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Marital Histories and Economic Well-Being

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Abstract

Using panel data from the Health and Retirement Study we analyze the impact of a lifetime of
marriage events on wealth levels near retirement. We find that unmarried widowed and divorced
men and remarried men with more than one past marital disruption have lower *housing* wealth
than continuously married men and women. Both *financial* and *housing* wealth are lower for the
same marital categories of women. Each year spent married increases wealth by 4 percent.
Observable differences in lifetime earnings, pension and Social Security wealth are not enough
to explain the large differences in wealth accumulation across marital groups.

1. Introduction

Compared to unmarried individuals (i.e., never married, divorced, or widowed), married individuals report greater average wealth (e.g., Smith 1988). There are several explanations for this empirical result. First, economies of scale may lead to more consumption with lower expenditures for married couples compared to singles. Second, the disruptions that stem from divorce or widowhood may result in unexpected expenses and lost income. Third, the health benefits of being married may lead to lower mortality risk, and a consequently greater motive to accumulate wealth. Although each of these explanations is distinct, they all make a common prediction about the effects of marital experiences on wealth in later life. Through the accumulated consequences of a lifetime of marital states, individuals who have been continuously married should approach retirement with greater wealth than those who have never married or those who have experienced a marital disruption, i.e., a transition out of marriage through divorce or widowhood.

Despite the plausibility of this prediction, the association between one's lifetime history of marital events and wealth at retirement remains poorly understood, because most studies of consumption and savings of middle-aged and older individuals consider only *current* marital status. This restricted focus risks misrepresenting the effects of marriage on wealth, as an increasing proportion of older adults have been divorced and remarried, having lived through the dramatic upheavals in family structure that took place from the late 1960s through the 1980s. Moreover, some of the primary confounding factors in the association between marriage events and wealth levels near retirement such as lifetime earnings and the accumulation of pension and Social Security wealth have not been analyzed in this context, primarily due to prior data constraints. Clarity about these associations has important implications for understanding the

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economic security of individuals and families in and near retirement, retirement savings incentives, public income support programs, and national savings rates and becomes increasingly important as successive generations' rates of divorce increase and rates of remarriage decrease.

To shed light on the associations between a lifetime of marriage events and wealth near retirement, this paper describes the following analyses. First, using the Health and Retirement Study's detailed information on multiple birth cohorts' marital histories and dates of events, we develop marital categories that reflect current status, type of past marital events (divorce, widowhood, remarriage after widowing, remarriage after divorce, continuous marriage, never married), and number of marital disruptions (e.g. 1 or 2 divorces). We analyze the timing of the marriage event (e.g. age at first divorce), and total duration of time spent married across the lifespan. We describe the diversity of marriage experiences of individuals age 51 to 56 from birth cohorts 1931-1953.

Second, we describe the relationship between these measures of lifetime marital events and wealth using bivariate and multivariate methods. The study of marriage types based on current status, previous marital shocks, the timing of those shocks, and duration in marriage has the potential to increase our understanding of the mechanisms through which marital experiences affect wealth. For example, duration in a particular marital state would be important to the extent that there are returns to scale that produce higher levels of consumption for married couples. In this way, sharing home ownership, which allows two people to live as cheaply as one, may reduce expenditures and increase savings while married.

We model log wealth as a function of our marital categories controlling for many permanent and transitory attributes of the individual and household that a lifecycle model of savings predicts affect wealth and that may vary by marriage state. For example, changes in

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marital status will alter permanent income, but it is also the case that low-income families are more likely to divorce or experience widowhood than high-income families. We address this type of selection by controlling for the lifetime earnings of individuals as well as current income and then interpret the effect of our marital categories on wealth as independent of the effect of earnings and associated selection effects. The empirical model includes demographic characteristics and many other rich controls for likely sources of heterogeneity correlated with marriage, such as mortality risk, risk aversion, and time rate of preference. In addition to our main model of total financial and housing wealth, we estimate separate models for financial and housing wealth and include controls for other sources of wealth in retirement from Social Security and pensions.

We find that marital histories, that is, the route individuals take to get to their current status such as past marital disruptions and length spent married are important predictors of wealth levels near retirement and are different for males and females. Not married men with a past marital disruption and remarried men with more than one past marital disruption have lower *housing* wealth than continuously married men and women. In contrast, both *financial* and *housing* wealth are lower for the same marital categories of women. Consistent with a hypothesis of economies of scale, we find each year spent married increases wealth by 4 percent. Women who experience a marital disruption between their mid 30's and 40's have 36 percent lower wealth than women who never experience a disruption or experience it at younger or older ages. While, observable differences in lifetime earnings, pension and Social Security wealth as well as mortality risk, risk aversion and time rate of preference, and other characteristics such as education and number of children explain much of the wealth difference between married individuals and those remarried after one widowing or divorce, these characteristics are not

enough to explain the large differences in wealth accumulation between continuously married individuals and individuals remarried after two or more marriage disruptions and between not married and married men and women. Divorced women's low level of financial literacy may in part explain this group's particularly low wealth levels. The paper proceeds with a background section followed by methods, results, and a final conclusion.

2. Background.

According to the life-cycle model (LCM) of consumption (Modigliani and Brumberg, 1954), individuals and households choose a consumption path that will maximize lifetime utility. This standard model for analyzing savings decisions predicts that households will accumulate savings during their working life, and spend some of the savings to finance consumption following retirement. The exact level of asset accumulation will depend on utility function parameters and the interest rate, however it is illustrative to consider the case when the parameters are such that the consumption path is flat as a function of age. Under these assumptions and in the absence of social programs such as Social Security, savings through pensions, and holding the retirement age constant, an individual will save a fixed fraction of lifetime earnings. In contrast to this prediction, however, the empirical literature finds that the savings of households with similar income levels can be very different. For example, in the Health and Retirement Study, median non-housing wealth among those with household income of $25-$50 thousand was $34 thousand, yet the 25th percentile was just $9.5 thousand and the 10th percentile just $1.2 thousand (Gustman and Juster, 1996). Common explanations for the variation in wealth even among seemingly similar households include other forms of retirement income such as pension and Social Security (Hubbard, Skinner, Zeldes 1996), differences in rate of time preference (Dynan 1993), and unexpected outcomes in earnings and expenses (Browning

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and Lusardi 1996). To date, the potential influence of marital experiences as an explanation has been to the most part unexplored.

Studies that have considered the role of marriage offer several hypotheses to explain why experiences with marriage should affect wealth accumulation. The first, based on economic models of savings with no uncertainty and perfect capital markets, predicts consumption is determined by permanent income, thus an unexpected decrease in permanent income (e.g. from a widowing) would result in lower consumption and no change in savings. Allowing for imperfect capital markets and imperfect foresight, however, implies an independent role for current income thus, a divorce or widowing accompanied by income loss may lead to dissaving rather than a reduction in consumption, particularly if it is seen as temporary. A second hypothesis is that married couples may consume many goods and services jointly (e.g. entertainment, housing) for the same cost as a single person, translating into additional wealth (or additional consumption). Third, a marriage disruption may involve unexpected expenses such as legal expenses related to a divorce or health care expenditures related to the death of a spouse. Fourth, being married is associated with better health throughout the lifespan (Coombs, 1991; Pienta, Hayward, & Jenkins, 2000) and significantly greater longevity (Gove, 1973; House, Landis, & Umberson, 1988; Lillard and Waite, 1995); thus married couples may save more to protect against outliving their resources. In contrast to these hypotheses predicting married individuals will accumulate more wealth than singles, a fifth hypothesis predicts that marriage may lead to lower savings by reducing the risk associated with fluctuations in income (job loss, health shock), to the extent that insurance against future shocks is a motivation for savings (Mincer 1978).

In addition to these frequently hypothesized associations, we add an additional hypothesis that we explore in the empirical work. Financial literacy may vary by marital status. For

example, if one spouse (e.g husband) specializes in acquiring financial knowledge then upon divorce, the spouse who did not specialize (e.g. wife) will enter the unmarried state without this knowledge. More generally, Lusardi and Mitchell (2007) find women, controlling for education have lower financial literacy than men. While consistent with this hypothesis, they do not specifically examine specialization within marriage in terms of financial decision-making.

