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IS A BIRD IN HAND WORTH MORE THAN A BIRD IN THE BUSH? INTERGENERATIONAL TRANSFERS AND SAVINGS BEHAVIOR

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ABSTRACT

This paper provides new evidence on the decomposition of aggregate household wealth into life-cycle and transfer wealth. Using the 1998 Survey of Consumer Finances, it finds that transfer wealth accounts for approximately one-fifth to one-quarter of aggregate wealth, suggesting a larger role for life-cycle savings than some previous estimates. Despite the smaller aggregate size of transfer wealth, its concentration among a small number of households suggests that it can still have an important effect on the savings decisions of recipients. Estimates suggest that past receipts of transfer wealth reduce life-cycle savings by as much as dollar-for-dollar, while expected future transfers do not produce such a crowd-out effect.

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"If Riches are yours, why don't you take them with you t'other world?"
Ben Franklin, Poor Richard's Almanac

Section I. Introduction

What is the source of household wealth? Economists generally agree that there are two possible sources: households can engage in life-cycle saving by not consuming all of their income, or they can receive bequests or *inter vivos* transfers from individuals outside of their household. Clearly, both forms of wealth accumulation occur. For at least two decades, however, there has been an ongoing debate about the relative magnitude of these two sources of wealth. This debate was largely started by the seminal paper of Kotlikoff & Summers (1981), which found that life-cycle wealth accounted for only 20 percent of U.S. total net worth. Other authors, notably including Franco Modigliani (1988), the "father" of the life-cycle hypothesis, responded with calculations showing that over 80 percent of net worth can be explained by life-cycle saving.

The source of household wealth is important for many reasons. For example, the behavioral effects of many government programs, such as Social Security, the taxation of savings, and targeted savings programs, will likely depend upon the source of wealth. Debates about the "fairness" of the wealth distribution in the United States, and the extent to which there is intergenerational mobility across this distribution, depends on whether wealth is primarily "earned" or inherited. The relative importance of life-cycle and transfer wealth also informs the choice of whether to use life-cycle, dynasty, or other models to represent household decision-making, and thus has implications for a broad range of policies, such as how we think about household responses to government fiscal policy.

This paper makes three contributions to this literature. First, using the 1998 Survey of Consumer Finances, we provide new evidence suggesting that transfer wealth accounts for approximately 20-25% of current household net worth, suggesting a much larger role for life-cycle savings than was found by Kotlikoff & Summers. This figure is calculated in two ways, both of which yield quite similar results: (i) direct survey evidence, and (ii) estimating of the flow of transfers in 1998 using an improved methodology that accounts for the correlation between wealth and mortality, and converting this into a stock of transfer wealth. In addition to the methodological improvement, new estimates are useful because the composition of household wealth has changed substantially over the past several decades (Juster et al, 1999).

Second, we examine the heterogeneity of the size of transfers received and expected. We demonstrate that while in aggregate, transfer wealth does not appear to be as large as some prior estimates suggest, it is nonetheless quite important for a small subset of the population. Specifically, we show that approximately one-fifth of households report receiving a transfer, and one-eighth expect a substantial transfer in the future. For those households that have received transfers, transfer wealth accounts for, on average, half of current net worth. For lower wealth households (those with less than $75,000), transfer wealth on average exceeds current wealth.

Third, we examine whether past transfers and expected future transfers cause people to save less from their labor income. In other words, does transfer wealth reduce life-cycle saving? We provide evidence that the receipt of transfers does reduce life-cycle savings, with point estimates suggesting slightly less than dollar-for-dollar crowd-out. Interestingly, we find that expected future transfers do not reduce life-cycle savings, perhaps suggesting that a bird in hand is indeed worth more than a bird in the bush.

This paper proceeds as follows. In section 2, we review some of the literature relevant to the debate over the relative importance of transfer and life-cycle wealth. We discuss our primary dataset, the 1998 wave of the Survey of Consumer Finances, in Section 3. Section 4 directly estimates transfer wealth using survey questions about the receipt of transfers. Section 5 provides an alternative estimate of transfer wealth, by calculating the flow of bequests in 1998 using wealth-adjusted mortality rates, and converting this into a flow of bequests. In Section 6, we provide evidence about the degree of heterogeneity in the importance of transfers received and expected. The question of whether transfer wealth reduces life-cycle savings is then tested in Section 7. Section 8 concludes.

Section II. Literature Review

Modigliani & Brumberg (1954) and Ando & Modigliani (1963) presented the life-cycle hypothesis (LCH), which soon emerged as the principle model of saving behavior and wealth accumulation. According to the LCH, wealth arises from households saving out of current income to finance a future period of retirement. Kotlikoff & Summers (1981) asked whether life-cycle savings alone could explain observed levels of wealth accumulation. They estimated the excess of labor earnings over consumption using aggregate data on a cohort-by-cohort basis, and then accumulated the differences to see how the aggregated savings compared to actual observed wealth. They concluded that approximately 20% of total wealth was due to life-cycle saving. They also estimated a flow of bequests using the 1962 SCF and a general mortality table, converted it into transfer wealth, and found that the net worth in 1974 was around 150 times the flow of bequests in 1974. This second approach confirmed their primary finding that the majority of aggregate wealth could be attributed to transfers.

The findings of Kotlikoff & Summers spawned a debate that is still unresolved today. The primary issues in this debate were clearly delineated in a pair of articles by Modigliani (1988) and Kotlikoff (1988). These articles highlighted several of important conceptual and methodological differences. For example, should the interest earned from an initial transfer be treated as part of the transfer, or as self-accumulated wealth? Should college aid for a dependent child over age 18 be treated as consumption or as a transfer?

Gale & Scholz (1994) extended the debate further by presenting evidence on the importance of *inter vivos* gifts, including payment of college tuition, using the 1986 SCF. Using the flow-to-stock conversion methodology (and general mortality tables), they concluded that *inter vivos* transfers account for at least 20% of U.S. wealth (32% if college aid is included) and bequests account for at least 31% of U.S. wealth.

As surveyed in Gale & Slemrod (2000), there are also a number of overlapping generations model simulations examining this issue (Masson 1986, Laitner 1990, Lord and Rangazas 1991). These models have also produced a wide range of estimates, but have made useful conceptual contributions by demonstrating how factors such as credit constraints can affect the shares of life-cycle and transfer wealth.

Finally, some studies estimate transfer wealth directly from survey responses. Hurd & Mundaca (1989), using a 1964 survey of the affluent, estimate that transfers account for roughly a quarter of total wealth, a substantially smaller share than suggested by Kotlikoff & Summers (1981).

There are several reasons to revisit this well-researched question. First, we are able to bring to bear much more recent data. Several decades have elapsed since the period examined in the Kotlikoff and Summers study, and over that time we have seen significant changes in the

composition of household portfolios. Defined benefit pension plans have been increasingly replaced by bequeathable defined contribution plans, and there is much broader ownership in equities due to the rise in mutual funds. Second, to our knowledge, no prior work measuring aggregate wealth transfers has accounted for the wealth-mortality correlation that is now known to be significant. Third, we focus attention on the concentration of bequests, and show that even if bequests are small in aggregate, they are quite significant for the households that receive them. Finally, this paper directly examines the relationship between the past and future expected receipt of transfer wealth and life-cycle savings behavior.

Section III. Data

This paper uses data from the 1998 Survey of Consumer Finances (SCF), which is a cross-sectional survey that has been conducted every three years since 1983 by the Federal Reserve Board. The data set, which is described in more detail by Kennickell, Starr-McCluer, and Surette (2000), sampled 4305 households in 1998. The SCF oversamples higher wealth households because asset ownership is highly skewed, and as a result, it is necessary to weight the data to convert sample averages to population aggregates.

