transfers for example for education and to purchase a home than children from the older cohorts. As the children age through these events, a pattern of equal percentages of households giving in one, two or three (etc.) waves emerges. The probability of giving in a particular wave conditional on giving in a prior wave declines as you move away in time from the wave consistent with giving in response to an expected or unexpected change in need of children. The persistence in not giving shows that some families are 'givers of money' and others are not.

Another advantage of longitudinal data is the ability to control for unobserved heterogeneity. We estimate models assuming random effects and find a large fraction of the variation of giving can be attributed to a household specific effect. For singles, just under one-third of the variation in giving is due to household specific heterogeneity while for couples, the fraction of variation due to household heterogeneity is over one-third for the probability of giving and over one-half for the amount given.

Consistent with a life-cycle model, we find the amount a single parent gives to children declines with age, risk aversion and mortality risk and rises with economic resources. Flat or increasing transfers is consistent with a model for couples and empirical findings suggest that this is true for consumption and is consistent with our findings of rising transfers with age for couples. The results for mortality risk and risk aversion do not conform with expectations for couples suggesting that to better understand giving over time for couples we may have to look to the children and their circumstances.

Also pointing to the importance of the characteristics and behavior of children in understanding a parent's giving behavior is the general finding of an increase in transfers in response to the onset of a negative health condition. These findings are consistent with 'purchases' of services from children or new information related to the parent's expected lifespan but to interpret the findings will require additional research on the care giving provided by children in response to a parent's health shock as well as changes in medical expenditures; a subject of future research.

The behavioral response to changes in economic circumstances may indicate that in times of economic downturn, such as that being experienced by many households at the end of 2008, parents may respond with fewer transfers to their children thus limiting the role of parents as insurance against the shocks experienced by children. Of course the response is likely to vary across households and by the impact of the downturn on the young generation relative to the old generation.

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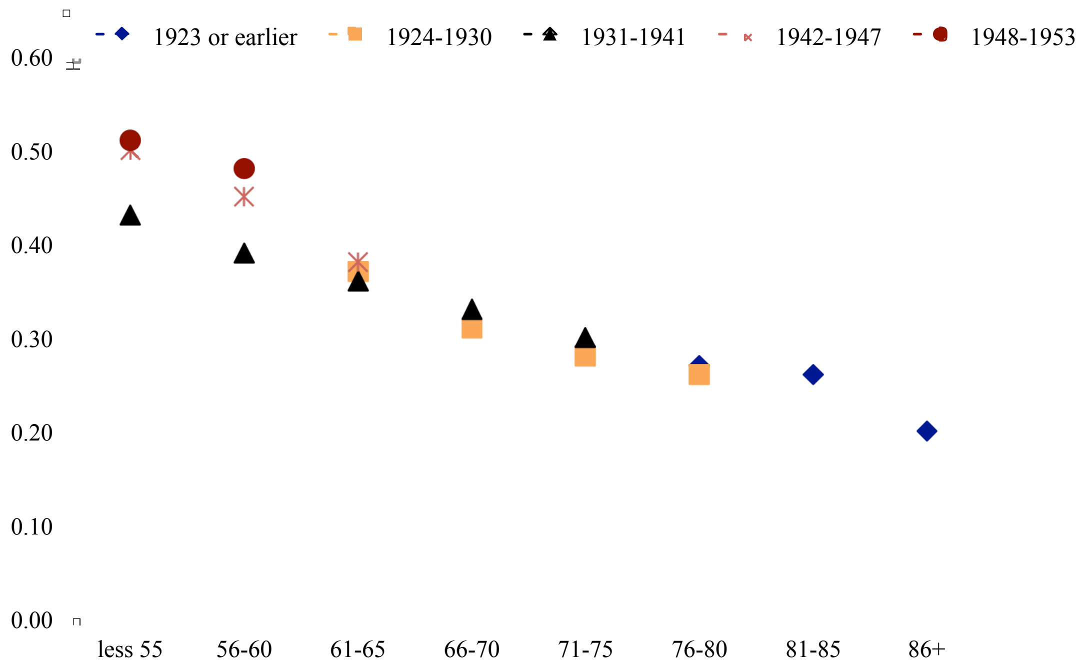
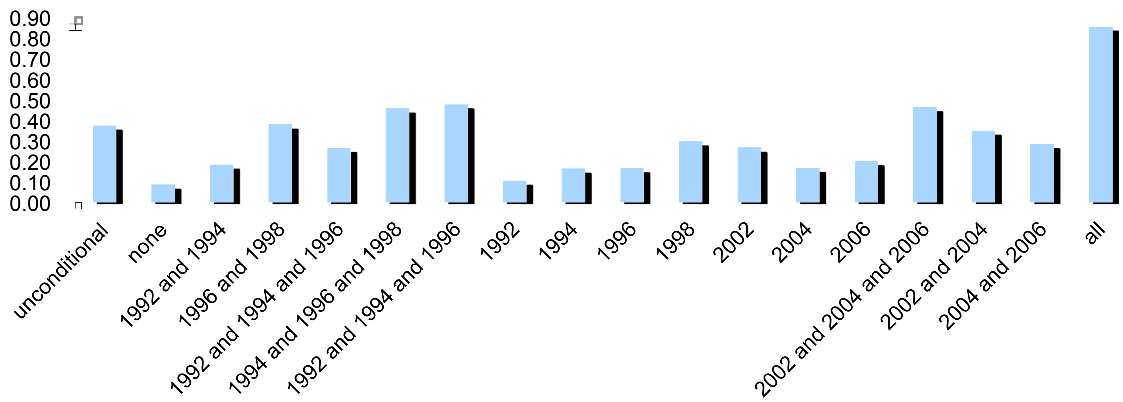
Figure 1 – Probability Financial Transfers Given to Children by Parent's Age and Birth Cohort




SOURCE: Author's calculations based on 1992-2006 HRS

NOTE: Sample is households with children or step-children. Cohort birth year is randomly chosen among birth years of couples. Data weighted using HRS household analysis weights structured to match the CPS.

