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**Wealth Holdings and Portfolio Allocation of Older Couples:
The Role of Spouses' Marital History**

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CONTENTS

| | Page |
|--|-------------|
| Abstract | iii |
| 1. Introduction | 1 |
| 2. Literature Review | 3 |
| 3. Data Description | 4 |
| 4. Estimation Issues and Results | 24 |
| 4.1 Wealth Levels | 24 |
| 4.2 Asset Ownership and Allocation: Components of Overall Net Worth | 28 |
| 4.3 Asset Ownership and Allocation: Components of Financial Wealth | 33 |
| 5. Conclusions | 36 |
| References | 37 |

ABSTRACT

This paper analyses the role of the elderly couples' past marital history in determining their current wealth holdings and portfolio allocation using data from the first wave of the Health and Retirement Study. The results suggest that, for those who remarry after divorce, there is recovery from the negative shocks of marital breakdowns, which occur earlier in the life cycle. While the *net cost* of divorce in terms of household wealth accumulation is higher for men than it is for women, in the "long run" it turns out to be statistically insignificant for both gender groups. Therefore, the elderly couples' marital history plays a minor role in explaining the dispersion in their wealth holdings near the end of the life cycle. However, the results also show that both the probability of owning a particular asset and the fraction of net worth allocated to that asset might significantly vary depending on the elderly couples' marital experience. Most importantly, the couples in which the spouses have divorced before invest relatively heavily on non-housing assets rather than owner occupied housing. The further analysis of financial wealth only yields that the ownership and allocation of financial assets are not affected in a major significant way.

Keywords: wealth, portfolio allocation, elderly, marital history

JEL Classifications: D31, G11, J12, J14

1. Introduction

In recent years, attention to issues such as the adequacy and variation of households' retirement wealth has intensified given the public policy concerns created by an aging population. Wise D. and Venti S. (1998), and Lusardi A. (1999) note the existence of a large dispersion in savings among the U.S. households. Bernheim D., Skinner J., and Weinberg S. (2001) examine this variation within the context of standard life cycle models with rational, farsighted optimisation. They test for the presence of factors such as differences in rate of pure time preference, risk tolerance, exposure to uncertainty, health status, perceived life expectancy, lifetime earnings, and income replacement rates.

While examining these factors has its own merit, one would agree with the fact that there are many disruptions to households' life cycles such as marital breakdowns and widowhoods, which may potentially hinder their ability to save for the retirement years. In this paper, I examine the role of spouses' marital history in terms of explaining differences in wealth holdings and portfolio allocation of older American couples by studying data drawn from the first wave of the Health and Retirement Study (HRS).

Over the last few decades, divorce has been a very common social phenomenon in the U.S. Recently, the Census Bureau has reported that between 1970 and 1996 the number of divorced people more than quadrupled and nearly half of recent first marriages are likely to end in divorce. Given its high frequency, economists have long realized the importance of understanding the consequences of divorce, especially for women and their custodial children. However, a common practice in cross sectional studies of divorce has been to compare the well-being of *currently* divorced versus married individuals, or in dynamic studies to look at the divorced individuals' relative well-being shortly after marital breakdown as compared to their prior divorce standard of living. Although these studies have been useful in terms of understanding the "short run" effects of divorce, little is known about its "long run" influence over the life-cycle. The Census Bureau has also reported that most people who had ever divorced are currently married. Therefore, simply comparing the standard of living between the *currently* divorced and married people will be misleading to examine the impact of divorce, since most of the currently married individuals have some marital disruption experience.

HRS is an exceptionally rich data set, which collects detailed information on the entire marital history of both respondents and their spouses together with much other useful information on such as wealth, health and labour force status. Since the sample coverage is mainly older individuals, examining the link between the elderly couples' past marital experience and their wealth holdings, in this paper, sheds some light on the issue of "life cycle" or "long term" effects of divorce and widowhoods on the standard of living. In this study, for example, it is possible to talk about answers to questions such as: To what extent do past marital disruptions to households' life cycles play a role in creating wealth inequality among the elderly? Is there recovery from the negative shocks of divorce in the long run? If so, does the extent of recovery differ for men and women? Do the timings of marital disruptions matter? What happens to individuals who have multiple disruptions?

Of course, investigating the role of marital history in determining the levels of household wealth is of particular interest because of its policy implications. However, looking at the impact of marital disruptions on the way households allocate their accumulated saving across different assets, such as housing, IRA and Keogh accounts, and financial wealth, may also be helpful in expanding our understanding of the consequences of those marital breakdowns more generally. Understanding asset allocation is, for example, essential especially in developed countries such as the U.S. with prospective aging of populations because future economic security can depend as much on the way assets are invested as on the level of those assets. Asset allocation is also particularly important for understanding the behavior of individuals in the increasingly popular defined contribution pension plans that allow participants some discretion in their investment choices and for analyzing recent proposals for Social Security reform that call for mandatory saving accounts, with investment responsibility delegated to individuals. (Poterba J. and Samwick A. (1997)). Thus, in the present study I also examine whether previous marital shocks of older couples significantly alter their both the probability of owning a particular asset and the fraction of net worth allocated to that asset over the life cycle.

The rest of the paper is organized as follows. Section 2 briefly discusses the related literature. In Section 3, I describe the data and provide some useful summary statistics. Section 4 explains the estimation issues and presents the basic results. Finally, in section 5 I conclude the paper.

2. Literature Review

A great deal of previous work investigates different dimensions of economic outcomes driven by household dissolutions. Most of the studies in this area, however, focus on the decline in economic well-being for women and their dependent children in the immediate postdivorce period and the concomitant contribution to the trend known as the feminization of poverty. In these investigations, the main measure of standard of living is taken to be either household income or earnings, and surprisingly little work is done on the influence of divorce on consumption and wealth. Moreover, I am unaware of any work, which directly looks at the impact of marital disruptions on portfolio allocation and investment decisions.

Although virtually all studies report a reduction in well-being for women and children after marital breakdowns (Holden K. C. and Smock P. J. (1991)), estimates for men are more variable. Some studies such as Smock P. J. (1993, 1994) find that men experience a sizable improvement in standard of living after divorce, whereas others such as Peterson R. (1996) suggest that men's well-being undergoes a modest, positive change. Still Burkhauser R. V., Duncan G. J., Hauser R., and Bernsten R. (1990, 1991), among others, estimate that both men and women suffer a decrease in standard of living, but women's decline is far more serious than men's.

The costs of marital disruptions might be particularly important when the adequate support of children is at issue. Ideally, both parents would provide financial help for their children after divorce, even though Scoon-Rogers L. and Lester G. H. (1995) find that this often does not occur. In the same line, Garfinkel I. (1992) provides evidence that nonresident parents often do not pay child support. McLanahan S. and Sandefur G. (1994) also show that loss of parental economic support is an important cause of the more negative outcomes for children in one-parent families.

More recent work on economic consequences of divorce generally focuses on issues such as the increased labor force participation of women, the declining gender segregation of occupations, and the narrowing of the wage gap between men and women. McKeever M. and Wolfinger N. (2001), and Page M. and Stevens A. H. (2004), for example, report that the losses suffered by recently divorced women and their children are substantially smaller and marital disruption now has much more modest economic consequences than in years gone by. On the other hand, Bianchi S., Subaiya L., and Kahn J. (1999) provide mixed results with respect to whether an

economically independent wife is better able to achieve an equitable postseparation financial situation vis-à-vis her husband.