In addition to collecting a rich set of data on household assets and liabilities, the SCF asks households if they have ever given financial support to relatives or friends, and the amount given. It also asks the household to provide details for up to three inheritances, gifts, or trusts that they have received including relation to donor, year received, value when received, and whether it was a bequest or an *inter vivos* transfer. Additionally, households are asked if they expect to receive a substantial transfer in the future, and if so, how much. Therefore, the SCF provides several different routes one can use to estimate transfer wealth. Two primary methods, self-reported

receipts by SCF respondents and the calculation of bequest flows from the SCF respondents, are examined in the next two sections.

Section IV. Direct Estimation of Transfer Wealth from Survey Data

The first approach we undertake is to directly estimate transfer wealth based on household reports of transfers received. While this approach is subject to limitations (Kotlikoff 1988), it provides a useful starting point. As we will show, an independent method in section 5 will produce similar results.

The SCF asks households to provide details of up to three inheritances/trusts/transfers they have received.[1] Table 1 reports inheritances and *inter vivos* transfers received in the period 1993 – September 1998 for people surveyed for the 1998 SCF. Kennickell, Starr-McCluer, and Surette report that September 1998 is the midpoint of the period during which the 1998 SCF interviews were conducted. In the data set, the date the inheritance is received is rounded to the nearest 5. Thus, "1995" corresponds to inheritances received from 1993 – 1997 and "1998" corresponds to inheritances received during the first nine months of 1998.

After converting the SCF sample averages to population aggregates using the population weights, gross transfers received from 1993 through September 1998 totaled $847 billion (1998 dollars). Just over two-thirds of the financial support came in the form of a bequest and the remaining one-third were *inter vivos* transfers. Not surprisingly, the vast majority (70%) of transfers, both bequests and *inter vivos* gifts, are from parents. Transfers from grandparents constitute 10% of total transfers.

[1] For households that have received more than three substantial transfers, the SCF asks households to value all additional transfers beyond the top three. However, the SCF does not ask the respondent to give the date of receipt or who the donor was for these additional transfers. Households report the value of the additional transfers is $20.3 billion (weighted to reflect the population).

Table 1 reported gross transfers received since 1993, but some survey respondents report receiving inheritances and *inter vivos* gifts as far back as 1940. Table 2 sums up all inheritances and transfers ever received. By summing up past transfers, we can directly estimate what fraction of current net worth is attributable to transfers received, assuming these transfers had been saved. The remaining part of net worth represents life-cycle wealth (the accumulation of differences between yearly income and consumption).

To be specific, the question we ask is, assuming everyone currently alive had saved all the transfers they received, along with the accumulated interest, how much wealth would that represent? In other words, what is the maximum portion of wealth people hold today that can be attributable to transfers they have received in the past. This is what we will define as transfer wealth throughout the paper. Importantly, our transfer wealth calculation does not represent what is actually left over from transfers received, as we have no way of knowing what fraction of transfers is consumed and what fraction is saved. Rather it represents what would be the value of all the transfers received in the past, plus accumulated interest, had they been saved. This calculation is instructive because it provides an upper bound to the value of what is actually left over from transfers received in the past.

One methodological issue that arises in aggregating past transfers is the decision about how to treat the investment returns on past transfers. Should investment returns be classified as part of transfer wealth or as part of life-cycle saving? It is our view that since life-cycle wealth can be viewed as the value of transfers given minus the value of transfers received, it is sensible to include investment returns on past transfers as part of transfer wealth.[2] Clearly, doing so will result in a higher level of transfer wealth than would the alternative. Of course, this raises

[2] Obviously this need not be a "none or all" decision. For example, one could plausibly argue that returns at the risk-free rate should be included as transfer wealth, and any excess returns be included as life-cycle wealth.

another methodological issue of what investment return to apply to past transfers. The choice of return can have a substantial impact on the current size of bequests received many years ago.

Ibbotson Associates reports that average annual inflation from 1926-98 was 3.2% in the U.S., long-term U.S. government bonds had an average nominal return of 5.7%, high-grade long-term corporate bonds had an average nominal return of 6.1%, and large company stocks had an average nominal return of 13.2%. As Tables 2a-2b demonstrate, the choice of scaling factor will have a large effect on the magnitude of gross transfer wealth.[3] The 1998 SCF estimates total net worth in 1998 at $28.8 trillion. When previous gifts are scaled by inflation only (so that investment returns are implicitly included in life-cycle wealth), transfer wealth represents only 9% of current net worth.

If instead we gross up past returns by the return offered on corporate bonds (which had a real return of approximately 3% over the past 70 years), our estimate of transfer wealth rises to $5.4 billion, or just under one-fifth (19%) of current net worth. This estimate is in line with the results of Modigliani (1988). Transfers from parents constitute 71% of the value of all transfers received and bequests constitute 78% of transfer wealth.

In Table 2b, we show how our estimates of transfer wealth would change if we assumed transfers were invested partially or fully in equities. If transfers are invested 50% in government bonds and 50% in stocks (an average real return of 6.3%), transfer wealth rises to $17.3 trillion (60% of current net worth). Finally, if all transfers are invested in large company stocks, then essentially all net worth is due to transfers received (in fact, transfer wealth actually slightly exceeds current net worth.) This choice also affects the relative importance of the source of transfers. Because gifts from grandparents were, on average, received longer ago, scaling

[3] When grossing up past transfers, we assume that transfers earn the actual rates of return observed from the date of receipt to the present (rather than assuming the transfer grows at some constant rate).

transfers by equity returns causes grandparent gifts to comprise roughly the same share of transfer wealth as do gifts from parents.

These estimates suggest that the importance of transfer wealth is quite sensitive to the treatment of investment returns. Estimates of the share of transfer wealth vary from 9% to 100% as the return is varied from inflation only to a 100% equity investment. We believe that a real rate of return of 3% seems the most plausible assumption, and thus we will scale past gifts by the corporate bond rate, unless stated otherwise, throughout the remainder of the paper.

In Table 3 we replicate the algorithm in Table 2a, only this time we use the 1989 SCF. This allows us to test whether the importance of transfers has changed over the past decade. Our estimate of transfer wealth, as a proportion of total net worth, is slightly higher than that calculated using the 1998 survey, but is still in the same ballpark. Grossing up past transfers by the corporate bond return, transfer wealth is estimated to be a quarter of total wealth in 1989, compared to one-fifth a decade later in 1998.

There is a history of studies dating back to the 1960s (e.g., Morgan, et al 1962, Projector & Weiss 1964, Barlow et al 1966, and more recently Hurd & Mundaca 1987) using survey evidence to elicit the importance of transfer wealth. We believe, however, that this is one of the first studies to calculate transfer wealth directly using recent data such as the SCF. Consistent with most of these past studies, this approach tends to result in shares of transfer wealth that are much smaller than those found by Kotlikoff & Summers (typically on the order of one-fifth to one-fourth).

The SCF is generally regarded as providing the best information on the high-net-worth segment of the population. Of the 4305 households sampled in its 1998 survey, one fourth have a net worth over a million dollars, and 245 households have a net worth in excess of $20 million.

The maximum net worth in the sample is $501 million, which corresponds to the net worth that a household needed to be included in the Forbes 400 richest Americans in 1998. This is by design, as the SCF samples up to the minimum wealth threshold of the Forbes 400. This raises the concern that the SCF might be missing the largest large transfers. Perhaps transfers are a more important source of wealth for the super rich.

