Household Wealth and Gray Divorce in the United States

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Abstract

This paper investigates how changes in household wealth affect the likelihood of divorce among older adults aged 50 and above in the United States. Using panel data from the Health and Retirement Study from 1992 to 2018, I first establish a descriptive non-linear relationship between wealth, and divorce probabilities. The likelihood is higher for lower levels of wealth and monotonically declines, but only upto the median - beyond that it remains fairly flat. Extreme changes in wealth, both positive and negative, are associated with higher probability of divorce, as compared to moderate changes. To estimate the causal effects, I use two separate plausibly exogenous shocks to wealth, one from the stock market and the other from the housing market. A $10,000 predicted increase in real wealth driven by the S&P 500 contemporaneously raises divorce chances by 262%, marginally significant with a p-value of 0.06. A similar sized lagged housing market driven wealth increase also boosts divorce likelihood by 300%, significant at 1%. I find little evidence of a non-monotonic effect of these wealth shocks on divorce. These findings contribute to research on late-life divorce determinants and expand analysis of how wealth shocks shape well-being over the life cycle. The results have implications for policies targeting asset fluctuations among older households.

Keywords: Gray divorce, Household wealth, Wealth shocks, Marital stability, Older adults
JEL codes: J12, D14, D31

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1 Introduction

The United States is an aging country. Individuals aged 65 or more are expected to outnumber children below 18 by the year 2035[1]. Average life expectancy has also risen in the last several decades (Arias and Xu, 2022). This substantial growth in the share and longevity of older adults necessitates dedicated research on the lives, well-being and family patterns of the elderly. As the demographics shift, it becomes increasingly important to study and understand factors shaping later-life trajectories, including ways older adults form and maintain family ties. Although there exists extensive research on different aspects of elderly life, for example labor supply and health, relatively less is known about their decisions related to marital choices. Over the past couple of decades, there has been a persistent and non-trivial number of divorces among older adults. Often termed "gray divorce" in mainstream media, the divorce rate among people aged 50 and over has doubled between 1990 and 2010, with 1 in 4 divorces in 2010 involving people in this age group and has remained fairly steady since (Brown and Lin, 2012; Allred, 2019). Existing literature has linked later-life divorces to higher likelihood of depression (Tosi and van den Broek, 2020), worse economic outcomes for women (Lin and Brown, 2021) as well as factors like growing apart, shifting of values, or seeking greater independence and self-fulfillment (Wu and Schimmele, 2007; Bair, 2007). However, more research is needed to unpack and quantify the precise drivers.

Compared to younger couples, older people can face different incentives to stay in a marriage. Most studies on the factors contributing to divorces do not focus on the elderly, so the motivations and mechanisms among this group are less explored. Existing literature on the determinants of divorce often focus on events that may be more relevant for younger couples. For example, it is well established that children play an integral role in the stability of a marriage (see e.g Stevenson and Wolfers, 2007; Svarer and Verner, 2008; Vuri, 2001; Lillard and Waite, 1993). Another established source of marital utility is coordinated investment in human capital (Chiappori et al., 2009; Nick and Walsh, 2007; Baker and Jacobsen, 2007; Dougherty, 2005; Borenstein and Courant, 1989). However, such factors are relevant earlier in the life cycle, and the motivations to remain married can shift with age. As couples progress into later stages of life, choices surrounding childbearing and education may decline in relevance[2]. This poses an interesting question about how to conceptualize the sources of utility from marriage for older adults. With human capital acquisition and childcare becoming less relevant, other economic drivers like consumption within marriage may play a different (and more important) role later in life. Wealth is a key component in the lives of elderly people,

[1]Source: "Older People Projected to Outnumber Children for First Time in U.S. History" published by Census Bureau in 2018.

[2]Lin et al. (2018) study whether important later-life events like empty nest, retirement or chronic health conditions predict gray divorce. They find these events to be unrelated.

with implications on health (Schwandt, 2018; McInerney et al., 2013; Tran et al., 2023), consumption (Hurd, 1992; Hamermesh, 1982; Mirer, 1979) , savings and retirement behavior (Skinner, 2007; McFall, 2011; Brown et al., 2010), and labor supply choices (Zhao and Burge, 2017), among others. On average, older couples have greater wealth relative to younger counterparts. Therefore, fluctuations in accumulated assets can affect them more acutely. Additionally, older adults are either approaching retirement or are already retired, giving them less time to rebuilt their wealth in the event of an adverse shock. Older adults also have a shorter horizon that can render wealth shocks more destabilizing.

There is substantially less research on how wealth shocks influence marital choices of the elderly. This is particularly important in the present times when the divorce rate among older adults is non-trivial. At present, the literature on how fluctuations in household finance shape marital stability is largely based on samples of younger couples or across all ages. Prior research has exploited plausibly exogenous wealth shocks to estimate causal impacts on divorce likelihood[3]. However, the evidence is mixed. Klein (2017) finds positive housing market shocks in the US reduce divorce chances, but negative shocks have no effect. In contrast, Rainer and Smith (2010) shows negative housing shocks in the UK increase divorce likelihood, while positive shocks do not. Importantly, both studies use nationally representative samples combining couples of all ages[4].