As mentioned before, the literature on divorce and its economic consequences is vast and it is not possible to talk about hundreds of other papers on the topic in a brief literature review. However, I would stress here again that the previous work in this area mainly addresses the “short term” effects of marital disruptions by comparing the well-being of *currently* divorced versus married individuals in cross sectional studies or by looking at relative well-being shortly after marital breakdown in dynamic studies with generally short panels. The novelty of the present paper, on the other hand, is that it focuses on wealth levels of older couples, which capture the accumulated influence of life cycle events, and sheds some light on the issue of “long term” effects of household dissolutions.

3. Data Description

The data used in this paper are drawn from the first wave of the HRS. The HRS is a longitudinal national panel study of those near or in their retirement years. The first wave of the study was conducted in 1992 and it consists of interviews in approximately 7,600 households with a primary respondent aged from 51 to 61. If an age-eligible respondent (an individual from the cohorts born between 1931-1941) had a spouse or partner co-residing then the spouse or partner was also given the same individual level interview separately even though he or she was not between the ages of 51 and 61. However, in collecting household level information, which would be the same for both spouses, only one interview is given generally to the financially responsible member of the household. In addition to a large number of usual demographic characteristics such as race, education and marital status, the survey collects detailed information on health and cognitive status, expectations, the nature of retirement decisions, housing, income and wealth holdings, work history, family composition, the availability of insurance and pensions. Of particular interest for the present analysis is that the HRS provides detailed information on each respondent’s marital history. Therefore, I am able to use jointly the marital history information of both spouses to examine the effects of marital disruptions on older couples’ current wealth holdings and portfolio allocation.

Conducting an analysis of portfolio decisions requires that one specify the assets from which the investor chooses. In this paper, total wealth of each household

is the sum over net values of six asset types classified as owner occupied housing, real estate that is not primary residence, vehicles, businesses, IRA and Keogh accounts, and total financial wealth. Of those 4744 couples in the HRS for whom I have complete information on the variables of interest, 4553 couples report positive levels of household net worth, while the other 191 couples have zero or negative levels of total household wealth. When I further examine the allocation of financial portfolio separately, I divide the total financial assets into five different groups defined as i. stocks, mutual funds, and investment trusts, ii. checking, savings, or money market accounts, iii. CDs, government saving bonds, and T-bills, iv. bonds and bond funds, and v. all other miscellaneous financial savings.

Table 1 presents the joint marital history distribution of the spouses in 4744 HRS couples. Three main variables by which I define marital history are the number of divorces, number of widowhoods and length of current marriage. Table 1.a first looks at the divorce experience of the elderly couples. Using the number of divorces of each spouse, I divide the sample into nine mutually exclusive couple types. (0,0), for example, denotes that both spouses in the couple have never experienced a divorce, and (1,0) means that the husband has gone through one divorce in the past and the wife has never been divorced. Given this definition, one can see from Table 1.a that almost 34% of currently married couples (in which at least one of the spouses is from the cohorts born between 1931 and 1941) have experienced at least one marital breakdown in the past through either the husband or wife, while 66% of those couples had a stable marriage with no divorce history. As one would agree, a significant number of the elderly couples have some divorce experience. Thus, it would be of interest to examine how savings and portfolio decisions of the couples that have some marital disruption history differ from those of stably married couples without any household dissolution experience.

Table 1. Distribution of Marital History

a. Divorce

| | | Wife's Number of Divorces | | |
|------------------------------------|----|---------------------------|-------|-------|
| | | 0 | 1 | 2+ |
| Husband's Number of Divorces | 0 | 0.664 | 0.062 | 0.008 |
| | 1 | 0.089 | 0.101 | 0.019 |
| | 2+ | 0.014 | 0.027 | 0.016 |

b. Widowhood

| | | Wife's Number of Widowhoods | | |
|--------------------------------------|----|-----------------------------|--------|--------|
| | | 0 | 1 | 2+ |
| Husband's Number of Widowhoods | 0 | 0.9250 | 0.0331 | 0.0015 |
| | 1 | 0.0301 | 0.0091 | 0.0004 |
| | 2+ | 0.0006 | 0.0002 | 0.0000 |

c. Length of Current Marriage

| | | |
|----------------------------------|--------------|-------|
| Marriage Length (in years) | <=5 | 0.059 |
| | >5 and <=10 | 0.056 |
| | >10 and <=15 | 0.059 |
| | >15 and <=20 | 0.069 |
| | >20 | 0.757 |

Not many respondents have ever been widowed when the first wave of the HRS was conducted in 1992. Nevertheless, Table 1.b presents the joint widowhood history of the elderly couples to capture their entire marital history. As in Table 1.a, Table 1.b shows the distribution of nine couple types defined using the information on the number of widowhoods of each spouse. That is, (0, 0) means that both spouses in the couple have never been widowed, and (1, 0) denotes that the husband has been widowed once and the wife has never experienced any widowhood. As we see from the table, only 7.5% of the couples have experienced widowhood through either the husband or wife, because the sample elderly are relatively young when considering the average longevity of the U.S. population. 92.5% of older couples, on the other hand, have no widowhood history.

While looking at the distributions of number of divorces and widowhoods might capture most of the marital disruption history, one would argue that the timings of those marital shocks might also be particularly important in terms of understanding their long term effects over the life cycle. Therefore, in Table 1.c I present the distribution of couples conditional on the length of their current marriages. Using a five-year scale of marriage length, I group the couples into five different groups classified as the couples who have been married less than or equal to five years in their current marriage, more than five years but less than or equal to ten years and so on. Table 1.c shows that 75.7% of older couples fall into the fifth group that have been married for at least twenty years. The rest of the couples are approximately evenly distributed among the other four groups. I would stress here once more that, as in the case of divorce history, we observe a great deal of heterogeneity in the length of current marriages of older couples, which suggests that accounting for differences in their marital history might play a crucial role in terms of a better understanding of the dispersion in their wealth holdings and portfolio allocation.

Given the marital experience of older couples described in Table 1, I continue the descriptive analysis by exploring the relationship between their wealth holdings and marital history.¹ Table 2 indicates the mean and median wealth levels of older couples conditional on the joint distribution of spouses' number of divorces. The raw statistics here apparently suggest the existence of a significant negative correlation

¹ Even though I do control for spouses' widowhood history later in the regression analysis, in this section I only present the descriptive statistics for their distribution of the number of divorces and the length of current marriages.

between wealth holdings and divorce history of the elderly couples. That is, the higher the number of divorces experienced, the lower the current net worth. This is true for both the mean and median wealth levels. While the couples in which both spouses have never been divorced have on average \$272,458 of net worth, the mean wealth of the couples in which both spouses have at least divorced twice is \$139,130, which is only (approximately) 50% of \$272,458. The median wealth figures in percentage terms give us very similar results.

Considering the differences in household sizes, Table 3 reports the per capita household wealth levels of older couples conditional on their divorce history. Again, we observe a significant negative correlation between both the mean and median per capita household wealth and the spouses' number of divorces. In per capita terms, the couples in which both spouses have never been divorced achieve, on average, the highest level of net worth at \$109,609. On the other hand, the per capita wealth of the couples in which both spouses have at least divorced twice stays at \$58,085.

