# Bequests and Retirement Wealth in the United States

Lutz Hendricks*
Arizona State University
Department of Economics
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**Abstract**

This paper documents a set of robust observations characterizing bequests and retirement wealth in the United States. Particular attention is paid to data that may be useful for empirically evaluating theories of intergenerational transfer motives.

## 1 Introduction

Intergenerational transfers are an important source of wealth accumulation. Gale and Scholz (1994) place the fraction of household wealth due to transfers at 80%. Bequest motives may also help understand a number of savings puzzles. Important examples include the high degree of wealth concentration (Huggett 1996) and the high saving rates of rich households (Dynan et al. 2000). As a result, the question why parents leave bequests to their children has received considerable attention in the literature (e.g., Bernheim et al. 1985; Laitner and Ohlsson 2001).

However, attempts to distinguish empirically between alternative bequest theories have proven inconclusive (Poterba 2001). An important difficulty in testing bequest theories is that high quality data are difficult to obtain. This is in part due to the fact that rich households who leave the bulk of bequests are not sampled in some datasets. Another difficulty is that inheritances are received at most a few times during a lifetime.

The purpose of this paper is to compile a comprehensive set of data on bequests, inheritances, and old-age wealth holding. Particular attention is paid to observations that may prove useful for distinguishing alternative bequest theories and for developing quantitative models. In a companion paper (Hendricks 2001) I draw on the observations documented here to argue that the data are consistent with the hypothesis that bequests are largely accidental.

In addition to summarizing selected results from the literature, the paper presents new data from the Survey of Consumer Finances (SCF) and the Panel Study of Income Dynamics (PSID). The SCF is the most comprehensive source for data on household wealth. Its main benefit is to oversample rich households, which account for a large fraction of wealth holdings and bequests. The PSID is a comprehensive panel data set which follows households over a period of 25 years. In addition, the PSID makes it possible to match parents to their adult children.

A number of findings emerge that may prove useful for evaluating bequest theories. (i) Inheritances are roughly as concentrated as wealth. The top 2% of households receive nearly 70% of lifetime inheritances. (ii) For the vast majority of households inheritances are not a significant source of lifetime resources. 70% of households receive no bequests. Only 5% of households inherit more than 5% of

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lifetime earnings. (iii) Households who inherited more than 5% of mean earnings in the past hold 2.5 times more wealth at retirement. However, only a small fraction of this gap is due to inheritances. (iv) Large wealth holdings are dispersed when their owners die. The children of the richest 2% of estates receive only 40% of parental terminal wealth. For the children of the very rich with estates greater than $20 million, the fraction inherited by children is only 15%. These findings tentatively suggest that inheritances are not an important source of wealth concentration.

The paper is organized as follows. Section 2 describes the SCF and PSID samples from which the data are drawn. Empirical findings are presented in section 3 for inheritances and in section 4 for retirement wealth.

## 2 Data Sources

This section describes the data sources, sample selection criteria, and the procedures for constructing wealth and inheritance variables. A number of procedures and definitions are common to both data sources. The definition of *wealth* is the most comprehensive definition available from each data source. It includes housing wealth, but not claims to future social security or retirement income. The *lifetime inheritance* of a person is defined as the age 50 discounted present value of all inheritances received by his or her family during years when the person was head or spouse. These are typically reported for households with no surviving parents of either head or spouse. This ensures that most households will not receive additional inheritances in the future. However, in order to increase the sample size, I sometimes draw household samples with a most one surviving parent. Inheritances from all sources are included, not only those left by parents.

Measuring lifetime inheritances is complicated by the fact that inheritances are often reported retrospectively. Given that families change in composition, it is not clear what fraction of a past inheritance should be attributed to the current head and spouse in a family. To illustrate the problem, consider two unmarried household heads observed in the 1984 PSID. Suppose that A and B received an inheritance of $X$ while married to each other in 1970. Assume further that wealth was divided equally when the couple divorced in 1980. Then both should be attributed lifetime inheritances of $X/2$. However, when asked "Have you (or anyone in your family living there) ever inherited any money or property?" both A and B will report inheritances of $X$ each. It is not possible to determine that both household heads were previously married and report the same inheritance. This problem cannot be resolved in a fully satisfactory way if only retrospective inheritance histories are available. As a result, my estimates overstate the lifetime inheritances of persons who changed spouses in the past.

