

What Determines End-of-Life Assets? A Retrospective View

James Poterba
MIT and NBER

Steven Venti
Dartmouth and NBER

David A. Wise
Harvard and NBER

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This paper explores the determinants of asset balances at death by following respondents in the Health and Retirement Study (HRS) “backward” from the last wave prior to their death to the first wave in which they were observed. It documents the relationship between the assets in the last year observed (LYO) before death and assets in the first year observed (FYO) and estimates the effect of individual attributes, in particular health status when first observed, education, and changes in health status, on the relationship between assets when first and last observed.

There are several pathways that can lead a household to have very little wealth in old age. One involves entering retirement with modest or substantial assets, and then experiencing unanticipated events that drain financial resources. For some households, the death of a spouse or divorce may result in a decline in wealth. For others, the costs associated with a health event such as a stroke or the onset of a chronic illness may lead to substantial reductions in assets. Still others may experience asset declines that accompany a general decline in health. A second pathway to low assets at death is to enter retirement with assets, but to “outlive” them without extraordinary expenditures at any point during retirement. This explanation is most likely to apply to members of households in which one or both individuals lived longer than they expected to. A third pathway to low assets at death is simply to reach retirement with very limited wealth. Members of such households are unlikely to have substantial wealth when they are last observed. For these households, observed low wealth at retirement is not a manifestation of choices or events during retirement, but rather of events in the pre-retirement period.

We explore which of these three alternative pathways is most consistent with observed asset trajectories late in life. We motivate our analysis with a series of figures that follow the path of assets between the year first observed (FYO) and the last year observed (LYO). We summarize the widely-varying data on household balance sheets by presenting median assets for persons aged 51 to 61 in 1992 (the original HRS cohort) and persons aged 70 and older in 1993 (the original AHEAD cohort). For the most part, the figures show little difference between median assets in the first year observed, and median assets in the last year observed, for the younger cohort. They show only modest decline in assets for the older cohort. We also estimate regression models for the change in assets between the first and last year when individuals were observed. The results are generally supportive of the limited change in assets that characterizes many individuals in late life. Simulations based on these estimates show that in the absence of a change in family composition or health status, asset trajectories are relatively flat. However,

many persons exhibit substantial asset declines in connection with important medical events or disruptions in family composition. Education is an important predictor of the change in assets between FYO and LYO; those with more education exhibit slower asset declines.

Data Description

Our analysis is based on two cohorts from the HRS – the original HRS cohort whose members were first surveyed in 1992 when they were between the ages of 51 and 61 and the original Asset and Health Dynamics among the Oldest Old (AHEAD) cohort whose members were age 70 and older when first surveyed in 1993. In both cohorts, we drop “age ineligible” spouses (not age 51 to 61 in the HRS and not age 70+ in the AHEAD). We also drop respondents who leave the sample for reasons other than death and we drop the 1992 wave of the HRS because of incomplete data for some variables. With one exception, respondents are surveyed biennially so we are able to use data for 10 waves: 1994, 1996, 1998, 2000, 2002, 2004, 2006, 2008, 2010 and 2012 for the HRS cohort and 1993, 1995, 1998, 2000, 2002, 2004, 2006, 2008, 2010 and 2012 for the AHEAD cohort.

We define the last year observed (LYO) for each respondent. If the last year observed is prior to 2012, then the data for the LYO pertain to the last year observed prior to death. If the LYO is 2012, then the data are for a respondent who is alive when last observed. Respondents are surveyed approximately every two years, so the date at which assets are measured in the LYO may be as much as two years prior to the date of death. On average it will be about one year prior to death. Because medical expenditures are often substantial in the last six months of life, asset balances observed in the last wave before death may over-estimate assets at death.

We define assets as including home equity and the net value of other real estate, business assets, and financial assets. IRA and Keogh balances are included in financial assets, but assets in 401(k) plans are not included--401(k) assets were not collected for the AHEAD cohort and the data are incomplete in some years (in particular 1994 to 1998) for the HRS cohort. The portion of 401(k) balances not rolled over into an IRA at retirement is excluded from our measure of assets. So is the capitalized value of annuity income from Social Security and defined benefit (DB) pensions.

The unit of observation is the person, but the asset balance associated with each person is the household asset balance. Some results are presented separately by family status pattern, distinguishing persons who were continuously single, continuously married, or married to single.

More details on how family status groups are defined as well as on other aspects of the data are presented in the results section below.

Central Findings

The table below shows assets in the first year observed conditional on assets in the last year observed for all individuals who died during the sample period. We exclude all persons for whom the interval between the FYO and the LYO is fewer than eight years; for very short periods between FYO and LYO, a high correlation between the two is almost mechanical. We present information only for total non-annuity assets, although the paper includes information on total non-annuity assets (defined to include housing wealth, financial assets, other real estate and business assets), housing equity (including the net value of other real estate), and net financial assets (all non-housing wealth). The upper panel considers all persons between the ages of 51 and 61 in 1992 (the HRS cohort) and the lower panel considers all persons age 70 and older in 1993 (the AHEAD cohort).