In this paper, I utilize a nationally representative sample of older American adults to study how changes in household wealth affect the likelihood of divorce among this cohort. I first establish the descriptive relationship between wealth and divorce among older adults. The results point towards the presence of a non-linear relationship, both in terms of levels and change. The probability of divorce declines with higher percentiles of real wealth, but only up to the median. Beyond that, the relation remains fairly linear. In terms of changes in wealth, both large negative and large positive changes in wealth are associated with a higher probability of divorce, compared to moderate changes. This is an interesting finding that, to my knowledge, has not been documented before. The non-monotonicity indicates a need to re-examine the theoretical reasons behind why large changes in either direction can create incentives to dissolve a marriage. However, this result should be interpreted with caution as it is descriptive and can be driven by underlying

[3]In general, estimating the effects of changes in wealth on marital stability is challenging due to the ambiguous direction of causality - divorce directly reduces wealth through asset division and declines in wealth may conversely increase incentives to divorce by shrinking gains from marriage. Drewianka and Meder (2020) uses data from the NLSY and finds no evidence of financial hardship affecting divorce.

[4]Other components of household finance have also been studied. For example, Doiron and Mendolia (2012) find a negative shock to income increases the probability of divorce. Similarly, Charles and Stephens (2004) find an unexpected income loss for husbands leads to an increased divorce likelihood. However, the reason for the income drop appears to matter - income loss from being laid off increases divorce chances, but not reasons like plant closure. In contrast, Hankins et al. (2011) find that a positive income shock has no statistical effect on divorce rates. Importantly, these papers either focus on younger couples or samples comprising individuals across all age groups.

unobserved confounding variables.

To estimate the causal effect of wealth change on divorce, I use two separate plausibly exogenous shocks to wealth - one from the stock market and one from the housing market. I find that both shocks significantly increase the probability of divorce. For the stock market shock, a $10,000 predicted increase in real wealth driven by the S&P 500 index fund contemporaneously increases the probability of divorce by approximately 262 percent, marginally significant with a p-value of 0.06. Although the housing market shock constructed using the Housing Price Index (HPI) does not exhibit a similar contemporaneous effect, a lagged $10,000 predicted housing wealth windfall also increases divorce likelihood by around 300 percent, significant at 1 percent. This indicates that liquidity of the wealth shocks also plays an important role - shocks that affect more liquid forms of wealth may have more immediate effects than shocks impacting less liquid components of household wealth. However, I find little evidence of a non-linear effect of wealth shocks on the likelihood of divorce.

This contrasting evidence about the presence of non-linearity between descriptive and causal results stems from inherent differences between observable correlations and underlying causal impacts. While the descriptive analysis reveals an intriguing non-linear association between wealth levels, changes, and divorce probability, the causal analyses using plausibly exogenous wealth shocks do not indicate similar non-linear effects. Descriptive associations can reflect spurious correlations driven by unobservables that jointly affect wealth and marital quality. In contrast, the exogenous shocks better identify the causal effect by isolating changes in wealth itself. Therefore, the absence of detectable non-linear impacts provides cleaner evidence that the true causal relationship may be linear, at least within the range of the observed shocks.

Among the studies that exploit exogenous wealth shocks to estimate marital stability, the paper closest to my research question is Klein (2017). It uses Panel Study of Income Dynamics (PSID) and finds housing wealth shocks reduce divorce likelihood. My paper presents contrasting results. When Klein (2017) restricts the analysis to older adults, point estimates remains negative but statistically insignificant. One reason can be the smaller number of older couples in the PSID sample. Klein (2017) sample contains around 1,500 older households, whereas mine has over 7,900. My substantially larger sample enables estimating the causal effects with greater statistical precision for the older population.

The first contribution of this paper is to the literature on mechanisms of divorce and marital stability. Prior research studying how financial factors influence divorce does not focus on older couples. Instead they either look at younger couples using data like NLSY (e.g Nunley and Seals, 2010; Drewianka and Meder, 2020) or use samples of couples across all ages (e.g Klein, 2017; Rainer and Smith, 2010; Battu et al., 2013; Fräßdorf, 2011). This provides limited insight into divorce determinants later in the life cycle. My analyses specifically focus on older couples aged 50 and above, examining how changes in assets and wealth impact the likelihood of late-life divorce or separation. Older adults potentially face different challenges that could shape how wealth fluctuations affect marital outcomes, including greater reliance on savings and fixed incomes, decreased ability to adjust labor supply, more health shocks depleting resources, and simply having more marital history. By providing direct evidence on the role of wealth dynamics on divorce propensities specifically for older adults, this paper fills an important gap and enhances our understanding of gray divorce. It demonstrates that wealth changes do significantly impact divorce likelihood for older couples, which was not evident in work on younger cohorts or samples comprising of couples across all ages. More broadly, it highlights the value of targeted life cycle analysis, as mechanisms studied among newlyweds do not necessarily extrapolate to later marital stages when couples face aging-related stresses and constraints.

The second contribution of this paper is to the literature examining how wealth shocks impact various life-cycle outcomes for older adults. Extensive research analyzes effects of asset changes on later-life health (Schwandt, 2018; Fichera and Gathergood, 2016; Michaud and Van Soest, 2008; McInerney et al., 2013), retirement decisions Gustman et al. (2010); McFall (2011); Sevak (2002), and household consumption (Hurd, 1992; Hurd and Rohwedder, 2013; Mehra, 2001). However, very few studies address the potential influence on marital choices. This paper expands the scope of analysing wealth shock impacts to the interpersonal domain, throwing light on a new life-cycle outcome sensitive to asset fluctuations and strongly correlated with the outcomes already studied in prior works.

There is a large literature that examines how economic policies affect different aspects of geriatric well-being. My paper draws attention to a much less studied dimension - marital behavior. If there are policy changes that alter the financial security of the older couples, it can impact the incentives the elderly people have to stay in a marriage. Policymakers may need to account for the associated risks when designing programs aimed at the welfare of the elderly population. This is even more critical at a time when the share of older population in the society is increasing. Quantifying these marital dissolution risks and creating appropriate safeguards can prove important going forward.