On the other hand, the association between marital experiences and wealth may not be entirely causal. It may be the case that individuals that marry (or remarry) are different than individuals who never marry (or remarry) in terms of their time rate of preferences and risk aversion. For example, risk averse individuals and those with a low discount rate on future consumption may be more likely to marry and remarry and save more. Another sources of heterogeneity across marriage groups may be differences in number of children. Married couples with children, compared to never married individuals without children, may choose to accumulate wealth in order to leave a bequest to children. Alternatively they may give to adult children while they are alive to ease liquidity constraints (for example, for the purchase of a house or education), thereby lowering the wealth available for consumption during retirement. More generally, expenditure on child-related commodities will increase with the number of children and the allocation of time to the labor market may decrease. An oft-cited difference between married and unmarried individuals is earnings. A substantial literature offers various ways that marriage may impact male earnings. Marriage could motivate men to work harder (Becker, 1981), marriage might allow men to specialize in market work (Korenman and Neumark. 1991), or employers could favor married men over unmarried men (Hill, 1979). Alternatively, it could be that men with strong labor market potential make more desirable marriage partners than men with weak labor market potential. In an effort to rule out this

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selection hypothesis, researchers have employed fixed-effect models and generally find a positive effect of marriage or no effect of marriage on male wages (Korenman and Neumark, 1991; Lundberg and Rose, 2002; Loughran and Zissimopoulos, forthcoming). Considerably less attention has been paid to the effect of marriage on women's earnings because of the strong correlation of marriage and childbearing. One exception is Loughran and Zissimopoulos (forthcoming) and they find that marriage has a negative effect on the earnings of women independent of the effect of children. While income is a critical measure of well being, wealth (housing, financial assets, pension and Social Security wealth) is an important complementary measure and arguably the most important measure for older individuals because it represents resources available for consumption in retirement. Far less is empirically understood about the effect of marriage on wealth although theory suggests it is likely to be important.

Two studies that use the HRS to move beyond comparisons of wealth of currently married and unmarried individuals are Wilmoth and Koso (2002) and Lupton and Smith (2000). Both studies confirm earlier findings that married adults have higher wealth than unmarried adults (Gustman & Juster, 1996; Smith, 1988; Seigel, 1993), although neither study controlled for permanent income, other measures likely to be correlated with marital status and wealth, such as risk aversion and mortality risk or considered Social Security and pension wealth. Wilmoth and Koso (2002) expanded the range of marital statuses being studied and classified remarriages separately from first marriages. They found that remarriage partially offset the detrimental effects of a marital disruption but that continuously married couple still had more wealth in comparison. Lupton and Smith (2000) did not consider remarriage separate from continuous marriage but did examine length of marriage using the HRS and Panel Study of Income Dynamics and found a positive relationship between time spent married and wealth.

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In sum, there are many pathways through which marriage events over the lifecycle may affect wealth. There are, however few empirical findings on marital history, timing of marriage events and duration in marriage to aid in establishing empirical facts and differentiating between possible explanations. The strength of the relationship between marriage and wealth suggests its importance as an area for further study. The contributions of this study are one, establishing empirical facts on the wealth differences by marital histories, duration of time spent married and age of marital disruption; two, assessing the role of lifetime earnings and other sources of heterogeneity in the differences in wealth across marital categories, and three, determining what types of wealth vary by these dimensions in marriage over the lifecycle (e.g. housing, financial, pension or Social Security).

3. Methods

Our data are from the Health and Retirement Study (HRS). The HRS is a biennial panel that emphasizes retirement behavior and how it is affected by health status, economic status, and work incentives. The HRS has a complete inventory of assets and income, and these data appear to be of very high quality due to innovative survey techniques. At baseline in 1992 the HRS had 12,652 respondents and was nationally representative of individuals born in 1931-1941 and their spouses, except for over-samples of blacks, Hispanics, and Floridians. This project uses data from survey wave 1992 for the birth cohort 1931-1941 (HRS), 1998 for the birth cohort 1942 – 1947 (War Babies) and 2004 for the birth cohort 1948-1953 (Early Baby Boomers). Thus we study respondents at ages 51-56 (up to 61 for the 1931-1941 cohort) and study cohorts especially relevant to understanding the effects of marital history on health as they have experienced substantially higher divorce rates than previous cohorts and they are more likely to be entering older adulthood with a diverse history of marital experiences (Cherlin, 1992). We exclude two

birth cohorts, Children of the Depression Era birth cohort (1924 – 1930) and the AHEAD sample (born 1923 and earlier) because the ages at which they enter the sample are past normal retirement ages. In addition, we use restricted data on Social Security earnings to compute a measure of lifetime earnings for all cohorts and for the 1931-1941 birth cohorts (HRS), a measure of the present discounted value of Social Security wealth at age 62. For this cohort only, we also use restricted, that is, not public use, data from respondents' employers on pensions to construct a measure of present discounted pension wealth at age 62. We use this measure and Social Security wealth as control variables in multivariate models of financial and housing wealth to test sensitivity of our marriage estimates to the inclusion of other wealth measures. Marital history variables were derived based on the raw HRS files; most other variables used in the study are from the RAND HRS Data file, a longitudinal data set based on the HRS data and developed at RAND with funding from the National Institute on Aging and the Social Security Administration. We discuss our measurement of the key variables of interest in this analysis and describe our estimation methods in the remaining paragraphs of this section.

Marital History. One goal of this study is to examine whether detailed assessments of individuals' marital histories better illuminate the associations between marriage and wealth levels near retirement. We create marital status categories based on current marital status, reports of type of past marriage dissolution (widow, divorce) and remarriages, and the number of these marital events to form ten mutually exclusive categories comprised of five married categories and five single categories. The five married categories are: continuously married (currently married and no past marital disruption), remarried after one divorce, remarried after one widowing, remarried after more than one disruption (divorce or widowing), remarried after one unknown type of marriage disruption (unknown if it was a divorce or widowing). The five

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single categories are: never married, divorced once, widowed once, divorce and/or widowed more than one time, one disruption but of an unknown type. We group partners, not married but cohabiting couples, in with singles (629 respondents) and separated in with married respondents (472 respondents) and include categories for missing information on past marital disruption type or date (92 respondents) and unknown current marital status (151 respondents). [1]

To evaluate the different features of an individual's marital history, we also calculate the total duration spent married across the lifespan and the timing of the first marital disruptions. We classify age at first disruption into the following categories: age less than or equal to 25, ages 26 to 35, ages 36-45 and ages 46 and over. We split 20 years of prime earnings (and savings) years into those capturing years before savings has likely been initiated (before age 36) and years in which most households are accumulating wealth (Zissimopoulos and Hurd, 2003).

Lifetime earnings. Survey data are linked with Social Security earnings records. The earnings data for the HRS cohort are based on historical earnings from 1951-1991 reported to the Social Security Administration and are available for 9,539 HRS respondents.[2] Earnings data for the War Babies cohort are available for 1,330 respondents from years 1951-1997 and for the Early Baby Boomers cohort are available for 1,620 respondents from years 1951-2003. The administrative records are accurate and less subject to measurement error than self-reported

[1] The study focuses on marriage events in the present and past and thus we treat separated as married as this is not a recorded event in marriage history and legally separated individuals are considered married. Moreover, the wealth reported is household wealth and in a separation assets would not yet be legally separated.

[2] See Haider and Solon (2000) for a discussion of characteristics of individuals with and without matched Social Security records.

earnings from household surveys and cover a long history of earnings, however they are also limited in two ways. First, the level of earnings is reported only up to the Social Security maximum. This maximum changed over time as did the number of individuals whose earning were above the maximum. Second, individuals employed in a sector not covered by Social Security have no earnings records for the years he or she is employed in the uncovered sector.[3]

We use Social Security earnings to measure lifetime labor income. Lifetime earnings are calculated as the present discounted value (3 percent real interest rate) of real Social Security earnings adjusted to 2004 dollars using the CPI-U-RS, and we adjust for the upper truncation of Social Security earnings. We examine the relationship of Social Security earnings and wealth controlling for education to assess its relationship to wealth with the understanding that it may be a noisy measure of actual lifetime earnings. We include in multivariate models of wealth this measure for each individual in the household in a log functional form.

Mortality Risk, Risk Aversion, Time Rate of Preference. Mortality risk is the respondent's subjective survival assessment of living to age 75 on a zero to 100 scale and we include it in empirical models as a categorical variable: zero, 1 to 49, 50 (reference group) 51 to 99 and 100. The measure of risk aversion is an indicator for being rated at the least and second-least risk averse levels in a four-point scale of risk aversion. In other words, this is the group that is more tolerable of risk. The basis for categorizing the level of risk aversion is a series of questions that ask the respondent to choose between pairs of jobs where one job guarantees current family income and the other offers the chance to increase income and carries the risk of loss of income. We measure respondents' time rate of preference by their responses to the length of time they use for financial planning. The answers are categorical from a few months to over

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[3] In 1996, 92% of non-self-employed wage and salary workers were covered by Social Security.

ten or more years and included in the model as less than five years (reference groups), five to ten years and ten or more years.