The last column of each of these panels shows that a large fraction of persons die with minimal non-annuity assets. Among persons age 51 to 61 in 1992, 14.9 percent had non-annuity asset balances that were zero (or negative) just prior to death. Another 23 percent had positive asset balances of less than \$50,000. Of persons age 70 and older in 1993, 13.3 percent had zero or negative non-annuity assets just prior to death and another 25.4 percent had positive balances below \$50,000. The cell entries in each table show that for a large proportion of persons, non-annuity assets at death are similar in magnitude to the comparable assets when first observed. For example, for persons in the HRS cohort, 48.2 percent of those with zero or negative wealth when last observed had zero or negative wealth when first observed in 1994. A larger subset of this group, 79 percent, had less than \$50,000 when first observed. Of those with greater than \$500,000 when last observed, 52.1 percent had \$500,000 or more when first observed and 82.3 percent had greater than \$250,000 when first observed. Similar patterns can be seen in the lower panel, for persons aged 70 and older in 1993. These tables suggest that for most individuals, non-annuity assets at death are not so different from non-annuity assets when first observed. This is true both for persons who were between 51 and 61 in 1992 and persons who were age 70 or older in 1993. A large fraction of persons with meager assets at death also had limited assets when first observed and large fraction of those with substantial assets at death also had substantial assets when first observed.

We have also analyzed the same underlying data in a different way, by calculating the probability of being in a given asset interval in the last year observed conditional on the level of assets in the first year observed. The results once again suggest a great deal of persistence: persons who have substantial assets when first observed also tend to have substantial assets when last observed prior to death. For both age groups, over 55 percent of those with zero or negative total assets in the FYO also have zero or negative total assets in the LYO. For the younger age cohort, 73.8 percent of persons in the top total asset interval ($> \$500,000$) in the FYO are also in the top total asset interval in the LYO. In the older cohort, persistence in the top total asset interval is somewhat lower: only 57.3 percent of those in this interval when first observed were also there when last observed.

We also explore the evolution of assets between the year first observed and the year last observed, focusing on median non-annuity assets in each survey wave for respondents stratified by LYO. For individuals in the younger sample, those 51-61 in 1992, who were last observed before 2012 – they were all deceased after the LYO -- the median asset profiles indicate little change in median assets between 1994 and the LYO. For the group still living in 2012, there is some evidence of asset decline over the sample period, but it is difficult to disentangle age-related drawdown of assets from year-related changes in asset values as contributory factors for this pattern. For the AHEAD cohort, there is more evidence of asset decline approaching end of life, but again the decline coincides with the Great Recession.

We also distinguish asset profiles for persons who experienced different family status transitions over the observation period. Focusing on the younger sample, we consider persons who were single when first observed and when last observed ($1 \rightarrow 1$), persons who were in a two-person household when first observed but single when last observed ($2 \rightarrow 1$), and persons who were in a two-person household when first observed and in a two-person household when last observed ($2 \rightarrow 2$). The $1 \rightarrow 1$ group has the lowest level of assets and for this group there is little difference between assets in 1994 and assets when last observed. The $2 \rightarrow 2$ group has the highest level of assets and for this group assets in the LYO tend to be larger than assets in 1994. The assets of the $2 \rightarrow 1$ group are the most dispersed in the LYO and in most but not all cases the level of assets in the LYO tends to be similar to that when first observed.

Table 1: Distribution of Asset Holdings in First Year Observed (FYO) and Last Year Observed (LYO)

Total Assets in LYO (\$)	Total Assets in First Year Observed (FYO)						Percent of Persons in LYO
	≤ 0	1-50K	50-100K	100-250K	250-500K	> 500K	
Persons Aged 51-61 in 1992							
≤ 0	48.2%	30.8%	7.5%	7.5%	3.8%	2.3%	14.9%
1-50K	21.4	42.8	16.8	16.1	2.4	0.5	23.0
50-100K	2.0	20.8	36.5	34.7	4.0	2.1	9.4
100-250K	1.5	9.5	20.8	43.0	20.3	4.9	20.9
250-500K	0.4	1.5	7.8	31.3	43.8	15.2	12.5
> 500K	0.5	1.5	2.3	13.3	30.2	52.1	19.3
% in FYO Interval	12.8	18.9	14.2	23.6	17.0	13.6	
Persons Aged 70 or Over in 1993							
≤ 0	28.7%	28.4%	13.5%	20.9%	6.8%	1.7%	13.3%
1-50K	10.0	39.0	17.9	22.4	6.4	4.4	25.4
50-100K	2.6	15.4	30.7	36.9	9.7	4.7	10.8
100-250K	1.2	5.9	13.1	49.2	23.2	7.5	18.0
250-500K	0.5	2.5	2.9	31.8	40.4	21.9	15.6
> 500K	0.0	1.2	1.2	15.3	30.6	51.8	17.1
% in FYO Interval	6.9	17.0	12.7	28.8	19.3	15.4	

Note: Calculations exclude persons alive when last observed and persons for whom fewer than eight years elapsed between FYO and LYO.