The rest of the paper is organized as follows. Section 2 presents a theoretical model to demonstrate how changes in wealth can affect the incentive to divorce. Section 3 provides an overview of the dataset and measurement of key variables used in the analysis. Section 4 outlines the empirical specifications employed to examine the research questions. Section 5 presents and discusses the main results. Section 6 concludes.

2 Theoretical Framework

In this section, I present a static model which shows that a change in wealth can have an ambiguous effect on the incentives to divorce, even in a setup that does not require mechanisms more relevant for younger couples.

Consider a couple who are currently married. Each spouse, indexed by s, receives utility within the marriage from three sources - private consumption, a marriage-specific public good, and spouse-specific idiosyncratic flow of utility. If they choose to get a divorce, they receive utility only from private consumption.

I assume that each spouse has an exogenous income, Y_s, that is not dependent on labor supply choices or other endogenous household decisions. In addition to the incomes, I assume every household to have a separate component of wealth, denoted by W. Total financial resources, F, available to the married household is defined as the sum of the two spousal incomes and household wealth.

$$F = \sum_s Y_s + W \tag{1}$$

I assume that each spouse consumes half of the total resources for private utility. Extensive research exists on intra-household resource allocation and its implications for divorce incentives (see e.g. Browning and Chiappori, 1998; Chiappori et al., 1998; Manser and Brown, 1980; Gray, 1998). However, I abstract away from those considerations by assuming equal sharing for simplicity. This is to focus on how changes in wealth shape marital choices through private consumption and public goods, channels that are applicable for both younger and older couples, and not limited to a particular age demographic.

Married couples enjoy various types of public goods. Some are monetary like shared housing and child expenses, while others are not. In this model, I am assuming the public good that the spouses enjoy, denoted by Q, to be entirely non-monetary in nature and whose benefits are only accessible within marriage. For example, the love, companionship and emotional support spouses provide one another are marriage-specific public goods not purchasable in the market. Access to these goods requires relationship continuance. By modeling non-monetary marital gains through a public good assumption, I disentangle consumption motives from other benefits uniquely provided by one's spouse. I am further assuming that Q is a function of F, implying that the level of public goods that the spouse derives utility from, depends on the level of household finances. Financial hardships may diminish the utility derived from Q.

I also make some assumptions regarding institutional factors. First, I assume a unilateral divorce law regime exists, meaning either spouse can initiate divorce without consent of the other. Second, if the couple divorces, wealth W is divided equally between them. Extensive research analyzes how divorce laws and property division rules shape divorce incentives (see e.g. Wolfers, 2006; Voena, 2015). However, for simplicity I hold those considerations fixed. Specifically, I assume upon divorce each spouse only derives utility from private consumption equaling the sum of their own income and half the household wealth.

The idiosyncratic term ϵ_s captures the fact that each spouse may derive different levels of utility from consuming the same amount of household resources while married. Even with consumption from the same pool, the two spouses can experience different subjective benefits from the marriage. This reflects the idea that the two spouses may have different motivations or reasons for being in the marriage in the first place. One spouse may simply enjoy the companionship more than the other, or value the social status of marriage differently. Therefore, the idiosyncratic utility flow represents these varied, subjective reasons for marrying that shape the utility gained from the same observable marital resources. It allows for asymmetry between spouses in how much utility they extract from the household income, wealth and public goods available in the marriage.

Each spouse, prior to any wealth changes are assumed to be married and and their respective utility is denoted as $U_{M,s}$. In the event of a change in wealth, if they choose to get divorced, they derive utility denoted as $U_{D,s}$.

$$\begin{aligned} U_{M,s} &= u\left(\frac{F}{2}\right) + Q\left(F\right) + \epsilon_s \\ U_{D,s} &= u\left(Y_s + \frac{W}{2}\right) \end{aligned} \tag{2}$$

where both $u()$ and $Q()$ are increasing and concave in W.

Since the couple are married at the beginning, it means

$$\begin{aligned} &U_{M,s} - U_{D,s} > 0 \\ &\implies \epsilon_s > u\left(Y_s + \frac{w}{2}\right) - \left[\left(u\left(\frac{F}{2}\right)\right) + Q(F)\right) \end{aligned} \tag{3}$$

Condition 3 places a lower bound on the distribution of ϵ_s that spouse s draws from. This bound is the difference between the utility spouse s receives in the event of a divorce and the total utility within marriage that is dependent on F. For any draws of ϵ_s below this threshold, the couple would not be married initially.

The net benefit from marriage, captured as Δ_s can be represented as:-

$$\begin{aligned} \Delta_s &= U_{M,s} - U_{D,s} \\ &= \left[u\left(\frac{F}{2}\right) + Q\left(F\right) + \epsilon_s\right] - u\left(Y_s + \frac{W}{2}\right) \\ &= \left[u\left(\frac{F}{2}\right) - u\left(Y_s + \frac{W}{2}\right)\right] + Q\left(F\right) + \epsilon_s \end{aligned} \tag{4}$$

Δ_s is comprised of three components. The first term is the net gain in utility from private consumption each spouse gets from marriage as compared to from divorce. The second and the third terms are the utility from the public good and the spouse-specific idiosyncrasy. Without loss of generality, assume spouse a has a higher income than spouse b. For spouse a, this means that the net utility from private consumption is negative[5]. Spouse a faces a tradeoff because they can increase the utility from private consumption by divorcing the other spouse. However, they would lose access to the public good and its associated utility. Since spouse a is not divorcing initially, it implies that $Q(F)+\epsilon_a$ is large enough to compensate the negative net gains from private consumption.