Wealth. Our main outcome measure is wealth at year of entry into the survey for our three birth cohorts: 1992 for the birth cohort 1931-1941 (HRS sample), 1998 for the birth cohort 1942 – 1947 (War Babies), and 2004 for the birth cohort 1948-1953 (Early Baby Boomers). Thus wealth is measures at ages 51-56 for all cohorts and through age 61 for the HRS cohort. Total wealth is computed as the sum of wealth from real estate, businesses, IRAs, stocks, bonds, checking accounts, CDs, and housing, less the value of the mortgage, home loans, and other debt. Missing data on wealth are imputed and the methods are described in RAND HRS Version H. The main models include as a covariate an indicator for pension ownership and type (defined benefit, defined contribution, both, or none – the reference group). In subsequent analyses we include as model covariates the present, discounted value of Social Security wealth and pension wealth at age 62. Social Security wealth is computed as combined wealth for married couples and individual wealth for single individuals. It is based on Social Security earnings data for respondents where the information is available and based on self-reported data otherwise. Pension wealth is derived from the HRS Wave 1 Pension Plan Detail Data set for respondents who provided the names and addresses of their employers and HRS obtained the most recent Summary Plan Description. Pension wealth estimation is based on the assumptions of a 6.3 percent interest rate, 5 percent wage growth rate and 4 percent inflation rate which corresponds to the Social Securities 'medium' projection (in contrast to high or low projections). For all other respondents, pension wealth is imputed based on the self-reported data.

Multivariate Model. We use linear regression methods to model log wealth (total housing and financial and housing and financial separately). For couples, household wealth is a

per capita measure (divided by two) and as such, assumes no economies of scale in comparing the estimated effects of being not married and being married or remarried. The main covariates of interest are ten marriage categories (defined above), with continuously married as the reference group and included as gender specific variables. Also included is a continuous variable for total years married, and five categories of age at first separation (ages 26-35 reference group). Log lifetime earnings are included for males and females separately. Other individual level variables included as gender specific variables are mortality risk, risk aversion, an indicator for race is non-white, indicators for the highest educational degree achieved include: none; high school or GED (reference group); some college; bachelor's, master's and Ph.D., J.D., M.D. degrees. Household variables include number of children categorized as none, one to three (reference group), four or more; pension ownership and type. We estimate the model pooled over all birth cohorts, for total wealth and separately for financial and housing wealth. We check the sensitivity of the main results to the exclusion of Social Security and pension wealth by estimating the main model and including the expected, discounted value of pension wealth at age 62 and Social Security wealth at age 62.

4. Results

We first describe the distribution of marital status types taking into account current marital status, type of past marital disruption (divorce or widowing) and number of disruptions, the length of years spent married, and the age of the first marital disruption (if any). We analyze wealth by these measures of marriage and examine lifetime and current income differences across marriage groups. Next we estimate multivariate models of wealth levels near retirement as function of our marriage variables of interest and a rich set of control variables. We examine the sensitivity of our estimation results to the inclusion of Social Security and pension wealth.

Finally, we explore financial literacy as an explanation for the large wealth difference between married and not married women.

Current Marital Status and Marital History. Table 1 shows the distribution of marital statuses combining current marital status with past marital events for all cohorts ages 51 to 61 to yield ten mutually exclusive categories and two categories of missing marriage disruption type. These are the categories that enter our multivariate model for wealth (by gender). Table 1 shows the diversity of marriage experiences of older adults. Among respondents age 51 to 56, 16.3 percent are remarried after divorce while another 9 percent never remarried after divorce. About equal percentages of respondents remarry after multiple disruptions as stay single (5.6 versus 5.3 percent respectively). Few in this age range are widowed. About 2 percent are remarried widows and about 3 percent are single widows. The most striking difference between men and women is that men are more likely to be continuously married than women (56.8 vs. 49.6 percent respectively) and remarried after one divorce (19.0 vs. 13.6 percent respectively). The youngest birth cohort (1948-1953) is 6 percentage points more likely to be divorced than the oldest (1931-1941) birth cohort (17.5 vs. 11.4 percent respectively), and to have experienced more than one divorce (11.8 vs. 7.3 percent respectively). The results by gender and birth cohort are not shown in the Tables but are available upon request.

Table 2 shows the distribution of number of previous divorces (and average number), age of first marital disruption (and average age) and years married (and average number of years) for ages 51-56. Like Table 1, the results shown in Table 2 reveal that the marriage experiences are very diverse with 27 percent of individuals ages 51-56 experiencing one divorce and another 9 percent experiencing 2 or more. Among respondents age 51 to 56 that experienced a marriage separation (divorce or widowing), the average age is 34. Disruptions (widow or divorce) occur

at all ages although are the most common between the ages of 26 and 45. Total years spent

married is high, 27 years although 11 percent of respondents have been married 9 years or less.

There are interesting cohort differences: in successive birth cohorts, divorces tend to occur at

younger ages and they are more of them and the total years spent married is shorter.

Wealth and Marriage. Table 3 shows mean and median wealth ($2004) at ages 51-56 by

the 10 marriage categories. Given that the measure of wealth is *household* wealth, and a couple

will need finance the consumption of at least two people in retirement, it is not surprising that

married couples have more wealth than singles, but the magnitude of the difference is

nevertheless striking. Married couples have about 2.5 times the mean wealth as singles and

almost 4 times the median wealth as singles. Singles that experienced two or more marital

disruptions have the lowest mean and median wealth levels ($105,444 and $31,275 respectively).

All else being equal, it is difficult to assess what an equivalent amount of wealth for a single

person should be relative to a married person. While we have widely used measures of

household income based on equivalence scales, no single accepted measure for wealth exists.

Because of economies of scale, we would expect couples to have less than two times more

wealth than singles. The most wealth is held by continuously married couples ($370,013 and

$167,522 for mean and median wealth respectively) and is substantial higher than the wealth of

remarried individuals. The lower wealth level of remarried individuals compared to continuously

married individuals are consistent with marriage disruptions involving unexpected expenses

large enough that increased savings does not compensate for them. It is also the case that

remarried couples have fewer years of total marriage and thus less time to benefit from

economies of scale. In sum, generally we see that continuously married couples hold the greatest

amount of wealth, even more than remarried couples, and singles experiencing more than one marital disruption have the lowest amount.

Table 4 shows median wealth by number of divorces, by age of first marital disruption and by total years married. The first column shows the results for the sample of currently married individuals and the second column for currently single individuals. As we saw in Table 3, wealth is lowest for those who experience more than one divorce. Among remarried couples, a marital disruption that occurred at a young age (25 or younger) or an old age (46 or older) is associated with lower wealth levels than a disruption occurring at middle age (between 26 and 45). In contrast, among singles, age of disruption is positively associated with median wealth levels. That is, the later the age of disruption, the higher the wealth level at the median. If marriage leads to higher wealth due to economies of scale, then more years spent married should be associated with higher levels of wealth (all else being equal) and the results on Table 4 are generally consistent with this hypothesis. Currently not married individuals with 30 or more years of marriage have the highest median wealth levels among singles. Among married individuals, wealth increases with years married with the exception that those with 30 or more years of marriage have slightly lower median wealth levels than individuals married 20-29 years.

Lifetime Earnings and Marriage Events. One central explanation for the large differences in wealth levels near retirement by marital status and marital history may be differences in permanent earnings, whether it be the case that marriage causes higher earnings or that higher ability people are more likely to marry (and remarry) and less likely to divorce. Table 5 shows mean lifetime earnings and current earnings for males and females by current marital status and marriage history. Among married males, there is only a small difference in lifetime earnings for those continuously married and those who remarry after a single divorce or

widowing. For example, men who remarried after a divorce have about $980,000 in lifetime earnings, while continuously married men have just over one million dollars in lifetime earnings. The mere $24,000 difference in lifetime earnings does not explain all of the $60,000 difference in mean wealth between remarried and continuously married men. Remarried males with two or more past disruptions have about $140,000 less lifetime earnings than continuously married males, which likely explains some of the wealth differences between this group and the continuously married group. On average, unmarried men have lower lifetime earnings than married men. Among unmarried men, the most outstanding difference in lifetime earnings is for never married men, who have only $600,000 in lifetime earnings compared to over $840,000 in lifetime earnings for divorced men. Lifetime earnings among unmarried women compared to married women are much different then men. Unmarried women have higher lifetime earnings than married women, never married women having the highest earnings (approximately $560,000) and remarried women have higher lifetime earnings than continuously married women. These patterns are consistent with lower labor force participation of married women relative to unmarried women. The pattern for current earnings is similar. Continuously married men (women) have similar earnings as men (women) remarried after a divorce. Unmarried men have lower earnings than married men, and unmarried women have higher earnings than married women, consistent with prior research on this topic. In sum, while lifetime earnings and current earnings are likely important factors in wealth differences between married and unmarried individuals, they are unlikely to explain more than a small part of the wealth differences between continuously married and remarried men and women.

