LIVING LONGER, GIVING MORE

The Relationship Between Expected Longevity and Intergenerational Transfers

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Abstract. How do people's expectations of their own longevity relate to transfers given to their adult children? The aging "baby boomer" population has a longer life expectancy than any previous generation, and they know it. Changes in transfer behavior related to a changing expected lifespan could have significant impact on a wide variety of issues including family provisioning of elder care, the ability of younger adults to overcome liquidity constraints and the intergenerational transmission of wealth. Despite the economic and demographic relevance of the question, no previous study has looked at transfers in relation to expected longevity. This paper uses the subjective survival probability data included in the Health and Retirement Study to examine this relationship. I find that conditioning upon income, wealth, education and other socioeconomic variables, single mothers and fathers are more likely to give a transfer, and give a higher overall transfer amount, the longer they expect to live. This suggests an intensifying of financial ties between the generations accompanying increased longevity expectations rather than the scenario of parents sacrificing financial support for adult children in order to save for more years of retirement. Some potential causal channels for this result are discussed, along with next steps for research in this area.

1. Introduction

How do people's expectations of their own longevity relate to transfers given to their adult children? Are people who expect to live longer more or less likely to give? Do they give more, or give less? Or, is expected longevity completely unrelated to giving?

The trends in longevity are clear. The life expectancy for American men and women aged 55 increased by around 15% between 1960 and 1990. (Wise, 1997). The US Census Bureau (2002) predicts

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that life expectancy at birth will increase from 77 years for men in 2002 to 81 years for men in 2025, and from 80 to 84 for women over the same time frame. As the baby boomers age, and can expect to live longer lives than previous generations, do their patterns of giving change?

Understanding the relationship between transfers and parents' expected longevity has important policy implications. To give one example, the use of transfers to informally pay for intra-family elder care has implications for the plans the United States must put in place to deal with the explosion in the elderly population over the next 40 years.[2] If we were to find that increased subjective life expectancy is related to parents giving fewer transfers, or a lower dollar amount, (perhaps in the interest of saving to finance consumption over a longer lifespan, but the causal factors are not addressed by this paper), we should then be concerned that we will see less informal caregiving by children in the future and more demand for formal elder-care services.[3] Family transfers are also an important resource for young adults, particularly those who are liquidity constrained, when it comes to financing an education, buying a home or overcoming a financial downturn. If planning for a longer life is positively or negatively related to parents' willingness to provide these transfers, we should start to look at what the repercussions on younger generations could be.

To date, no research has examined expected longevity and inter-vivos transfer behavior. Very few papers have used data on "subjective survival probability", or a person's own estimate of their probability of achieving a given age, for any empirical study. Longevity is obviously key to certain theoretical models, such as lifecycle models of consumption and savings, and actuarial life tables have been employed by many economists in estimating these and other types of models. There are studies showing that people with reasons to expect a shorter survival span (poor health) increase their consumption levels (Lillard and Weiss, 1997). Another large branch of the literature has looked at

[2] The population of Americans aged 65 and older is expected to increase from 35 milllion in 2000 to over 80 million in 2050. (Knickman and Snell, 2002)

[3] The positive correlation between past financial transfers to children and caregiving provided to elderly parents is shown by Henretta, et al (1997) and Koh and MacDonald (2006).

increases in longevity and the demand for nursing home care and other types of elder care. But none of these studies have asked how someone's own opinion of their probable lifespan might be related to whether or not, and how much, they give to their children.

This paper contributes to the literature on intergenerational transfers by addressing this question, using a dataset of people who represent the expanding population of aging baby-boomers, at their prime years of giving. HRS respondents are between 51 and 61 years old in the first year of the study (1992), and their children predominantly fall in the age range of 20 to 30 years old, when they are likeliest to be given inter-vivos transfers by their parents. (Schoeni, 1997) To avoid confounding the transfers given by two married parents to a joint child, in which case transfers from mothers and fathers are empirically indistinguishable, it focuses on *unmarried* parents (divorced, widowed, never married). While the study is cross-sectional, I take advantage of 5 waves of transfer data over 10 years which increases the observed transfers significantly.

To preview the results, I find that:

- Conditioning on factors such as income and education, there is a positive correlation between both *mothers'* and *fathers'* subjective survival probabilities and the incidence of transfers to their children.
- The magnitudes of these correlations are moderate, indicating that the difference in the likelihood of giving between a parent who believes there is a 90% chance of living to age 85, and one who believes there is a 10% chance of living to age 85, would be about 8%.
- There is a positive correlation between life expectancy and the *amount* a parent gives to all his or her children combined. Conditioning on other factors, a parent who believes there is a 90% chance of living to age 85 gives about 32% more (around $750 on average) than one who thinks he has only a 10% chance of living that long.

2. What is known about subjective life expectancy and economic behavior

No papers to date have been written relating transfer behavior to people's expectations of their own longevity, but there have been some papers relating subjective survival probability to other types of economic behavior. The validity of using subjective survival probability data (**SSP**) at all was first established by Daniel Hamermesh (1985). Hamermesh (using a sample of 650 white male economists) showed that people's subjective survival probabilities in 1985 reflected recent changes in actuarial life tables, but the distribution of the subjective probabilities was flatter and had greater variance than the actuarial tables themselves. In his conclusion, Hamermesh asserted that "empirical studies of life-cycle saving, investment in human capital and labor supply ignore changing life expectancy and its effects on subjective horizons and survival probabilities at the expense of realism."

Ten years later, Hurd and McGarry (1995) used SSP data from a more representative sample to again show the validity of this type of survey question. The question from the Health and Retirement Study asks respondents to evaluate, on a scale of 0 to 10, their probability of living to ages 75 and 85. Hurd and McGarry found that the responses aggregate to population probabilities and covary with other variables, such as income and health-related behaviors (like smoking) in the same way that the actual outcomes covary with these variables. They, like Hamermesh, assert that there is great potential in the use of subjective survival probability data to help economists to understand decision-making under uncertainty.