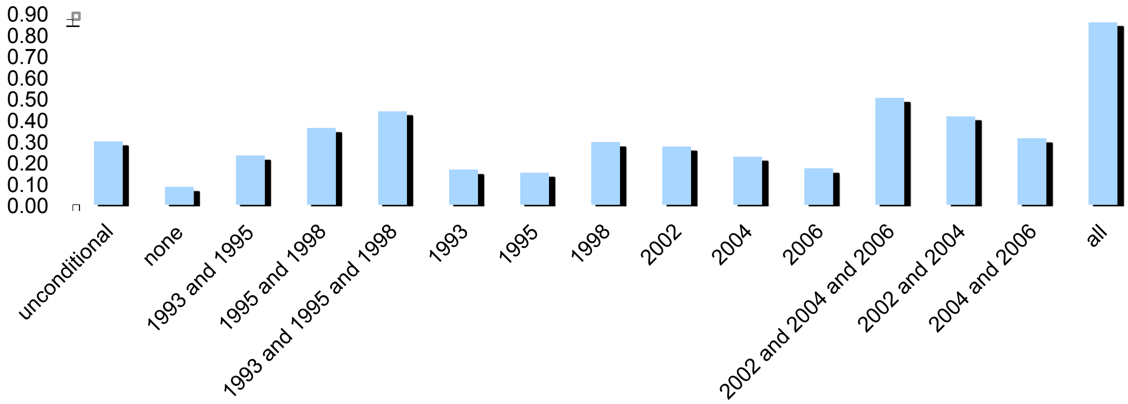
Figure 2 – Probability of Giving Financial Transfers in 2000 By Giving in Lead and Lag Years: HRS Sample Cohort




SOURCE: Author's calculations based on 1992-2006 HRS

NOTE: Sample is birth cohort 1931-1941 households with children or step-children and present in all eight waves.

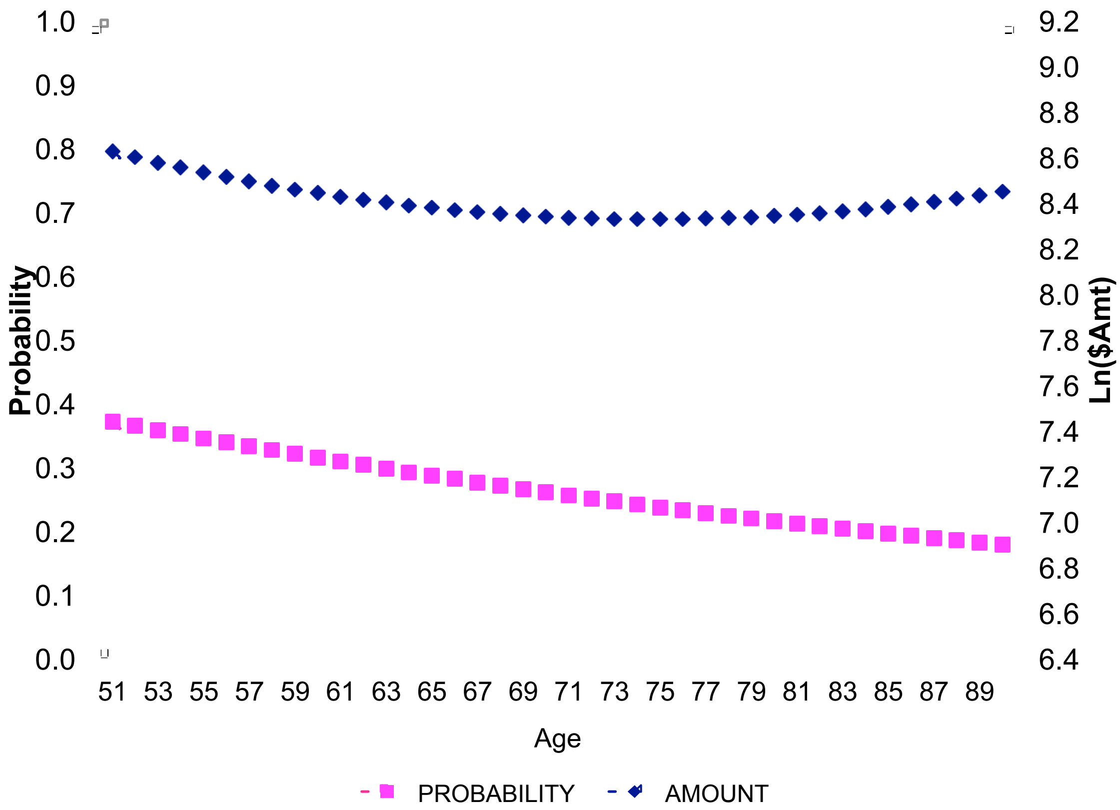
Figure 3 – Probability of Giving Financial Transfers in 2000 By Giving in Lead and Lag Years: AHEAD Sample Cohort




SOURCE: Author's calculations based on 1993-2006 HRS

NOTE: Sample is birth cohort 1923 or before, households with children or step-children and present in all seven possible waves.