Multivariate Model Results. We show the estimation results of the linear, multivariate model of log wealth in Tables 6A and 6B. Table 6A shows only the results for the 10 marriage

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categories defined by current marital status and past marital events and by gender. Table 6B

shows the estimated effects of the other marital history variables (year married, age of first

marital disruption) and lifetime earnings and current earnings. All other covariates including

mortality risk, risk aversion, race and education, household variables such as number of children,

pension ownership and type and birth cohort are included in the model and the estimation results

reported in Appendix Table A. The first columns of Tables 6A and 6B shows estimation results

for wealth (non-pension and non-Social Security wealth), the second column shows results for

non-housing wealth, and the third column shows results for housing wealth. For couples, wealth

is a per capita measure (assuming a household of two persons). Thus, the measure assumes no

economies of scale and any remaining difference in wealth between married and unmarried

individuals (after controlling for other differences) is likely understated. Frequency distributions

of the categorical covariates included in the multivariate linear regression models of log wealth

are provided in the Appendix Table B by marriage categories and for all. We check the

sensitivity of the results to the exclusion of pension wealth and Social Security wealth by

estimating the main model for the HRS cohort and including as covariates the expected,

discounted value of pension wealth and Social Security wealth at age 62 (results from this model

are in Table 8 and are discussed below).

The model estimates in Table 6A for marriage categories reveal four main results. First

the estimates are generally negative indicating lower wealth for all groups relative to

continuously married. Second, in terms of statistical differences the wealth differences between

continuously married and remarried men and women disappear once we include our control

variables with the exception that remarried men and women with two or more disruptions have

lower housing wealth than continuously married couples although the estimate is much larger for

men than for women (column 3). As the Appendix table shows, there are some observable differences between remarried men (women) and continuously married men (women) that in part explain the mean and median wealth differences reported in Table 3 and that we control for in our models. Remarried men and women are less likely to have a college education or higher. In the models, higher education is associated with greater wealth, and one mechanism through which this may be operating (holding permanent and transitory income constant) is financial literacy (Lusardi and Mitchell, 2007). They are also more likely to have 4 or more children, which in the models is associated with lower wealth. While the effect of children on assets is complicated, in terms of consumption, expenditure on child-related commodities will increase with the number of children and may also alter the allocation of time to the labor market. Other covariates such as mortality risk, risk aversion, and financial planning horizon (our proxy for time rate of preference) are generally the same across continuously married and remarried groups with the exception that remarried men after a widowing report a lower probability of living to 75 and shorter financial planning horizon than other married men (consistent with holding less wealth) and remarried women after a widowing are the least risk averse and report a shorter financial planning horizon (consistent with holding less wealth).

Third, unmarried men and women regardless of type of past marital events have lower housing wealth than continuously married men and women. For unmarried men and women, one divorce lowers housing wealth relative to continuously married men and women and two or more marital disruptions have a larger negative effect on wealth than one disruption. Not married men and women experiencing two or more marital disruptions, also have lower *financial* wealth than the continuously married.

Fourth, there are gender differences in the effect of being not married on wealth. In contrast to men, not married women of all types (in terms of past marital events) have substantially lower financial wealth as well as housing wealth than married women. One explanation for why unmarried women have both lower financial and housing wealth than continuously married women while not married men only have lower housing wealth (given we are controlling for lifetime earnings, current earnings, mortality risk and many other differences) is children most often reside with the mother when a marriage dissolves and the higher consumption needs of a household with children may not be fully compensated by alimony or child support payments. To maintain consumption, the household may reduce savings. Another explanation for the gender differences between single males and females we find may be differences by gender in financial literacy and we return to examining this explanation later. Comparing the results in this table to the mean wealth results in Table 3 we see that difference in wealth levels between married and single individuals declines substantially. Recall that mean results revealed 2.5 times more wealth for married couples than singles. However, even with income controls (measured with lifetime earnings and current earnings), controls for mortality risk, risk aversion and time rate or preference (measured by financial planning horizon), the effect of marriage (particularly for women) remains large.

Table 6B provides two additional results on the effect of marital history on wealth. Each additional year spent married is associated with a 4 percent increase in total wealth for both men and women and operates both through financial and housing wealth (Table 6b). This is a substantial effect when you consider that the average number of years spent married for a continuously married couple is 30 years (26 years for remarried couples) and only 16 years for a divorced individual. The effect is slightly higher on housing wealth (5.7 and 5.3 percent for men

and women respectively) than non-housing wealth (3.2 and 3.7 percent for men and women

respectively), which is consistent with the hypothesis that marriage brings economies of scale in

consumption. Age at which the first marriage disruption occurred effects wealth and differently

for men and women. Men with a disruption at ages 46 and older have lower housing wealth than

men with disruptions between the ages 26 and 35. Among women, housing wealth is 37 percent

lower if the marital disruption occurred between ages 36 and 45 compared to a disruption

between ages 26 and 35.

Lifetime earnings and current earnings have independent and positive effects on wealth

levels near retirement (Table 6B). A one percent increase in the lifetime earnings of men

increases total wealth by 0.40 percent and a one percent increase in the lifetime earnings of

women increases wealth by 0.11 percent. The magnitude of the effect on financial and housing

wealth is similar. The effect of a one percent increase in current earnings is substantial smaller

than for lifetime earnings and is 0.03 percent for men and 0.04 percent for women and the

positive effect on wealth is larger for financial wealth than for housing wealth.

Other Predictors of Wealth

Mortality risk, risk aversion and financial planning horizon (our proxy for time rate of

preference) all have a significant effect on wealth levels near retirement in the expected direction

(Appendix Table A). A high mortality risk (a zero subjective survival of living to 75) is

associated with substantially lower wealth levels (81.8 and 93.6 percent less wealth for men and

women respectively) and a high tolerance for risk is associated with 29 percent less wealth for

men relative to being the most risk averse. We interpret the financial planning horizon as a

proxy for time rate of preference and find that as the horizon increases, so does wealth. Finally,

as noted earlier, high education (college or more) is associated with more wealth and children with less wealth.

Pension and Social Security Wealth. Our measure of wealth (housing and non-housing) is somewhat narrow in that it does not include future claims on pension and Social Security wealth that may vary by current marital status and past marital events. For example, we saw that never married women have higher lifetime earnings than other groups of women in large part due to their participation in the labor force. Thus we expect this group to also have future claims on Social Security benefits. Table 7 shows mean values of the present, discounted value of household Social Security wealth and individual pension wealth as of age 62 and mean value of housing and financial wealth for the HRS cohort (all in $2004). On average, Social Security wealth and pension wealth of not married men and women is lower than that of married men and women and lowest for not married women compared to not married men. Social Security and pension wealth is a slightly larger component of total wealth for unmarried individuals than for married. For example, among continuously married men, 61 percent of total wealth, including Social Security, pension and housing and non-housing wealth, comes from future claims on Social Security and pension wealth. For unmarried males (after one divorce) this percentage is 65 and is 67 for unmarried (after one divorce) females. Social Security and pension wealth is 75 percent of total wealth for never married women. Considering only financial and housing wealth, continuously married women have 3.4 times as much wealth as a divorced woman and 4 times as much wealth as a never married woman. Considering financial, housing, Social Security and pension wealth, the differences are smaller: continuously married women have 2.8 times as much wealth as a divorced woman and 2.7 times as much wealth as a never married woman. Thus, once we consider Social Security and pension wealth, the mean wealth

differences between married and unmarried (particularly never married women) respondents decrease.