To address this concern, we examined the source of wealth for the Forbes 400 richest Americans in 1998. In their profile, Forbes describes the source of wealth (i.e., inheritance, Microsoft stock, real estate, etc.). Inheritance was listed as the primary source of wealth for 82 members, or about one fifth, of the Forbes 400. For example, the top five wealthiest Americans in 1998 were all "self-made" (Gates, Buffett, Allen, Dell, Balmer), while the next five were Waltons who inherited their wealth from Sam Walton. The total net worth of the 82 members whose fortune was inherited constituted 21% of the $738 billion total net worth of the Forbes 400, surprisingly similar to our estimates in Table 2.

In the next section, we will estimate the yearly flow of bequests, and then under some steady-state assumptions calculate the stock of transfer wealth. We will show how the estimate of the share of transfer wealth is comparable to our best estimate of 20% derived directly from reported inheritances (grossing up past transfers by the corporate bond return). It is worth pointing out that our central estimate of transfer wealth does not include college financial aid received from parents (unless SCF respondents report such *inter vivos* aid as a transfer). Whether college aid represents an *inter vivos* transfer to another household or whether it should be counted as support for dependent children and thus consumption of the household is clearly debatable. We will later, however, discuss how the treatment of college aid as a transfer affects our estimates.

Section V. Estimation of Transfer Wealth from Flow of Transfers

The second approach to estimating transfer wealth involves calculating the flow of transfers for a single year, and then converting this flow into a stock of wealth. To adequately capture all sources of transfers, we need to separately estimate the flow of bequests and the flow of *inter vivos* transfers.

Previous literature (Kessler & Masson 1989, Cox & Raines 1985) has suggested that the magnitude of measured transfers is dependent on whether one asks donors or recipients. Because inheritances are more clearly defined, we should expect close agreement between the amount of inheritances reported by donors and recipients.

With *inter vivos* transfers, on the other hand, there is more room for differences. A loan, for example, may count as *inter vivos* "financial support" from point of view of the donor but not be viewed as a "gift/transfer" by the recipient. There are many other reasons to suspect underreporting bias (Gale & Scholz 1994) that would suggest a discrepancy between the *inter vivos* transfers reported by donors and recipients.

So how well do the estimates using recipient reports compare to estimates using donor reports? Table 4 calculates expected bequests in 1998 using data on net worth and life insurance and various mortality tables. When calculating the bequest, we augment net worth by the face value of life insurance held. As background, using the 1962 SCF and a general mortality table, Kotlikoff & Summers (1981) calculated the ratio of current net worth to expected bequests to be about 150. Specifically, they calculated a total 1962 net worth of $1.75 trillion and a flow of "distant in age" bequests of $12 billion.

Previous research on this topic has not adjusted mortality to reflect the correlation with wealth. Recent work by Attanasio & Hoynes (2000) has illustrated the significant mortality differentials across the wealth distribution and the implications of this correlation for studies of consumption and wealth accumulation. In this context, the effect of differential mortality can be illustrated by comparing estimates of the stock of transfer wealth under alternative assumptions about mortality. Using a general population life table provided from the Social Security Administration, we find that net worth is 160 times the estimated flow of bequests (which is $180 billion). This is extremely close to the ratio found in the 1962 SCF.

We explore two alternatives for adjusting the mortality tables. The first is to use annuitant mortality tables that reflect the mortality experience of participants in the individual annuity market, who tend to have above average incomes and wealth, as discussed by Brown, et al (2001). Because most wealth in the population (and thus in the SCF) is held by such higher income households, we feel this is an appropriate mortality table to use. A similar approach has been used by Poterba (2000) and Poterba & Weisbenner (2001) in studies of the estate tax. Using an annuitant table for 1998, we estimate a flow of bequests of about $120 billion, or about 1/240 of current wealth.

A second alternative is to use the wealth quartile mortality adjustments calculated by Attanasio & Hoynes (2000). Using this adjustment to the general population life table yields an estimate of expected bequests of $126 billion, similar to the estimate using the annuitant mortality table.[4] Therefore, using either approach to correcting the mortality estimates for the wealth-mortality correlation reduces the annual flow of bequests by approximately one-third,

[4] This assumes that all of the estate is bequeathed to a person and not to a charity. Charitable deductions comprised 6.2% of gross estate value on estate tax returns filed in 1998. This fraction was 10.4% for single decedents (source: Barry Johnson and Jacob Mikow of the Internal Revenue Service).

thus ultimately reducing our estimate of wealth accumulation from inheritances by roughly a third as well.

Using the 1995 SCF, we estimate a flow of $100 billion ($107 in 1998 dollars) of bequests during 1995 using the annuitant mortality table. Going back to table 1, the average yearly bequest received from 1993 – Sept. 1998, which would roughly correspond to 1995 bequests, was $101 billion in 1998 dollars. Thus, the estimated flow of bequests from both methodologies (direct report of recipient vs. estimate based on mortality table) are very similar, once we correct for the correlation between mortality and wealth.

Turning now to *inter vivos* transfers, table 5 reports "financial support" given to non-household members during the year. It is not clear if this includes only gifts, or if it includes loans as well (such as college support). Donors report giving financial support of $64 billion in 1997, a little more than the $47 billion of gifts/trusts that the respondents report receiving annually from 1993 – mid 1998 in Table 1. This could reflect underreporting of gifts received. It could also reflect an inclusion of loans and college aid when reporting support given, but not when reporting gifts received. However, all in all, the *inter vivos* transfer estimates are not too dissimilar.

We will now follow methodology used by Kotlikoff and Summers (1981) and Gale and Scholz (1994) to convert the flow of bequests/transfers into a stock of net transfer wealth. Net transfer wealth is the difference between the present-day value of transfers received less the present-day value of transfers given for all households currently living. The equations behind this calculation are discussed in the Appendix.

The conversion of a flow of transfers to a stock of wealth will depend upon the flow of transfers in the current year (t), the interest rate applied to past transfers (r), the growth rate of

transfers (n), the one-year mortality rate δ, the age of recipients of the transfer (I), the age of the donors (G), and the maximum age of an individual (D). A key parameter in the conversion is r–n-δ (this represents the rate at which past transfers are grossed up to calculate present-day values). Assuming that transfers grow at the rate of income, Kotlikoff & Summers (1981) and Gale & Scholz (1994) suggest that r-n is roughly .01 based on historical averages.[5] If the average one-year mortality rate is between .01 and .02, this would suggest that r–n-δ is likely close to zero and perhaps even negative.

Table 6 presents estimates of the stock of transfer wealth under various assumptions for r–n-δ. Details of the algorithm used to obtain the estimates are in the Appendix. The first row of Table 6 converts the average yearly flow of inheritances reported by recipients over 1993-98 to a stock of transfer wealth. The second row converts the yearly flow of *inter vivos* transfers reported by recipients over 1993-98 to a stock of wealth. Finally, the third row converts the yearly flow of *inter vivos* transfers reported by donors during 1997 to a stock of wealth.[6]

The average yearly flow of inheritances survey respondents report receiving between 1993-98 is $94 billion (in 1995 dollars). If r–n-δ = 0, converting this flow to a stock of wealth yields transfer wealth of $4.69 trillion (if r–n-δ = -.01 then the estimate falls to $3.64 trillion, if r–n-δ = .01 then the estimate rises to $6.22 trillion). Using the 1995 SCF, net worth held by households in 1995 totaled $20.68 trillion. Taking the average inheritance over 1995-98 as the yearly flow during 1995, inheritances would account for between 18-23% of total wealth (3.64 or

[5] Kotlikoff & Summers (1981) estimate historical averages of the real rate of return of .045 and the real rate of GDP growth of .035 (r-n = .01). Gale & Scholz (1994) use r-n =.01 as their central estimate.