In order to facilitate the interpretation of the data as well as their comparability over time, many of tables below report dollar figures that are scaled by *mean earnings per household*. This is constructed as mean labor earnings plus professional income in the 1989 SCF which amount to $32,800. A calculation based on NIPA data leads to a slightly larger figure ($35,700). Aggregate earnings are then estimated at 70% of gross national product minus indirect business taxes. This indirect approach is consistent with the concept of earnings commonly used in macroeconomic simulation models. The data are taken from the Statistical Abstract of the United States (various years).

All dollar figures are converted into prices of a common reference year (1989 for the SCF sample, 1980 for the PSID sample) using the Consumer Price Index for all urban consumers. When calculating present values, a discount rate of 4% is used. When reporting the size distribution of variables that are derived from different birth cohorts, it is necessary to eliminate differences across cohorts that stem from economic growth occurring between the dates at which the various cohorts are observed. For this purpose, dollar figures are divided by real per worker GNP growth factors. For example, the size distribution of wealth held at age 50 obtained from the PSID panel will contain persons who are age 50 in 1984, 1989, 1994, and 1999. One reason why the 1999 observations are larger is that the

cohort observed during this year enjoyed an additional 15 years of economic growth relative to the cohort observed in 1984. Dividing observations by the real GNP growth factor between 1984 and 1999 imperfectly eliminates these cohort differences.

### 2.1 Survey of Consumer Finances

The Survey of Consumer Finances is a cross-sectional dataset that oversamples rich households. I draw on data from the year 1989 which contains detailed information on asset holdings. Wealth is defined as the sum of all financial and non-financial assets reported net of all debts. The value of defined contribution pension plans is included in wealth, but not the expected present value of payouts from defined benefit plans. The SCF also collects data on the three largest inheritances received by each family, including their dollar values and dates. In the tables below, observations are weighted by the SRC design-based weight (x40131).

### 2.2 Panel Study of Income Dynamics

The Panel Study of Income Dynamics is a nationally representative panel dataset which started in 1968. A unique feature of the PSID is to follow "splitoff" families. These are formed by members of the 1968 sample families that later on split off to form their households. This makes it possible to observe parents and their adult children in great detail. Observations are weighted by the core weight of the household head in each year. Since the PSID does not oversample the richest of households, it does not capture the upper tail of the wealth or inheritance distribution.

Wealth data are obtained from the 1999 wealth supplement, which collects data in 1984, 1989, 1994 and 1999. Inheritance data were collected retrospectively in 1984 and annually since 1988. Bracketed amounts are assumed to equal the mean of amounts reported in each bracket. Data on inheritances are sensitive to the inclusion of outliers. A single observation accounts for more than one-half of total inheritances in the sample of households with deceased parents. This observation is 12 times larger than the next largest and carries are large weight as well. It has been deleted from the sample.

As a measure of lifetime resources, I estimate the present value of earnings for all persons with at least 5 valid earnings observations. Separate fixed-effect panel regressions are estimated for sex and education classes (high school or less vs. some college or more). The regressors are a constant term and an age quartic. The effects of other (fixed) regressors are absorbed in the individual fixed effect. The present value of lifetime earnings is calculated as the age 50 present value of earnings over the age range 20-65. Each household is assigned the combined earnings of head and spouse.

## 3 Empirical Findings: Inheritances and Bequests

This section summarizes the empirical findings regarding inheritance and bequest flows. Some are collected from the literature. Others are calculated from SCF and PSID samples. The emphasis is on findings that may pose challenges for quantitative models of bequest behavior.