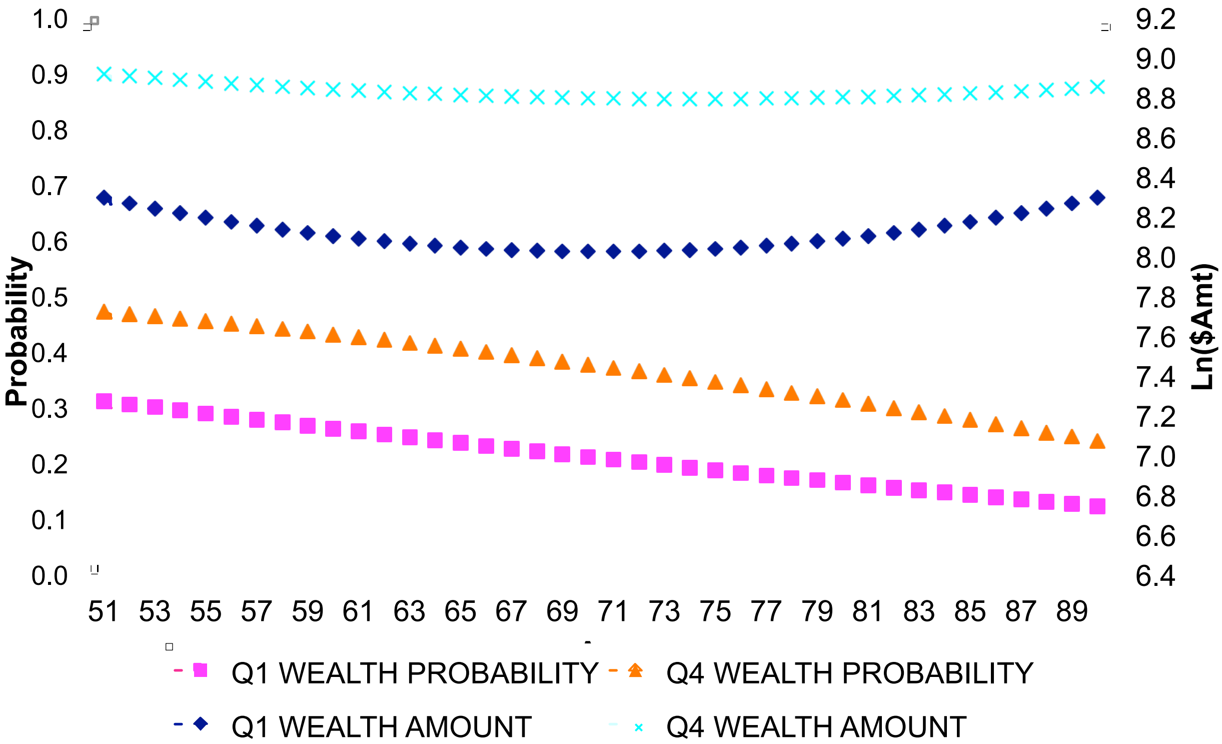
Figure 4– Financial Transfers by Single Parent's Age: Results from GLS Model (1)




SOURCE: Simulated predictions from GLS model of transfers based on 1992-2006 HRS

NOTE: Sample is singles with children or step-children. Transfer amounts are CPI adjusted. Data weighted using HRS household analysis weights structured to match the CPS. Effects of covariates excluding age and age-squared are calculated at the mean. Predicted probability is given on the left-side y-axis and ln($ amount) is given on the right-side y-axis

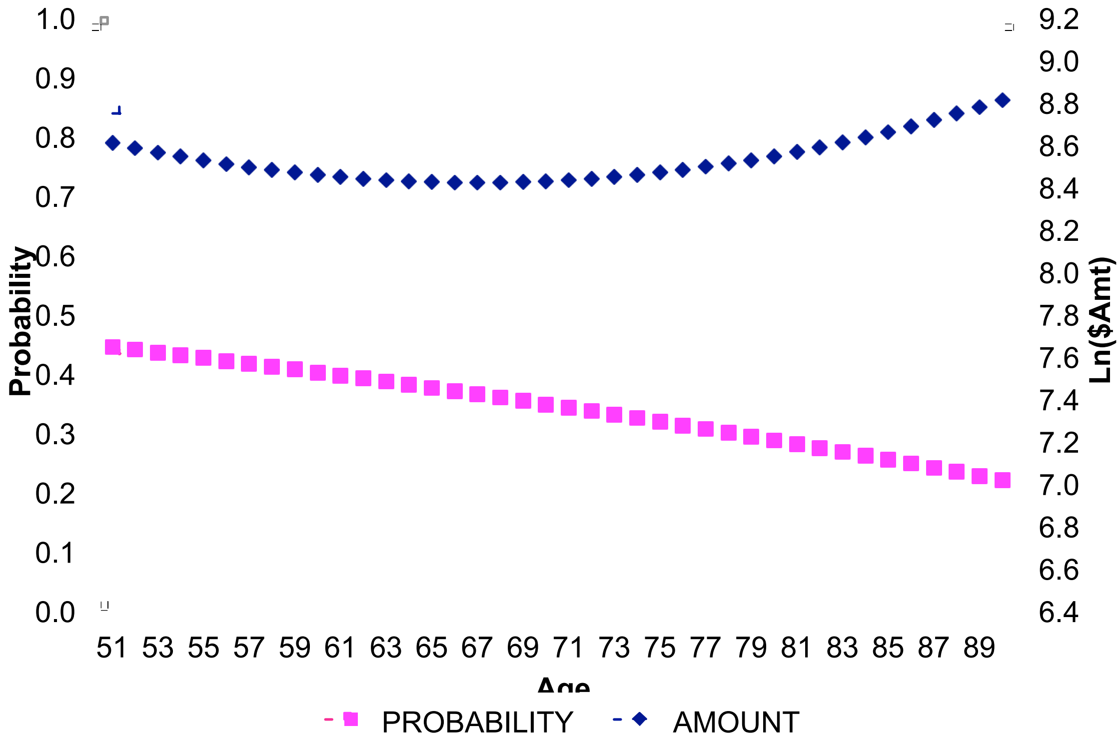
Figure 5 – Financial Transfers Given by Single Parent's Age: Results from GLS Model (2)




SOURCE: Simulated predictions from GLS model of transfers based on 1992-2006 HRS

NOTE: Sample is singles with children or step-children. Transfer amounts are CPI adjusted. Data weighted using HRS household analysis weights structured to match the CPS. Effects of covariates excluding age and age-squared are calculated at the mean. Predicted probability is given on the left-side y-axis and ln($ amount) is given on the right-side y-axis.