Surprisingly then, almost no empirical work has employed the subjective survival probability data from the HRS to examine any economic behavior, with few exceptions. Hurd, Smith and Zissimopolous (2004) found a relationship[4] between SSP and retirement and social security uptake, with people with very low subjective survival probabilities of living to age 85 retiring and claiming social security benefits earlier (as opposed to delaying their claims and increasing their Social Security annuitization – or saving.) Scholz, Seshadri and Khitatrakun (2006) modeled optimal savings behavior, using HRS lifetime income data, and then regressed deviations from "optimal saving" on a number of variables, including the

[4] Hurd, Smith and Zissimopolous (2004) claim an "effect" of SSP on retirement and social security uptake, but they do not discuss the potential endogeneity of the SSP variable. For example, saying one has a very low possibility of living to age 85 may be correlated with certain personality traits, such as pessimism, that may lower one's employment opportunities or job quality, making one more likely to retire at an earlier age.

subjective survival probability. They did not find any relationship between deviations from the optimal behavior and people's subjective probability of living to age 75 or 85. (This might be expected given Hurd and McGarry's (1995) findings that the HRS subjective survival probabilities reasonably approximate the life cycle tables upon which Scholz, Seshadri and Khitatrakun base their optimal savings estimates.)

While no papers have examined transfers and expected longevity, it seems logical that there could be some relationship. What that relationship might be, however, is debatable. To illustrate, the issue of longevity is very pertinent to the lifecycle model of savings and consumption. In this model, transfers to children could potentially be lumped into either savings or consumption, depending upon the parent's motivation for giving the transfer. On the one hand, for an altruistic parent a transfer could be considered a "consumption" good – expenditures on the child raise the parent's current utility. On the other hand, a parent who gives in the hopes that a child will provide physical, economic or emotional support as the parent ages (e.g. an "exchange" motivation) might consider a transfer to a child a method of "saving." In the first case, a *shorter* life expectancy would be related to a parent consuming more in the present, and thus giving more to the child. In the second case, a *longer* life expectancy would be related to a parent saving more by giving more to the child.

The objective of this paper is to simply explore the empirical relationship between longevity and transfer behavior, to see if the correlation is positive or negative, and to then suggest potential next steps for exploring the "why", or the potential causal factors behind the relationship. I start by examining the unconditional means of transfer incidence and amount based on different subjective survival probabilities, to see what the patterns of giving are for people with different expectations of living to age 85. Then I condition upon variables that we know are related to transfers, to see if controlling for income and educational differences, for example, unconditional correlations exist between subjective survival probability and transfers. Finally, I discuss potential next steps for research in this area.

3. The Data

The Health and Retirement Study (HRS) is a panel dataset examining respondents who were between the ages of 51 and 61 at the first wave of the study in 1992, along with their spouses. The purpose of the study is to survey older Americans as they move into retirement in order to capture a wide variety of information regarding their health, finances, retirement planning, family relationships, social support and use of Social Security, Medicare and other public and private benefits. In the first and in subsequent waves the HRS applied "direct" measurement to expectational issues, such as expected longevity, age at retirement, adverse health events, the macroeconomic environment they would face in the future, and their ability to count on benefits such as Social Security. (For more information, see Juster and Suzman, 1995.)

The subsample I use from the HRS is the 1,860 unmarried (divorced, widowed, never-married) respondents with at least one child who responded in HRS Wave 1 to the question:

> "Using any number from zero to ten where 0 equals absolutely no chance and 10 equals absolutely certain, what do you think are the chances you will live to be 75 or more? To 85 or more?"

This sample includes 1353 mothers and 507 fathers with an average age of 55.5 and with an average of 3.3 children. Using these parents, I examine ***matched*** parent-child pairs, (transfers given by the parent to a particular child) and I also examine ***aggregate*** transfers, or the sum of all transfers given by the parent to all his or her children. There are 6,480 matched parent-child pairs. The benefit of using the matched sample is that in the conditional correlations I can control more completely for the characteristics of the recipient child. The benefit of the aggregate sample is that I can relate life expectancy to total giving to all children.

I use the age 85 probability response rather than the age 75 probability because the higher age incorporates information regarding the younger age and provides a better proxy for the actual subjective lifespan.

While I use the subjective survival probability responses from Wave 1, I aggregate transfers across Waves 1 through 5. This longer time horizon allows me to observe more transfer instances for each parent. One problem with doing this, however, is that not all respondents in Wave 1 participated in all 5 waves. There was some overall attrition, and some respondents are missing one or two interim waves, reappearing later in the panel. Obviously, a respondent who participates in more waves is more likely to report a transfer to a child, and would have a higher aggregate transfer amount. There are two ways to account for this, which are to only include the respondents who participated in all five waves, or to somehow control for missing interview years. For robustness, I do both. The basic results to follow include all unmarried parents who participated in Wave 1. I use the larger group (with attrition) to report the basic results, because it is likely that attrition is correlated with unobservables that are somehow related to subjective survival probability. Those parents who are not observed in later waves are more likely to, on average, have a lower subjective survival probability, and to eliminate them would eliminate information from the lower end of the subjective survival probability range.[5] To control for the fact that the sum of transfer amounts for Waves 1 through 5 will be higher for those who participated in more waves, I sum the transfers and divide by the number of waves the parent participated in, giving a per wave average transfer. This alone, however, will still lead to a higher probability of the incidence of a transfer for those who participate in more waves. For that reason, in the conditional correlations, I also include an index variable for total waves the respondent participated in, ranging from 1 to 5.

I reexamine each question using only the parents who participated in all 5 waves. The results are almost completely robust to using this subsample, and where they are not it is noted below.

[5] There is some information available about the reason for attrition, but only if the interviewer was able to track down a family member, so this information is incomplete.

I should also note that throughout this examination of longevity and transfers, I examine mothers and fathers separately. (In the conditional correlations, I control for "male".) Giving by unmarried mothers and fathers in the HRS is quite different, as shown in Table 1. *Unmarried* fathers are about 40% more likely than unmarried mothers to provide a transfer to a child, and give about 72% more when a transfer is given. (The percentage differences are very similar when looking at aggregate transfers.) These differences are highly significant, and so I divide the sample by gender when practical to help provide any insight into these differences. [6]

Table 1 – Incidence and Amount of Transfers by Unmarried Mothers and Fathers Participating in at least Wave 1 of the HRS

	Matched Transfer Incidence	Matched Mean Transfer Amount	Aggregated Transfer Incidence	Aggregated Mean Transfer Amount
All	.247 *n=6480*	$1420 *n=1598*	0..481 *n=1946*	$2424 *n=936*
Mothers	.224 *n=4894*	$1154 *n=1094*	0.457 *n=1418*	$1948 *n=648*
Fathers	.318 *n=1586*	$1996 *n=504*	0.545 *n=528*	$3493 *n=288*
t-test	-7.600***	-3.116***	-3.482***	-2.560**