[6] It is assumed that parents are 30 years older than their children and 60 years older than their grandchildren. In the second row, if the recipient reports receiving an *inter vivos* transfer from his parent, it is assumed that the age of the donor is the recipient's age plus 30 years. In the third row, if the donor reports giving *inter vivos* support to his grandchild, it is assumed that the age of the recipient is the donor's age minus 60 years.

4.69 / 20.68). A similar estimate is obtained when the mortality-adjusted expected flow of bequests during 1998 is converted to a stock of transfer wealth.[7]

The average yearly flow of inter-vivos transfers SCF respondents report receiving between 1993-98 is $44 billion (in 1995 dollars). If $r–n-\delta = 0$, converting this flow to a stock of wealth yields transfer wealth of $1.29 trillion (if $r–n-\delta = -.01$ then the estimate falls to $.86 trillion, if $r–n-\delta = .01$ then the estimate rises to $1.98 trillion), suggesting that *inter vivos* transfers account for 4-6% of wealth in 1995. Similar estimates are obtained if we instead use *inter vivos* gifts reported by donors, rather than gifts reported by recipients, to calculate transfer wealth.[8]

The flow-to-stock conversion methodology yields an estimate of transfer wealth in 1995 of $4.50-5.98 billion (assuming $r–n-\delta$ is between -.01 and 0). This is 22-29% of 1995 net worth. Recall that when we estimated the transfer wealth in Table 2a by grossing up past transfers by corporate bond returns, we estimated a transfer wealth of 19%. Thus, similar estimates are obtained from the two approaches.

So far, in both sets of calculations, we have ignored college support provided by parents. Kotlikoff & Summers (1981) estimate that financial support during college was $10.3 billion in 1974 (total net worth was $3.884 trillion in 1974). Assuming $r–n-\delta = 0$ and using an age gap of 30 years between donors and recipients, this flow of support translates into a stock of transfer wealth that constitutes 8% of current net worth.

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[7] The estimated flow of bequests during 1998 was $120 billion. If $r–n-\delta = 0$, the amount of wealth in 1998 that is attributable to inheritances is $120*(maximum age – inheritance-weighted age of recipient). See the Appendix for this result. The weighted-average age of inheritance recipients over 1993-98 was 53 years based on calculations using the 1998 SCF. If the maximum age is 100, then transfer wealth from inheritances is $5.64 trillion in 1998, or 20% of total 1998 net worth.

[8] Given the yearly flow of *inter vivos* support respondents report giving is greater than what they report receiving, one would expect transfer wealth calculated from the flow donor reports to be higher. However, donors report a smaller share of transfers to children and a higher share of transfers to parents than do recipients, which works to offset the higher level of transfers donors report.

Gale & Scholz (1994) report, using the 1983 SCF that 13% of households report giving college support over 1983-85, with total support over the period totaling $97.4 billion. Using the 1986 SCF, Gale & Scholz (1994) estimate the annual flow of college payments/support from parents at $35.3 billion (1986 net worth was $11.976 billion). Assuming $r–n-\delta = 0$ and using an age gap of 30 years, this flow of support translates into a stock of transfer wealth that constitutes 9% of current net worth.

Rather than produce a new estimate of college payments, we argue that the 9% figure found by Gale & Scholz is still approximately correct. In 1986, the flow of college support was converted to a stock of transfer wealth that represented 9% of net worth. Net worth has grown from $12.0 trillion to $28.8 trillion from 1986 to 1998 (7.6% per year). The College Board reports that tuition and fees have increased at an annual rate of 6.7% at four-year private schools, 7.2% at four-year public schools, and 7.8% at two-year public schools from 1986-1998. Since college expenses have grown at nearly the same rate as net worth, it seems reasonable to assume that the present-day value of college aid represents 9% of net worth in 1998, just as it did back in 1986.

Thus, assuming that the present-day value of past college aid is on the order of 9% of total net worth (just like in 1974 and 1986), then our final estimate of transfer wealth's share would increase from 22-29% (which we estimated in Table 6) to 31-38%. Our estimate in Table 2a would increase from 19% to 28%, if college payments are included as transfer wealth.

We have so far estimated the stock of transfer wealth two ways. First, we estimated it directly from reported transfer receipts, grossed up to 1998 using the corporate bond rate. Second, we calculated the expected yearly flow of bequests, given wealth adjusted mortality rates for the population, and converted this flow to a stock. Both estimates are fairly close, and

suggest that transfer wealth accounts for approximately one-fifth to one-fourth of U.S. wealth, and perhaps just over a third if college support is included.

Section VI. Heterogeneity in Transfers Received and Expected

While our estimates suggest that life-cycle saving can explain approximately 80% of current net worth, past transfers account for a large fraction of wealth for a nontrivial segment of the population. Table 7a shows the unconditional ratio of transfer wealth to total wealth by age and net worth groups, as well as the probability of having received a transfer. In aggregate, transfer wealth accounts for only about one-fifth of total net worth. However, only 22% of households report having received a substantial transfer, indicating a high degree of concentration. Both the share of wealth from transfers and the probability of having received a transfer increase with age.

Table 7b reports the ratio of transfer wealth to total wealth conditional on having received a transfer. Among households that report having received a transfer, their net worth would be reduced by 50% if the present-day value of past transfers were eliminated (among household's aged 65 and above this fraction rises to 70%). For the low to middle net worth households that have received a transfer, that transfer accounts for a large fraction of their current net worth. Among households aged 40-64, conditional on having received a transfer, 85% of wealth accumulated by households in the 75-250K net worth group is due to transfers received. For the low net worth group (0-75) aged 40-64, transfer wealth balloons to over three times larger than current net worth, indicating substantial spending out of transfers received. Even for the high net worth group (net worth in excess of $1 million) aged 40-64, transfers account for one quarter of their wealth.

The SCF also asks respondents whether they expect to receive a substantial inheritance or transfer in the future, and the amount they expect to receive.[9] Tables 8a & 8b replicate the analysis in Tables 7a & 7b, only now we examine the ratio of expected transfers to current net worth. In aggregate, expected future transfers account for only one-tenth of current net worth. However, only 13% of households report that they expect a substantial transfer.[10] As expected, both the size of the expected transfer and the probability of expecting a transfer decrease dramatically with age across all net worth groups. Households below the age of 40 with a net worth less than $75,000 expect in aggregate to receive future transfers in excess of their current wealth.

Table 8b reports the ratio of expected future transfers to total current wealth conditional on expecting a transfer. Among households that report expecting to receive a substantial transfer, their net worth would increase by just over 50% if their expectations come to fruition. For the low to middle net worth households that have received a transfer, that transfer accounts for a large fraction of their current net worth. Among households with net worth less than $250K, and conditional on expecting to receive a future transfer, the future transfer is expected to be more than the household's current wealth (the ratio of expected transfer to current net worth is greater than one). Among relatively affluent (net worth $.25 million to $.5 million) and young households (age less than 40 years), one quarter of these households expect to receive a substantial future transfer, and the future transfer is expected to be over 1.5 times their current wealth.

[9] It is not clear whether respondents report the transfer they expect to receive in nominal dollars or 1998 dollars (it is likely, though, that the amount is given in nominal dollars).
[10] Using the 1983 SCF, Hurd & Mundaca (1989) also estimate that 13% of households expect to receive a large gift/inheritance.