### 3.1 Estates

#### 3.1.1 The Size Distribution of Estates

Table 1 reports the size distribution of estates found by Hurd and Smith (1999, table 1). Based on a sample of decedents from the HRS/AHEAD exit interviews, which is representative of deaths at age 70 and older, Hurd and Smith record the dollar value of estates for married and unmarried decedents. The dollar values are divided by mean household earnings in 1994 of $45,935. Estates tend to be larger when a surviving spouse is present. The top 2% of estates are larger than $600,000. The mean size of an estate (excluding the top 2%) is approximately $76,000 or 1.6 times mean earnings per worker. These figures are substantially larger than the inheritances reported below. One possible reason is that

the AHEAD exit interviews fail to cover some decedents without estates. This is consistent with the observation that more than 70% of AHEAD decedents leave a positive estate, whereas only around one-third of households reports ever receiving an inheritance during their lifetimes in the SCF and the PSID. Another likely reason is that estates are often divided among multiple children, a point discussed in more detail below.

More information about the largest estates can be obtained from estate tax records. Joulfaian (1994) reports the size distribution of the largest 2.5% of estates shown in table 2. Even within the largest estates, the size distribution is highly skewed. While the 97.5th percentile is 14.3 times mean household earnings, the 99.6th percentile is 54 times mean earnings. The table also shows the fraction of the total estate value in Joulfaian's sample accounted for by each percentile class. The top 0.4% of estates in the sample (representing the top 0.001% of all estates) account for 11.8% of the estate value in the sample. The top 16% account for nearly half of the total estate value.

Combining the information contained in Hurd and Smith (1999) about the bottom 98% of estates and that in Joulfaian (1994) about the top 2.5% of estates suggests that the latter account for roughly one-third of aggregate estate value (possibly more, if Hurd and Smith's data fail to record estates of no value). This is consistent with findings reported below that the top 2% of inheritances account for 30% of aggregate inheritance flows.

## 3.2 Inheritances

### 3.2.1 Estates vs Inheritances

For the intergenerational persistence of wealth what matters is the size distribution of inheritances, not of estates. The two distributions could be very different for a number of reasons. Each (married) individual has four opportunities to receive an inheritance from his own parents and from the parents of the spouse. On the other hand, each estate is typically divided among multiple children. If bequeathable wealth of the parents were perfectly correlated with wealth of the spouse, these effects would roughly cancel each other out and the size distributions of inheritances and estates would be the same. However, in the data parental wealth is imperfectly correlated. In a sample of PSID individuals who report parental wealth in 1988 regressing log wealth of own parents on log wealth of spousal parents yields a slope coefficient of 0.5 and an $R^2$ of 0.3.[1] It follows that inheritances are likely more dispersed than estates.

An additional reason why not all of the estate value is transferred to children is that some fraction of each estate is used for taxes, charitable giving, and bequests to other relatives. Death expenses account for about 10% of estate value among the bottom 98% of estates (Hurd and Smith 1999) and 3.3% of estate value for the top 2% of estates (Joulfaian 1994). Charitable bequests constitute 5.9% of estate values for the top 2% of estates, but 22% for estates greater than $20 million (see table 2). It follows that roughly 20% of the terminal wealth of a married couple is used for expenses and charity and therefore not passed on to relatives.

Estates are further dispersed because they are divided between several types of beneficiaries. The estate division among the richest 2.5% may be summarized as follows (Joulfaian 1994):

- Spouse: 36.2%
- Children: 17.7%
- Trusts: 8.5%
- Taxes/expenses: 16.6%

[1] The correlation of spousal wealth is surprisingly large given Regalia and Rios Rull's (2000) finding of weak assortative matching by income and earnings.

- Charity: 5.9%
- Other beneficiaries: 15.3%

The approximate fraction received by children after both parents have died may be calculated as follows. Assume that the all estates come from two spouses. Assume further that the division of the estate among recipients other than the spouse is the same for estates with and without a surviving spouse. Then children eventually receive $41\% = (17.7\% + 8.5\%)/(1 - 36.2\%)$ of the estate value. The corresponding fraction for larger estates is only $15\% = (3.4\% + 4.3\%)/(1 - 46.5\%)$. These calculations suggest that the children of very rich parents inherit only a small fraction of parental wealth. This finding is supported by the fact that in Joulfaian's sample the beneficiaries of the very largest estates ($>$ \$20 million in 1982) inherit on average only \$600,000 or 2.5% of the estate value. Trusts account for about the same amount, most of which is likely intended for children. Hence, *bequests break up large estates and disperse them among several recipients.* This finding suggests that inheritances may not be an important source for the formation of very large wealth holdings. A possible explanation is that the largest estates are heavily taxed.