We check the sensitivity of our estimates of our marriage covariates of interest in Tables 6A and 6B to the inclusion of controls for Social Security wealth and pension wealth and the results are reported in Table 8. Among women in the HRS birth cohort (1931-1941), we find the negative effect on wealth of being single (all types of singles) compared to being married declines but is still substantial. For example the estimated coefficient on 'never married' declines from -1.16 to -0.74 with the inclusion of Social Security and pension wealth measures. The inclusion of Social Security and pension wealth measures has the biggest impact on the estimate for widows: the estimate declines by about 50 percent from -1.05 to -0.47. The estimated effects of Social Security wealth and pension wealth on financial and housing wealth is positive and is likely due to an unobserved taste for saving. A limitation to these results is that expected Social Security and pension wealth may be underestimated for some categories of not married individuals, particularly not married women with a past divorce, who may be entitled to spousal benefits. For example, previously married, single individuals are entitled to spousal Social Security benefits at age 62 if their prior marriage lasted more than 10 years.[4]

Financial Literacy. One explanation for the large wealth differences of single women compared to married women even with rich controls for observable differences is differences in

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[4] We examined mean Social Security income of women age 62 and over and found married women had only 10 percent more Social Security income than not married women compared to 62 percent more expected Social Security wealth. Thus it is likely the case that the expect Social Security wealth of not married women (divorced or widowed) is higher than we estimate due to uncounted spousal benefits.

financial literacy. This may be particularly important for previously married women (compared to never married women) who may not have invested in understanding complex financial decisions while married if the husband, and not the wife, specialized in financial decision-making. While financial literacy has been shown to vary substantial with education (Lusardi and Mitchell, 2007), which is included as a control variable in our models, if it is the case that spouses specialize, then controlling for education, we would expect a difference in financial literacy by marriage category. Fortunately in the 2004 wave of the HRS, the Early Baby Boomer cohort was asked three questions geared toward assessing their financial literacy. We examine the third question that was designed to elicit ability to make complex financial decisions. Table 9 shows the financial literacy question that was asked and the percent of correct responses among college graduates (on average, less than 10 percent of non-college graduates answered the question correctly). We find that the percent of respondents who answered the question correctly is much lower for divorced men and women with only 14 percent of divorced women answering the question correctly. In contrast, 23 percent of never married women answered the question correctly. Continuously married women are equally likely to answer the question correctly as never married women suggesting a more complex explanation whereby specialization within marriage may interact with length of time married and timing of marital disruption. Data collection efforts that focus on financial decision making within the household and financial literacy over the lifecycle may shed light on some of the marriage differences we see.

5. Conclusion

This study expands our understanding of how marriage and wealth are related by: one, analyzing the impact of a lifetime of marriage events, the timing of past marriage events and duration of years spent married on wealth; two, by studying a previously unexplored explanation for wealth

differences across these marital group: lifetime earnings; three by examining different types of wealth including housing wealth and financial wealth but also future claims on Social Security and pension wealth; and fourth, including in our models of wealth a rich set of covariates that a lifecycle model of savings predicts will affect wealth and that may vary by marriage including not only lifetime earnings but also current earnings, education, mortality risk, risk aversion, financial planning horizon as a proxy for time rate of preference, number of children and other demographics.

We find that the lifetime marriage experiences of individuals nearing retirement are very diverse: less than half of all individuals experience one continuous marriage throughout their lives. Moreover, successive birth cohorts are at greater risk of experiencing on or more divorces, experience them at younger ages, and are less likely to subsequently remarry. On average, continuously married couples have the greatest amount of wealth, more than remarried couples, and singles. Singles experiencing more than one marital disruption have the lowest amount of wealth. Large differences in the average lifetime earnings and current earnings between married and unmarried individuals are factors in wealth differences between these groups, but the small difference in lifetime earnings between continuously married and remarried men and women suggest this is not an important explanation for the average (and median) wealth differences between these groups.

Estimation results from models of log total wealth, financial wealth and housing wealth produce several main results. First the estimates reveal lower wealth for all groups relative to continuously married however in terms of statistical differences, the wealth differences between continuously married and remarried men and women disappear once we include our control variables. The exception to this result is that remarried men and women with two or more

disruptions have lower *housing* wealth than continuously married couples. Although the group of individuals with more than one past marital disruption is not large (9 percent of our sample of 51-56 year olds), it has been increasing over time.

We find that being unmarried, regardless of past type of marital disruption (if any) is associated with lower wealth levels compared to being continuously married. There are, however, gender differences. For not married men, it is *housing* wealth that is lower while not married women have *financial* and *housing* wealth levels that are substantially lower than continuously married men and women unexplained by the many observable differences between these groups. One explanation for these gender differences (given we are controlling for lifetime earnings, current earnings, mortality risk and many other differences) may be that children most often reside with the mother when a marriage dissolves and the higher consumption needs of a household with children may not be fully compensated by alimony or child support payments thus to maintain consumption, the household may reduce savings. This hypothesis however, cannot be explicitly tested using these data.

We explored another potential explanation for the large wealth differences of unmarried women compared to married women: differences in financial literacy and find that even among college educated individuals, financial literacy is the lowest for divorced individuals. Never married women were more likely to answer a financial literacy question correctly than divorced women which is consistent with a hypothesis that previously married women may not have invested in understanding complex financial decisions while married.

Finally, we find evidence consistent with the hypothesis that married couples enjoy economies of scale in consumption and this leads to higher wealth compared to remarried and single individuals. Independent of the effect of length of marriage, we also find that for women a

marital disruption between the ages of 36 and 45 reduced wealth, primarily housing wealth at older ages substantially.

Our primary measure of wealth (housing and financial) does not include future claims on pension and Social Security wealth that may vary by current marital status and past events. Once we include Social Security and pension wealth in our measure of total wealth, the mean (and median) wealth differences between married and single individuals decrease, particularly for never married singles but inclusion of these measures in our model does not change our main substantive findings.

Our model explains 26 percent of the variance in total wealth across households (29 percent for the HRS cohort in models with pension and Social Security wealth included). Thus, much variance remains to be explained. If the remaining heterogeneity is correlated with marriage, our results may still be biased. Future work will shed additional light on the relationship between marriage and wealth by utilizing the long HRS panel to examine changes in wealth and savings as a result of marriage status changes at older ages and employing panel econometric techniques to control for unobserved heterogeneity. Moreover, birth cohort differences in the relationship between wealth and marriage merit further study. For example, in model-based estimation (results not shown nor discussed in this study), we find that among the birth cohort born between 1947 and 1953 (Early Baby Boomers) remarried men have less wealth (69 percent) than continuously married men. Given the higher divorce rate, higher prevalence of multiple divorces, and earlier age of divorce among the Early Baby Boomer cohort compared to earlier cohorts, an understanding of how marriage disruptions over the lifecycle impact savings may become increasingly important for understanding the economic security of these soon to be retired individuals and families.

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Table 1—Distribution of Lifetime Marriage Disruptions by Current Marital Status Ages 51-56
(percent distribution)

	Current Marital Status	
Type of Past Marital Event	Married	Not Married
No past event (continuously mrd/never married)	53.18	4.57
1 divorce	16.31	8.97
2+ (divorce or widow)	5.62	5.30
1 widowing	1.66	2.87
1 unknown disruption	0.44	0.01
Missing	0.61	0.47
Total	77.82	22.18

SOURCE: Authors' calculations based on the 1992, 1998 and 2004 waves of the
HRS and birth cohorts 1931-1941, 1942-1946, 1947-1953.
NOTE: Sample is 8251 respondents ages 51 to 56. Cell percentages total 100.
Separated individuals are considered married.

Table 2—Distribution and Mean of Number of Divorces, Age of First Disruption and Year
Married For Ages 51-56

Marital History	(%)	Mean
Number of Divorces		0.47
0 divorces	63.31	
1 divorce	27.19	
2+ divorces	8.73	
Missing	0.78	
Age at First Disruption		33.69
No marital disruption	57.28	
<=25	9.49	
26-35	14.94	
36-45	11.40	
46+	5.31	
Missing	1.57	
Years Married (mean)		27.11
0	5.27	
1-9	5.32	
10-19	11.10	
20-29	30.31	
30+	43.40	
Missing	4.60	

SOURCE: Authors' calculations based on the 1992, 1998 and 2004 waves of the
HRS and birth cohorts 1931-1941, 1942-1946, 1947-1953.
NOTE: Sample is 8251 respondents ages 51 to 56. Columns may not add to
totals due to rounding.

Table 3— Mean and Median Wealth by Lifetime Marriage Disruptions by Current
Marital Status For Ages 51-56 **($2004)**

	Mean Wealth ($)		Median Wealth ($)	
	Current Marital Status			
Type of Past Marital Event	Married	Not Married	Married	Not Married
No past event (cont.mrd/nvr mrd)	370,013	160,074	167,522	35,745
1 divorce	324,134	153,450	119,200	47,091
2+ shocks	273,731	105,444	96,952	31,275
1 widowing	253,890	133,284	111,451	46,233
Total	350,476	140,403	151,693	39,275

SOURCE: Authors' calculations based on the 1992, 1998 and 2004 waves of
the HRS and birth cohorts 1931-1941, 1942-1946, 1947-1953.
NOTE: Sample is 8158 respondents ages 51 to 56. Excludes 93 respondents with unknown type of
marriage disruption.