To study the effect of changes in wealth, I differentiate Δ_s with respect to W,

$$\frac{\partial \Delta_s}{\partial W} = \frac{1}{2}\left[u'\left(\frac{F}{2}\right) - u'\left(Y_s + \frac{W}{2}\right)\right] + Q'(F) \tag{5}$$

which means that changes in wealth affects the incentive to stay married through differences in the marginal utilities of private consumption between two marital states and the marginal utility of consuming the public good.

Since $Y_a > \frac{Y_a+Y_b}{2} > Y_b$, and $u()$ is concave, $u'\left(\frac{F}{2}\right) - u'\left(Y_a + \frac{W}{2}\right) > 0$ and $u'\left(\frac{F}{2}\right) - u'\left(Y_b + \frac{W}{2}\right) < 0$. Since $Q' > 0$, this means that

$$\frac{\partial \Delta_a}{\partial W} > 0, \frac{\partial \Delta_b}{\partial W} \lesseqgtr 0$$

.

For higher-earning spouses, increased wealth can strengthen incentives to remain married by shrinking the gap in utility from private consumption between being married and divorced. Greater wealth also increases utility derived from the public good. For lower-earning spouses, however, the net effect is ambiguous. An increase in wealth lowers the net marginal utility from marriage, thereby increasing the incentive to divorce. But at the same time, increased utility from public goods makes the overall impact ambiguous.

Since the initial level of utility from marriage based on identical resources also depends on ϵ_s, whether or not a reduction in the incentive to stay married eventually leads to filing for divorce also depends on the idiosyncratic term. Consider two different couples with identical household resources and the lower-earning spouse earning the same income. For these spouses, the utility from divorce are identical, but that from marriage can be different if they have different draws of ϵ_b. The final decisions on whether to divorce will differ based on how much additional utility they get from the marriage itself. This means that even when the changes in the incentive are the same, the final outcome can be different.

[5] Since $Y_b < Y_a$, therefore $Y_b < \frac{Y_b+Y_a}{2} < Y_a$

3 Data

This paper uses data from the Health and Retirement Study (HRS), a biennial longitudinal survey of Americans over 50[6]. Starting in 1992, every alternate year the HRS collects extensive information on health, employment, finances, cognition, and family outcomes, providing a nationally representative sample ideal for studying aging-related behaviors. The rich questions asked across waves make it well-suited for examining how wealth changes shape economic and family life later in the life cycle.

3.1 The Sample

My unit of analysis is households with complete demographic information on both spouses. I create a panel tracking these couples over time, up until the wave when they report divorced[7]. Households with missing wealth data are excluded. The sample is restricted to heterosexual couples only, given the very small number of same-sex couples in the HRS (around 100) and the potential for systematic differences in relationship dynamics by sexual orientation.

My sample comprises of 12,941 households, of which 875 (approximately 6.7 percent) divorced at some point during the survey period. I report the summary statistics of the demographic features of my sample in Table 1, split across their divorce status. Among households that remain intact throughout the survey period, husbands have an average of 12.4 years of schooling and an average birth year of 1939. In terms of race, 76 percent of these husbands are White and 15 percent are African American. Their religious affiliations comprise of 57 percent Protestant and 27 percent Catholic. For wives in never-divorcing households, the mean years of education is 12.4, with a 1942 average birth year. Racially, 77 percent are White and 15 percent African American. Their predominant religions are 60 percent Protestant and 28 percent Catholic.

Among couples that eventually divorce, husbands have an average educational attainment of 12.6 years. Their mean birth year is 1944. In terms of race, 68 percent of these husbands are White and 21 percent are African American. Their predominant religious affiliations are 61 percent Protestant and 24 percent Catholic. Wives in couples that eventually split have a mean of 12.7 years of schooling, with an average birth year of 1948. Racially, 69 percent are White and 21 percent are African American. The primary religions represented are 64 percent Protestant and 23 percent Catholic.

[6]The spouse of the person selected as a sample unit can be less than 50 years old.

[7]Througout this paper, I use the term "household" and "couple" interchangeably.

Table 1: Summary Statistics (Demographic Variables)

	Never Dissolved Households			***Ever Dissolved Households***			
	Mean	**SD**	**N**	**Mean**	**SD**	**N**	**p-val**
Education (Husband)	12.351	3.521	12,066	12.613	3.107	875	0.259
Education (Wife)	12.459	3.117	12,066	12.748	2.909	875	0.063
Birth Year (Husband)	1939.15	14.75	12,066	1944.45	11.65	875	0.000
Birth Year (Wife)	1942.42	14.633	12,066	1948.459	11.484	875	0.000
Race (Husband):-							
White	0.761	0.426	12,066	0.688	0.464	875	0.000
African-American	0.153	0.360	12,066	0.214	0.410	875	0.000
Other	0.085	0.279	12,066	0.098	0.297	875	0.256
Race (Wife):-							
White	0.771	0.420	12,066	0.688	0.464	875	0.000
African-American	0.147	0.354	12,066	0.206	0.405	875	0.000
Other	0.082	0.275	12,066	0.106	0.308	875	0.059
Religion (Husband):-							
Protestant	0.572	0.495	12,066	0.608	0.489	875	0.046
Catholic	0.273	0.445	12,066	0.242	0.429	875	0.006
Jewish	0.021	0.143	12,066	0.017	0.129	875	0.539
None / No Pref	0.107	0.309	12,066	0.114	0.319	875	0.083
Other	0.027	0.161	12,066	0.018	0.132	875	0.254
Religion (Wife):-							
Protestant	0.604	0.489	12,066	0.642	0.479	875	0.012
Catholic	0.279	0.448	12,066	0.233	0.423	875	0.000
Jewish	0.021	0.145	12,066	0.017	0.129	875	0.509
None / No Pref	0.069	0.254	12,066	0.083	0.276	875	0.005
Other	0.027	0.161	12,066	0.024	0.154	875	0.470

Notes:- This table presents the summary statistics of the demographic variables used in the analyses. Columns 2,3, and 4 report the summary statistics of households that never divorce during the course of survey. Columns 5,6, and 7 report the summary statistics of households that ever divorce. Column 8 reports the p-value from the test of equality of the variable between the two groups. For education and birth year of the spouses, it corresponds to the t-test of equality of the mean, for the categorical variables, it corresponds to the chi-square test where the null hypothesis is there is no association.