An important issue for attempts to quantify aggregate inheritances (and for the modeling of bequests) is the fraction of the estate value that is bequeathed to individuals other than the surviving spouse. For large estates, taxes, expenses and charity account for 22.5% of the estate value. The total fraction diverted from bequests after both spouses have died may then be calculated in a similar fashion as the total inheritance of children: $35.3\% = 22.5\%/(1-36.2\%)$. For poorer households, direct evidence about the fraction of the estate bequeathed is not available. The strong negative relationship between the fraction bequeathed to individuals and the size of the estate suggests, however, that the fraction bequeathed should be larger than two-thirds for most households. In Hurd and Smith's (1999) HRS sample, roughly 20% of the estate are lost to death expenses and taxes.

Indirect evidence about the division of estates may be obtained by comparing inheritances received from parents with inheritances received from other sources. In a sample of SCF couples in 1989 who have no surviving parents, the mean inheritance received from parents is 83% of mean household earnings, while the mean inheritance received from all sources is 127% of mean household earnings, suggesting that two-thirds of inheritances stem from parents. This is consistent with the estate division reported by Joulfaian (1994) for the richest 2.5% of households where children receive 63% of the total amount bequeathed to individuals other than a surviving spouse.

This data may be summarized as follows:

1. The fraction of parental wealth inherited by children is smaller for richer parents. The children of the richest 2.5% of households inherit only 41% of parental wealth. For the children of the very richest parents, the fraction inherited is less than 20%.

2. Death expenses, taxes, and charitable donations account for 35% for the largest 2.5% of estates, but only for 20% for smaller estates.

3. Children receive roughly two-thirds of the amount bequeathed to individuals other than surviving spouses.

### 3.2.2 Aggregate Inheritance Flows

Several data sources permit the estimation of mean inheritances, albeit with different results. Auerbach et al. (1995) estimate bequest flows by multiplying bequeathable wealth by mortality probabilities. Household wealth is divided equally between couples, which amounts to assuming that half of a couple's

wealth is bequeathed when one spouse dies. The resulting bequest flow is 3.6% of GDP.[2] This should be viewed as an upper bound for several reasons. First, a fraction of estates with surviving spouses proably bequeath very little to children. Second, a fraction of estates will be used for death expenses and taxes. Third, 19% of retired households are childless in the 1990 census. Finally, theory suggests that individuals with higher mortality rates should hold less wealth (ceteris paribus). These considerations suggest that inheritance flows (excluding surviving spouses) are smaller the 3.6% figure estimated by Auerbach et al. (1995).

A more direct calculation can be performed using 1989 SCF data. I multiply household wealth with the mortality probabilities of both spouses to obtain an estimated of the fraction of wealth that could be bequeathed each year.[3] This fraction is 2.6%. Joulfaian's (1984) data suggest that surviving spouses receive 36.2% of the estate value, while 22.5% are used for death expenses and charitable bequests (the numbers could be different for low wealth households). Hence, at most 40% of the estate is bequeathed to the next generation. This amounts to 1% of wealth or 3% of GNP. This figure is likely too large because younger and poorer households probably leave most of the estate to surviving spouses.

An alternative approach is to assume that the next generation receives a given fraction of the estate. It is likely that no more than 80% of the estate are bequeathed to the next generation when no surviving spouse is present. For households with surviving spouses I set the fraction bequeathed to 20%. The aggregate bequest flow then amounts to 2.1% of GNP. However, the results are sensitive to the assumed fraction bequeathed when a surviving spouse is present. If this fraction is increased to 30%, then aggregate bequests rise to 2.7% of GNP.