Tables 7 & 8 raise several interesting questions. Do households that have received a substantial transfer reduce their savings and hence their life-cycle wealth in response to the transfer, i.e., is there substitution between transfer wealth and life-cycle wealth? Similarly, do households who expect to receive a transfer in the future save less today? These questions are addressed in the next section.

Section VII. Effect of Transfer Wealth on Life-Cycle Wealth

Does the receipt of a wealth transfer, or the expectation of a future transfer, affect life-cycle savings? Before turning to regressions to test this crowd-out hypothesis, Tables 9a & 9b report differences in financial and demographic characteristics across households that have and have not received a transfer and across households that do or do not expect to receive a future transfer. Households that have received a transfer are wealthier, have higher income, are older, and are more likely to have had both of their parents die (for married couples, at least one of the set of parents has died) than are households that have not received a transfer. Households that expect to receive a transfer are also wealthier, have higher income, are younger, and are less likely to have had both of their parents die (for married couples, at least one of the set of parents has died) than are households that do not expect to receive a transfer. These results suggest that it is important to control for financial and demographic characteristics in any specification that attempts to test for the affect transfers have upon wealth accumulation.

The "experiment" we are considering is whether ceteris paribus, a household that receives a transfer will save less than will a household that does not receive the transfer. If a household saves less, this will result in lower life-cycle wealth. The basic specification is:

$$(\text{Life-Cycle Wealth} / \text{Income}) = \beta\,(\text{Transfer Wealth} / \text{Income}) + \gamma\,(\text{Financial Controls}) +$$

$$\alpha \text{ (Demographic Controls)} + \delta \text{ (Risk Preferences)} + \varepsilon$$

Transfer wealth is calculated by grossing up past transfers by the return offered by corporate bonds (see Table 2a). Life-cycle wealth (the accumulation of past savings) is simply current net worth less transfer wealth. Both wealth variables are normalized by income. The explanatory variables include the interaction of income and age indicator variables (age <30, 30-39, 40-49, 50-59, 60-69, 70+ and income 0-75K, 75-150K, 150-300K, 300+), marital status, number of children, college attainment, occupation and industry indicators, whether the individual is averse to risk, and the share of assets held in equity. The interaction of the age and income variables is meant to capture that the wealth-income profile of a household will likely change as the household ages and will likely vary with income of the household as well. The risk preference indicators and the share of assets in equity will pick up difference in the wealth-income ratio due to differences in past investment strategies.

If $\beta = 0$, this implies that households intend to pass transfers they receive to their heirs, and thus the past receipt of a transfer has not reduced life-cycle saving. In other words, a past transfer increases the household's net worth because the transfer is saved. If $\beta = -1$, this implies that households consume the entire transfer, i.e., the past transfer received reduces household saving to the point that life-cycle wealth is reduced by the amount of the transfer. The life cycle model would predict a coefficient less than zero, but likely greater than –1, as part of the transfer will be spent, but part will be saved to smooth consumption over the remaining years of the recipient's life. The longer ago the transfer was received, the greater will be the fraction of the transfer that has been spent by 1998, and hence the closer β will be to –1.[11]

[11] For example, consider a highly simplified model of an individual life-cycle consumer with a certain date of death, CRRA preferences, and an interest rate and discount rate both equal to zero. Suppose the individual earns a constant stream of labor income, Y, from age A to retirement, retires starting at R and dies at age D. This person would have

It is worth noting that regressing life-cycle wealth on transfer wealth is essentially the same regression as regressing total net worth on transfer wealth. The coefficient on transfer wealth in the net worth regression is simply one plus the coefficient in the life-cycle wealth regression. For example, if the past receipt of a transfer does not reduce life-cycle saving, then one would expect $\beta = 0$ in the life-cycle wealth regression and $\beta = 1$ in the total wealth regression.

Before moving to the regression results, Table 10 presents summary statistics for the sample (for comparison, Table 11 weights the sample averages to reflect the population). After dropping 48 households that report negative income, the sample comprises 4257 observations. The SCF oversamples the affluent, as evidenced by the high average net worth and income in the sample. Median net worth is $154,00 and median income is $50,000 for the sample. One quarter of the sample reports receiving a transfer in the past, and 15% expect to receive a transfer in the future.

Table 12 presents regressions results.[12] We first break transfer wealth into three variables based on when the transfer was received. This specification offers a test of whether households value a "bird in the hand" more than a "bird in the bush" theory. If households adjust their saving/consumption only after they receive a transfer (a bird in the hand), but not before receipt (a bird in the bush), then transfers received a long time ago should result in less of an accumulation of life-cycle wealth than transfers received more recently. In other words,

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choose a constant consumption stream C=Y*(R-A)/(D-A). If they received an *unexpected* bequest at age B, they would increase their consumption (reduce life-cycle saving) by an amount equal to 1/(D-B) of the bequest each year. Relative to an identical person with no bequest receipt, accumulated lifecycle wealth would be reduced by an amount equal to (current age – B)/(D-B). Crowdout would be close to zero if measured shortly after age B, and close to -1 near age D.

[12] Reported results are not weighted. The regression results are largely unaffected by weighting.

households who have just received a transfer will not have had much less time to have spent it relative to households that received a transfer 20 years ago.

This prediction is borne out in column (1). The first column is a regression of life-cycle wealth on the three transfer wealth variables, which also includes financial, demographic, and risk preference controls. Transfers received over 1993-98 do not result in any reduction in life-cycle wealth accumulation. Transfer wealth received over 1978-92 reduce life-cycle wealth with a coefficient of -.55, while transfers received over twenty years ago reduce savings so that accumulated life-cycle wealth is reduced by nearly the full amount of the transfer with a coefficient of -.95. The difference between the coefficients on distant and recent transfers is highly significant (p-value of test of equality across the three transfer variables is .001). The life cycle model would predict that when a transfer is received, part of the transfer will be spent, but part will be saved to smooth consumption over the remaining years of the recipient's life. Thus, the longer ago the transfer was received, the greater will be the fraction of the transfer that has been spent by 1998, and hence the closer β will be to -1 (consistent with the results just reported). When total transfer wealth is included in the regression (column (2)), rather than the three transfer wealth variables, the estimated coefficient is -.88.

We next provide another test of the bird in hand versus bird in the bush theory. The bird in hand was presented in columns (1) and (2), which suggested that the receipt of a bequest does cause a household to reduce life-cycle saving. Do households also save less in *anticipation* of a future bequest (i.e., a bird in the bush)? Columns (3) – (4) of Table 12 include expected future transfers normalized by income in the regression. While transfers received twenty or more years ago still reduce life-cycle wealth accumulation on nearly a one-for-one basis, the *expectation* of a future transfer has a tightly estimated zero effect on saving (just like transfers received over

1993-1998 do not affect saving). This suggests that households increase consumption (reduce saving) after they receive a transfer, but not in anticipation of a transfer.

Finally, one criticism of this specification is that the measure of transfer wealth is likely measured with some error. This error comes from two sources: SCF respondents misreporting past transfers, and using the wrong factor to gross up past transfers. If the measurement error were uncorrelated with life-cycle wealth, we would have standard attenuation bias and β would be biased towards zero. In this case, however, life-cycle wealth by definition is net worth minus transfer wealth, so any error in transfer wealth will affect transfer wealth, but in the opposite direction. Thus, if measurement error in transfer wealth is a problem, β will be biased towards minus one. This leads to the natural concern that the minus one coefficient we estimate in column (2) does not reflect an economic relationship, but is rather the result of large measurement error.