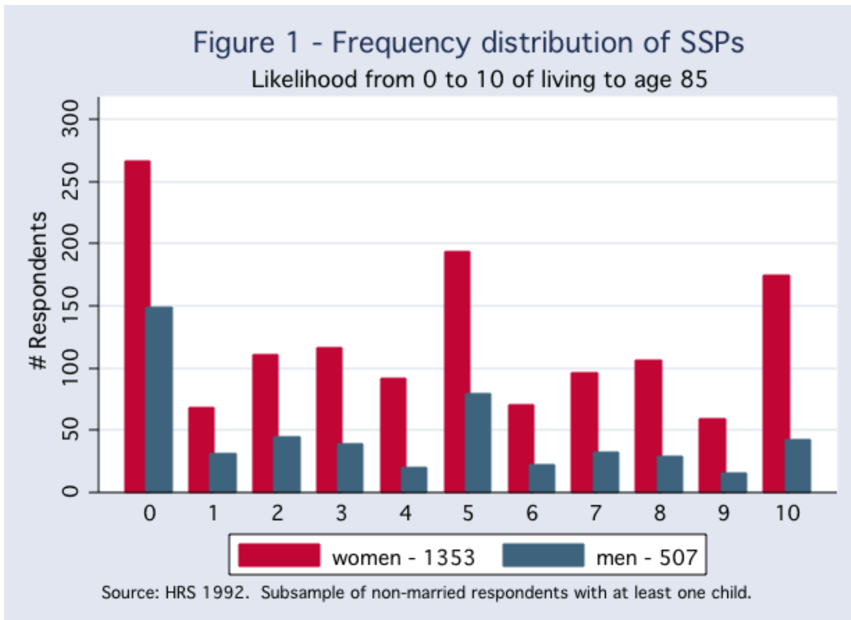
Note: Data from Health and Retirement Survey. Transfer data is summed across Waves 1-5 and divided by number of waves the parent participated in, giving a per wave average transfer. Matched transfers are the per wave average transfer given to a particular child who is indentified in the sample. Aggregated transfers are the sum of the per wave average transfer given to all children of respondent.
* p<.10, **p<.05, ***p<.01

4. The Distribution of SSP Responses and Unconditional Correlations

Figure 1 shows the distribution of the responses to the question regarding subjective survival probability by unmarried mothers and fathers in the sample described above. There is some clustering of the responses, for both women and men, at 0, 5 and 10. Hurd and McGarry (1995) note that this clustering could be due to the coarseness of the scale offered (a very optimistic person might round a 95% subjective survival probability up to 100% and answer "10"), but more likely is due to misunderstanding or the inability to evaluate the question properly. They conclude that despite this clustering, and some

[6] This result for fathers does not hold when fathers are married or remarried. For example, remarried fathers have been shown to give less and less often than remarried mothers to their biological children of a former relationship (Way, 2007, Way, 2009).

other inconsistencies noted in their paper, the responses still act like probabilities and aggregate to reasonable approximations of the life tables.



The SSP responses are divided almost 50/50 along the response of 5, so as a first look at transfers and SSP, I examine "High SSP" respondents (those who respond that their probability of living to age 85 is 5 or higher) and "Low SSP" respondents (those who respond 4 or lower). Table 2 shows aggregate transfers to children (again, the sum of one parents' transfers to all his or her children) broken down along these lines, first for the larger sample, who participated in at least Wave 1, and then for the subsample who participated in all of Waves 1-5.

Mothers in particular show a significant difference in incidence of giving between those who think they have at least a 50% chance of living to age 85, and those who think they have less than a 50% chance. About 51% of High SSP mothers give to at least one of their children in the 10 years surveyed, while about 42% of Low SSP mothers give. (This rate changes to 60% vs 50% if I only examine those who participate in all 5 waves, which is a similar difference.) The difference in amount given is only borderline significant (10% level) for the larger sample, and insignificant for the smaller sample, with the per wave transfer amount about $700 higher for High SSP mothers.

Table 2 – Incidence and Amount of Aggregate Transfers to Children by High and Low Subjective Survival Probability

Parents Participated in at least Wave 1						
	All Parents		**Mothers Only**		**Fathers Only**	
	Incidence of a transfer *n=1860*	Mean Transfer *n=911*	Incidence of a transfer *n=1353*	Mean Transfer *n=630*	Incidence of a transfer *n=507*	Mean Transfer *n=281*
Low SSP	0.450 *n=937*	$2012 *n=422*	0.415 *n=653*	$1553 *n=271*	0..532 *n=284*	$2836 *n=151*
High SSP	0.530 *n=923*	$2782 *n=489*	0.513 *n=700*	$2266 *n=359*	0.583 *n=223*	$4209 *n=130*
t-test	-3.435***	-1.343	-3.620***	-1.781*	-1.152	-0.8436
Parents Participated in all of Waves 1-5						
	All Parents		**Mothers Only**		**Fathers Only**	
	Incidence of a transfer *n=1209*	Mean Transfer *n=691*	Incidence of a transfer *n=918*	Mean Transfer *n=504*	Incidence of a transfer *n=251*	Mean Transfer *n=172*
Low SSP	.535 *n=576*	$2171 *n=308*	0.496 *n=427*	$1702 *n=212*	0.644 *n=149*	$3206 *n=96*
High SSP	0..621 *n=593*	$2092 *n=368*	0.595 *n=491*	$1904 *n=292*	0.745 *n=102*	$2812 *n=76*
t-test	-2.981 ***	0.251	-2.994***	-0.725	-1.692*	0.430

Note: Data from Health and Retirement Survey. Transfer data is summed across Waves 1-5 and divided by number of waves the parent participated in, giving a per wave average transfer. Aggregated transfers are the sum of the per wave average transfer given to all biological children of respondent.

* p<.10, **p<.05, ***p<.01

Fathers show an overall higher rate of giving, but the difference between Low and High SSP fathers is insignificant in the larger sample, and is borderline significant in the subsample of those in all 5 waves. It is interesting to note, however that the difference is about 11%, from 75% for High SSP fathers to 64% for Low SSP fathers, which is very similar to the difference for mothers.

There are, of course, many other differences between people who believe they have a higher longevity and people who believe they have a lower longevity. Income and education are two key characteristics which are strongly correlated with both longevity and transfers. Table 3 shows the breakdown of sample characteristics which will be used as controls for the conditional correlations presented later, by Low and High SSP, for the full sample of unmarried parents.