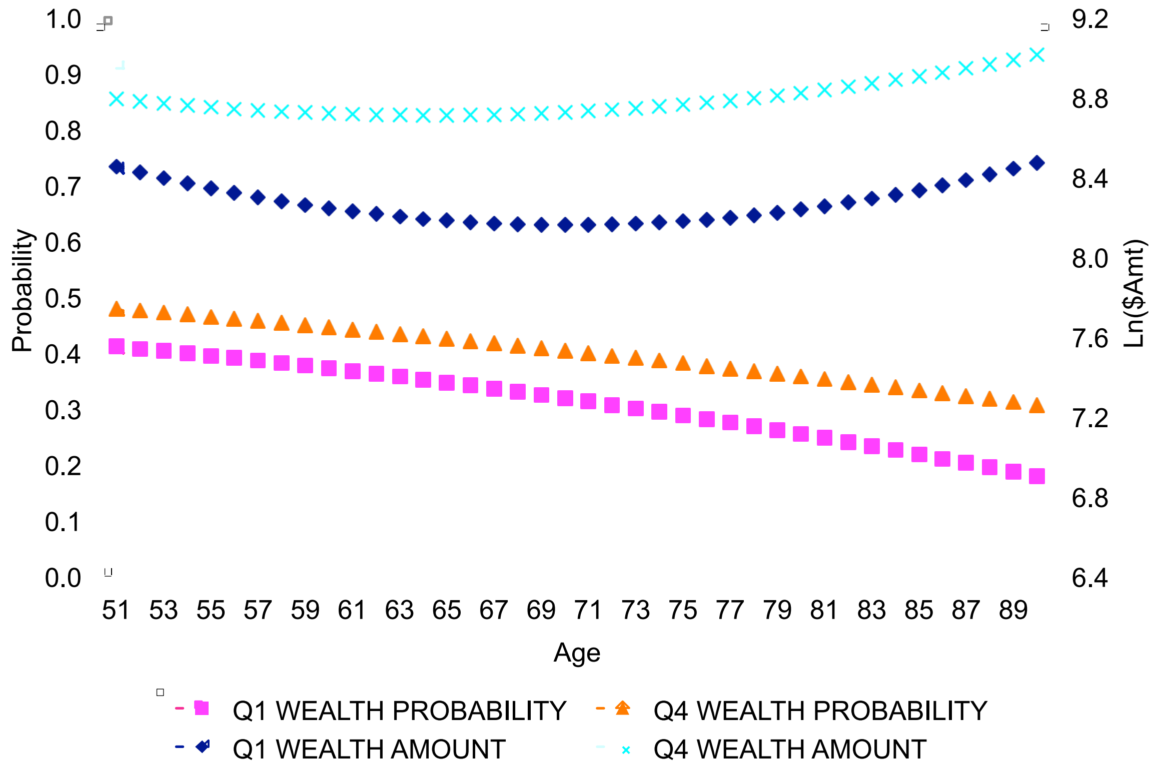
Figure 6– Financial Transfers by Couple's Age: Results from GLS Model (1)




SOURCE: Simulated predictions from GLS model of transfers based on 1992-2006 HRS

NOTE: Sample is singles with children or step-children. Transfer amounts are CPI adjusted. Data weighted using HRS household analysis weights structured to match the CPS. Effects of covariates excluding age and age-squared are calculated at the mean. Predicted probability is given on the left-side y-axis and ln($ amount) is given on the right-side y-axis.

Figure 7– Financial Transfers by Couple's Age: Results from GLS Model (2)




SOURCE: Simulated predictions from GLS model of transfers based on 1992-2006 HRS

NOTE: Sample is singles with children or step-children. Transfer amounts are CPI adjusted. Data weighted using HRS household analysis weights structured to match the CPS. Effects of covariates excluding age and age-squared are calculated at the mean. Predicted probability is given on the left-side y-axis and ln($ amount) is given on the right-side y-axis.

Table 1 – Household Sample Characteristics: Income, Wealth, Number of Children

| Cohort | Obs. | Income Mean ($) | Income Median ($) | Wealth Mean ($) | Wealth Median ($) | No. of Kids Mean |
|---|---|---|---|---|---|---|
| 1923 earlier | 22,247 | 32,988 | 20,858 | 308,133 | 128,628 | 3.15 |
| 1924-1930 | 11,967 | 43,613 | 28,098 | 393,469 | 168,623 | 3.65 |
| 1931-1941 | 38,641 | 64,215 | 40,976 | 423,612 | 165,000 | 3.55 |
| 1942-1947 | 10,120 | 84,957 | 57,820 | 424,967 | 154,187 | 3.13 |
| 1948-1953 | 5,508 | 103,967 | 66,098 | 428,607 | 153,500 | 2.97 |
| Total | 88,483 | 63,155 | 36,963 | 395,685 | 153,467 | 3.34 |

SOURCE: Author's calculations based on 1992-2006 HRS

NOTE: Sample is households with children or step-children. Cohort birth year is randomly chosen among birth years of couples. Household income and household wealth (financial and housing) are CPI adjusted. Data weighted using HRS household analysis weights structured to match the CPS.

Table 2 – Distribution of Amount of Money Given to Children by Parent's Birth Cohort

| | Transfers Amount ($) | | | | | |
|---|---|---|---|---|---|---|
| | All | Cohort | | | | |
| Percentile | 1953 or earlier | 1923 or earlier | 1924-1930 | 1931-1941 | 1942-1947 | 1948-1953 |
| 10 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50 | 0 | 0 | 0 | 0 | 0 | 500 |
| 75 | 2,474 | 560 | 1,067 | 2,570 | 4,000 | 5,000 |
| 90 | 11,707 | 8,000 | 8,538 | 11,564 | 13,603 | 18,000 |
| 95 | 24,000 | 21,345 | 21,000 | 22,412 | 25,756 | 32,017 |
| 99 | 70,244 | 80,000 | 70,244 | 66,000 | 68,025 | 85,379 |
| Mean | 5,124 | 5,168 | 4,553 | 4,735 | 5,417 | 6,430 |
| Prob. Give | 0.36 | 0.26 | 0.28 | 0.37 | 0.46 | 0.51 |
| No. Obs. | 88,483 | 22,247 | 11,967 | 38,641 | 10,120 | 5,508 |

| | Transfer Amount Conditional on Giving $500 or more | | | | | |
|---|---|---|---|---|---|---|
| Percentile | 1953 or earlier | 1923 or earlier | 1924-1930 | 1931-1941 | 1942-1947 | 1948-1953 |
| 10 | 1,028 | 1,067 | 937 | 1,113 | 1,000 | 1,000 |
| 25 | 2,000 | 2,000 | 1,855 | 2,000 | 2,000 | 2,000 |
| 50 | 4,947 | 5,336 | 4,947 | 5,000 | 4,500 | 5,000 |
| 75 | 12,849 | 16,008 | 13,000 | 12,807 | 12,000 | 13,000 |
| 90 | 30,837 | 40,342 | 35,122 | 28,738 | 27,210 | 32,000 |
| 95 | 50,500 | 66,142 | 58,272 | 47,611 | 44,265 | 48,000 |
| 99 | 125,300 | 200,000 | 190,506 | 109,216 | 100,000 | 120,000 |
| Mean | 14,051 | 20,226 | 16,003 | 12,958 | 11,759 | 12,730 |
| No. Obs. | 29,198 | 5,168 | 3,455 | 13,456 | 4,525 | 2,594 |

SOURCE: Author's calculations based on 1992-2006 HRS

NOTE: Sample is households with children or step-children. Sample sizes differ slightly from Table 1 due to missing observations on transfer data. Cohort birth year is randomly chosen among birth years of couples. Transfer amounts are CPI adjusted. Data weighted using HRS household analysis weights structured to match the CPS.