Table 2. Levels of Total Household Wealth Conditional on Spouses' Divorce History

a. Mean Levels

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|--------|--------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 272458 | 213651 | 165570 |
| Number of | 1 | 185726 | 229275 | 99417 |
| Divorces | 2+ | 183735 | 157260 | 139130 |

b. Median Levels

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|--------|-------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 130000 | 86000 | 75458 |
| Number of | 1 | 95000 | 104617 | 63000 |
| Divorces | 2+ | 74750 | 76500 | 62725 |

Table 3. Levels of Per Capita Household Wealth Conditional on Spouses' Divorce History

a. Mean Levels

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|-------|-------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 109609 | 86344 | 70832 |
| Number of | 1 | 72400 | 95214 | 41746 |
| Divorces | 2+ | 79106 | 61258 | 58085 |

b. Median Levels

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|-------|-------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 47800 | 33433 | 35700 |
| Number of | 1 | 34500 | 40938 | 25762 |
| Divorces | 2+ | 23617 | 28383 | 26667 |

Tables 4 and 5 show, respectively, the levels of total and per capita wealth of older couples conditional on the length of their current marriages. It is noticeable from Table 4 that the couples who have been married for at least fifteen years or more have significantly higher net worth than the rest of couples in both the mean and median terms. For example, the mean net worth of the couples who have been married for more than twenty years is the highest at \$263,380, and it is the second highest at \$228,444 for the couples whose marriage length is more than fifteen years but less than or equal to twenty years. The other three marriage length groups defined on a five-year scale have approximately the same mean wealth levels in the range of \$175,687-181,393. Even though the difference in percentage points between the wealth levels of the lowest and highest ranked groups is not as strong as in the case of divorce history, it is 37%, which still suggests a significant positive correlation between net worth and the length of current marriage. The median wealth levels are much lower than the mean levels for all groups. However, their orderings yields the same conclusions drawn from those of the mean wealth levels. Moreover, Table 5 indicates that accounting for differences in household sizes does not change the results much regarding the link between wealth holdings and the length of current marriages.

In the rest of this section, I present raw tabulations of the asset ownership and allocation profiles. I first examine the six asset components of overall net worth categorized as owner occupied housing, real estate that is not the primary residence, vehicles, businesses, IRA and Keogh accounts, and total financial wealth. I then extend the analysis to the components of financial assets to see if households with a greater degree of marital disruption experience systematically switch from risky to non-risky financial assets or vice versa.

Table 4. Levels of Total Household Wealth Conditional on Length of Current Marriage

| | | Mean | Median |
|-------------------------------|--------------|--------|--------|
| Marriage Length (years) | <=5 | 181393 | 86235 |
| | >5 and <=10 | 175687 | 80500 |
| | >10 and <=15 | 177499 | 76525 |
| | >15 and <=20 | 228414 | 97000 |
| | >20 | 263380 | 124450 |

Table 5. Levels of Per Capita Household Wealth Conditional on Length of Current Marriage

| | | Mean | Median |
|-------------------------------|--------------|--------|--------|
| Marriage Length (years) | <=5 | 74385 | 36195 |
| | >5 and <=10 | 76460 | 34500 |
| | >10 and <=15 | 65582 | 28483 |
| | >15 and <=20 | 91051 | 34450 |
| | >20 | 106270 | 46000 |

Table 6 presents the ownership probability of each component of total net worth conditional on divorce history. The descriptive statistics in Table 6.a indicate that 88% of the couples in which both spouses have never been divorced are homeowners. The homeownership rate of other couple types is systematically lower than 88% and takes a minimum value of 71% for the couples in which the husband and wife have been divorced twice and once, respectively. Even though these are only raw statistics, which do not control for anything else, they suggest that the likelihood of current homeownership is monotonically decreasing with the number of spouses' past marital disruptions. When we look at Table 6.b, it is hard to draw any systematic conclusion regarding the effects of divorce history on the ownership probability of real estate that is not the primary residence. Table 6.c, however, shows that even though most couples own at least one vehicle, the probability of vehicle ownership increases with the number of divorces, as opposed to homeownership probability. The effects of divorce experience on business ownership seem to move in opposite directions for men and women. Table 6.d indicates that the ownership probability of business is likely to increase with the husband's number of divorces and to decrease with the wife's. In case of IRA and Keogh Accounts ownership, Table 6.e suggests that the probability of owning those retirement accounts is significantly decreasing with the husband's number of divorces but there is not a pattern on the effects of the wife's marital disruption experience. Finally, the statistics in Table 6.f do not yield a clear conclusion about the effects of marital disruptions on the ownership probability of financial wealth. However, the regression analysis controlling for many other factors would provide a better picture in later sections of the paper in terms of understanding the relationship between marital history and the asset ownership and allocation profiles.

Table 6. Ownership Probability of Each Asset Conditional on Spouses' Divorce History

a. Owner Occupied Housing

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.88 | 0.83 | 0.83 |
| Number of | 1 | 0.84 | 0.84 | 0.77 |
| Divorces | 2+ | 0.75 | 0.71 | 0.82 |

b. Real Estate (not primary residence)

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.28 | 0.28 | 0.23 |
| Number of | 1 | 0.24 | 0.28 | 0.24 |
| Divorces | 2+ | 0.28 | 0.29 | 0.35 |

c. Vehicles

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.96 | 0.96 | 1.00 |
| Number of | 1 | 0.96 | 0.97 | 0.98 |
| Divorces | 2+ | 0.97 | 0.98 | 1.00 |

d. Businesses

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.17 | 0.11 | 0.08 |
| Number of | 1 | 0.14 | 0.18 | 0.12 |
| Divorces | 2+ | 0.21 | 0.15 | 0.09 |

e. IRA, Keogh Accounts

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.48 | 0.43 | 0.33 |
| Number of | 1 | 0.36 | 0.43 | 0.28 |
| Divorces | 2+ | 0.31 | 0.32 | 0.39 |

f. Total Financial Wealth

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.77 | 0.72 | 0.68 |
| Number of | 1 | 0.73 | 0.76 | 0.74 |
| Divorces | 2+ | 0.76 | 0.73 | 0.68 |

In Table 7, I examine the couples' ownership probability of each component of total net worth conditional on the length of their current marriages. The summary statistics in Table 7.a shows a significant positive correlation between the homeownership rate and the length of current marriage. On the other hand, Table 7.b yields a negative relationship between the real estate ownership and the marriage length, while we do not observe a systematic link between the probability of owning vehicles and duration of current marriages in Table 7.c. Even though the magnitude of the difference across household types is small, Table 7.d indicates that the probability of owning businesses increases with the duration of current marriage. I cannot draw a decisive conclusion from Table 7.f for financial wealth, however, I am able to say from Table 7.e that the ownership of retirement accounts decreases with marriage length if I ignore the couples who have been married more than twenty years.

The next step is to examine how the shares of the six asset categories that comprise total net worth depend on marital history. Table 8 reports the mean portfolio share of each asset type conditional on spouses' number of divorces. Since 191 couples out of 4744 have zero or negative net worth, they are excluded from the sample when calculating the mean asset shares reported. Similar to ownership profiles of housing, there is a negative relationship between the number of past divorces and the current share of owner occupied housing in total wealth. This is true for both the husband's and wife's number of divorces. While the couples in which both spouses have never been divorced invest on average 47% of their wealth into housing, this share is only 32% for those couples in which both spouses have at least two divorces. There is an interesting pattern in the average shares of real estate. The husband's number of divorces seems to increase the share of real estate, but that of the wife's is not likely to affect significantly the fraction of net worth allocated to real estate. The fraction of investment in vehicles is likely to increase significantly with both spouses' number of divorces. While the couples with no divorce experience invest on average 17% of their net worth on vehicles, the share of vehicles approximately doubles to 35% when both spouses have at least divorced twice. There is not much variation in business share of total net worth conditional on spouses' number of divorces, however the couples in which the wife has more divorces are likely to invest less of their net worth in businesses. The statistics for retirement