Table 3 – Sample Characteristics by Low and High Subjective Survival Probability (SSP)

	Full Sample n=1860	Low SSP n=937	High SSP n=923	t-test
Parent's Characteristics				
Male	.271	.303	.242	2.983***
Age	55.5	55.6	55.3	2.082**
Black	.334	.246	.379	-4.749***
Income	$25,974	$24,043	$28,545	-3.318***
Net Worth	$92,028	$77,679	$105,251	-2.434**
Biological Children	3.33	3.35	3.26	0.986
% male children	.505	.521	.497	1.577
Mean age children	29.4	29.4	29.1	1.301
Ed less than H.S.	.373	.401	.319	3.729***
High School Ed	.327	.353	.312	1.888*
Some College	.173	.150	.200	-2.838***
College Ed	.054	.042	.070	-2.707***
Grad School Ed	.073	.053	.099	-3.696***
Prob live to 85	4.35	1.41	7.32	-73.898***
Transfer to any child	.481	.450	.530	-3.435***
Mean transfer to all children	$2424	$2012	$2782	-1.343
Children's Characteristics	**n=6480**	**n=3140**	**n=3010**	
Male	.498	.508	.494	1.144
Age	29.6	29.5	29.4	0.860
Married	.476	.489	.458	2.423**
Has a child	.609	.626	.585	3.279***
Lives <10 miles from parents	.465	.488	.439	3.801***
Income <10K	.234	.232	.223	0.894
Income 10K to 25K	.373	.384	.363	1.520
Income >25K	.335	.328	.356	-2.033**
Ed less than H.S.	.203	.220	.181	3.687***
High School Ed	.471	.280	.456	1.827*
Some College	.178	.169	.191	-2.259**
College Ed	.116	.105	.131	-3.179***
Grad School Ed	.033	.027	.040	-2.761***
Transfer received	.247	.221	.288	-6.054***
Amt of transfer received	$1419	$1224	$1588	-1.335

Note: Data from Wave 1 of Health and Retirement Survey, 1992, except transfer data which is summed across Waves1-5 and reported per wave.
[†]Amount of transfer given/received if the parent gave or child received a transfer
* p<.10, **p<.05, ***p<.01

High SSP respondents have higher mean income and wealth, they are more likely to have at least some post-secondary education and they are more likely to be black.[7] They are also more likely to be female, and are slightly younger than their Low SSP counterparts. As noted before, they give transfers at a higher rate. Their children are less likely to be married, less likely to have children and less likely to live within 10 miles of their parents. They are more likely to have an income of over $25,000 per year and are more likely to have some post-secondary education. These differences may be driving the differences in transfer behavior for people of higher and lower expected longevity.

Next I look at the incidence of transfers based on SSP response, from 0 to 10. Figures 2a (all Wave 1 respondents) and 2b (only respondents who participated in all 5 waves) show the percent of mothers and fathers in each SSP category who gave a transfer to at least one of their children in any of Waves 1-5. Mothers slow a slight, though bimodal, upward trend, which is clearer in the subsample of those who participated in all 5 waves. Fathers only show a very slight upward trend in the subsample, and like mothers the pattern shows peaks both in the upper and the lower ranges of the SSP responses.

[7] Actuarially, blacks are less likely to live to age 85 than whites, and this inconsistency between the self-reported survivial probability and actual probability is noted and discussed in Hurd and McGarry (1995).

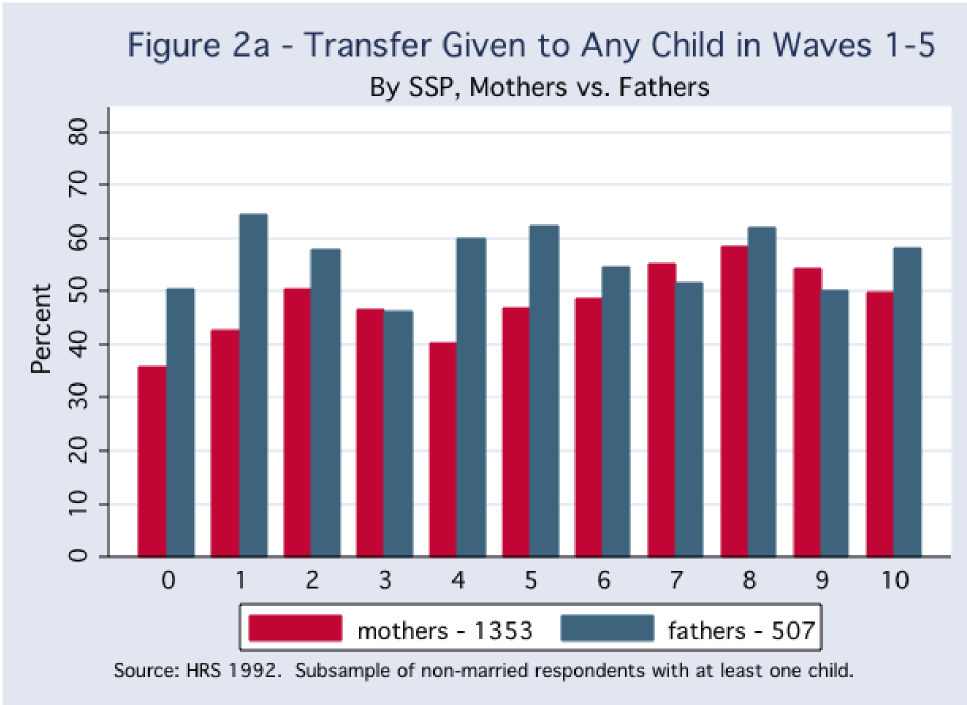


Figure 2a - Transfer Given to Any Child in Waves 1-5
By SSP, Mothers vs. Fathers
Percent
0
10
20
30
40
50
60
70
80
0
1
2
3
4
5
6
7
8
9
10
mothers - 1353
fathers - 507
Source: HRS 1992. Subsample of non-married respondents with at least one child.