3.2 Measuring Key Economic Variables

The main dependent variable of interest is a dummy that takes the value 1 if the household report to be together in wave w, 1 if they report to have divorced in wave $w+1$, conditional on being together in wave w. Essentially, I am estimating the hazard rate for divorce[8].

The RAND HRS Longitudinal file provides consistently-coded wealth data across waves, including detailed components like real estate, vehicles, businesses, retirement accounts, stocks, and residences. I use total net wealth, calculated as assets minus debts, adjusted to real 2012 dollars using the CPI.

Table 2 presents summary statistics on the distribution of real wealth for households that never divorced during the survey period compared to those that eventually dissolved. Since this is net wealth, it also includes

[8]Mathematically, I am estimating $Pr(D_{w+1} \mid M_w)$ where D is divorce, M is married and w is interview wave.

Table 2: Summary Statistics (Real Wealth)

	Never Divorced	Ever Divorced
1st Percentile	-592.25	-1523.92
10th Percentile	189.46	0
25th Percentile	1090.91	349.03
50th Percentile	3427.45	1746.34
75th Percentile	10242.66	6293.28
90th Percentile	30480	19600.43
99th Percentile	273750	224000
Mean	18333.07	12846.1
SD	141326.40	80780.68
Panel Obs.	76,393	3,372

Notes: This table presents the summary statistics of the real wealth reported by households over the waves of interview. The total wealth, net of all debts, as reported is adjusted with respect to the CPI. The base year is 2012.

debts and mortgages to accurately reflect the financial situation of the household. For stable couples, median real wealth is approximately $3,400, while households reaching divorce have a median of $1,746. Looking across other percentiles, those eventually divorcing consistently exhibit lower wealth at each point in the distribution relative to intact relationships. For instance, dissolved households have no wealth at the 10th percentile, compared to $189 for enduring marriages. At the top end, intact couples have $30,480 at the 90th percentile versus $19,600 for divorced households. While the means are closer due to right-skewed distributions, with $18,333 versus $12,846, the overall pattern indicates substantially lower wealth for those experiencing marital dissolution across the distribution.

The stock market shock is an interaction between the total value of stock holdings in wave w and the percentage change in SP 500 index fund as experienced by the household between waves w and $w+1$. since a significant share of people have stocks held in IRA accounts, I follow the method as outlined in Schwandt (2018) to estimate the stock holdings.

The measure is as follows:-

$$SPShock_{h,w+1} = \frac{\Delta SP_{w+1}}{SP_w} \times Stocks_{h,w}$$

where $SPShock$ is the measure of the shock, SP is the value of monthly SP 500 index fund, $Stocks$ is the real value of stock holdings, h indexes households, and w indexes waves of interview. The stock market wealth shock is constructed by interacting the percentage change in the S&P 500 index with the household's lagged real stock holdings. The percentage change in the S&P 500 is calculated between the interview month/year for each household in consecutive waves. This captures the predicted change in stock wealth from market fluctuations. S&P 500 data comes from Yahoo Finance and stock holdings are taken from the RAND HRS Detailed Imputation file. Since 1998, the HRS has asked about the number of IRA accounts and share in stocks, allowing me to estimate total household stock holdings. As this IRA detail is unavailable pre-1998, I restrict the estimation sample to 1998 onwards when measuring the causal impact of stock market shocks on divorce. By leveraging exogenous market movements and interacting them with household-level stock exposure, this shock aims to isolate the causal effect of stock wealth changes on relationship stability later in life.

My measure of a wealth shock to the housing market is an interaction between percentage change the quarterly Housing Price Index (HPI) reported at the MSA-level and the lagged gross value of the primary residence reported in real terms[9]. This measure is similar to the one used in Zhao and Burge (2017) where the authors use a dummy for home-ownership instead of actual reported value of the home.

$$HPIShock_{h,w+1} = \frac{\Delta HPI_{M,w+1}}{HPI_{M,w}} \times HomeValue_{h,w}$$

where $HPIShock$ is the measure of the housing shock, HPI is the quarterly housing price index in MSA M provided by the Federal Housing Finance Agency (FHFA), $HomeValue$ is gross value of the primary residence in real terms, h indexes households and w indexes interview waves. The housing wealth shock is constructed similarly, interacting lagged house value with the percentage change in regional Housing Price Index (HPI) between interviews. The percent change in HPI is calculated precisely based on the interview quarter/year for each household. This captures the predicted change in housing wealth from market fluctuations. Quarterly HPI data comes from the Federal Housing Finance Agency and house values are taken from RAND HRS files.

Unlike Zhao and Burge (2017) who use annual HPI data, I utilize quarterly HPI measures. The higher frequency of quarterly data allows me to more precisely match market changes to interview timing and exploit more variation in the housing wealth shock variable.

4 Estimation Strategy

My analysis proceeds in three main steps. First, I establish descriptive patterns between wealth and divorce risk. Second, I estimate the causal impact of stock and housing market wealth shocks on divorce. Third, I

[9]Altough there are households with more than one home, information on the location of the secondary residence is missing. Therefore, I estimate the magnitude of the housing market shock with respect to the primary residence only.