Table 4—Median Wealth by Number of Divorces, Age of Marital Change, Years Married Ages
51-56 **($2004)**

	Currently Married	Currently Not Married
No. of Divorces		
0	167,719	36,035
1	119,833	48,528
2+	99,958	25,416
Age at First Event		
<=25	102,157	21,089
26-35	117,332	31,286
36-45	125,438	49,525
46+	93,307	70,565
Years Married		
0	20,511	29,883
1-9	85,798	25,335
10-19	104,047	44,264
20-29	178,930	48,117
30+	160,807	67,459

SOURCE: Authors' calculations based on the 1992, 1998 and 2004
waves of the HRS and birth cohorts 1931-1941, 1942-1946, 1947-1953.
NOTE: Sample is 8251 respondents ages 51 to 56.

Table 5—Mean Lifetime Earnings and Current Earnings by Marital Categories ($2004)

	Males		Females	
	Mean Lifetime Earnings ($)			
	Married	Single	Married	Single
No past shock	1,000,943	603,643	303,586	560,647
1 divorce	977,325	843,083	387,604	462,205
2+ (div. or wid.)	861,106	827,071	392,952	444,474
1 widowing	934,577	706,314	273,472	329,973
	Current Earnings ($)			
	Married	Single	Married	Single
No past shock	45,523	24,178	18,181	24,029
1 divorce	41,979	28,037	20,738	26,699
2+ (div. or wid.)	34,977	32,325	20,514	21,618
1 widowing	35,796	22,157	15,651	15,617

SOURCE: Authors' calculations using SS earnings and 1992-2004 HRS.
NOTE: Sample is all respondents for current earnings and with matched Social Security earnings records for lifetime earnings.

Table 6A—OLS Models of (Ln) Per Capita Total Wealth, Non-housing Wealth and Housing Wealth: Estimates for Current Marital Status and Past Marital Events Categories

	(1) Wealth	(2) Non-housing	(3) Housing
Current Marital Status and Past Events			
Continuously married (reference)			
MALE Married (current status – past event(s)):			
Currently married – 1 div, 0 wid	-0.101	0.003	-0.142
Currently married – 0 div, 1 wid	0.130	0.401	0.463
Currently married – 2 past events	-0.449**	-0.147	-1.161**
MALE Single (current status – past event(s)):			
Currently not married – 0 div, 0 wid (never married)	-0.112	-0.268	-0.977**
Currently not married – 1 div, 0 wid	-0.383	-0.183	-1.568**
Currently not married – 0 div, 1 wid	-0.018	-0.416	-0.108
Currently not married – 2 past events	-0.703**	-0.481*	-2.169**
FEMALE Married (current status – past event(s)):			
Currently married – 1 div, 0 wid	-0.132	-0.049	-0.283
Currently married – 0 div, 1 wid	-0.235	-0.206	-0.543
Currently married – 2 past events	-0.171	-0.056	-0.503*
FEMALE Single (current status – past event(s)):			
Currently not married – 0 div, 0 wid (never married)	-1.350**	-1.416**	-2.085**
Currently not married – 1 div, 0 wid	-0.901**	-1.383**	-1.445**
Currently not married – 0 div, 1 wid	-0.682**	-1.342**	-0.748**
Currently not married – 2 past events	-1.120**	-1.442**	-1.883**
All other marital history variables included	Yes	Yes	Yes
Lifetime earnings, current earnings other controls	Yes	Yes	Yes
Observations	17,198	17,198	17,198
R-squared	0.26	0.28	0.22

Table 6B—OLS Models of (Ln) Per Capita Total Wealth, Non-housing and Housing Wealth

	(1) Wealth	(2) Non-housing	(3) Housing
Marriage Years			
Male total years spent in married state	0.040**	0.032**	0.057**
Female total years spent in married state	0.043**	0.037**	0.053**
Male Age At First Separation:			
Male age at first separation <26	-0.020	-0.196	0.267
Male age at first separation 36-45	-0.064	0.057	-0.161
Male age at first separation >45	-0.319	-0.269	-1.023**
Female Age at First Separation:			
Female age at first separation <26	-0.181	0.054	-0.190
Female age at first separation 36-45	-0.365**	-0.225	-0.366*
Female age at first separation >45	-0.041	-0.057	-0.122
Lifetime Earnings			
Male (ln) lifetime earnings	0.404**	0.393**	0.526**
Female (ln) lifetime earnings	0.112**	0.115**	0.100**
Current Earnings			
Male log of current earn - 2004$	0.034**	0.050**	0.010
Female log of current earn - 2004$	0.041**	0.041**	0.023*
All other marital status categories included	Yes	Yes	Yes
Lifetime earnings current earnings, other controls	Yes	Yes	Yes
Observations	17,198	17,198	17,198
R-squared	0.26	0.28	0.22

NOTES TABLES 6A & 6B: Birth cohorts 1931-1953. '*' significant at 5%, '**' significant at 1%. Other model covariate estimates given in Appendix Table A.

Table 7—Mean Social Security, Pension, Financial and Housing Wealth by
Marriage Histories For Males and Females – HRS Cohort ($2004)

	Males		Females	
	Mean Household Social Security Wealth at Age 62 ($)			
	Current Marital Status			
	Married	Not Married	Married	Not Married
No past event	205,902	96,773	207,429	85,182
1 divorce	206,790	112,649	205,862	81,537
2+ (div. or wid.)	197,520	112,461	203,704	78,045
1 widowing	199,312	97,438	198,772	67,289
	Mean Household Pension Wealth at Age 62 ($)			
	Current Marital Status			
	Married	Not Married	Married	Not Married
No past event	343,482	161,410	331,193	159,830
1 divorce	379,548	200,915	359,657	127,998
2+ (div. or wid.)	352,220	247,169	330,747	96,860
1 widowing	406,095	166,181	297,316	83,236
	Mean Household Housing and Financial Wealth ($)			
	Current Marital Status			
	Married	Not Married	Married	Not Married
No past event	350,628	267,090	341,279	84,913
1 divorce	273,115	167,190	284,112	101,631
2+ (div. or wid.)	198,630	163,978	212,754	102,543
1 widowing	337,453	153,407	229,183	133,907

SOURCE: Authors' calculations based on 1992 restricted Social Security
earnings data, restricted pension data and the 1992 public release HRS.
NOTE: Sample is HRS birth cohort with non-missing data.

Table 8—OLS Models of (Ln) Per Capita Total Wealth With Pension and Social Security Wealth: 1931-1941 Birth Cohort (HRS cohort)

	(Ln) Wealth No Pension and SS Wealth Controls	(Ln) Wealth with Pension and SS Wealth Controls
Current Marital Status and Past Events		
Continuously married (reference)		
Male Married (current status – past event(s)):		
Currently married – 1 div, 0 wid	0.075	0.030
Currently married – 0 div, 1 wid	0.290	0.256
Currently married – 2 past events	-0.265	-0.314
Male Single (current status – past event(s)):		
Currently not married – 0 div, 0 wid (never married)	0.383	0.467
Currently not married – 1 div, 0 wid	-0.122	-0.003
Currently not married – 0 div, 1 wid	0.012	0.159
Currently not married – 2 past events	-0.398	-0.327
Female Married (current status – past event(s)):		
Currently married – 1 div, 0 wid	-0.324*	-0.345*
Currently married – 0 div, 1 wid	-0.269	-0.346
Currently married – 2 past events	-0.361	-0.344
Female Single (current status – past event(s)):		
Currently not married – 0 div, 0 wid (never married)	-1.163**	-0.736*
Currently not married – 1 div, 0 wid	-1.314**	-0.878**
Currently not married – 0 div, 1 wid	-1.046**	-0.467*
Currently not married – 2 past events	-1.467**	-0.981*
MARITAL HISTORY		
Marriage Years		
Male total years spent in married state	0.051**	0.046**
Female total years spent in married state	0.048**	0.045**
Male Age At First Separation		
Male age at first separation <26	-0.289	-0.225
Male age at first separation 36-45	-0.124	-0.137
Male age at first separation >45	-0.444	-0.433
Female Age at First Separation		
Female age at first separation <26	-0.041	0.015
Female age at first separation 36-45	-0.142	-0.124
Female age at first separation >45	0.279	0.357
EARNINGS AND PENSIONS		
Lifetime Earnings		
Male (ln) lifetime earnings	0.430**	0.280**
Female (ln) lifetime earnings	0.122**	0.051*
Pension and Social Security Wealth		
Log household pension wealth at age 62 – 2004$		0.063**
Log Household Social Security Wealth at age 62 –2004$		0.135**
All Other Controls	Yes	Yes
Observations	11,362	11,362
R-squared	0.27	0.29

SOURCE: Authors' calculations based on the 1992 HRS, birth cohorts 1931-1941.
NOTES: Sample is all respondents. '*' significant at 5%, '**' significant at 1%.