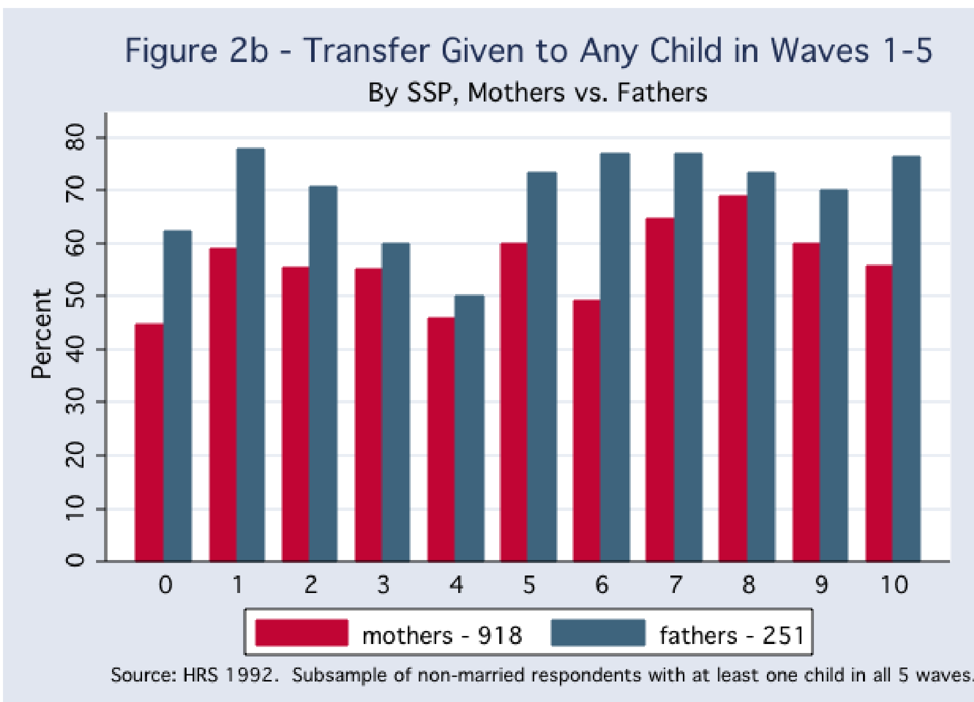


Figure 2b - Transfer Given to Any Child in Waves 1-5
By SSP, Mothers vs. Fathers
Percent
0
10
20
30
40
50
60
70
80
0
1
2
3
4
5
6
7
8
9
10
mothers - 918
fathers - 251
Source: HRS 1992. Subsample of non-married respondents with at least one child in all 5 waves.

What are the simple correlation coefficients between SSP and giving? Table 4 shows a moderate positive correlation between mothers' SSP and transfer incidence (0.11), and a borderline significant positive correlation between mother's SSP and the amount of a transfer (.07), which does not hold for the subsample. Fathers show no unconditional correlation between transfers and SSP. These results are consistent with the observations above from Table 2 and Figures 2a and 2b. Unconditionally, mothers who think they are going to live longer give more often, and might give a little more. For fathers, there seems to be no correlation.

Table 4 – Correlation Coefficients – SSP and Transfer Incidence and Amount

	In at least Wave 1		In all of Waves 1 to 5	
Correlation between SSP	***and incidence of a transfer to any child***	***and sum of transfers to all children***	***and incidence of a transfer to any child***	***and sum of transfers to all children***
All Parents	0.0807***	0.0213	0.0735 **	-0.0323
Mothers only	0.1082***	0.0745*	0.0916***	0.0044
Fathers only	0.0415	0.0092	0.0857	-0.0374

But the conditional correlations, controlling for other factors such as income and education, could be quite different. I next use a probit analysis to obtain the conditional correlations between SSP and transfer incidence, and an OLS projection to obtain the conditional correlations between SSP and transfer amount (in logs).

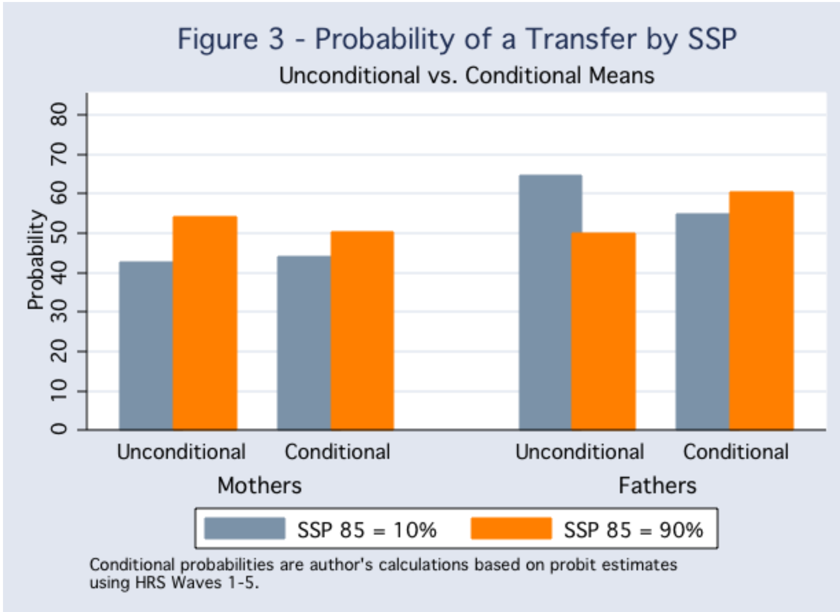
5. Conditional Correlations

The control variables are listed in Table 3, and except for subjective survival probability, are those typically included in the analysis of transfers. I analyze both the matched transfers between the parent and a given child, and the aggregate transfers of the parent to any child. For the matched parent-child transfers, I allow for the clustering of errors on the parent id, because a single parent is likely to have more than one child in the sample.

In both the probit and OLS analyses, I first include the subjective survival probability as a control variable, and then I include the subjective survival probability interacted with “male”, to see if the relationship between SSP and transfers may be different between mothers and fathers. The results are in Table 4a (matched transfers) and 4b (aggregate transfers). (The results are robust to limiting the sample to respondents who participated in all five waves, and those tables are shown in Appendix Tables A1a and A1b.)

Unlike in the unconditional tables above, the correlation of SSP with transfer incidence, while slight, is the same for mothers and fathers. Both genders show an increase of about 0.8% in the likelihood of providing a transfer to a child for every 1 point (10%) increase in their subjective survival probability. The magnitude of the increase is about the same at 0.9% when aggregate transfers (or giving to any child) are considered. The interaction of “male” with SSP is insignificant, but men overall are about 5% more likely to give to a specific child, and are 16% more likely to give to any of their children.

Figure 3 illustrates the unconditional vs.conditional transfer probabilities of two groups of mothers and fathers: those who believe they have a 10% likelihood of living to age 85 and those who believe they have a 90% likelihood. While the differences in conditional probabilities are not dramatic, they exist and it would be interesting to better understand what drives them.