Gale and Scholz (1994) find that 3.7% of households in the SCF report receiving an inheritance between 1983 and 1985. Conditional on receiving, the mean inheritance amounts to $42,729. It follows that households inherit on average $527 per year. My measure of earnings per household is $29,511 in 1984. Hence, inheritances amount to 1.8% of household earnings. If earnings account for 70% of total income, then the aggregate flow of inheritances should equal 1.3% of output. The same result is obtained by multiplying the inheritance per household and year by the number of households (86.8 million households in 1984), resulting in an aggregate inheritance flow should of $45.7 billion or 1.3% of GNP.[4] Using retrospective reports of past inheritances in the 1989 SCF yields inheritance flows between 1.1% and 1.9% of GNP for 1980 through 1989 (between 1.2% and 2.2% of households report receiving an inheritance in a given year). Earlier years yield smaller inheritance figures, possibly due to recall bias.

An indirect estimate of aggregate bequest flows may be obtained from Joulfaian's (1994) sample of estate tax records. Aggregate net worth of the top 2.5% of estates in 1982 is $45.9 billion. Of this amount, 58.4% are distributed to surviving spouses, charity and death expenses, leaving $19 billion (0.57% of GNP) to be distributed to children and other persons. Data reported below indicate the top 2% of estates account for at least 60% of aggregate inheritances. It follows that aggregate bequest flows, excluding surviving spouses, amount to at most 1.2% of GNP.

A somewhat higher estimate results from the PSID. Since 1988, households reported inheritances received during the past year. On average, 2.4% of households report receiving an inheritance. The mean inheritance is $634 (in base year prices) or 2.5% of mean 1990 household earnings. Given that earnings amount to 70% of GNP, the PSID figures suggest inheritance flows of roughly 1.8% of GNP. However, this figure is most likely too small because the PSID fails to capture the richest of households

[2] The same calculation based on 1989 SCF data yields a bequest flow of $236 billion or 4.3% of GNP.

[3] Since the fraction of wealth that can be identified as annuitized is small in the SCF, this calculation assumes that all of wealth can be bequeathed and will therefore overstate bequest flows.

[4] According to Gale and Scholz's (1994) direct calculation, aggregate inheritances of $105 billion or 2.65% of GNP. The reason for the discrepancy is unclear.

who account for a large fraction of aggregate inheritances (see below).[5]

Taken together, this evidence suggests that aggregate inheritances amount to between 1.2% and 2% of GNP.

### 3.2.3 The Size Distribution of Lifetime Inheritances

A key feature of inheritances is their unequal distribution. Table 3 shows the size distribution of lifetime inheritances from all sources in the 1989 SCF. The sample consists of households with no surviving parents of either head or spouse. A large majority of households receives very small or no inheritances. Fewer than 10% of the population receives an inheritance larger than two mean annual earnings (about $62,000 in 1988). Second, the distribution of inheritances is very skewed. The top 2% receive nearly 70% of all inheritances. The mean lifetime inheritance amounts to 128% of mean household earnings. This figure implies aggregate inheritance flows near 1% of GNP. The fact that this is smaller than the amount implied by aggregating inheritances reported during the year preceding the interview suggests that some inheritances were not reported in the retrospective interviews.

Very different findings emerge from a sample of households with at most one surviving parent in the PSID. Table 4 shows the distribution of inheritances relative to mean earnings. The mean inheritance is only 50% of household earnings, less than half of its SCF counterpart. However, the mean is almost doubled, if a single outlier is included. I conclude that the mean inheritance cannot be estimated reliably from PSID data. However, the inheritances received by all percentile classes are also significantly smaller than in the SCF. For example, the 90th percentile receives 50% of mean earnings in the PSID compared with 160% in the SCF. Restricting the sample to couples with no surviving parents yields even smaller inheritances (and reduces the sample size by half). A possible reason for the small PSID inheritance figures is recall bias. Most of the inheritances are reported retrospectively during a single interview in 1984. The frequency with which households report inheritances is consistently below 1% for years before 1979, whereas on average 2.6% of households report an inheritance for 1988-1992. The latter years likely do not suffer from as much recall bias because households report inheritances annually. I conclude that the retrospective interviews in the PSID underreport lifetime inheritances by large margins.