Table 7. Ownership Probability of Each Asset Conditional on Length of Current Marriage

| a. Owner Occupied Housing | | | b. Real Estate (not primary residence) | | |
|---------------------------|--------------|------|--|--------------|------|
| | <=5 | 0.74 | | <=5 | 0.33 |
| Marriage | >5 and <=10 | 0.77 | Marriage | >5 and <=10 | 0.28 |
| Length | >10 and <=15 | 0.81 | Length | >10 and <=15 | 0.25 |
| (years) | >15 and <=20 | 0.80 | (years) | >15 and <=20 | 0.25 |
| | >20 | 0.89 | | >20 | 0.28 |
| c. Vehicles | | | d. Businesses | | |
| | <=5 | 0.96 | | <=5 | 0.14 |
| Marriage | >5 and <=10 | 0.94 | Marriage | >5 and <=10 | 0.14 |
| Length | >10 and <=15 | 0.96 | Length | >10 and <=15 | 0.13 |
| (years) | >15 and <=20 | 0.95 | (years) | >15 and <=20 | 0.17 |
| | >20 | 0.96 | | >20 | 0.16 |
| e. IRA, Keogh Accounts | | | f. Total Financial Wealth | | |
| | <=5 | 0.42 | | <=5 | 0.71 |
| Marriage | >5 and <=10 | 0.41 | Marriage | >5 and <=10 | 0.75 |
| Length | >10 and <=15 | 0.36 | Length | >10 and <=15 | 0.69 |
| (years) | >15 and <=20 | 0.36 | (years) | >15 and <=20 | 0.72 |
| | >20 | 0.47 | | >20 | 0.77 |

Table 8. Portfolio Share of Each Asset Conditional on Spouses' Divorce History

a. Owner Occupied Housing

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.47 | 0.51 | 0.45 |
| Number of | 1 | 0.48 | 0.45 | 0.44 |
| Divorces | 2+ | 0.41 | 0.36 | 0.32 |

b. Real Estate (not primary residence)

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.08 | 0.08 | 0.05 |
| Number of | 1 | 0.07 | 0.11 | 0.06 |
| Divorces | 2+ | 0.10 | 0.10 | 0.10 |

c. Vehicles

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.17 | 0.22 | 0.25 |
| Number of | 1 | 0.22 | 0.23 | 0.31 |
| Divorces | 2+ | 0.17 | 0.31 | 0.35 |

d. Businesses

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.06 | 0.04 | 0.04 |
| Number of | 1 | 0.04 | 0.05 | 0.03 |
| Divorces | 2+ | 0.05 | 0.06 | 0.03 |

e. IRA, Keogh Accounts

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.09 | 0.08 | 0.05 |
| Number of | 1 | 0.07 | 0.09 | 0.08 |
| Divorces | 2+ | 0.07 | 0.09 | 0.10 |

f. Total Financial Wealth

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.14 | 0.07 | 0.15 |
| Number of | 1 | 0.12 | 0.06 | 0.08 |
| Divorces | 2+ | 0.20 | 0.08 | 0.10 |

Note: These shares are calculated for 4553 couples who had a positive level of total wealth.

retirement account shares do not yield a clear conclusion regarding the effects of spouses' divorce experience. Finally, while the husband's number of divorces has a positive effect on the share of financial wealth, the wife's is likely to exert a negative influence.

Now conditional on the elderly couples' length of current marriages, Table 9 presents the net worth shares of the same asset groups as in Table 8. We observe a clear cut positive correlation between the share of housing and the duration of current marriage. The couples who have been married for more than twenty years invest 48% of their wealth on average to owner occupied housing. On the other hand, the couples that have been relatively newly married have only 36% of their net worth in this type of asset. In contrast to housing, the average fraction of real estate is decreasing with the length of marriage, but the magnitude of the decrease does not seem to be significant. For relatively recent marriages, the share of vehicles constitutes a higher percentage of overall wealth, which is approximately 30%. However, this fraction reduces to 17% for older marriages that suggests the existence of a significant negative relationship between the marriage length and the vehicle share. The business shares, nonetheless, show an increasing pattern as the marriage duration gets longer. While the statistics for financial wealth shares are not very conclusive, the average retirement account shares support a negative correlation between the marriage length and the fraction of total wealth allocated to IRA, Keogh accounts.

Table 9. Portfolio Share of Each Asset Conditional on Length of Current Marriage

a. Owner Occupied Housing

| | | |
|----------|--------------|------|
| | <=5 | 0.36 |
| Marriage | >5 and <=10 | 0.40 |
| Length | >10 and <=15 | 0.47 |
| (years) | >15 and <=20 | 0.45 |
| | >20 | 0.48 |

b. Real Estate (not primary residence)

| | | |
|----------|--------------|------|
| | <=5 | 0.11 |
| Marriage | >5 and <=10 | 0.12 |
| Length | >10 and <=15 | 0.09 |
| (years) | >15 and <=20 | 0.08 |
| | >20 | 0.08 |

c. Vehicles

| | | |
|----------|--------------|------|
| | <=5 | 0.27 |
| Marriage | >5 and <=10 | 0.31 |
| Length | >10 and <=15 | 0.27 |
| (years) | >15 and <=20 | 0.21 |
| | >20 | 0.17 |

d. Businesses

| | | |
|----------|--------------|------|
| | <=5 | 0.04 |
| Marriage | >5 and <=10 | 0.04 |
| Length | >10 and <=15 | 0.05 |
| (years) | >15 and <=20 | 0.07 |
| | >20 | 0.06 |

e. IRA, Keogh Accounts

| | | |
|----------|--------------|------|
| | <=5 | 0.10 |
| Marriage | >5 and <=10 | 0.11 |
| Length | >10 and <=15 | 0.08 |
| (years) | >15 and <=20 | 0.07 |
| | >20 | 0.09 |

f. Total Financial Wealth

| | | |
|----------|--------------|------|
| | <=5 | 0.13 |
| Marriage | >5 and <=10 | 0.03 |
| Length | >10 and <=15 | 0.04 |
| (years) | >15 and <=20 | 0.13 |
| | >20 | 0.13 |

Note: These shares are calculated for 4553 couples who had a positive level of total wealth.

Tables 10-13 focus on financial wealth only and repeat a similar analysis that is done in Tables 6-9 for the components of overall net worth.² Conditional on couples' divorce history, Table 10 looks at the ownership probability of each of five financial asset types described previously. The statistics show that the ownership of stocks, mutual funds, and investment trusts is less likely if spouses have some divorce experience. Most of the couples have checking, savings and money market accounts and there is really not much variation in the ownership profiles of those accounts conditional on spouses' divorce history. The ownership probability of CD, government saving bonds, and T-bills seems to be decreasing with the husband's number of divorces and not affected by the wife's number of marital breakdowns. Although not many couples own bonds and bond funds in general, both the husband's and wife's divorce experience are likely to exert a negative influence on their ownership probability. Finally, we observe a clear cut positive relationship between the spouses' number of divorces and the ownership of miscellaneous financial savings.

Table 11 shows the ownership probability of each financial asset now conditioning on the length of couples' current marriages. The only monotonic relationship between the couples' marriage duration and the ownership of financial assets appears for miscellaneous financial savings, even though its magnitude is small. For other forms of financial assets, however, we do not observe a systematic pattern in their ownership profiles conditional on the length of current marriages.

Tables 12-13 examine the allocation of financial assets conditional on spouses' joint number of divorces and the length of current marriages, respectively. The effects of marital history on the fraction of financial wealth invested in each asset type generally go in the same direction as its effects on the ownership probability of the same financial asset. The most noticeable effects of divorce appear to be on the share of stocks, mutual funds and investment trust, and the share of miscellaneous financial savings. While the fraction of financial wealth invested in the former is likely to decrease with the spouses' number of divorces, in the latter the effects reverse. The allocation of financial assets, on the other hand, does not seem to vary significantly conditional on the length of spouses' current marriages.