It is worth pointing out that when we broke transfer wealth into three variables based on when the transfer was received, only transfers received over 20 years ago had a point estimate near –1, suggesting measurement error is not driving the results. To further address the measurement error concern, we instrument for transfer wealth with indicator variables for the death of parents. For single households, we create indicator variables for both parents are alive, one parent is alive, and both parents are dead. For married households, we create indicator variables if both sets of parents are alive, if at least one parent has died (but no set of parents has died), one set of parents has died, and both sets of parents have died.[13]

[13] Since we control for financial and demographic characteristics in the regression, the death of parents variables should not affect life-cycle wealth through channels other than through its relationship with transfer wealth. As such, the mortality status of parents qualifies as a good instrument for the past receipt of an inheritance. A potential problem with this instrument, however, is that the mortality of parents may be correlated with the mortality of their children, and the mortality risk an individual faces will likely influence saving decisions.

Column (5) of Table 12 presents the two-stage least squares results. The coefficient on transfer wealth rises in magnitude slightly to –0.97. This is not statistically different from minus one and is significantly different from zero (the endpoint of the 95% confidence interval is -.44). The standard error increases, since by instrumenting, we are only using that part of the variation in transfer wealth that is correlated with parental mortality, but the t-statistic is still –3.6.

Section VIII. Conclusions

There has been a long debate about the importance of life-cycle saving in wealth accumulation. This paper provides new evidence on how important transfers are in wealth accumulation. Using direct survey evidence on transfers received, we calculate that transfer wealth accounts for only about one-fifth of current household net worth. We reach a similar conclusion by estimating the flow of transfers in 1998, accounting for the correlation between wealth and mortality rates, and converting that to a stock of transfer wealth.

While transfers may not account for most of wealth accumulation, they are important for a nontrivial segment of the population. For the fifth of households that report having received transfers, the present-day value of those transfers represents half of their current wealth.

At the household level, it appears that transfers depress household savings substantially, but only after they are received. This suggests that households behave as though a bird in the hand is worth a lot, while a bird in the bush is worth very little. Transfer wealth reduces saving enough to reduce accumulated life-cycle wealth by nearly the present-day value of the transfer. This result is confirmed over multiple specifications and estimation techniques. However, the expectation of receiving a substantial transfer in the future does not affect saving/consumption and life-cycle wealth. Buttressing this finding, we also find that recent transfers received have

not been held long enough to affect life-cycle wealth, but transfers received over twenty years ago have depressed saving, resulting in a substantial decline in accumulated life-cycle wealth.

These results are exploratory in nature, and measurement error is potentially still a legitimate concern. Nonetheless, we find these patterns interesting, and believe they deserve further exploration. Future research should attempt to corroborate our results using data from alternative sources. Another puzzle we leave for future work is reconciling the small role of transfers in explaining wealth accumulation with the fact that consumption tracks income fairly closely. Perhaps growth in unrealized capital gains, which would typically be excluded from measures of income but would increase wealth, can help explain part of this puzzle.

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Table 1: Inheritances and Transfers Reported by Recipients over 1993–98 in 1998 SCF (weighted to reflect population, billions of 1998 $)			
	Total	Inheritance and Inherited Trust	*Inter vivos* Transfer/Gift/Trust
1993 – Sept. 1998	*847*	*579*	*268*
Amount per year	*147*	*101*	*47*
1993 – September 1998 by donor			
From Parents	590	404	186
From Grandparents	88	51	36
From Uncle/Aunt	40	34	6
From Sibling	57	21	37
From Friend	42	41	1
From Child	23	22	1
Other	8	6	2

Source: Authors' calculations.
Notes: The SCF asks households to give details about three inheritances/gifts/trusts. A bequest/transfer to a spouse is not counted as a bequest/transfer. The year of receipt is rounded to the nearest five, and the reported value is at time of receipt. Transfers received over 1993-97 are grossed up by a factor of 1.068 to be converted to 1998 dollars. Kennickell, Starr-McCluer, and Surette (2000) report that September 1998 is the midpoint of the period during which the 1998 SCF interviews were conducted.

Table 2a: Compute Stock of "Transfer" Wealth using 1998 SCF (weighted to reflect population, billions 1998 $) TOTAL NET WORTH = $28,794 B		
	Scale previous gifts by inflation	Scale previous gifts by long-term high-grade corporate bond return
Total Transfer Wealth*	2465	5405
Inheritances/Inherited Trust	1885	4226
Inter vivos Transfer/Trust	580	1178
Transfer Wealth by donor		
From Parents	1719	3863
From Grandparents	377	819
From Uncle/Aunt	134	317
From Sibling	109	189
From Friend	68	120

Table 2b: Compute Stock of "Transfer" Wealth using 1998 SCF (weighted to reflect population, billions 1998 $) TOTAL NET WORTH = $28,794 B		
	Scale previous gifts by 50% long-term U.S. gov't bond and 50% large company stock	Scale previous gifts by large company stock return
Total Transfer Wealth*	17,326	29,203
Inheritances/Inherited Trust	15,057	25,861
Inter vivos Transfer/Trust	2,269	3,342
Transfer Wealth by donor		
From Parents	8,488	13,057
From Grandparents	7,552	14,310
From Uncle/Aunt	570	816
From Sibling	313	435
From Friend	252	382

Source: Authors calculations.

* Does not include $20.3 billion of transfers that do not give information on year received, whether was inheritance or *inter vivos* transfer, and who the donor was.

Table 3: Compute Stock of "Transfer" Wealth using 1989 SCF (weighted to reflect population, billions 1989 $) TOTAL NET WORTH = $17,401 B		
	Scale previous gifts by inflation	Scale previous gifts by long-term high-grade corporate bond return
Total Transfer Wealth*	2670	4300
Inheritances/Inherited Trust	2121	3455
Inter vivos Transfer/Trust	549	845

Source: Authors calculations.

* Does not include $39.0 billion of transfers that do not give information on year received, whether was inheritance or *inter vivos* transfer, and who the donor was.

Table 4: Expected Bequests in 1998 using 1998 SCF and Various Mortality Tables (billions of 1998 $)			
	1998 Social Security Mortality Table	1998 Annuitant Mortality Table	Attanasio & Hoynes (2000) Mortality
Total	178.1	118.5	126.0
From households with no children	40.3	26.6	30.1
Important to leave inheritance to surviving heirs?			
VERY IMPORTANT (21% of households & 22% of estates)	72.6	50.8	47.5
IMPORTANT (26% of hh & 28% of estates)	39.9	25.9	29.4
SOMEWHAT IMPT. (30% of hh & 25% of estates)	42.5	26.9	31.0
NOT IMPORTANT (21% of hh & 25% of estates)	22.9	14.8	18.1
Do you expect to leave a sizable estate to others?			
YES (27% of households & 21% of estates)	104.7	70.1	66.8
POSSIBLY (23% of hh 18% of estates)	28.9	19.3	21.0
NO (50% of hh 61% of estates)	44.4	29.1	38.2
Expected Bequests in 1995 using 1995 SCF and various mortality tables			
Total	146.4	99.3	100.9

Source: Authors' calculations.

Notes: The value of the bequest is household net worth plus the face value of life insurance. If the head of the household has a spouse, both must die for a bequest to occur. Bequests to surviving spouses are not counted. Attanasio-Hoynes (1995) use the SIPP to calculate mortality rates as a function of wealth. They adjust Social Security mortality numbers by a factor d (where d=.626 if in top wealth quartile, d=.789 if in 2nd wealth quartile, d=.816 if in 3rd wealth quartile, and d=1.769 if in bottom wealth quartile). These adjustment factors are taken from Attanasio-Hoynes (1995) Table 5.