Table 3: Summary Statistics (Wealth Shocks)

	Stock Market Shock	Housing Market Shock
1st Percentile	-3202.94	-17533.34
10th Percentile	-0.05	-246.15
25th Percentile	0	0
50th Percentile	0	91.59
75th Percentile	34.71	369.36
90th Percentile	426.14	964.86
99th Percentile	4021.91	3894.08
Mean	99.35	-247.15
SD	2272.15	4258.36
Panel Obs.	55,986	54,726

Notes: This table presents the summary statistics of the wealth shocks constructed to estimate the causal effect of changes in wealth on the likelihood of divorce. The stock market shock is an interaction between percentage change in SP 500 index fund and the lagged real value of total stock holdings. The housing market shock is the product of the percentage change in the quarterly Housing Price Index reported at the MSA-level and the lagged real value of the primary residence. In both cases, the percentage changes are calculated with respect to the time of previous interview. The base year for calculating real value is 2012.

investigate heterogeneous effects across wealth distribution. All analyses (otherwise mentioned) are restricted to households where both spouses are under age 70, in order to omit outliers of very late-life divorces that likely reflect very specific idiosyncrasies.

To estimate the descriptive association, I use the following specification:-

$$Divorce_{h,w+1} = \alpha_0 + \alpha_1 Wealth_{h,w} + \Gamma_D \mathbf{X_h} + \nu_t + \phi_s + \psi_{s,t} + \varepsilon_{h,w} \tag{6}$$

where h indexes households, w indexes interview waves, t is the year of interview, s is the state of residence in year t and $Wealth \in \{Levels, Changes\}$.

$\mathbf{X_h}$ is the vector of demographic controls that include years of schooling, race, religion and birth year of both the spouses. ν_t, ϕ_s and $\psi_{s,t}$ are respectively year fixed effects, state fixed effects and state-specific linear time trends. $\varepsilon_{h,w}$ is the idiosyncratic error. The standard errors are clustered at the household level.

The econometric specification to estimate the causal effect of a stock market shock is as follows:-

$$\begin{aligned} Divorce_{h,w+1} = {} & \beta_{0,Stock} + \beta_{1,Stock} Stocks_{h,w} + \beta_{2,Stock} I(NoStocks)_{h,w} \\ & + \beta_{3,Stock} SPShock_{h,w+1} + + \Gamma_{Stocks} \mathbf{X_h} + \nu_{t,m} + \phi_s + \psi_{s,t,m} + \varepsilon_{h,w} \end{aligned} \tag{7}$$

where $Stocks$ is the real value of stock holdings of household h in wave w, $I(NoStocks)$ is a dummy that takes the value 0 if the household reports no stock-ownership in that wave, $SPShock$ is the measure of the stock market shock, $\mathbf{X_h}$ the set of demographic controls, $\nu_{t,m}$ is the year-month fixed effects, ϕ_s is the state fixed effects, $\psi_{s,t,m}$ is the state-specific linear time trend and $\varepsilon_{h,w}$ is the idiosyncratic error term. The standard errors are clustered at the household level. I do not separately control for the fluctuations in the stock market because that is happening at the national level and should be completely absorbed by the year-month fixed effects. The shock variable is winsorized at the top and bottom one percentile to rule contamination by outliers.

To estimate the causal effect of a housing market shock, I use the following specification:-

$$\begin{aligned} Divorce_{h,w+1} &= \beta_{0,House} + \beta_{1,House}\Delta HPI_{M,t,q} + \beta_{2,House}HomeValue_{h,w} \\ &+ \beta_{3,House}I(NoHome)_{h,w} + \beta_{4,House}HPIShock_{h,w+1} \\ &+ \Gamma_{House}\mathbf{X_h} + \nu_{t,q} + \phi_M + \psi_{M,t,q} + \varepsilon_{h,w} \end{aligned} \tag{8}$$

where $\Delta HPI_{M,t,q}$ is the percentage change in HPI in MSA M, in year-quarter $\{t, q\}$, $HomeValue$ is the gross value of the primary residence in real terms, $I(NoHome)$ is a dummy for reporting no home-ownership, $HPIShock$ is the measure of the housing shock, $\nu_{t,q}$ is the year-quarter fixed effects, ϕ_M is the MSA fixed effect and $\psi_{M,t,q}$ is the MSA-specific linear time trend, and $\varepsilon_{h,w}$ is the idiosyncratic error.

Unlike fluctuations in the stock market that happens at the national level, housing market volatility is occurring at the MSA-level and hence needs to be separately accounted for. The combination of $HomeValue_{h,w}$ and $I(NoHome)_{h,w}$ flexibly control for non-random cross-sectional variation in home-value across the sample.

I investigate potential heterogeneous treatment effects across the wealth distribution. To do this, I compare behavior below versus above the median wealth. The general approach to estimate heterogeneity is to create indicator variables for below median wealth and interact this dummy with all the variables outlined in Equations 7 and 8. The interaction term between the dummy and wealth shocks should capture the heterogeneous treatment effects.