Table 9—Financial Literacy by Current Marital Status and Gender for College Graduates
(percent)

	Males		Females	
	% Correct	N	% Correct	N
Married continuously	37.6	237	21.6	231
Remarried	34.1	85	15.8	76
Divorced	22.6	31	14.1	78
Never Married	22.6	31	22.7	22

SOURCE: Authors' calculations based on wave 2004 HRS.
NOTE: Sample is all EBB respondents that responded correctly to at least one of the earlier two financial literacy questions. Percent correct is in response to question "Let's say you have 200 dollars in a savings account. The account earns 10% interest per year. How much would you have in the account at the end of two years?" Results for widows and partners not show due to small sample sizes.

Appendix Table A—Models of (Ln) Per Capita Wealth

	(1) (Ln) Wealth	(2) (Ln)Non-House	(3) (Ln)Housing
Marriage Categories			
Continuously married (reference)			
Male currently married - 1 div, 0 wid	-0.101	0.003	-0.142
	(0.118)	(0.128)	(0.153)
Male currently married - 0 div, 1 wid	0.130	0.401	0.463
	(0.299)	(0.323)	(0.388)
Male currently married - 2 past events	-0.449	-0.147	-1.161
	(0.170)**	(0.183)	(0.220)**
Male currently single - 0 div, 0 wid (never married)	-0.112	-0.268	-0.977
	(0.247)	(0.266)	(0.320)**
Male currently single - 1 div, 0 wid	-0.383	-0.183	-1.568
	(0.206)	(0.223)	(0.267)**
Male currently single - 0 div, 1 wid	-0.018	-0.416	-0.108
	(0.381)	(0.411)	(0.494)
Male currently single - 2 past events	-0.703	-0.481	-2.169
	(0.224)**	(0.242)*	(0.290)**
Female currently married - 1 div, 0 wid	-0.132	-0.049	-0.283
	(0.112)	(0.121)	(0.145)
Female currently married - 0 div, 1 wid	-0.235	-0.206	-0.543
	(0.231)	(0.249)	(0.299)
Female currently married - 2 past events	-0.171	-0.056	-0.503
	(0.168)	(0.181)	(0.217)*
Female currently single - 0 div, 0 wid (never married)	-1.350	-1.416	-2.085
	(0.230)**	(0.248)**	(0.298)**
Female currently single - 1 div, 0 wid	-0.901	-1.383	-1.445
	(0.168)**	(0.181)**	(0.217)**
Female currently single - 0 div, 1 wid	-0.682	-1.342	-0.748
	(0.205)**	(0.221)**	(0.265)**
Female currently single - 2 past events	-1.120	-1.442	-1.883
	(0.168)**	(0.181)**	(0.217)**
Marriage Years and Age of First Disruption			
Male total years spent in married state	0.040	0.032	0.057
	(0.005)**	(0.006)**	(0.007)**
Female total years spent in married state	0.043	0.037	0.053
	(0.005)**	(0.005)**	(0.006)**
Male age at first separation <26	-0.020	-0.196	0.267
	(0.166)	(0.179)	(0.214)
Male age at first separation 36-45	-0.064	0.057	-0.161
	(0.144)	(0.155)	(0.187)
Male age at first separation >45	-0.319	-0.269	-1.023
	(0.195)	(0.210)	(0.252)**
Female age at first separation <26	-0.181	0.054	-0.190
	(0.127)	(0.137)	(0.164)
Female age at first separation 36-45	-0.365	-0.225	-0.366
	(0.133)**	(0.143)	(0.172)*
Female age at first separation >45	-0.041	-0.057	-0.122
	(0.183)	(0.197)	(0.236)

	(Ln) Wealth	(Ln)Non-House	(Ln)Housing
Demographic and Household Characteristics			
Male age	-0.368	-0.385	-0.339
	(0.063)**	(0.068)**	(0.081)**
Male age squared	0.004	0.004	0.004
	(0.001)**	(0.001)**	(0.001)**
Female age	-0.198	-0.220	-0.090
	(0.063)**	(0.068)**	(0.082)
Female age squared	0.002	0.003	0.001
	(0.001)**	(0.001)**	(0.001)
Male education less than high school	-0.976	-1.291	-0.912
	(0.101)**	(0.109)**	(0.131)**
Male education high school graduate (ref.)			
Male education some college	0.302	0.360	0.207
	(0.098)**	(0.105)**	(0.127)
Male education college plus	1.091	1.313	0.884
	(0.099)**	(0.107)**	(0.128)**
Female education less than high school	-1.412	-1.479	-1.416
	(0.088)**	(0.095)**	(0.114)**
Female education high school graduate (ref.)			
Female education some college	0.501	0.673	0.392
	(0.084)**	(0.090)**	(0.108)**
Female education college plus	1.064	1.444	0.962
	(0.094)**	(0.102)**	(0.122)**
Race is black	-1.809	-1.958	-1.634
	(0.067)**	(0.072)**	(0.086)**
Race is other	-0.872	-1.094	-1.153
	(0.104)**	(0.112)**	(0.135)**
Has no children	0.126	0.165	-0.181
	(0.102)	(0.110)	(0.132)
Has 1-3 children (ref.)			
Has 4+ children	-0.265	-0.513	-0.246
	(0.054)**	(0.058)**	(0.070)**
Mortality Risk			
Male 0% probability of living to age 75	-0.818	-1.135	-0.360
	(0.152)**	(0.164)**	(0.197)
Male 1-49% probability of living to age 75	-0.331	-0.279	-0.084
	(0.119)**	(0.128)*	(0.154)
Male 50% probability of living to age 75	-0.072	-0.224	-0.032
	(0.101)	(0.109)*	(0.131)
Male 51-99% probability of living to age 75 (ref.)			
Male 100% probability of living to age 75	-0.059	-0.105	-0.200
	(0.108)	(0.116)	(0.140)
Female 0% probability of living to age 75	-0.936	-1.415	-0.685
	(0.145)**	(0.157)**	(0.188)**
Female 1-49% probability of living to age 75	-0.397	-0.612	-0.201
	(0.108)**	(0.116)**	(0.140)
Female 50% probability of living to age 75	-0.098	-0.026	-0.055
	(0.086)	(0.093)	(0.112)
Female 51-99% probability of living to age 75 (ref.)			
Female 100% probability of living to age 75	0.090	0.062	0.075
	(0.086)	(0.093)	(0.111)

	(Ln) Wealth	(Ln)Non-House	(Ln)Housing
Risk Aversion			
Male least risk averse	-0.294	-0.193	-0.565
	(0.109)**	(0.117)	(0.141)**
Male 3rd most risk averse	-0.072	-0.145	-0.248
	(0.124)	(0.134)	(0.161)
Male 2nd most risk averse	-0.016	-0.091	-0.020
	(0.113)	(0.122)	(0.146)
Male most risk averse (reference)			
Female least risk averse	0.147	0.121	0.045
	(0.102)	(0.110)	(0.132)
Female 3rd most risk averse	0.082	-0.013	0.142
	(0.108)	(0.117)	(0.140)
Female 2nd most risk averse	0.146	0.267	0.149
	(0.096)	(0.104)*	(0.124)
Female most risk averse (reference)			
Financial Planning Horizon			
Male <5yr financial planning horizon (reference)			
Male 5-10yr financial planning horizon	0.478	0.534	0.576
	(0.084)**	(0.090)**	(0.108)**
Male >10yr financial planning horizon	0.356	0.410	0.448
	(0.121)**	(0.131)**	(0.157)**
Female <5yr financial planning horizon (reference)			
Female 5-10yr financial planning horizon	0.312	0.439	0.408
	(0.074)**	(0.079)**	(0.095)**
Female >10yr financial planning horizon	0.453	0.542	0.414
	(0.106)**	(0.114)**	(0.137)**
Earnings			
Male (ln) lifetime earnings	0.404	0.393	0.526
	(0.040)**	(0.043)**	(0.052)**
Female (ln) lifetime earnings	0.112	0.115	0.100
	(0.017)**	(0.019)**	(0.023)**
Male log of current earn - 2004$	0.034	0.050	0.010
	(0.009)**	(0.010)**	(0.012)
Female log of current earn - 2004$	0.041	0.041	0.023
	(0.008)**	(0.008)**	(0.010)*
Pension			
Defined benefit only household pensions	0.648	0.504	0.958
	(0.070)**	(0.075)**	(0.090)**
Defined contribution only household pensions	0.598	0.622	0.843
	(0.071)**	(0.076)**	(0.092)**
Both types of household pensions	0.748	0.783	1.333
	(0.070)**	(0.076)**	(0.091)**
No pension (reference)			
Constant	11.850	11.286	6.927
	(1.575)**	(1.698)**	(2.039)**
Observations	17198	17198	17198
R-squared	0.26	0.28	0.22

Appendix Table A cont.—Models of (Ln) Per Capita Wealth

SOURCE: Authors' calculations based on the 1992-2004 HRS birth cohorts 1931-1953.
NOTE: Sample is all respondents. Standard errors given in parentheses. '*' indicates significant at 5%, '**' indicates significant at 1%. Includes missing indicators for marriage categories when type of shock is unknown, other missing data indicators, cohort indicators. Per capita total wealth is based on assumption of two people for couples and one person for singles.