Table 3 – Probability and Amount of Financial Transfers Given to Children by Parent's Age

| | | Probability Household Gave $500 or More to Children | | | Amount of Money Given to Children | | |
|---|---|---|---|---|---|---|---|
| Age | No. Obs | All | Single | Married | All | Single | Married |
| less 55 | 14,133 | 0.49 | 0.43 | 0.51 | 6,326 | 4,470 | 6,974 |
| 56-60 | 15,691 | 0.43 | 0.35 | 0.47 | 5,164 | 3,280 | 6,174 |
| 61-65 | 14,628 | 0.36 | 0.31 | 0.4 | 4,703 | 3,381 | 5,462 |
| 66-70 | 11,028 | 0.32 | 0.28 | 0.35 | 4,333 | 3,966 | 4,568 |
| 71-75 | 11,132 | 0.29 | 0.25 | 0.32 | 4,735 | 4,418 | 5,054 |
| 76-80 | 9,316 | 0.27 | 0.24 | 0.31 | 4,372 | 3,980 | 4,972 |
| 81-85 | 6,918 | 0.26 | 0.24 | 0.32 | 4,718 | 3,405 | 8,090 |
| 86+ | 5,637 | 0.2 | 0.19 | 0.25 | 5,997 | 5,968 | 6,155 |

SOURCE: Author's calculations based on 1992-2006 HRS

NOTE: Sample is households with children or step-children. Data weighted using HRS household analysis weights structured to match the CPS.

Table 4–Distribution of Giving Across Time by Sample Cohort

| Waves Gave | AHEAD | CODA | HRS | War Babies | Early Baby Boomers |
|---|---|---|---|---|---|
| 0 | 35.33 | 40.82 | 20.88 | 19.13 | 35.18 |
| 1 | 17.75 | 19.39 | 15.28 | 16.10 | 29.33 |
| 2 | 13.93 | 14.90 | 13.26 | 17.61 | 35.49 |
| 3 | 10.56 | 11.22 | 11.23 | 17.05 | X |
| 4 | 8.90 | 8.16 | 11.13 | 18.18 | X |
| 5 | 6.79 | 5.51 | 10.12 | 11.93 | X |
| 6 | 4.62 | X | 7.87 | X | X |
| 7 | 2.11 | X | 6.34 | X | X |
| 8 | X | X | 3.88 | X | X |
| Total | 100% | 100% | 100% | 100% | 100% |
| No. of Obs | 1,752 | 980 | 4,051 | 1,056 | 1,609 |

SOURCE: Author's calculations based on 1992-2006 HRS

NOTE: Sample is respondents with children or step-children and present in all possible survey waves.

Table 5–GLS Model of Probability of Making Inter-vivos Financial Transfers: Singles

| | Prob. 1 | | Prob. 2 | | Amt. 1 | | Amt. 2 | |
|---|---|---|---|---|---|---|---|---|
| Covariate (excluded) | Coef. | | Coef. | | Coef. | | Coef. | |
| Age | -0.011 | ** | -0.007 | | -0.079 | ** | -0.063 | |
| Age-squared | 0.00004 | * | 0.000005 | | 0.0005 | ** | 0.0005 | |
| Male | 0.058 | ** | 0.060 | ** | 0.150 | ** | 0.146 | ** |
| Marital (Divorced): | | | | | | | | |
| Widowed | 0.014 | ** | 0.014 | ** | 0.165 | ** | 0.158 | ** |
| Never Married | -0.019 | | -0.014 | | -0.004 | | -0.029 | |
| Yrs. Educ (12 yrs): | | | | | | | | |
| <12 years | -0.052 | ** | -0.052 | ** | -0.060 | ** | -0.051 | |
| 12-15 years | 0.053 | ** | 0.052 | ** | 0.072 | ** | 0.073 | ** |
| 16+ years | 0.123 | ** | 0.122 | ** | 0.336 | ** | 0.337 | ** |
| Wealth Quartiles (Q3): | | | | | | | | |
| Q1 | -0.087 | ** | -0.094 | ** | -0.334 | ** | 0.983 | |
| Q2 | -0.032 | ** | 0.004 | ** | -0.209 | ** | 0.520 | |
| Q4 | 0.065 | ** | -0.198 | ** | | | | |
| Income Q (Q3): | | | | | | | | |
| Q1 | -0.099 | ** | -0.116 | ** | -0.173 | ** | 0.942 | |
| Q2 | -0.060 | ** | 0.003 | ** | -0.073 | ** | 1.109 | |
| Q4 | 0.068 | ** | 0.367 | ** | 0.269 | ** | 1.475 | |
| Wealth Q*Age: | | | | | | | | |
| Q1*Age | | | -0.001 | | | | -0.037 | |
| Q2*Age | | | -0.001 | | | | -0.019 | |
| Q4*Age | | | 0.008 | | | | 0.028 | |
| Income Q*Age: | | | | | | | | |
| Q1*Age | | | -0.001 | | | | -0.022 | |
| Q2*Age | | | -0.003 | | | | -0.027 | |
| Q4*Age | | | -0.008 | | | | -0.039 | |
| Wealth Q*Age-2: | | | | | | | | |
| Q1*Age-squared | | | 0.00002 | | | | 0.0002 | |
| Q2*Age-squared | | | 0.00001 | | | | 0.0001 | |
| Q4*Age-squared | | | -0.00005 | | | | -0.0002 | |
| Income Q*Age2: | | | | | | | | |
| Q1*Age-squared | | | 0.00002 | | | | 0.0001 | |
| Q2*Age-squared | | | 0.00003 | | | | 0.0001 | |
| Q4*Age-squared | | | 0.00006 | | | | 0.0003 | |
| Lump income | 0.048 | ** | 0.047 | ** | 0.145 | ** | 0.147 | ** |
| Survival 10-19 yrs[a] | -0.003 | | -0.004 | | -0.139 | ** | -0.135 | ** |
| Most risk averse | -0.006 | | -0.005 | | -0.075 | ** | -0.079 | ** |

Table continued on next page.