² While the ownership probability calculations use the entire sample of 4744 older couples, the financial portfolio share analysis restricts the sample into 4187 couples who have positive levels of financial wealth.

Table 10. Ownership Probability of Each Financial Asset Conditional on Spouses' Divorce History

a. Stocks, Mutual Funds, and Investment Trusts

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.34 | 0.26 | 0.23 |
| Number of | 1 | 0.31 | 0.31 | 0.29 |
| Divorces | 2+ | 0.21 | 0.25 | 0.22 |

b. Checking, Savings, and Money Market Accounts

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.86 | 0.83 | 0.85 |
| Number of | 1 | 0.85 | 0.89 | 0.82 |
| Divorces | 2+ | 0.81 | 0.90 | 0.86 |

c. CD, Government Saving Bonds, and T-bills

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.31 | 0.27 | 0.38 |
| Number of | 1 | 0.25 | 0.27 | 0.24 |
| Divorces | 2+ | 0.26 | 0.28 | 0.18 |

d. Bonds, and Bond Funds

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.08 | 0.07 | 0.03 |
| Number of | 1 | 0.06 | 0.06 | 0.01 |
| Divorces | 2+ | 0.06 | 0.06 | 0.03 |

e. Miscellaneous Financial Savings

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.17 | 0.17 | 0.15 |
| Number of | 1 | 0.15 | 0.18 | 0.29 |
| Divorces | 2+ | 0.22 | 0.17 | 0.27 |

Table 11. Ownership Probability of Each Financial Asset Conditional on Length of Current Marriage

a. Stocks, Mutual Funds, and Investment Trusts

| | | |
|----------|--------------|------|
| | <=5 | 0.32 |
| Marriage | >5 and <=10 | 0.29 |
| Length | >10 and <=15 | 0.26 |
| (years) | >15 and <=20 | 0.28 |
| | >20 | 0.33 |

b. Checking, Savings, and Money Market Accounts

| | | |
|----------|--------------|------|
| | <=5 | 0.87 |
| Marriage | >5 and <=10 | 0.87 |
| Length | >10 and <=15 | 0.81 |
| (years) | >15 and <=20 | 0.84 |
| | >20 | 0.87 |

c. CD, Government Saving Bonds, and T-bills

| | | |
|----------|--------------|------|
| | <=5 | 0.26 |
| Marriage | >5 and <=10 | 0.27 |
| Length | >10 and <=15 | 0.25 |
| (years) | >15 and <=20 | 0.25 |
| | >20 | 0.31 |

d. Bonds, and Bond Funds

| | | |
|----------|--------------|------|
| | <=5 | 0.06 |
| Marriage | >5 and <=10 | 0.04 |
| Length | >10 and <=15 | 0.05 |
| (years) | >15 and <=20 | 0.07 |
| | >20 | 0.07 |

e. Miscellaneous Financial Savings

| | | |
|----------|--------------|------|
| | <=5 | 0.19 |
| Marriage | >5 and <=10 | 0.19 |
| Length | >10 and <=15 | 0.17 |
| (years) | >15 and <=20 | 0.17 |
| | >20 | 0.17 |

Table 12. Financial Portfolio Share of Each Financial Asset Conditional on Spouses' Divorce History

a. Stocks, Mutual Funds, and Investment Trusts

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.18 | 0.17 | 0.05 |
| Number of | 1 | 0.19 | 0.17 | 0.14 |
| Divorces | 2+ | 0.11 | 0.14 | 0.10 |

b. Checking, Savings, and Money Market Accounts

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.59 | 0.62 | 0.68 |
| Number of | 1 | 0.62 | 0.61 | 0.57 |
| Divorces | 2+ | 0.62 | 0.66 | 0.66 |

c. CD, Government Saving Bonds, and T-bills

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.12 | 0.10 | 0.15 |
| Number of | 1 | 0.09 | 0.10 | 0.10 |
| Divorces | 2+ | 0.08 | 0.08 | 0.08 |

d. Bonds, and Bond Funds

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.02 | 0.02 | 0.00 |
| Number of | 1 | 0.01 | 0.01 | 0.00 |
| Divorces | 2+ | 0.03 | 0.01 | 0.01 |

e. Miscellaneous Financial Savings

| | | Wife's Number of Divorces | | |
|-----------|----|---------------------------|------|------|
| | | 0 | 1 | 2+ |
| Husband's | 0 | 0.09 | 0.10 | 0.12 |
| Number of | 1 | 0.08 | 0.10 | 0.18 |
| Divorces | 2+ | 0.17 | 0.11 | 0.15 |

Table 13. Financial Portfolio Share of Each Financial Asset Conditional on Length of Current Marriage

a. Stocks, Mutual Funds, and Investment Trusts

| | | |
|----------|--------------|------|
| | <=5 | 0.17 |
| Marriage | >5 and <=10 | 0.15 |
| Length | >10 and <=15 | 0.14 |
| (years) | >15 and <=20 | 0.17 |
| | >20 | 0.18 |

b. Checking, Savings, and Money Market Accounts

| | | |
|----------|--------------|------|
| | <=5 | 0.63 |
| Marriage | >5 and <=10 | 0.62 |
| Length | >10 and <=15 | 0.64 |
| (years) | >15 and <=20 | 0.61 |
| | >20 | 0.60 |

c. CD, Government Saving Bonds, and T-bills

| | | |
|----------|--------------|------|
| | <=5 | 0.08 |
| Marriage | >5 and <=10 | 0.10 |
| Length | >10 and <=15 | 0.09 |
| (years) | >15 and <=20 | 0.09 |
| | >20 | 0.12 |

d. Bonds, and Bond Funds

| | | |
|----------|--------------|------|
| | <=5 | 0.02 |
| Marriage | >5 and <=10 | 0.01 |
| Length | >10 and <=15 | 0.01 |
| (years) | >15 and <=20 | 0.02 |
| | >20 | 0.02 |

e. Miscellaneous Financial Savings

| | | |
|----------|--------------|------|
| | <=5 | 0.10 |
| Marriage | >5 and <=10 | 0.11 |
| Length | >10 and <=15 | 0.12 |
| (years) | >15 and <=20 | 0.12 |
| | >20 | 0.09 |

Note: These shares are calculated for 4187 couples who had a positive level of financial wealth.

Although the detailed descriptive analysis in this section provides us suggestive results in terms of understanding the role of spouses' marital history in explaining the dispersion in wealth holdings and portfolio allocation of older couples, other demographics might be correlated both with divorce, and wealth holdings and portfolio decisions. Therefore, I now turn to a multivariate approach that controls for other factors and helps us to disentangle the net effect of marital disruptions on net worth and asset allocation of the elderly couples.

4. Estimation Issues and Results

4.1. Wealth Levels

In estimating the relationship between wealth levels and marital history of older couples, I use an OLS regression with the assumption that past marital disruptions are exogenous. One might argue that divorce is endogenous with respect to wealth levels. Given the available data sets, however, it is a very difficult task to find instruments that are convincingly uncorrelated with wealth and highly correlated with divorce history. The possible endogeneity here might be a serious problem, if there are many unobservable characteristics, which are correlated with both divorce history and wealth levels. With the rich data sets such as the HRS, it would be a less serious problem since they allow us to control for many demographic and economic variables that would be unobservable in other databases. Given the importance of understanding the long term effects of marital disruptions and the public policy implications of those effects in an aging population, the approach taken here provides useful descriptive results.