The OLS projection of aggregate transfers on the control variables (Table 4b) shows a positive correlation between SSP and transfer amount, with the aggregate transfer amount increasing by about 4% for every 1 point (10%) increase in subjective survival probability. This shows that a parents' giving on aggregate does increase with their belief that they will live to age 85, although there is no implication of causality here. This correlation does not exist in the matched parent-child transfer sample. Why might the correlation exist in the aggregate sample and not in the matched sample? The lack of correlation in the matched sample does make sense when one considers that a parent's SSP in the matched sample is constant, while the amount he or she gives to each of his or her children could be very different based on the children's relative characteristics. This would be expected to work against a correlative relationship. On the whole, however, parents dole out more when they expect to live longer.

Overall, this tells us that holding all else equal, a parent who believes there is a 90% chance of living to age 85 will give about 32% more to their children than one who believes there is a 10% chance of living to age 85. Given that the average aggregate transfer, when one is given, is about $2400, this would represent about $730. This figure is on a per wave basis, so over time, the difference in giving could be quite substantial.

Table 4a –Unmarried Parents – Matched Parent-Child Transfers
(Respondents participated in at least HRS Wave 1)

	dProbit			dProbit			OLS			OLS		
	dF/dx	**z**	**p>z**	**dF/dx**	**z**	**p>z**	**Coef.**	**t**	**p>t**	**Coef.**	**t**	**p>t**
Number of Waves	0.063***	9.68	0.000	0.063***	9.70	0.000	-0.129***	-3.13	0.002	-0.130****	-3.13	0.002
Male	0.054**	2.51	0.012	0.059*	1.91	0.056	0.175	1.55	0.121	0.223	1.37	0.172
Age	0.002	0.89	0.375	0.002	0.89	0.374	0.026	1.62	0.105	0.026	1.61	0.107
SSP	0.008***	2.80	0.005	0.008**	2.47	0.014	-0.005	-0.31	0.755	-0.001	-0.05	0.959
M*SSP				-0.001	-0.20	0.843				-0.012	-0.37	0.711
Log income	0.025***	3.34	0.001	0.025***	3.34	0.001	0.089**	2.12	0.034	0.090**	2.12	0.034
Log net worth	0.018***	5.30	0.000	0.018***	5.30	0.000	0.074***	3.83	0.000	0.074***	3.83	0.000
Black	-0.003	-0.16	0.872	-0.003	-0.15	0.878	-0.151***	-5.20	0.000	-0.359***	-3.17	0.002
# Biological kids	-0.042***	-8.17	0.000	-0.042***	-8.14	0.000	-0.362***	-3.21	0.001	-0.151***	-5.22	0.000
High school	0.045**	2.05	0.040	0.045	2.05	0.040	0.325**	2.55	0.011	0.321**	2.52	0.012
Some college	0.116***	4.10	0.000	0.116***	4.10	0.000	0.359**	2.41	0.016	0.356**	2.39	0.017
College education	0.199***	4.60	0.000	0.198***	4.60	0.000	0.023	0.11	0.913	0.019	0.09	0.929
Graduate education	0.297***	6.02	0.000	0.297***	6.00	0.000	0.545***	2.70	0.007	0.541***	2.67	0.008
Kid inc bet. 10-25K	-0.028	-1.44	0.151	-0.029	-1.45	0.148	-0.194*	-1.71	0.087	-0.197*	-1.73	0.084
Kid inc >25K	-0.057***	-2.60	0.009	-0.057***	-2.61	0.009	-0.288**	-2.26	0.024	-0.290**	-2.26	0.024
Kid HS education	-0.027	-1.14	0.252	-0.027	-1.14	0.253	0.252*	1.87	0.063	0.253*	1.87	0.061
Kid some college	0.003	0.11	0.910	0.003	0.11	0.911	0.240	1.52	0.129	0.241	1.52	0.128
Kid college	-0.053*	-1.76	0.079	-0.053*	-1.76	0.078	0.456**	2.37	0.018	0.457**	2.37	0.018
Kid grad education	-0.012	-0.30	0.762	-0.012	-0.30	0.763	0.699**	2.55	0.011	0.702**	2.55	0.011
Kid male	-0.037***	-2.81	0.005	-0.037***	-2.79	0.005	-0.080	-1.04	0.300	-0.078	-1.02	0.307
Kid married	-0.073***	-4.55	0.000	-0.073***	-4.53	0.000	0.025	0.27	0.789	0.024	0.26	0.793
Kid age	-0.008***	-4.99	0.000	-0.008***	-5.00	0.000	-0.027***	-2.77	0.006	-0.027***	-2.78	0.006
Kid has kid	0.059***	3.78	0.000	0.059***	3.76	0.000	0.051	0.51	0.613	0.051	0.51	0.609
Kid lives <10 miles	0.069***	4.67	0.000	0.069***	4.66	0.000	0.032	0.39	0.696	0.032	0.39	0.697
_constant	-----------	-------	--------				4.569***	4.65	0.000	4.574***	4.65	0.000
Observations	4416						1152					
R-squared	0.1984						0.2159					
Wald chi^2	482.30											
Prob >chi^2	0.0000											
F(23, 717)							10.15					
Prob>F							0.000					
# clusters/groups	1544						718					

Note: Data from Health and Retirement Survey, Waves 1-5. Dependent variable for probit : incidence of a transfer in Waves 1-5.
Dependent variable for OLS : Mean transfer per wave in Waves 1-5, if transfer took place.
* p<.10, **p<.05, ***p<.01

Table 4b –Unmarried Parents – Aggregated Transfers

(Respondents participated in at least two waves of the HRS Waves 1-5)