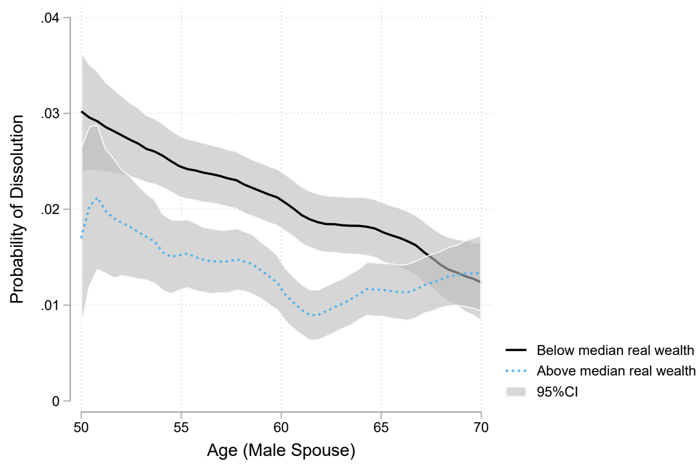

Figure 1: Probability of divorce and Age of the Male Spouse - By Median Real Wealth

5 Results

5.1 Descriptive Analyses

I begin my analyses by establishing some descriptive patterns in the data. Figure 1 plots the nonparametric association between the age of the male spouse and the probability of divorce. The likelihood monotonically declines, but also reveals a significant difference across the median real wealth. For instance, at age 55, the probability for those below the median wealth is approximately 3.5 percent versus 1.5 percent for those above the median. This is a considerable gap given the overall low probability of divorce. For ages 55 to 65, below median wealth households have a significantly higher divorce probability than above median wealth households, as reflected by the non-overlapping 95 percent confidence intervals.

Figure 2 plots the estimated association between real wealth and the husband's age using a local polynomial smoothing method. It reveals a stark difference in the level of wealth accumulated by households that never dissolve during the period of the survey and those who eventually do. Ever dissolved households have significantly lower wealth. This is represented more accurately in Table 2, where I report the summary statistics of real wealth, split across households based on their divorce status. The median real wealth of a household that never dissolves is approximately \$3,400 compared to \$1,700 for those who eventually dissolve at some point over the period of time. There can be multiple reasons for this pattern. First, it could be that these eventually dissolved households have already experienced prior divorces (either divorce or separation) which has shifted them to a lower trajectory of wealth due to reasons like alimony payments post-divorce. Second, there can be unobservable factors that are simultaneously affecting wealth accumulation and marital stability, e.g. personality traits. Overall, it appears that there is a correlation

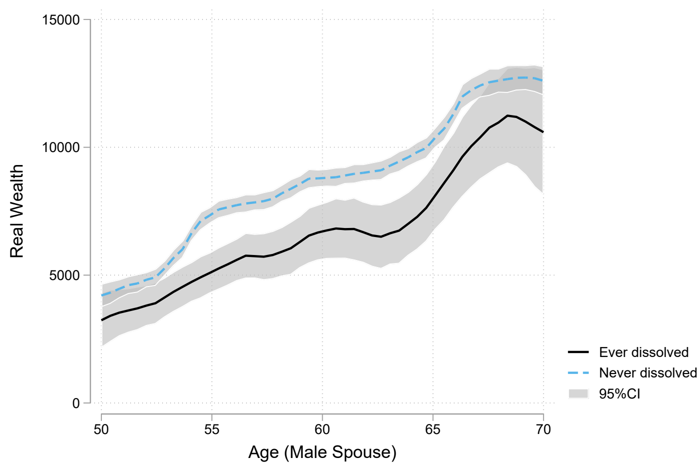

Figure 2: Real Wealth and Age of the Male Spouse - By divorce Status

between wealth and divorce that deserves further inspection.

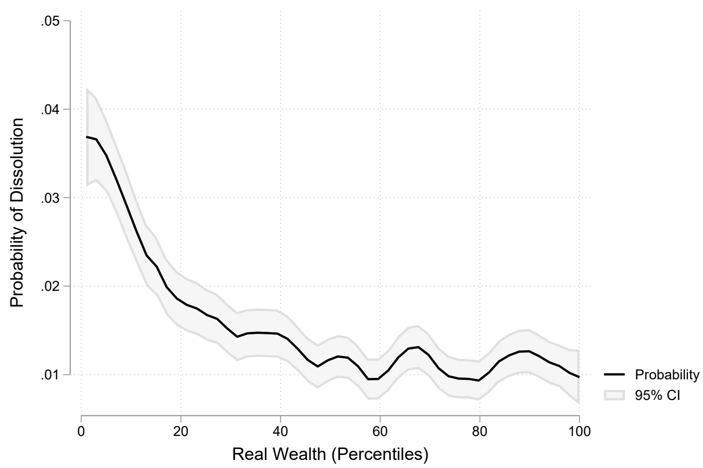

Figure 3: Probability of divorce and Percentiles of Real Wealth

Figure 3 plots the nonparametric estimates of the association between percentiles of real wealth and the probability of divorce. Households with lower percentiles of wealth are associated with higher probability of divorce compared to households in the higher percentiles. For example, the poorest percentile of households has an approximate hazard rate of 4 percent whereas the richest percentile's risk of divorce is around 1 percent. To be more precise, I regress the divorce dummy on real wealth using equation 6 and report the estimates in Table 4.

Column 1 reports estimates from a linear specification, and column 2 replaces the continuous wealth variable with quintiles of real wealth. To make the estimates more tractable, I scale up total wealth by

Table 4: Association: Divorce and Levels of Wealth

	(1)	(2)
Wealth	-0.032***	
	(0.006)	
$Wealth^2$		
$Quintile = 1$		0.019***
		(0.002)
$Quintile = 2$		0.005***
		(0.002)
$Quintile = 4$		-0.002
		(0.002)
$Quintile = 5$		-0.004
		(0.002)
Obs.	50,420	50,420
Households	10,448	10,448
R^2	0.007	0.010
$\overline{Y}$	0.018	0.018

Notes: This table presents the estimates from regressing the dissolution dummy on levels of CPI-adjusted real wealth . The base year is 2012. The independent variable is winsorized at the top and bottom fifth percentile, and re-scaled to make the estimates more tractable. One unit of the re-scaled independent variable equals $100,000. Column 1 presents estimates of a linear in levels. Column 2 replaces the continuous variable with dummies for different quintiles of real wealth. The reference category is households experiencing changes in the 3rd quintile of the distribution. All specifications control for demography, state fixed effects, interview year fixed effects, and state-specific linear time trends. The set of demography includes years of schooling, race dummies, religion dummies and birth cohort dummies for both the spouses. The standard errors are clustered at the household level. $\overline{Y}$ is the unconditional mean of the dissolution dummy in the sample.