Appendix Table B—Frequency of Model Covariates by Marital Categories-Males
(percent distribution)

	Married				Single				All
	0 shocks	1 div	2+shock	1 wid	0 shock	1 div	2+shock	1 wid	ALL
MALES	%	%	%	%	%	%	%	%	%
Education									
Less than HS	21.07	20.06	21.34	22.88	24.05	19.21	20.25	26.58	20.97
HS/GED	32.51	33.03	34.05	40.68	26.46	35.22	36.29	35.44	32.90
Some College	19.92	25.54	28.45	16.10	20.62	23.89	29.11	30.38	22.15
College+	26.49	21.37	16.16	20.34	28.87	21.67	14.35	7.59	23.98
Prob. Live 75									
Missing	13.33	10.90	8.62	11.86	7.56	3.20	3.38	5.06	11.34
0	5.95	6.80	7.54	8.47	8.93	9.11	13.50	13.92	6.88
1-49	11.90	12.21	12.50	17.80	13.75	14.29	16.03	18.99	12.51
50	20.22	18.53	19.61	14.41	26.46	25.62	22.36	17.72	20.34
51-99	32.97	33.66	31.90	24.58	28.87	31.53	24.05	30.38	32.35
100	15.63	17.90	19.83	22.88	14.43	16.26	20.68	13.92	16.59
Risk Averse									
Missing	13.17	10.96	7.97	12.71	5.50	3.94	3.38	3.80	11.18
1.Lowest	12.54	13.32	13.15	8.47	15.12	20.94	18.99	15.19	13.47
2	8.88	10.55	11.21	11.86	12.03	7.14	10.55	10.13	9.49
3	12.17	11.52	12.50	9.32	14.43	12.56	14.35	6.33	12.14
4.Highest	53.24	53.64	55.17	57.63	52.92	55.42	52.74	64.56	53.72
Planning									
Missing	13.42	10.83	8.84	14.41	8.25	2.71	5.06	6.33	11.50
1. Few mo.	11.64	13.12	14.87	13.56	21.99	22.17	23.63	24.05	13.67
2.Year	7.68	8.19	7.97	5.93	12.37	10.59	10.97	17.72	8.33
3. Few yrs.	25.85	23.53	23.92	26.27	24.74	23.89	24.47	25.32	25.08
4. 5-10 years	30.83	33.24	32.97	28.81	21.65	30.30	27.85	20.25	30.80
5. 10+ years	10.58	11.10	11.42	11.02	11.00	10.34	8.02	6.33	10.62
Race									
1.White	80.84	79.53	82.76	79.66	71.82	73.65	80.17	56.96	79.66
2.Black	12.96	15.48	12.50	14.41	24.05	22.66	14.77	39.24	14.76
3.Other	6.20	5.00	4.74	5.93	4.12	3.69	5.06	3.80	5.59
Children (#)									
Missing	0.30	0.83	1.29	0.85	1.37	1.23	3.38	0.00	0.66
0	6.29	5.14	4.96	8.47	84.19	14.04	7.59	13.92	9.64
1-3	66.98	46.08	35.78	33.90	12.37	65.02	66.67	60.76	58.06
4+	26.42	47.95	57.97	56.78	2.06	19.70	22.36	25.32	31.63
Pension									
Missing	0.39	0.42	0.22	0.00	1.03	0.74	2.53	0.00	0.49
No Pension	38.30	36.85	47.41	36.44	63.92	62.56	63.71	74.68	42.11
DB only	19.32	17.83	15.95	22.88	13.75	13.30	11.39	12.66	18.00
DC only	18.17	20.61	16.16	15.25	11.34	12.07	12.24	5.06	17.54
DB + DC	23.82	24.29	20.26	25.42	9.97	11.33	10.13	7.59	21.86
No. Obs.	4,337	1,441	464	118	291	406	237	79	7,373

Appendix Table B Cont.—Frequency of Model Covariates by Marital Categories-Females
(percent distribution)

	Married				Single				All
	0 shocks	1 div	2+shock	1 wid	0 shock	1 div	2+shock	1 wid	
FEMALE									
Education									
Less than HS	20.50	17.85	24.04	31.22	26.01	18.11	27.60	38.29	21.80
HS/GED	39.21	39.24	35.96	41.46	32.08	35.48	35.73	32.59	38.00
Some College	21.44	27.34	26.60	20.00	19.36	24.19	23.63	16.70	22.59
College+	18.85	15.57	13.40	7.32	22.54	22.21	13.04	12.42	17.61
Prob. Live 75									
Missing	6.09	5.26	2.77	4.88	8.67	5.09	3.78	4.28	5.56
0	4.84	4.64	7.66	6.34	5.78	6.82	9.07	5.70	5.46
1-49	10.51	11.28	11.70	10.73	10.40	10.67	11.34	13.24	10.89
50	20.21	19.45	22.55	20.49	19.08	19.35	19.47	22.00	20.15
51-99	39.48	36.12	37.87	36.10	36.42	34.74	32.51	34.62	37.68
100	18.87	23.25	17.45	21.46	19.65	23.33	23.82	20.16	20.26
Risk Averse									
Missing	6.67	5.12	3.83	4.88	6.94	4.34	5.10	5.50	5.93
1. Lowest	9.93	11.21	14.26	9.27	12.14	12.53	12.67	12.42	10.90
2	9.93	9.20	5.32	5.85	9.25	12.16	8.32	9.16	9.54
3	12.57	14.39	16.60	10.24	10.40	12.28	11.53	8.55	12.63
4. Highest	60.90	60.07	60.00	69.76	61.27	58.68	62.38	64.36	61.01
Planning									
Missing	6.35	5.26	3.83	5.85	7.23	4.34	3.78	5.91	5.75
1. Few mo.	15.13	18.62	18.09	23.41	23.99	24.94	23.44	24.03	18.04
2. Year	9.89	8.44	10.21	10.73	10.12	6.95	10.78	11.81	9.61
3. Few yrs.	29.27	27.82	27.45	27.32	24.86	25.43	27.41	27.70	28.25
4. 5-10 years	28.91	29.27	29.15	23.41	22.83	26.80	25.33	21.59	27.89
5. 10+ years	10.46	10.59	11.28	9.27	10.98	11.54	9.26	8.96	10.46
Race									
1.White	80.39	80.55	86.81	77.56	49.71	64.64	69.57	59.06	76.55
2.Black	13.52	15.50	8.72	18.54	42.20	29.78	24.01	35.23	17.79
3.Other	6.09	3.94	4.47	3.90	8.09	5.58	6.43	5.70	5.67
Children (#)									
Missing	0.28	0.55	0.43	1.46	0.58	0.50	1.13	0.61	0.45
0	3.74	2.91	3.40	2.44	56.65	10.17	6.43	5.91	6.28
1-3	65.82	45.26	34.04	40.98	33.24	64.76	60.49	56.62	58.60
4+	30.16	51.28	62.13	55.12	9.54	24.57	31.95	36.86	34.67
Pensions									
Missing	0.34	0.48	0.21	0.49	2.31	1.61	1.70	1.63	0.68
No Pension	42.18	43.94	51.49	55.12	58.96	55.46	61.25	68.64	47.31
DB only	18.36	18.27	14.89	12.68	15.61	17.37	12.29	11.61	17.19
DC only	17.13	16.75	14.47	17.07	10.40	15.63	18.53	12.02	16.39
DB + DC	21.99	20.55	18.94	14.63	12.72	9.93	6.24	6.11	18.43
No. Obs.	5,289	1,445	470	205	346	806	529	491	9,581