The estimation results for the wealth regression are reported in Table 14. The dependent variable is the net value of total household wealth measured in thousands of the U.S. dollars.³ The independent variables are classified into four groups as the husband's characteristics, wife's characteristics, variables that are common to both spouses, and marital history variables.

³ Because 191 couples out of 4744 report zero or negative levels of net worth, the dependent variable in the regression is chosen to be the levels of household wealth in thousands of the U.S. dollars rather than any other function of wealth. However, defining the logarithm of wealth for those households who report zero or negative net worth to be zero or excluding those 191 households from the sample and re-estimating the regression where the dependent variable equals to the logarithm of household wealth do not change the main results presented in this paper.

Table 14: OLS Regression Results for Wealth Levels**Dependent Variable is the Net Value of Total Household Wealth Measured in Thousands of US Dollars**

| Explanatory Variable | Estimated Coefficient | t-statistic |
|--|--------------------------|-------------|
| <i>Husband's Characteristics:</i> | | |
| Age | 38.521 | 2.652 |
| Age Squared/100 | -28.338 | -2.311 |
| Years of Education | -21.686 | -2.351 |
| Years of Education Squared/100 | 147.744 | 3.602 |
| Catholic | 13.834 | 0.618 |
| Jewish | 155.918 | 1.557 |
| Excellent Health | 98.743 | 3.172 |
| Very Good Health | 45.614 | 1.541 |
| Good Health | 21.975 | 0.775 |
| Fair Health | 23.029 | 0.767 |
| Covered by Health Insurance | -87.196 | -3.650 |
| Least Risk Averse | -48.757 | -2.361 |
| 3rd Most Risk Averse | -63.669 | -2.825 |
| 2nd Most Risk Averse | -25.157 | -1.526 |
| Expected Probability of Living upto 85 | 0.125 | 0.544 |
| Mental Health Score | -3.501 | -0.544 |
| Ever Drink any Alcohol | 13.890 | 0.900 |
| Smoke Ever | -86.677 | -5.716 |
| Probability of Receiving Inheritance | 0.734 | 3.121 |
| <i>Wife's Characteristics:</i> | | |
| Age | 11.330 | 0.880 |
| Age Squared/100 | -8.074 | -0.649 |
| Years of Education | -19.012 | -1.653 |
| Years of Education Squared/100 | 143.459 | 2.896 |
| Catholic | -18.394 | -0.842 |
| Jewish | 118.911 | 1.141 |
| Excellent Health | 82.052 | 2.391 |
| Very Good Health | 75.078 | 2.282 |
| Good Health | 29.140 | 0.911 |

Table 14 (Continued)

| | | |
|--|---------|--------|
| Fair Health | 20.616 | 0.619 |
| Covered by Health Insurance | -66.887 | -3.028 |
| Least Risk Averse | 42.452 | 1.995 |
| 3rd Most Risk Averse | -9.256 | -0.434 |
| 2nd Most Risk Averse | 3.397 | 0.191 |
| Expected Probability of Living upto 85 | -0.224 | -1.007 |
| Mental Health Score | -7.411 | -1.475 |
| Ever Drink any Alcohol | 50.810 | 3.358 |
| Smoke Ever | 5.844 | 0.436 |
| Probability of Receiving Inheritance | 1.034 | 4.495 |

Common Variables:

| | | |
|-----------------------------|---------|--------|
| Number of Household Members | -6.031 | -1.024 |
| Number of Living Children | -5.329 | -1.510 |
| White | 91.965 | 2.057 |
| Black | 8.458 | 0.177 |
| Hispanic | 2.020 | 0.040 |
| North East | -47.817 | -2.029 |
| Midwest | -53.279 | -2.498 |
| South | -76.867 | -3.923 |

Marital History Variables:

| | | |
|-------------------------------------|---------|--------|
| Husband's Number of Divorces | -18.093 | -1.377 |
| Wife's Number of Divorces | -5.010 | -0.304 |
| Husband's Number of Widowhoods | -3.347 | -0.092 |
| Wife's Number of Widowhoods | 19.920 | 0.597 |
| Couple's Length of Current Marriage | 1.367 | 1.251 |

| | | |
|------------------------|-----------|--------|
| Constant | -1335.360 | -2.363 |
| Adjusted R-Squared | 0.144 | |
| Number of Observations | 4744 | |

The husband's and wife's characteristics are *individual specific* variables of each spouse, respectively. Among those variables, consistent with the life cycle models of household savings and consumption, I include standard variables such as age, age squared, years of education, years of education squared, health status, ownership of health insurance. I also include some additional variables available only in the HRS such as expected probability of living up to 85 and receiving inheritance, mental health score, and risk aversion.⁴ Religion, smoking and drinking behavior variables are included in the regression with the idea that they might capture some of the unobservable life style effects, beyond health and risk aversion, which might possibly be correlated with both divorce and wealth.

The common variables include the number of household members, number of living children, race and region.⁵ The number of living children is defined as the counts of different individuals who are either a child or a step-child of the respondent or spouse. Since there are only a few couples in which the spouses have different races, the husband's race is used as a common variable to proxy the impact of race on the couple's wealth level. The region variables are included in the regression, because there is a great degree of price variation across regions, which might affect the ability to accumulate wealth.⁶

Finally, as described in the data section in detail, marital history variables are the spouses' number of divorces and widowhoods, and the length of their current marriages.

Even though they are not the focus of the present paper, there are a few interesting results to notice from the Table 14. First, most of the effects of the

⁴ Kezdi G. and Willis R. (2003) show that expectations are significant determinants of wealth holdings and portfolio allocation. Therefore, those variables are also included in the regressions presented in this paper. Information on inheritance expectations is drawn from the second wave of the HRS, because it has been collected beginning from that wave, and is unavailable in the first. In the HRS, each respondent is asked a question which involved four levels of risk taking behavior in terms of keeping the current family income safe. Depending on the answer the respondent's risk aversion is classified as the least, 3rd most, 2nd most, and most. Mental health score takes a value from 1 to 8 and measures the state of the respondent's feelings. The higher the score, the more unhappy and depressed the respondent.

⁵ A measure of permanent income, either at the individual or household level, would be appropriate to include in the regression. However, within the context of household dissolution, it is really not clear how to measure the permanent income in a sensible way. Nevertheless, the inclusion of current nominal household income as an independent variable in addition to the variables in Table 14 only reduces the partial correlation of wealth and the spouses' education, age and health status leaving the other results unaffected. Moreover, even though possibly endogenous, controlling for the spouse's current labor force participation also does not alter the substantive results of the present study.

⁶ See Slesnick D. T. (2002) for evidence.

husband's and wife characteristics are consistent with the previous literature, and go in similar directions and magnitudes except for those of smoking and drinking behavior. Second, from the common variable coefficients, we see that the couples with higher number of household members and living children have lower levels of net worth. However, the magnitudes of the effects for those variables are not statistically significant. Third, as expected, there are some significant differences in wealth holdings of older couples conditional on their race and region of residence.

I now focus on the main variables of interest from the Table 14. The estimated coefficients indicate that the descriptive (seemingly significant) negative relationship observed between the spouses' joint number of divorces and net worth, and the positive correlation between their length of current marriages and wealth disappear once we control for other factors in a multivariate regression. As one can see from the Table 14, all of the coefficients estimated on marital history variables are statistically insignificant. Consistent with some of the previous literature, if we assume that a marital breakdown is a negative shock to the life cycle then the results here suggest that, for those who remarry after divorce, there is recovery from the sufferings of marital disruptions, which occur earlier in the life cycle. While the *net cost* of divorce in terms of household wealth accumulation is higher for men than it is for women, in the "long run" it turns out to be statistically insignificant for both gender groups. Similarly, an insignificant positive coefficient on the couple's length of current marriage shows that the timings of marital disruptions do not have a major influence on wealth levels of currently married older couples. Thus, one can conclude that the elderly couples' marital history plays a minor role in explaining the dispersion in their wealth holdings near the end of their life cycle. Having investigated the overall wealth levels, in the rest of this section I turn to the issue of portfolio allocation and marriage history.