Table 5: Financial Support to Relatives/Friends who do not live in Household 1997 (weighted to reflect population, support is reported by donor)			
	Billion $ (range)	Billion $	%
Total	63.7	63.7	100.0
Child	32.3 – 41.7	36.6	57.4
Niece/Nephew	.9 – 1.9	1.4	2.2
Grandchild	2.4 – 9.9	5.8	9.1
Siblings	3.2 – 9.3	6.1	9.6
Friends	2.3 – 4.4	3.2	5.0
Parents	6.6 – 11.6	8.9	13.9
Grandparents	.1 -.2	.1	.2
Other	1.0 – 2.5	1.7	2.7

Source: Authors' calculations.

Notes: 1998 SCF asks how much financial support respondents gave in 1997, and then asks respondents to check all the relative-types they gave support without specifying size of gifts across recipients. The first column represents the range of transfers to specific recipients (some donors report that their transfer was given to multiple recipients so we cannot identify how much went to each recipient). $48.8 billion of $62.3 billion of support given by households was given to only one person, so can identify amount of support to a specific recipient for these transfers. It is assumed that if the respondent checks that the transfer went to more than one person, then each recipient received an equal amount. The second and third columns are calculated under this assumption.

Table 6: Converting a Flow of Transfers into a Stock of Transfer Wealth				
	Yearly Flow	Stock of Wealth $r–n-\delta = 0$	Stock of Wealth $r–n-\delta = -.01$	Stock of Wealth $r–n-\delta = .01$
Inheritances (received 1995)	$94 billion	$4.69 trillion	$3.64 trillion	$ 6.22 trillion
Inter vivos transfers (received 1995)	44	1.29	.86	1.98
Inter vivos transfers (given 1997)	64	1.21	.64	2.32

Source: Authors' calculations.
SCF respondents report inheritances and *inter vivos* transfers received over 1993-1998. The average amount received over this period (in 1995 dollars) is reported as the flow of inheritances and *inter vivos* transfers received in 1995. This flow is converted to a stock of transfer wealth in 1995 using the methodology described in the text and the Appendix. For comparison, total net worth in 1995 is estimated at $20.68 trillion using the 1995 SCF. SCF respondents also report *inter vivos* support given in 1997. The bottom row converts this yearly flow to a stock of wealth in 1997. r is the interest rate, n is the growth rate of transfers (usually assumed to be the growth rate of national income), and δ is the one-year mortality rate.

Table 7a: Ratio of Transfer Wealth to Total Wealth over Wealth & Age Groups 1998
Note: fraction of households in group that report have received a transfer in parentheses

	Age			
Net Worth	< 40	40 - 64	65+	
0 - 75	.26 (.12)	.50 (.14)	.58 (.21)	.42 (.14)
75 - 250	.10 (.16)	.17 (.19)	.33 (.33)	.21 (.23)
250 - 500	.09 (.21)	.18 (.32)	.19 (.36)	.17 (.32)
500 - 1000	.14 (.21)	.13 (.31)	.40 (.45)	.22 (.35)
1000+	.13 (.31)	.10 (.41)	.30 (.55)	.16 (.44)
	.13 (.14)	.13 (.22)	.31 (.33)	.19 (.22)

Notes: Transfer wealth was calculated by grossing up past transfers by the corporate bond return. Total net worth is estimated at $28.794 trillion and transfer wealth is estimated at $5.405 trillion.

Table 7b: Ratio of Transfer Wealth to Total Wealth over Wealth & Age Groups 1998

(conditional on household having received a transfer)

	Age			
Net Worth	< 40	40 - 64	65+	
0 - 75	1.44	3.15	2.12	2.26
75 - 250	.64	.85	.98	.88
250 - 500	.38	.55	.53	.52
500 - 1000	.63	.40	.89	.63
1000+	.47	.25	.60	.37
	.60	.37	.70	.50

Source: Authors' calculations.

Notes: Transfer wealth was calculated by grossing up past transfers by the corporate bond return. Total net worth of households that report receiving a past transfer is $10.736 trillion and transfer wealth is estimated at $5.405 trillion (transfer wealth is $.020 billion for households that have negative net worth).

Table 8a: Ratio of Expected Transfer to Total Wealth over Wealth & Age Groups 1998
Note: fraction of households in group that expect to receive a transfer in parentheses

	Age			
Net Worth	< 40	40 - 64	65+	
< 75	1.10 (.16)	.33 (.09)	.07 (.02)	.57 (.11)
75-250	.38 (.21)	.17 (.15)	.03 (.03)	.17 (.13)
250-500	.42 (.25)	.15 (.22)	.01 (.05)	.14 (.17)
500-1000	.24 (.54)	.10 (.24)	.00 (.02)	.08 (.19)
1000+	.15 (.30)	.04 (.25)	.01 (.06)	.04 (.20)
	.39 (.18)	.09 (.15)	.01 (.03)	.10 (.13)

Source: Authors' calculations.
Notes: In the 1998 SCF, households report they expect of receive $2.939 trillion in future transfers. Total net worth is estimated at $28.794 trillion.

Table 8b: Ratio of Expected Transfer to Total Wealth over Wealth & Age Groups 1998
(conditional on household expecting to receive a transfer)

	Age			
Net Worth	< 40	40 - 64	65+	
< 75	6.37	2.70	2.29	4.61
75-250	1.90	1.09	1.11	1.35
250-500	1.56	.66	.15	.78
500-1000	.44	.41	.24	.41
1000+	.37	.18	.15	.20
	1.25	.40	.26	.54

Source: Authors' calculations.
Notes: In the 1998 SCF, households reported they expect of receive $2.939 trillion in future transfers ($.172 trillion expected by households with negative net worth).
Total net worth of households that report receiving a past transfer is $5.074 trillion.

Table 9a: Characteristics of Households by whether have *Received* a Transfer (reported means weighted to reflect population, using 1998 SCF)		
	Have Received Transfer	Have Not Received Transfer
Net Worth	$522,000	$220,000
Transfer Wealth	$263,000	0
Life-Cycle Wealth	$259,000	$220,000
Income	$69,600	$47,600
Age	55 years	48 years
Married?	.63	.57
One set of parents dead?	.63	.36
Expect a transfer?	.20	.12
Expected Future Transfer	$61,300	$20,500

Source: Authors' calculations.
Notes: All means are statistically different across the two populations at the .01 significance level, except for life-cycle wealth.

Table 9b: Characteristics of Households by whether *Expect* a Future Transfer (reported means weighted to reflect population, using 1998 SCF)		
	Expect Future Transfer	Don't Expect Future Transfer
Net Worth	$374,000	$267,000
Transfer Wealth	$67,000	$51,000
Life-Cycle Wealth	$307,000	$216,000
Expected Future Transfer	$217,000	0
Income	$66,900	$49,800
Age	41 years	50 years
Married?	.65	.57
One set of parents dead?	.19	.45
Have received a transfer?	.30	.18

Source: Authors' calculations.
Notes: All means are statistically different across the two populations at the .01 significance level, except for transfer wealth.