Laitner and Ohlsson (2001) use the 1984 wave of the PSID and arrive at substantially larger mean inheritances of $33,600 per household (115% of household earnings in 1984). It appears that this discrepancy is due to a single large observation which is deleted from my sample. Including it increases the mean inheritance roughly to Laitner and Ohlsson's figure.

These findings suggest that inheritances make up only a small fraction of lifetime resources for the vast majority of households. This conjecture is confirmed based on a PSID sample of couples where the present value of lifetime earnings of the head is known. Table 5 shows the percentage ratio of lifetime inheritances to lifetime household earnings , both discounted to age 50. For 95% of the population, inheritances account for less than 3% of lifetime earnings. Even if these figures are doubled to offset recall bias, inheritances are not an important source of wealth for at least 95% of the population. More reliable information about the largest estates can be obtained from Joulfaian's (1994) estate tax return data. Joulfaian finds that even for the top 2.5% of estates the ratio of child inheritance to AGI is only 3.2, suggesting that even for those households inheritances account for only around 10% lifetime earnings.

These findings are summarized as follows:

1. The mean lifetime inheritance amounts to roughly 130% of mean household earnings. This figure may be downward biased because of recall problems.

[5] Based on the 1988 wave of the PSID, Schoeni (1997) arrives at smaller figures. In his sample, 1.8% of households receive an inheritance. The mean amount inherited is $312 or 0.88% of household income. The discrepancy is due to the fact that inheritances reported in 1988 were unusually small.

2. For the vast majority of households, inheritances are not an important source of lifetime resources. Even the beneficiaries of the very largest estates receive only about 6 annual incomes from their own parents.

3. The size distribution of inheritances is highly skewed. Inheritances are zero or negligible for 80% of the population. The top 2% account for around 70% of all inheritances.

#### 3.2.4 Inheritances and Child Incomes

One observation that might distinguish altruistic from accidental and joy-of-giving bequests is the correlation of inheritances with child lifetime incomes. Altruistic models imply that parents should leave larger estates to poorer children. However, it is well-known that within a family estates are typically equally divided (Wilhelm 1996). Across families, richer children tend to receive larger inheritances. This holds in Joulfaian's (1994) sample of large estates, even controlling for estate size.

Laitner and Ohlsson (2001) find a weak positive effect of child income on inheritance size, holding parental income constant. However, the effect is slightly negative for Swedish data. A potential problem with this finding is that parent and child lifetime resources are proxied for by current income and education. Measurement error may obscure the relationship between child incomes and inheritances. Another potential problem is that inheritances measure only part of intergenerational transfers. It is likely that inter-vivos transfers are larger than inheritances for all but the wealthiest families. Little evidence exists that characterizes the relationship between child incomes and inheritances for wealthy families.

Table 6 shows that a strong positive relationship between the present value of lifetime inheritances and family income in the 1989 SCF.[6] For all family income classes, the mean inheritance is around 150% of annual family income. A sample of PSID households yields similar results (not reported). A similar picture emerges when inheritances are tabulated against lifetime household earnings (table 7). Richer households inherit larger amounts. The ratio of lifetime inheritances to lifetime earnings shows no clear dependence on lifetime earnings. Note that a positive relationship between inheritances and incomes is not necessarily inconsistent with altruistic or joy-of-giving bequest motives. Higher child incomes may simply reflect higher parental incomes.

## 4 Empirical Findings: Wealth and Savings

Given the difficulty of measuring inheritances, it may be helpful to study retirement wealth in addition to the actual bequests it results in. This section documents the size distribution of wealth in the entire population and near retirement. In addition, wealth is related to household characteristics such as earnings and inheritances received in the past.

**Size Distribution of Wealth** The size distribution of wealth has been documented in a number of previous studies. My sample of SCF households yields the distribution shown in table 8. The main feature of the distribution is that a small fraction of households owns most of aggregate wealth. The top 1% own 37%, while the top 10% own 72% of wealth. The poorest 20% own no or negative wealth. The wealth concentration shown in table 8 is slightly stronger than documented by Quadrini and Rios-Rull (1997).