4.2. Asset Ownership and Allocation: Components of Overall Net Worth

In examining the asset ownership and allocation profiles of older couples, I first consider the six components of overall net worth classified previously as owner occupied housing, real estate, vehicles, businesses, IRA and Keogh accounts, and total financial wealth. My goal here is to determine whether previous marital shocks of older couples significantly alter their both the probability of owning a particular asset and the fraction of net worth allocated to that asset. For the ownership probabilities, I

follow the general strategy employed in previous papers and estimate a probit model, including on the right hand side the marriage history variables and controls for total wealth, and other demographic and socioeconomic characteristics.

Table 15 presents the marginal effects and t-statistics of marital history variables calculated from the probit estimation. The results suggest that marital disruptions create important differences in asset ownership profiles of older couples especially for housing, vehicles, IRA and Keogh accounts, and total financial wealth. For home ownership, the couple's length of current marriage turns out to be the most explanatory marriage history variable given the insignificant marginal effects for the husband's and wife's number of divorces and the wife's number of widowhoods. The husband's number of widowhoods, on the other hand, has a positive significant effect on housing tenure but remember that there are only a few husbands who have been widowed before. Consistent with the descriptive statistics presented previously, marginal effects for vehicles show that the ownership of that asset increases significantly with both the husband's and wife's number of divorces. Moreover, the results yield a significant positive correlation between the couple's length of current marriage and vehicle ownership. The effects of marital history on IRA and Keogh account ownership are particularly interesting. While the wife's number of divorces has no effect, that of the husband's exerts a significant negative impact on the couple's status on IRA and Keogh account ownership. In case of widowhoods, however, the relationship reverses. That is, a couple is less likely to own IRA and Keogh accounts if the wife has a higher number of widowhoods and indifferent with respect to the husband's. The marginal effect of the length of current marriage on IRA and Keogh account ownership is negative and insignificant but *almost significant*. Finally, the ownership of financial wealth, which is the most liquid form of assets, is also affected significantly by the spouses' marital history. Even though marginal effects of the wife's number of marital disruptions turn out to be insignificant, both the husband's number of divorces and widowhoods increases the couple's likelihood of owning positive amounts of financial wealth in their current portfolio set. Moreover, the results also indicate a significant positive relationship between the couple's duration of current marriage and financial wealth ownership.

Table 15: Probit Models for Ownership Probabilities

Dependent Variable is the Dummy Indicator of Owning Particular Types of Assets

| Explanatory Variable | Housing | | Real Estate | | Vehicles | | Businesses | | IRA, Keog. | | Fin. Wealth | |
|--|--------------|--------------|-------------|--------|--------------|--------------|------------|--------|---------------|---------------|--------------|--------------|
| | M.E. | t | M.E. | t | M.E. | t | M.E. | t | M.E. | t | M.E. | t |
| <i>Marital History Variables:</i> | | | | | | | | | | | | |
| Husband's Number of Divorces | -0.002 | -0.156 | 0.005 | 0.331 | 0.015 | 2.448 | 0.015 | 1.278 | -0.033 | -2.121 | 0.023 | 1.906 |
| Wife's Number of Divorces | 0.006 | 0.512 | 0.016 | 1.055 | 0.014 | 1.919 | -0.005 | -0.432 | 0.003 | 0.212 | 0.006 | 0.489 |
| Husband's Number of Widowhoods | 0.053 | 1.981 | 0.035 | 1.037 | 0.009 | 0.713 | -0.013 | -0.451 | -0.013 | -0.364 | 0.036 | 1.783 |
| Wife's Number of Widowhoods | -0.008 | -0.385 | -0.010 | -0.321 | -0.006 | -0.513 | -0.009 | -0.345 | -0.055 | -1.923 | 0.015 | 0.563 |
| Couple's Length of Current Marriage | 0.003 | 4.513 | 0.000 | -0.048 | 0.002 | 2.643 | 0.001 | 1.424 | -0.002 | -1.624 | 0.002 | 2.422 |

Note: M.E. and t stand for marginal effect and t-statistic respectively. The estimation also controls for other variables such as husband's and wife's characteristics, and common household variables including wealth. The full set of results is available upon request.

The next step is to estimate how the shares of the six asset types that comprise overall wealth of older couples depend on the spouses' marital history. As Rosen H. and Wu S. (2001) discuss in detail, investigators have previously used a variety of econometric approaches in estimating portfolio shares. The main statistical issue arises from the fact that asset shares are bounded by zero and one. While each approach has its advantages and disadvantages, following Poterba J. and Samwick A. (1999), and Rosen H. and Wu S. (2001), I use a two-limit tobit procedure because it deals with issue of boundedness of portfolio shares by zero and one.⁷

It is difficult to find a compelling reason to use a set of covariates different from that in the ownership equation, so following the usual practice, I use the same control variables as in the probit estimation. The two-limit tobit estimates for the coefficients of marital history variables are presented in Table 16. The results show that marital breakdowns and timings of current marriages are significant determinants of older couples' portfolio allocation. One can see from the table that while the share of owner occupied housing is increasing with the couple's length of current marriage, it is decreasing with respect to both the husband's and wife's number of divorces. The magnitude of the estimated coefficients on marital history suggests that the couples in which the spouses have divorced before invest relatively heavily on non-housing assets rather than owner occupied housing in their current marriage. This could be due to either the couples who have been stably married without any marital breakdowns have over-invested in housing or the individuals whose marriages have been disrupted before have downsized their housing wealth when they remarried and invested relatively intensely on more liquid forms of non-housing assets. In contrast to housing, for example, the share of overall net worth allocated to financial wealth is significantly increasing with respect to the husband's number of divorces and widowhoods and decreasing with the length of current marriage. Similarly, the share of vehicles is significantly higher when the spouses have higher number of divorces experienced. Intuitively consistent, the wife's number of divorces turns out to be unimportant in determining the business share of net worth, however, the husband's divorces increase the fraction of wealth allocated to that type of investment. The

⁷ Ignoring the censoring issue and estimating a multi-equation system of asset shares also provide us very similar results regarding the effects of marital history variables on portfolio allocation of older couples.

Table 16: Two-Limit Tobit Regression Results of Portfolio Shares
Dependent Variable is the Share of Total Wealth Held in a Particular Asset

| Explanatory Variable | Housing | | Real Estate | | Vehicles | | Businesses | | IRA, Keog. | | Fin. Wealth | |
|--|---------------|---------------|-------------|--------|--------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|
| | Coef. | t | Coef. | t | Coef. | t | Coef. | t | Coef. | t | Coef. | t |
| <i>Marital History Variables:</i> | | | | | | | | | | | | |
| Husband's Number of Divorces | -0.057 | -4.669 | -0.001 | -0.031 | 0.017 | 1.985 | 0.048 | 2.012 | -0.003 | -0.422 | 0.017 | 1.928 |
| Wife's Number of Divorces | -0.024 | -1.903 | 0.015 | 0.648 | 0.026 | 3.801 | -0.024 | -0.753 | 0.006 | 0.903 | -0.006 | -0.573 |
| Husband's Number of Widowhoods | 0.009 | 0.322 | 0.021 | 0.445 | -0.004 | -0.259 | -0.018 | -0.232 | -0.015 | -0.981 | 0.035 | 2.381 |
| Wife's Number of Widowhoods | -0.020 | -0.798 | 0.001 | 0.017 | 0.015 | 0.947 | -0.038 | -0.512 | -0.018 | -1.775 | 0.010 | 0.540 |
| Couple's Length of Current Marriage | 0.002 | 2.533 | -0.001 | -0.414 | -0.001 | -1.157 | 0.002 | 1.859 | -0.001 | -1.892 | -0.001 | -1.744 |

Note: Coef. and t stand for estimated coefficient and t-statistic respectively. The estimation also controls for other variables such as husband's and wife's characteristics, and common household variables including wealth. The full set of results is available upon request.

business share of net worth is also increasing with respect to the couple's duration of current marriage. Finally, the wife's widowhoods have a negative impact on the share of IRA and Keogh accounts and the spouses that are relatively recently married invest less share of their net worth in retirement accounts.