Table 5 cont.–GLS Model of Probability of Making Inter-vivos Financial Transfers: Singles

| | Prob. M1 | | Prob. M2 | | Amt. M1 | | Amt. M2 | |
|---|---|---|---|---|---|---|---|---|
| | Coef. | | Coef. | | Coef. | | Coef. | |
| Health: | | | | | | | | |
| ADL limitation onset | 0.014 | ** | 0.014 | ** | 0.020 | | 0.022 | |
| Acute illness onset | 0.023 | ** | 0.024 | ** | 0.126 | ** | 0.126 | ** |
| Chronic cond. onset | -0.010 | | -0.010 | | 0.001 | | -0.0004 | |
| Birth cohort (<=1923): | | | | | | | | |
| 1924-1930 birth cohort | -0.022 | ** | -0.024 | ** | -0.146 | ** | -0.145 | ** |
| 1931-1941 birth cohort | -0.032 | ** | -0.035 | ** | -0.302 | ** | -0.300 | ** |
| 1942-1947 birth cohort | -0.002 | | -0.006 | | -0.427 | ** | -0.423 | ** |
| 1948-1953 birth cohort | 0.020 | | 0.020 | | -0.439 | ** | -0.437 | ** |
| Constant | 0.879 | ** | 0.776 | ** | 11.000 | ** | 10.283 | ** |
| No. observations | 39,467 | | 39,467 | | 10,231 | | 10,231 | |
| Fraction variation due $a_i$ | 0.261 | | 0.260 | | 0.276 | | 0.275 | |
| R-squared: within | 0.009 | | 0.009 | | 0.019 | | 0.020 | |
| R-squared: between | 0.236 | | 0.237 | | 0.192 | | 0.194 | |
| R-squared: overall | 0.150 | | 0.151 | | 0.166 | | 0.169 | |

SOURCE: Author's calculations based on 1992-2006 HRS

NOTE: Sample is singles with children or step-children. Excluded categories in parenthesis. Wealth and income quartiles defined over the sample of couples. Transfer amounts are CPI adjusted. Models also include missing indicators for: highest degree, respondent's (spouse's) deviation of survival probability from life tables and risk aversion. Robust standard errors. 'a' indicates coefficient value multiplied by 100.

Table 6–GLS Models of Probability of Making Inter-vivos Financial Transfers: Couples

| | Prob. 1 | | Prob.2 | | Amt. 1 | | Amt. 2 | |
|---|---|---|---|---|---|---|---|---|
| Covariates (omitted) | Coef. | | Coef. | | Coef. | | Coef. | |
| Age (male) | -0.002 | | -0.010 | | -0.043 | ** | 0.030 | |
| Age-squared (male) | -0.00001 | | 0.0001 | | 0.0003 | ** | -0.0004 | * |
| Age (female) | 0.0007 | | 0.005 | | -0.057 | ** | -0.124 | ** |
| Age-squared (female) | -0.00002 | | -0.0001 | | 0.0005 | ** | 0.0011 | ** |
| Educ. Yrs. male (12) | | | | | | | | |
| <12 years | -0.045 | ** | -0.046 | ** | -0.045 | | -0.043 | |
| 12-15 years | 0.034 | ** | 0.033 | ** | 0.015 | | 0.015 | |
| 16+ years | 0.055 | ** | 0.055 | ** | 0.307 | ** | 0.307 | ** |
| Educ. Yrs. female (12) | | | | | | | | |
| <12 years | -0.060 | ** | -0.059 | ** | -0.039 | | -0.034 | |
| 12-15 years | 0.027 | ** | 0.026 | ** | 0.012 | | 0.013 | |
| 16+ years | 0.099 | ** | 0.099 | ** | 0.260 | ** | 0.260 | ** |
| Wealth Q (Q3): | | | | | | | | |
| Q1 | -0.059 | ** | -0.342 | * | -0.261 | ** | 0.465 | |
| Q2 | -0.007 | ** | -0.096 | | -0.105 | ** | -0.660 | |
| Q4 | 0.019 | ** | -0.176 | | 0.190 | ** | -1.133 | |
| Income Q (Q3): | | | | | | | | |
| Q1 | -0.085 | ** | -0.360 | * | -0.140 | ** | -0.519 | |
| Q2 | -0.035 | ** | -0.086 | | -0.095 | ** | 0.001 | |
| Q4 | 0.052 | ** | 0.053 | | 0.116 | ** | 2.087 | ** |
| Wlth Q*Age (males): | | | | | | | | |
| Q1*Age | | | 0.019 | ** | | | -0.053 | ** |
| Q2*Age | | | 0.009 | | | | -0.019 | |
| Q4*Age | | | 0.008 | | | | -0.003 | |
| Inc Q*Age (males): | | | | | | | | |
| Q1*Age | | | -0.003 | | | | -0.058 | ** |
| Q2*Age | | | 0.001 | | | | -0.044 | * |
| Q4*Age | | | 0.001 | | | | -0.114 | ** |
| Wlth Q*Age$^2$ (males): | | | | | | | | |
| Q1*Age-squared | | | -0.00014 | ** | | | 0.0005 | ** |
| Q2*Age-squared | | | -0.00006 | | | | 0.0002 | |
| Q4*Age-squared | | | -0.00006 | | | | 0.0001 | |
| Inc Q*Age$^2$ (males): | | | | | | | | |
| Q1*Age-squared | | | 0.00002 | | | | 0.00047 | ** |
| Q2*Age-squared | | | 0.000003 | | | | 0.00041 | ** |
| Q4*Age-squared | | | -0.00003 | | | | 0.00094 | ** |
| Wlth Q*Age (females): | | | | | | | | |
| Q1*Age | | | -0.011 | ** | | | 0.036 | |
| Q2*Age | | | -0.007 | | | | 0.042 | ** |
| Q4*Age | | | -0.004 | | | | 0.040 | |

Table continued next page.