	dProbit			dProbit			OLS			OLS		
	dF/dx	**z**	**p>z**	**dF/dx**	**z**	**p>z**	**Coef.**	**t**	**p>t**	**Coef.**	**t**	**p>t**
Number of Waves	0.105***	10.75	0.000	0.105***	10.70	0.000	-0.104**	-2.51	0.012	-0.106**	-2.54	0.011
Male	0.164***	5.12	0.000	0.169***	3.60	0.000	0.288**	2.50	0.013	0.361**	2.08	0.037
Age	-0.004	-0.84	0.399	-0.004	-0.84	0.400	0.018	1.04	0.299	0.018	1.02	0.306
SSP	0.009**	2.26	0.024	0.009**	2.02	0.044	0.039***	2.67	0.008	0.044**	2.54	0.011
Male*SSP				-0.001	-0.13	0.893				-0.017	-0.56	0.572
Log income	0.021**	2.37	0.018	0.021**	2.38	0.018	0.109***	3.08	0.002	0.109***	3.08	0.002
Log net worth	0.022***	5.55	0.000	0.022***	5.55	0.000	0.081***	4.70	0.000	0.081***	4.71	0.000
Black	-0.043	-1.46	0.144	-0.043	-1.46	0.145	-0.296***	-2.64	0.008	-0.292**	-2.60	0.010
# Biological kids	0.002	0.24	0.808	0.002	0.24	0.811	-0.031	-0.91	0.365	-0.032	-0.93	0.352
High school	0.152***	4.55	0.000	0.152***	4.55	0.000	0.337**	2.46	0.014	0.335**	2.45	0.015
Some college	0.204***	5.01	0.000	0.204***	5.00	0.000	0.519***	3.31	0.001	0.517***	3.29	0.001
College education	0.304***	5.24	0.000	0.304***	5.22	0.000	0.348*	1.67	0.095	0.343*	1.65	0.100
Graduate	0.323***	6.03	0.000	0.323***	6.02	0.000	0.944***	4.94	0.000	0.939***	4.91	0.000
# Kids < 10 miles	0.022**	1.97	0.049	0.022**	1.97	0.048	0.029	0.67	0.503	0.031	0.70	0.484
% Kids male	-0.087**	-2.15	0.031	-0.087**	-2.15	0.032	-0.481***	-3.23	0.001	-0.479***	-3.22	0.001
Kids' mean age	-0.003	-0.84	0.403	-0.003	-0.84	0.400	-0.033***	-2.98	0.003	-0.033***	-2.98	0.003
Constant							4.957***	5.30	0.000	4.951***	5.29	0.000
Observations	1687			1687			837			837		
R-squared	0.1590			0.1590			0.1942			0.1946		
Chi^2	371.86			371.85								
Prob >chi^2	0.000			0.000								
F(15, 821), (16, 21)							13.19			12.38		
Prob>F							0.0000			0.0000		

Note: Data Health and Retirement Survey, Waves 1-5. Dependent variable for probit : incidence of a transfer to any biological child in Waves 1-5.
Dependent variable for OLS : Sum of mean transfer per wave in Waves 1-5 given to all children, if transfer took place.
* p<.10, **p<.05, ***p<.01

6. Discussion

Why might a positive correlation between transfers and subjective survival probability exist? To some extent, it is counter-intuitive to think of a person being more likely to give away money the longer they expect to live. Savings should increase in preparation for more years of retirement, for example. This takes us back to the illustration of this question that I mentioned earlier, discussing transfers as a possible consumption or savings "good" in the lifecycle model. Spending more on transfers given a longer anticipated lifespan could be a form of savings, consistent with the exchange model of transfers. Exchange relationships, whereby parents provide a transfer to children as a form of payment for some type of service, be it physical or emotional, from their children, are well documented in the transfers literature. (Bernheim, Shleifer and Summers, 1985, Cox, 1987, Cox and Rank, 1992.) This relationship has been explored for the elderly as well. Henretta, et al (1997) used survey data from the AHEAD cohort of the Health and Retirement Study (which surveyed the "oldest of the old") to find a large and significant positive correlation between past financial transfers to children and caregiving provided to parents. Koh and MacDonald (2006) found a similar result using data from the Wisconsin Longitudinal Study. Given that age is strongly positively related to frailty and disability, it is possible that parents who anticipate a longer lifespan might plan ahead to some extent, by giving more to their children. It may be a way of saying, "I'm here for you, so in the future you will be here for me." This would assume some causal relationship, which I have not established here, but future studies could delve into this "pre-purchase of services" question more deeply.

Other potential reasons for this positive correlation between expected longevity and transfers could simply be unobservable qualities of the parents (or children) that are correlated with both variables. Particularly optimistic people could also be particularly generous. Parents who have a strong relationship with their children may provide more transfers and may also be physically and emotionally healthier overall and thus expect to live longer. Children who are generous with their time and attention toward their parents may both receive more transfers and increase their parent's sense of well-being.

Some of these "unobservables" are potentially measurable. The HRS and other studies provide many questions that attempt to measure the quality of the parent-child relationship. One avenue for further study is to include these variables as controls to see if the longevity relationship still holds.

Another next step is to see if the relationship between subjective survival probability and transfers is the same for married parents as unmarried parents. This could shed more light on the potential dynamics behind the relationship. For example, if the relationship between expected longevity and transfers is consistent between unmarried and married people, that would point us away from the explanation that a "pre-payment of services" motivation is driving the giving. Spouses are far more likely to provide caregiving services to each other as they age than they are to get those services from their children. (Uhlenberg and Cheuk, 2008)) Married parents have far less motivation for pre-paying for services than unmarried parents do.

7. Conclusion

As the population ages, and the life expectancy of Americans continues to increase, the relationships between older Americans and their children becomes an increasingly important topic for economists, sociologists and policy-makers. This paper sheds light on one important aspect of that relationship, showing that parents' expectations of their own longevity are positively related to giving a financial transfer to their child or children. While more research is needed to determine the causal channels, this result implies that financial ties between the generations could be intensifying as parents anticipate a longer lifespan. In light of the current instability in private retirement funding, and the uncertainty of the future stability of the Social Security and Medicare systems, the ability to count on the younger generation is becoming increasingly important for the financial security of the elderly. Understanding how the financial and other links between the generations may be changing as the baby-boomers plan for longer lives is critical for economists and policy-makers involved in retirement issues, as well as in any area where intergenerational transfers play a role in people's welfare.

