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# Couples' and Singles' Savings after Retirement

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Many retired U.S. households, especially those who are couples and have high income, decumulate their assets very slowly, and many people die with large amounts of wealth. Basic life-cycle models with no uncertainty cannot match these patterns. This raises the question of what drives retirees' saving behaviors. An important complementary question is how the behavior of couples compares to that of single people. Being in a couple during retirement allows its members to pool their longevity and medical expense risks, but also exposes each member to their spouse's risks, including the income loss that often accompanies a spouse's death. Because about 50 percent of Americans age 70 or older are in a couple and about 50 percent are single, the answers to this question are key in understanding how the elderly's savings and welfare would respond to potential policy reforms.

Much of the previous literature, including our own work, only studies singles. In a previous paper (De Nardi, French, and Jones, 2010) we show that medical expenses and government-provided insurance are important to explaining the saving patterns of single U.S. retirees at all income levels, including high permanent-income individuals who keep large amounts of assets until very late in life. Our findings are driven by the fact that out-of-pocket medical and nursing-home expenses can be large and that average medical expenditures rise very rapidly with age and permanent income. Medical expenses that rise with age provide the elderly with a strong incentive to save, and medical expenses that rise with permanent income encourage the rich to be more frugal.

In this paper, we build on these earlier contributions by modeling the saving of all retired households, both couples and singles. Households can save to self-insure against uncertain longevity and medical expenses. Individuals in a couple can be altruistic toward both their spouse and other heirs, and split bequests optimally. Single people also can care about leaving bequests to children and others. Impoverished households may qualify for means-tested social insurance. Using Assets and Health Dynamics of the Oldest Old (AHEAD) data, for each type of household, we evaluate the relative exposure to various risks and the relative importance of various savings motives.

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Our work to date delivers several key findings. First, we develop a measure of permanent income for retirees that is invariant to age and family structure. To do so, we estimate a model expressing annuitized income as a function of an age polynomial, family structure (households are classified as couples, single men, or single women), family structure interacted with an age trend, and a household fixed effect. The fixed effect captures the notion of permanent income because it measures the component of retirement income not affected by age or changes in household structure. Because annuitized retirement income is mostly from Social Security and private pensions, and income from these sources is monotonically rising in lifetime income, this is a good measure of permanent income. Another important benefit of our methodology is that our model can be used to infer the effects of changing age or family structure on annuitized income for the same household. For example, our estimates imply that couples in which the male spouse dies at age 80 suffer a 40 percent decline in income, while couples in which the female spouse dies at age 80 suffer a 30 percent decline. These income losses are consistent with the fact that the spousal benefits associated with Social Security and defined benefit pensions typically replace only a fraction of the deceased spouse's income.

Second, we estimate and explore a rich demographic model. We estimate health transitions and mortality rates simultaneously by fitting the transitions observed in the HRS to a multinomial logit model. We allow the transition probabilities to depend on age, sex, current health status, marital status, permanent income (PI), and interactions of these variables. Using the estimated transition probabilities, we simulate demographic histories, beginning at age 70, for different gender-PI-health combinations. We find that rich people, women, married people, and healthy people live much longer than their poor, male, single, and sick counterparts. For example, a 70-year-old single man at the 10th permanent income percentile in a nursing home expects to live only 2.9 more years, while a 70-year-old married female at the 90th percentile in good health married to a 73-year-old man in the same health state expects to live 18.6 more years. These large differences in life expectancy can have significant effects on asset holdings over the retirement period (De Nardi, French, and Jones, 2009).

Despite having shorter lifetimes than people who are part of a couple, people who are singles at age 70 are more likely to end up in a nursing home. For that reason, singles also have higher medical spending, per person, than people who are part of a couple, at any given age. We also find that the strongest predictor for nursing home entry is gender: Men are less likely to end up in a nursing home than women. Single men and women face on average a 21-percent and a 36-percent chance, respectively, of being in a nursing home for an extended stay. The corresponding odds for married individuals are 19 percent and 36 percent.

We also find that assets drop sharply during the period before death. By the time the second spouse dies, a large fraction of the wealth of the original couple has vanished, with most of the declines occurring at the times of each spouse's death. Depending on the specification, assets decline \$30,000-\$60,000 at the time of an individual's death. A large share of this drop, but not all of it, is explained by the high medical expenses at the time of death. For example, total out-of-pocket medical spending and death expenses are approximately \$20,000 during the year of death (whereas medical spending is \$6,000 per year for similarly-aged people who do not die). Our findings thus suggest that a significant fraction of the assets held in retirement is used to self-insure against the risk of high medical and death expenses.

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