4.3 Asset Ownership and Allocation: Components of Financial Wealth

In looking at the asset ownership and allocation profiles of older couples, I now go one step further and focus on the components of financial wealth only. By dividing the total financial wealth into finer asset groups, the goal here is to see if households with a greater degree of marital disruption experience systematically invest more on the non-risky financial assets rather than the risky ones or vice versa. Similar to the analysis of overall net worth components, probit and two-limit tobit procedures are used, respectively, to investigate the effects of spouses' marital history on the ownership and allocation of financial assets. The results are presented in Tables 17-18. While the probit estimation uses the entire sample of 4744 older couples, the two-limit tobit estimation restricts the sample into 4187 couples who have positive levels of financial assets.

Even though the spouses' marital experience has a significant impact on the distribution of six types of net worth components at the aggregate level, the analysis of financial wealth only yields that the ownership and allocation of financial assets are not affected in a major important way by marital disruptions. The results in Tables 17-18 show that marital breakdowns affect the distribution of financial assets mainly through the ownership and share of miscellaneous financial savings. Remember from the descriptive statistics that only approximately 20% of the older couples own some miscellaneous financial assets and the average share of miscellaneous assets among those who own positive levels of financial wealth is approximately 10%. In both the probit and two-limit tobit results we observe a significant positive relationship between the ownership and share of miscellaneous financial savings, and the husband's and wife's number of divorces and the wife's number of widowhoods. Moreover, the ownership and share of miscellaneous financial savings are increasing significantly with the couple's length of current marriage. Given these results, one can conclude that marital disruptions do not cause older couples to switch in a significantly planned way from risky to non-risky financial assets or vice versa.

Table 17: Probit Models for Ownership Probabilities of Financial Wealth Components
Dependent Variable is the Dummy Indicator of Owning Particular Types of Financial Assets

| Explanatory Variable | Stocks & Mut. | | Bank Accts. | | CD & T-bills | | Bonds | | Miscellaneous | |
|--|---------------|--------|--------------|--------------|--------------|--------|--------|--------|---------------|--------------|
| | M.E. | t | M.E. | t | M.E. | t | M.E. | t | M.E. | t |
| <i>Marital History Variables:</i> | | | | | | | | | | |
| Husband's Number of Divorces | -0.009 | -0.579 | 0.018 | 1.861 | -0.008 | -0.476 | -0.006 | -0.665 | 0.023 | 1.815 |
| Wife's Number of Divorces | -0.019 | -1.180 | 0.009 | 0.834 | 0.008 | 0.494 | -0.014 | -1.310 | 0.047 | 3.583 |
| Husband's Number of Widowhoods | -0.019 | -0.531 | 0.017 | 0.706 | 0.042 | 1.167 | 0.015 | 0.793 | 0.022 | 0.735 |
| Wife's Number of Widowhoods | -0.024 | -0.729 | 0.002 | 0.093 | 0.015 | 0.435 | 0.005 | 0.274 | 0.047 | 1.709 |
| Couple's Length of Current Marriage | -0.002 | -1.482 | 0.001 | 1.630 | 0.000 | 0.340 | 0.000 | -0.756 | 0.002 | 2.149 |

Note: M.E. and t stand for marginal effect and t-statistic respectively. The estimation also controls for other variables such as husband's and wife's characteristics, and common household variables including wealth. The full set of results is available upon request.

Table 18: Two-Limit Tobit Regression Results of Financial Portfolio Shares
Dependent Variable is the Share of Financial Wealth Held in a Particular Financial Asset

| Explanatory Variable | Stocks & Mut. | | Bank Accts. | | CD & T-bills | | Bonds | | Miscellaneous | |
|--|---------------|---------------|---------------|---------------|--------------|--------|--------|--------|---------------|--------------|
| | Coef. | t | Coef. | t | Coef. | t | Coef. | t | Coef. | t |
| <i>Marital History Variables:</i> | | | | | | | | | | |
| Husband's Number of Divorces | -0.005 | -0.170 | -0.001 | -0.030 | -0.034 | -1.248 | -0.003 | -0.981 | 0.065 | 1.723 |
| Wife's Number of Divorces | -0.060 | -2.001 | -0.032 | -1.276 | 0.015 | 0.572 | -0.004 | -1.217 | 0.171 | 3.874 |
| Husband's Number of Widowhoods | -0.023 | -0.321 | -0.045 | -0.819 | 0.047 | 0.770 | 0.003 | 0.438 | 0.047 | 0.430 |
| Wife's Number of Widowhoods | -0.038 | -0.536 | -0.096 | -1.868 | 0.044 | 0.794 | 0.003 | 0.437 | 0.203 | 2.061 |
| Couple's Length of Current Marriage | -0.003 | -1.424 | -0.001 | -0.816 | 0.000 | 0.251 | 0.000 | -1.431 | 0.007 | 2.064 |

Note: Coef. and t stand for estimated coefficient and t-statistic respectively. The estimation also controls for other variables such as husband's and wife's characteristics, and common household variables including wealth. The full set of results is available upon request.

5. Conclusions

This paper investigates the role of spouses' marital history in terms of explaining differences in wealth holdings and portfolio allocation of older couples by studying data drawn from the first wave of the HRS. The results of the empirical analysis lead to the following conclusions. While the *net cost* of divorce in terms of household wealth accumulation is higher for men than it is for women, in the "long run" it turns out to be statistically insignificant for both gender groups. Remember that, this only applies to the currently married individuals. Therefore, it suggests that, for those who remarry after divorce, there is recovery from the negative shock of marital breakdowns, which occur earlier in the life-cycle. Thus, the elderly couples' marital history plays a minor role in explaining the dispersion in their wealth holdings near the end of the life cycle.

The examination of the asset components of net worth, however, indicates that both the probability of owning a particular asset and the fraction of wealth allocated to that asset might significantly vary depending on the elderly couples' marital history. Most importantly, the couples in which the spouses have some divorce experience invest relatively heavily on non-housing assets rather than owner occupied housing. This can be interpreted as either the couples who have been stably married without any marital disruptions have over-invested in housing or the individuals whose marriages have been dissolved before have downsized their housing wealth when they remarried and invested relatively intensely on more liquid forms of non-housing assets.

Finally, the separate analysis of financial wealth shows that marital disruptions do not have a major significant impact on the ownership and allocation profiles of financial assets among the older couples. Therefore, we do not find any evidence supporting that households with a greater degree of marital disruption experience systematically invest more on the non-risky financial assets rather than the risky ones or vice versa. Findings of an insignificant effect on financial asset distribution and a significant impact on overall net worth allocation of marital disruptions suggest that liquidity of assets is more important than the risk factor in portfolio decisions of previously divorced individuals.

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