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Table A1a –Unmarried Parents – Matched Parent-Child Transfers
(Respondents participated in all five of HRS Waves 1-5)

	dProbit			dProbit			OLS			OLS		
	dF/dx	z	p>z	dF/dx	z	p>z	Coef.	t	p>t	Coef.	t	p>t
Male	0.064*	1.93	0.053	0.085*	1.77	0.077	0.180	1.33	0.185	0.034	0.17	0.863
Age	0.009**	2.08	0.038	0.009**	2.10	0.036	0.031*	1.65	0.099	0.032*	1.68	0.094
SSP	0.011***	2.98	0.003	0.012***	2.95	0.003	-0.010	-0.59	0.552	-0.020	-1.05	0.295
M*SSP				-0.005	-0.55	0.581				0.036	0.96	0.338
Log income	0.037***	3.52	0.000	0.037***	3.51	0.000	0.104*	1.66	0.097	0.103*	1.65	0.099
Log net worth	0.023***	4.60	0.000	0.023***	4.64	0.000	0.100***	4.49	0.000	0.099***	4.43	0.000
Black	0.005	0.16	0.875	0.005	0.19	0.852	-0.330***	-2.62	0.009	-0.342***	-2.72	0.007
# Biological kids	-0.064***	-8.78	0.000	-0.064***	-8.76	0.000	-0.126***	-3.76	0.000	-0.122***	-3.60	0.000
High school	0.028	0.87	0.387	0.027	0.86	0.391	0.348**	2.43	0.016	0.357**	2.48	0.013
Some college	0.117***	2.89	0.004	0.116***	2.88	0.004	0.342**	2.02	0.044	0.346**	2.06	0.040
College education	0.213***	3.75	0.000	0.213***	3.76	0.000	-0.143	-0.60	0.546	-0.133	-0.56	0.573
Graduate education	0.276***	4.37	0.000	0.273***	4.33	0.000	0.559**	2.35	0.019	0.584**	2.42	0.016
Kid inc bet. 10-25K	-0.055**	-2.05	0.041	-0.055**	-2.07	0.038	-0.185	-1.46	0.146	-0.180	-1.41	0.159
Kid inc >25K	-0.099***	-3.12	0.002	-0.099***	-3.14	0.002	-0.210	-1.41	0.158	-0.207	-1.38	0.167
Kid HS education	-0.034	-0.95	0.340	-0.035	-0.97	0.333	0.289*	1.84	0.066	0.292*	1.85	0.064
Kid some college	0.007	0.17	0.866	0.006	0.15	0.880	0.246	1.35	0.176	0.250	1.36	0.173
Kid college	-0.055	-1.21	0.227	-0.056	-1.22	0.221	0.457**	2.06	0.040	0.461**	2.07	0.039
Kid grad education	0.009	0.15	0.878	0.009	0.14	0.885	0.492*	1.74	0.083	0.483*	1.70	0.090
Kid male	-0.067***	-3.40	0.001	-0.066***	-3.38	0.001	-0.082	-0.87	0.383	-0.084	-0.89	0.375
Kid married	-0.061**	-2.55	0.011	-0.061**	-2.53	0.011	0.008	0.07	0.945	0.009	0.08	0.933
Kid age	-0.011***	-4.35	0.000	-0.011***	-4.38	0.000	-0.024**	-2.08	0.038	-0.023**	-2.03	0.042
Kid has kid	0.088***	3.74	0.000	0.087***	3.71	0.000	0.113	0.98	0.326	0.113	0.98	0.327
Kid lives <10 miles	0.059***	2.78	0.005	0.060***	2.79	0.005	0.044	0.46	0.648	0.046	0.48	0.634
_constant							3.029**	2.52	0.012	3.032**	2.52	0.012
Observations	2703			2703			881			881		
R-squared	0.1791			0.1793			0.2046			0.2058		
Wald chi^2	319.8			319.99								
Prob >chi^2	0.0000			0.000								
F(22, 541)/(23,541)							7.49			7.21		
Prob>F							0.0000			0.0000		
# clusters/groups							542			542		

Note: Data from Health and Retirement Survey, Waves 1-5. Dependent variable for probit : incidence of a transfer in Waves 1-5.
Dependent variable for OLS : Mean transfer per wave in Waves 1-5, if transfer took place.
* p<.10, **p<.05, ***p<.01

Table A1b –Unmarried Parents – Aggregated Transfers
(Respondents participated in all 5 waves of the HRS Waves 1-5)

	dProbit			dProbit			OLS			OLS		
	dF/dx	**z**	**p>z**	**dF/dx**	**z**	**p>z**	**Coef.**	**t**	**p>t**	**Coef.**	**t**	**p>t**
Male	0.146***	3.63	0.000	0.124**	2.12	0.034	0.288**	2.08	0.038	0.235	1.12	0.261
Age	0.000	-0.05	0.959	0.000	-0.06	0.948	0.042**	2.12	0.035	0.043**	2.12	0.034
SSP	0.009*	1.81	0.070	0.008	1.40	0.160	0.036**	2.11	0.036	0.032	1.63	0.103
Male*SSP				0.007	0.54	0.589				0.013	0.34	0.731
Log income	0.029**	2.51	0.012	0.029**	2.52	0.012	0.074	1.62	0.105	0.074	1.62	0.105
Log net worth	0.021***	4.36	0.000	0.021***	4.36	0.000	0.105***	5.07	0.000	0.105***	5.04	0.000
Black	-0.070**	-1.96	0.049	-0.071**	-1.97	0.049	-0.163	-1.23	0.219	-0.165	-1.25	0.213
# Biological kids	-0.007	-0.60	0.547	-0.006	-0.56	0.575	-0.017	-0.42	0.676	-0.016	-0.39	0.699
High school	0.142***	3.58	0.000	0.142***	3.58	0.000	0.342**	2.15	0.032	0.342**	2.14	0.032
Some college	0.201***	4.20	0.000	0.201***	4.20	0.000	0.468**	2.57	0.010	0.469**	2.57	0.010
College education	0.256***	3.95	0.000	0.257***	3.96	0.000	0.223	0.94	0.348	0.225	0.95	0.344
Graduate	0.267***	4.42	0.000	0.268***	4.44	0.000	1.036***	4.68	0.000	1.041***	4.69	0.000
# Kids < 10 miles	0.021	1.48	0.139	0.020	1.44	0.151	0.066	1.28	0.201	0.066	1.26	0.208
% Kids male	-0.108**	-2.25	0.024	-0.108**	-2.27	0.023	-0.634***	-3.72	0.000	-0.634***	-3.72	0.000
Kids' mean age	-0.003	-0.73	0.466	-0.003	-0.71	0.477	-0.035***	-2.62	0.009	-0.035***	-2.62	0.009
Constant							3.219***	2.96	0.003	3.226	2.97	0.003
Observations	1069			1069			628			628		
R-squared	0.1187			0.1189			0.1954			0.1956		
Chi^2	172.00			172.29								
Prob >chi^2	0.0000			0.0000								
F(14, 613), (15,612)							10.64			9.92		
Prob>F							0.0000			0.000		

Note: Data Health and Retirement Survey, Waves 1-5. Dependent variable for probit : incidence of a transfer to any biological child in Waves 1-5.
Dependent variable for OLS : Sum of mean transfer per wave in Waves 1-5 given to all children, if transfer took place.
* p<.10, **p<.05, ***p<.01