Table 10: Summary Statistics for Sample (not weighted), 1998 SCF		
	Mean & (Standard Deviation)	Median & [25th% – 75th%]
Net Worth	$5,530,000 (27,300,000)	$153,900 [19,300 – 1,013,000]
Transfer Wealth	$660,000 (12,100,000)	0 [0 – 0], 90th% = $233,200
Life-Cycle Wealth	$4,870,000 (28,900,000)	$121,100 [9500 – 804,000]
Expected Future Transfer	$96,300 (907,000)	0 [0 – 0], 90th% = $61,000
Net Worth / Income	10.5 (32.8)	3.2 [.7 – 9.1]
Transfer Wealth / Income	2.1 (20.9)	0 [0 – 0], 90th% = 2.4
Life-Cycle Wealth / Income	8.4 (37.2)	2.6 [.4 – 7.8]
Future Transfer / Income	1.8 (51.5)	0 [0 – 0], 90th% = .9
Received a transfer?	.25 (.43)	-
Expect a transfer?	.15 (.36)	-
Income	$438,000 (3,828,000)	$50,000 [22,000 – 124,000]
Age	50 years (16)	49 years [38 – 62]
Married?	.66 (.47)	-
Number of children	2.3 (1.9)	2 [1 – 3]
College?	.46 (.50)	-
Averse to financial risk?	.30 (.46)	-
Willing to take financial risk?	.29 (.46)	-
Share of assets in equity	.12 (.19)	.02 [0 - .19]
One set of parents dead?	.44 (.50)	-

Source: Authors' calculations.
Notes: The sample has 4257 observations (48 of the 4305 households in the sample were dropped because they reported negative income).

Table 11: Summary Statistics for Sample (population weights applied to sample), 1998		
	Mean & (Standard Deviation)	Median & [25th% – 75th%]
Net Worth	$278,000 (1,818,000)	$73,500 [10,000 – 208,600]
Transfer Wealth	$50,800 (921,000)	0 [0 – 0], 90th% = $63,000
Life-Cycle Wealth	$228,000 (1,890,000)	$56,700 [4700 – 183,500]
Expected Future Transfer	$28,800 (217,000)	0 [0 – 0], 90th% = $27,000
Net Worth / Income	5.0 (16.8)	1.9 [.4 – 5.2]
Transfer Wealth / Income	1.3 (10.2)	0 [0 – 0], 90th% = 1.7
Life-Cycle Wealth / Income	3.7 (18.5)	1.5 [.2 – 4.4]
Future Transfer / Income	1.1 (17.9)	0 [0 – 0], 90th% = .7
Received a transfer?	.20 (.40)	-
Expect a transfer?	.13 (.34)	-
Income	$52,800 (231,000)	$34,000 [17,000 – 60,000]
Age	49 years (17)	47 years [36 – 61]
Married?	.59 (.49)	-
Number of children	2.2 (2.0)	2 [1 – 3]
College?	.33 (.47)	-
Averse to financial risk?	.39 (.49)	-
Willing to take financial risk?	.23 (.42)	-
Share of assets in equity	.10 (.17)	0 [0 - .13]
One set of parents dead?	.41 (.49)	-

Source: Authors' calculations.
Notes: The sample has 4257 observations (48 of the 4305 households in the sample were dropped because they reported negative income).

Table 12: Regressions of Life-Cycle Wealth upon Transfer Wealth

Dependent variable = Life-Cycle Wealth / Income

Coefficients on Transfer Wealth Variables Reported (standard errors in parentheses)

Specification	(1)	(2)	(3)	(4)	(5)
Transfer Wealth / Income		-.88 (.08)			-.97 (.27)
Transfers 1993-98 / Income	.08 (.31)			.07 (.31)	
Transfers 1978–92 / Income	-.55 (.27)			-.55 (.27)	
Transfers pre–1978 / Income	-.95 (.04)			-.95 (.04)	
Expected Future Transfer / Income			.01 (.01)	.01 (.01)	
Financial, Demographic, & Risk Preference Controls Included	Yes	Yes	Yes	Yes	Yes
Instrument for Transfer Wealth with Death of Parents Indicators	No	No	No	No	Yes
R^2 of regression	.30	.29	.05	.30	.29

Source: Authors' calculations.

Notes: All regressions are estimated on 4257 observations. Transfer wealth is calculated by grossing up past transfers by the return on corporate bonds. The basic specification is:

$$\text{(Life-Cycle Wealth / Income)} = \beta\,\text{(Transfer Wealth / Income)} + \gamma\,\text{(Financial Controls)} + \alpha\,\text{(Demographic Controls)} + \delta\,\text{(Risk Preferences)} + \varepsilon$$

The explanatory variables include the interaction of income and age indicator variables, marital status, number of children, college attainment, occupation and industry indicators, whether are averse to or like risk, and share of assets held in equity. Standard errors are heteroskedastic-consistent.

Specifications (1) and (4) break transfers received into three variables by when the transfer was received. For the population, the SCF estimates 18% of transfer wealth was received between 1993-98, 42% of transfer wealth was received between 1978-92, and 40% of transfer wealth was received before 1978.

Specification (5) uses two-stage least squares to instrument for the transfer wealth variable. The instruments are five indicator variables describing whether parents of the household head(s) are still alive. See text for details. In the first stage, (transfer wealth / income) is regressed on the financial, demographic, and risk preference variables, as well as the death of parents indicator variables.

Appendix

Let T be the stock of transfer wealth. Thus, T is the present-day value of all transfers received by people currently alive less the present-day value of all transfers given by people still alive. T can be broken down into transfer wealth from bequests and transfer wealth from *inter vivos* transfers.

Let's focus on bequests/inheritances first. Suppose a 40-year old receives a $10,000 inheritance in 1995. If we assume that the amount of the inheritance received by the average 40-year old grows at rate (n), that past inheritances earn interest at rate (r), that the one-year mortality rate is (δ), and that the maximum age a person could live to is (D), then the amount of wealth in the economy attributable to inheritances received when one is 40 years old is the integral of (1):

(1) 10,000*(current population of 40-year olds)*exponential[(x-40)*(r-n-δ)],
where the integral is evaluated over x ranging from 40 years to D years

One can then replicate this calculation for 39-year olds, 41-year olds, etc. Thus, more generally, the amount of wealth attributable to inheritances received when one is Y years old is the integral of (2):

(2) (average transfer received by a Y-year old person)*
(current population of Y-year olds)*exponential[(x-Y)*(r-n-δ)],
where the integral is evaluated over x ranging from Y years to D years

To estimate total transfer wealth, we evaluate this integral for each household in the 1998 SCF, using the population weights provided. The sum of all the integrals represents wealth accumulation due to inheritances received. We set the maximum age (D) equal to 100. We first estimate transfer wealth assuming $r-n-\delta = 0$. We also redo the analysis assuming it is -.01 and then assuming it is .01.

To calculate wealth accumulated from *inter vivos* transfers, we want to calculate the present-day value of all *inter vivos* transfers received by people currently alive less the present-day value of all *inter vivos* transfers given by people still alive. We calculate the present-day

value of all *inter vivos* transfers received by taking the integral of (2) for each household in the sample. We calculate the present–day value of all *inter vivos* transfers given by people still alive by taking the integral of (3) for each household in the sample:

(3) (average transfer given by a Y-year old person)*
(current population of Y-year olds)*exponential[(x-Y)*(r-n-δ)],
where the integral is evaluated over x ranging from Y years to D years

By aggregating the value of [(2) – (3)] across the sample, we get an estimate of wealth accumulation due to *inter vivos* transfers. Note that for inheritances/bequests, the donor is no longer alive by definition, so integral (3) would be zero.

Inter vivos gifts can be estimated by either using reports from recipients or reports from donors. The SCF asks respondents to report *inter vivos* transfers received and who the donor was. Assuming parents are 30 years older than children, we can estimate the age of the donor. As a robustness check, we also estimate transfer wealth using reports from donors.

Finally, if (r-n-δ) =0, then integral (1) simplifies to:

transfer*(D – age of recipient)

If (r-n-δ) =0, then integral (2) – integral (3) simplifies to:

transfer*(age of donor – age of recipient)

Thus, transfer wealth is just the product of aggregate transfers times the some transfer-weighted age gap.