Table 6 cont.–GLS Models of Inter-vivos Financial Transfers: Couples

| | Prob. M1 | | Prob. M2 | | Amt. M1 | | Amt. M2 | |
|---|---|---|---|---|---|---|---|---|
| | Coef. | | Coef. | | Coef. | | Coef. | |
| Inc Q*Age (females): | | | | | | | | |
| Q1*Age | | | 0.011 | ** | | | 0.071 | ** |
| Q2*Age | | | -0.0002 | | | | 0.042 | ** |
| Q4*Age | | | 0.00003 | | | | 0.051 | ** |
| Wlth Q*Age$^2$ (female): | | | | | | | | |
| Q1*Age-squared | | | 0.00010 | ** | | | -0.00042 | ** |
| Q2*Age-squared | | | 0.00005 | | | | -0.00046 | ** |
| Q4*Age-squared | | | 0.00004 | | | | -0.00035 | ** |
| Inc Q*Age$^2$ (female): | | | | | | | | |
| Q1*Age-squared | | | -0.000085 | ** | | | -0.00057 | ** |
| Q2*Age-squared | | | -0.000008 | | | | -0.00041 | ** |
| Q4*Age-squared | | | 0.000007 | | | | -0.00045 | ** |
| Lump sum income | 0.024 | ** | 0.025 | ** | 0.126 | ** | 0.128 | ** |
| Survival 10-19 (males)[a] | 0.018 | ** | 0.018 | ** | -0.016 | | -0.015 | |
| Survival 10-19 (female)[a] | 0.038 | ** | 0.038 | ** | -0.009 | | -0.012 | |
| Most risk averse (males) | -0.005 | | -0.005 | | -0.035 | | -0.039 | |
| Most risk averse (female) | -0.016 | ** | -0.016 | ** | -0.020 | | -0.023 | |
| Health/Disab. (males): | | | | | | | | |
| ADL limitation onset | 0.011 | * | 0.010 | * | 0.019 | | 0.020 | |
| Acute illness onset | 0.017 | ** | 0.016 | ** | -0.068 | ** | -0.068 | ** |
| Chronic condition onset | 0.002 | | 0.002 | | -0.003 | | -0.001 | |
| Health/Disab. (females): | | | | | | | | |
| ADL limitation onset | 0.015 | ** | 0.014 | ** | -0.025 | | -0.022 | |
| Acute illness onset | 0.006 | | 0.006 | | 0.007 | | 0.005 | |
| Chronic condition onset | -0.001 | | -0.001 | | 0.042 | ** | 0.042 | * |
| Birth cohort (<=1923) | | | | | | | | |
| 1924-1930 birth cohort | -0.021 | ** | -0.021 | ** | -0.088 | ** | -0.093 | ** |
| 1931-1941 birth cohort | -0.034 | ** | -0.034 | ** | -0.161 | ** | -0.166 | ** |
| 1942-1947 birth cohort | -0.029 | ** | -0.029 | ** | -0.226 | ** | -0.231 | ** |
| 1948-1953 birth cohort | -0.016 | | -0.016 | * | -0.333 | ** | -0.336 | ** |
| Constant | 0.678 | ** | 0.838 | * | 11.822 | ** | 11.594 | ** |
| Number of observations | 95,652 | | 95,652 | | 37,218 | | 37,218 | |
| Fraction variation due $a_i$ | 0.350 | | 0.350 | | 0.465 | | 0.465 | |
| R-squared: within | 0.011 | | 0.011 | | 0.032 | | 0.034 | |
| R-squared: between | 0.207 | | 0.209 | | 0.188 | | 0.188 | |
| R-squared: overall | 0.106 | | 0.107 | | 0.136 | | 0.137 | |

SOURCE: Author's calculations based on 1992-2006 HRS. Sample: couples kids/step.

NOTE: Wealth and income quartiles for couple sample. Transfer amounts are CPI adjusted. Models include missing indicators and number of kids. Robust standard errors. 'a' indicates coefficient value multiplied by 100.

Appendix Table A: Sample Characteristics

| | Singles | | Couples | |
|---|---|---|---|---|
| | Mean | Std. Dev. | Mean | Std. Dev. |
| Age | 71.21 | 11.52 | 63.489 | 9.811 |
| Male | 0.229 | 0.420 | na | na |
| Widowed | 0.648 | 0.478 | na | na |
| Divorced | 0.324 | 0.468 | na | na |
| Never married | 0.026 | 0.158 | na | na |
| Years of education | 11.27 | 3.48 | 12.27 | 3.24 |
| Number of children | 3.34 | 2.13 | 3.60 | 2.10 |
| Financial and housing wealth | 192,667 | 774,735 | 471,553 | 1,492,725 |
| Household income | 28,313 | 63,777 | 76,128 | 172,754 |
| Received lump sum income (2yrs) | 0.057 | 0.232 | 0.065 | 0.246 |
| Self-reported poor health | 0.136 | 0.343 | 0.0745 | 0.263 |
| ADL limitation new onset | 0.140 | 0.347 | 0.063 | 0.2425 |
| Acute condition new onset | 0.074 | 0.261 | 0.052 | 0.220 |
| Chronic condition new onset | 0.097 | 0.296 | 0.081 | 0.272 |
| Survival 10-19 years deviation | -1.592 | 27.481 | -3.539 | 23.889 |
| Survival 20-29 years deviation | -7.746 | 9.383 | -7.567 | 12.254 |
| Most risk averse | 0.365 | 0.481 | 0.518 | 0.499 |
| 1923 or earlier birth cohort | 0.391 | 0.488 | 0.139 | 0.346 |
| 1924-1930 birth cohort | 0.119 | 0.324 | 0.149 | 0.356 |
| 1931-1941 birth cohort | 0.386 | 0.487 | 0.477 | 0.499 |
| 1942-1947 birth cohort | 0.066 | 0.248 | 0.153 | 0.360 |
| 1948-1953 birth cohort | 0.038 | 0.191 | 0.082 | 0.274 |
| Ln(Transfer amount) | 8.442 | 1.329 | 8.597 | 1.291 |
| Probability of transfer | 0.259 | 0.438 | 0.389 | 0.488 |
| No. of Observations | 39,467 | | 95,652 | |

SOURCE: Author's calculations based on 1992-2006 HRS

NOTE: Sample is single parents with children or step-children.