**Retirement wealth** A similar degree of wealth inequality is found in a sample of households at the start of retirement, defined as household heads at ages 63-67 (table 9). Households in all percentile classes hold roughly 70% more wealth than in the population as a whole. As a result, the wealth fractions held by all classes are similar to those reported in table 8. In contrast to the predictions of

[6] The sample consists of households without surviving parents.

simple life-cycle models, the fraction of households with negative net worth at the outset of retirement is about as large as the corresponding fraction in the population.

One way of assessing the importance of inheritances for wealth accumulation and inequality is to compare the retirement wealth of households who received an inheritance with those who did not. Table 10 shows the distribution of net worth at retirement (ages 63-67) for both types of households. Those who inherited at least 5% of mean household earnings hold 2.5 times more wealth than those who did not inherit. The concentration of wealth among inheriting households is considerably smaller than among non-inheriting households.

However, this observation does not imply that inheritances are an important source of wealth accumulation. In fact, the size distribution of inheritances suggests that this is unlikely. Roughly half of households located in the top 1% of the wealth distribution did *not* inherit. Moreover, the higher wealth of those who did inherit is certainly in part due to the intergenerational persistence of income which implies that richer parents, who are likely to leave bequests, also tend to have richer children who hold more wealth at retirement. This leads me to conclude that *a large fraction of the wealthiest households owe their wealth to own income as opposed to intergenerational transfers.*

**Wealth and earnings** In some models of bequest motives, rich households tend to save larger fractions of their lifetime earnings in anticipation that their children will be poorer than themselves. It is therefore instructive to tabulate retirement wealth against the present value of lifetime earnings. This is done in table 11 for a sample of PSID households whose heads reach age 65 during the period 1984 to 1999. The data do not support the hypothesis that richer households save larger fractions of lifetime earnings. The ratio of retirement wealth to lifetime earnings is roughly equal to 5% of lifetime earnings for all classes.

### 4.1 Dissaving During Retirement

In addition to wealth holdings at the outset of retirement, the saving behavior at advanced ages may shed light on the importance of intended bequests. Early results based on cross-sectional data suggested that households continued to accumulate wealth even in their eighties. For example, Weil (1994) estimates saving for households in the 1985 Consumer Expenditure Survey and finds little evidence for dissaving even at age 80. However, he constructs saving as the difference between income and consumption. The saving rate may therefore be biased upwards, if consumption is not fully reported. His definition of saving also does not capture capital gains or changes in pension and social security wealth.

More recent longitudinal evidence shows that retired households do dissave, although at moderate rates. Hurd (1987) studies a sample of retired households in the Retirement and Health Survey (RHS) with heads are aged 58 to 63 at the beginning of the sample period. Hurd shows that these households reduce bequeathable wealth by 13.9% over 10 years. For singles, the figure is 22.4%, while couples dissave at a rate of only 2%. Bequeathable wealth does not include pension and social security wealth. The rate of dissaving is higher when housing wealth is excluded (36.4% for singles and 14.5% for couples over 10 years). A striking finding is that the rate of dissaving is very similar for households with or without living children, casting doubt on intended bequests as an important motive for saving during retirement. Small sample sizes make it difficult to determine at which age households begin to dissave.

In contrast to U.S. data, Alessie et al. (1999) find little evidence for dissaving at old age in a panel of retired couples in the Netherlands. Even for the oldest cohort, aged 75 and over at the beginning of the sample period, net worth increases by 9% over 6 years. If unrealized capital gains are excluded, households older than 75 years decumulate wealth at a rate of about 2% per year. While the point estimates are subject to sampling uncertainty, the conclusion that dissaving at old age is absent or at least very small appears robust.

Three main conclusions emerge from this evidence.

1. The rate of dissaving is fairly small, even at fairly advanced ages. U.S. households with 75 year old heads dissave at a rate of roughly 2% per year.

2. Singles dissave more rapidly than married couples.

3. Households without children tend to be wealth richer at the beginning of retirement, but dissave at about the same rate as those without children.

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