Appendix Table B–OLS Models of Inter-vivos Financial Transfers: Singles

| | Probability | | Ln(Amt>$500) | |
|---|---|---|---|---|
| | Coef. | Std. Err. | Coef. | Std. Err. |
| Age | -0.007 | 0.004 | -0.105 | 0.022 |
| $(Age)^2$ | 0.00003 | 0.00002 | 0.0007 | 0.0002 |
| Male | 0.056 | 0.007 | 0.163 | 0.033 |
| Marital status: | | | | |
| (Divorced) | | | | |
| Widowed | 0.011 | 0.008 | 0.144 | 0.037 |
| Never married | -0.018 | 0.016 | -0.021 | 0.091 |
| Education: | | | | |
| <12 years | -0.040 | 0.007 | -0.046 | 0.041 |
| (12 years) | | | | |
| 12-15 years | 0.048 | 0.010 | 0.091 | 0.039 |
| 16+ years | 0.108 | 0.012 | 0.326 | 0.044 |
| Number of Kids: | | | | |
| (1) | | | | |
| 2-4 | 0.003 | 0.008 | 0.212 | 0.039 |
| 5 or more | -0.009 | 0.009 | 0.191 | 0.051 |
| Wealth Quartiles: | | | | |
| Q1 | -0.087 | 0.007 | -0.343 | 0.039 |
| Q2 | -0.036 | 0.007 | -0.224 | 0.037 |
| (Q3) | | | | |
| Q4 | 0.079 | 0.008 | 0.449 | 0.041 |
| Income Quartiles: | | | | |
| Q1 | -0.118 | 0.007 | -0.176 | 0.038 |
| Q2 | -0.073 | 0.007 | -0.077 | 0.037 |
| (Q3) | | | | |
| Q4 | 0.092 | 0.008 | 0.327 | 0.039 |
| Survival 10-19 years[a] | -0.012 | 0.009 | -0.192 | 0.053 |
| Most risk averse | -0.002 | 0.008 | 0.006 | 0.100 |
| Birth Cohort: | | | -0.062 | 0.034 |
| (1923 or earlier) | | | | |
| 1924-1930 birth cohort | -0.015 | 0.011 | | |
| 1931-1941 birth cohort | -0.013 | 0.013 | -0.170 | 0.064 |
| 1942-1947 birth cohort | 0.025 | 0.018 | -0.418 | 0.072 |
| 1948-1953 birth cohort | 0.056 | 0.021 | -0.651 | 0.089 |
| Constant | 0.693 | 0.137 | -0.659 | 0.095 |
| Number of observations | 39467 | | 10,231 | |
| R-squared | 0.151 | | 0.160 | |

SOURCE: Author's calculations based on 1992-2006 HRS

NOTE: Sample is single parents with children or step-children. Excluded categories in parenthesis. Wealth and income quartiles defined over the sample of singles. Transfer amounts are CPI adjusted. Models also include missing indicators for: highest degree, respondent's (spouse's) deviation of survival probability from life tables and risk aversion. Robust standard errors. 'a' indicates coefficient value multiplied by 100.

Appendix Table C–OLS Models of Inter-vivos Financial Transfers: Couples

| | Probability | | Ln(Amt>$500) | |
|---|---|---|---|---|
| | Coef. | Std. Err. | Coef. | Std. Err. |
| Age (male) | 0.0004 | 0.0044 | -0.059 | 0.018 |
| Age-squared (male) | -0.00001 | 0.00003 | 0.0004 | 0.0001 |
| Age (female) | -0.0017 | 0.0032 | -0.045 | 0.014 |
| Age-squared (female) | 0.0000003 | 0.0000258 | 0.0003 | 0.0001 |
| Yrs. Educ (males) [12yrs] | | | | |
| <12 years | -0.032 | 0.009 | -0.046 | 0.034 |
| 12-15 years | 0.024 | 0.010 | 0.008 | 0.032 |
| 16+ years | 0.031 | 0.010 | 0.184 | 0.033 |
| Yrs. Educ (females)[12yrs] | | | | |
| <12 years | -0.046 | 0.009 | 0.024 | 0.035 |
| 12-15 years | 0.028 | 0.009 | 0.013 | 0.029 |
| 16+ years | 0.090 | 0.011 | 0.232 | 0.034 |
| Number of Kids[1]: | | | | |
| 2-4 | 0.031 | 0.011 | 0.167 | 0.039 |
| 5 or more | 0.018 | 0.012 | 0.107 | 0.045 |
| Wealth Quartiles [Q3]: | | | | |
| Q1 | -0.067 | 0.009 | -0.372 | 0.029 |
| Q2 | -0.009 | 0.007 | -0.178 | 0.027 |
| Q4 | 0.034 | 0.008 | 0.328 | 0.031 |
| Income Quartiles [Q3]: | | | | |
| Q1 | -0.141 | 0.008 | -0.206 | 0.029 |
| Q2 | -0.058 | 0.007 | -0.116 | 0.026 |
| Q4 | 0.073 | 0.008 | 0.261 | 0.030 |
| Survival 10-19 yrs (males)[a] | 0.024 | 0.010 | -0.039 | 0.044 |
| Survival 10-19 yrs (females)[a] | 0.035 | 0.022 | 0.025 | 0.074 |
| Most risk averse (males) | -0.005 | 0.007 | -0.022 | 0.024 |
| Most risk averse (females) | -0.012 | 0.007 | -0.035 | 0.024 |
| Birth Cohort [1923 and earlier]: | | | | |
| 1924-1930 birth cohort | -0.020 | 0.010 | -0.170 | 0.047 |
| 1931-1941 birth cohort | -0.020 | 0.011 | -0.256 | 0.051 |
| 1942-1947 birth cohort | 0.011 | 0.013 | -0.429 | 0.056 |
| 1948-1953 birth cohort | 0.006 | 0.015 | -0.585 | 0.061 |
| Constant | 0.623 | 0.140 | 12.354 | 0.570 |
| Number of observations | 95,652 | | 37,218 | |
| R-squared | 0.109 | | 0.136 | |

SOURCE: Author's calculations based on 1992-2006 HRS. [excluded category]

NOTE: Sample is couples with children or step-children. Excluded categories in parenthesis. Wealth and income quartiles defined over the sample of couples. Transfer amounts are CPI adjusted. Models also include missing indicators for: highest degree, respondent's (spouse's) deviation of survival probability from life tables and risk aversion. Robust standard errors. 'a' indicates coefficient value multiplied by 100.