$100,000. The reason for this is that divorce is a relatively rare event and is likely affected by more extreme scenarios. An increment of smaller magnitude may yield very tiny estimates that can be approximated to zero. In a linear setting, a $100,000 increase in real wealth is associated with a 3.2 percentage point reduction in the probability of divorce. The estimate is statistically significant and translates into an approximately 168 percent lower hazard rate with respect to the unconditional mean of the divorce dummy. In column 2, I replace the continuous wealth variable with dummies for quintiles. With the third quintile as the reference group, households in the first quintile are associated with a 1.9 percentage point higher or aprroximately 105 percent probability that is statistically significant at 1 percent. Households in the second quintile are also associated with a 0.5 percentage point or approximately 28 percent higher probability, significant at 1 percent. The fourth and fifth quintiles have no significantly different estimates from the reference group.

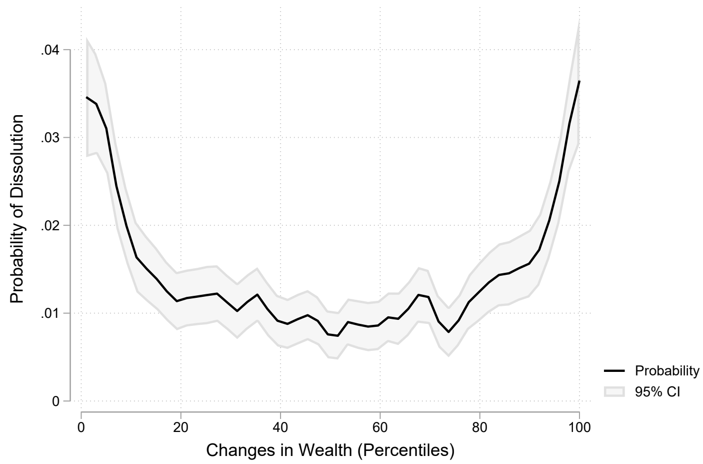

Figure 4: Probability of divorce and Percentiles of Wealth Change

Figure 4 plots the nonparametric estimates of the association between the probability of divorce and percentiles of percentage changes in wealth between two consecutive waves of interview. I find that large negative and large positive changes in wealth are both associated with higher probability of divorce, compared to changes that are relatively moderate. To be more precise, I regress the divorce dummy on percentage changes in wealth using Equation 6 and report the results in Table 5 .

Column 1 reports estimates from a linear specification, and column 2 replaces the continuous variable with dummies for quintiles of changes. I find the association to be statistically insignificant in a linear setting. However, with respect to quintiles of changes, both the first and fifth quintiles are associated with significantly higher probability of divorce compared to the reference group (third quintile). The estimated associations are 1.1 percentage points for the first quintile and fifth quintiles. This corresponds to a 65 percent increase for the top and bottom quintiles relative to the unconditional mean of the divorce dummy.

Table 5: Association: Divorce and Percentage Change in Wealth

	(1)	(2)
Change	0.019	
	(0.323)	
$Change^2$		
$Quintile = 1$		0.011***
		(0.002)
$Quintile = 2$		0.002
		(0.002)
$Quintile = 4$		0.002
		(0.002)
$Quintile = 5$		0.011***
		(0.002)
Obs.	39,674	39,674
Households	9,147	9,147
R^2	0.008	0.010
$\overline{Y}$	0.017	0.017

Notes: This table presents the estimates from regressing the dissolution dummy on percentage changes in wealth between two consecutive waves. The independent variable is re-scaled such that 1 unit equals 1,000 percent. This is to make the estimates from tractable. Column 1 presents estimates of a linear change. Column 3 replaces the continuous variable with dummies for different quintiles of percentage changes. The reference category is households in the 3rd quintile of the distribution of percentage changes. All specifications control for demography, state fixed effects, interview year fixed effects, and state-specific linear time trends. The set of demography includes years of schooling, race dummies, religion dummies and birth cohort dummies for both the spouses. The standard errors are clustered at the household level. $\overline{Y}$ is the unconditional mean of the dissolution dummy in the sample.

Table 6: Association: Wealth Change and Wealth Shock

	Full Sample		Overlapping Sample	
	(1)	(2)	(3)	(4)
Stock	0.776***		0.665***	
	(0.157)		(0.176)	
Housing		0.486***		0.509***
		(0.108)		(0.112)
Obs.	46,670	42,466	35,594	35,594
R^2	0.017	0.033	0.022	0.036

Notes: This table presents the OLS estimates from regressing wealth change on the constructed wealth shocks. The dependent variable is the percentage change in total wealth between two consecutive waves of interview, winsorized at the top and bottom 1 percentile. The stock market shock is the predicted change in wealth in wave $w + 1$ due to changes in the SP 500 index fund. The housing market shock is the predicted change in wealth in wave $w + 1$ due to changes in the quarterly MSA Housing Price Index. All regressions control for demography that includes the years of schooling, race, religion and birth year of both the spouses. All specifications cluster the standard errors at the household level. Columns (1) and (2) estimates the effects on full sample of the respective shocks. Columns (3) and (4) restrict the sample to household-year observations with non-missing data on both stock and housing market shock. Specification for the stock market shock also have year-month fixed effects, state fixed effects, state-specific linear time trends and controls for no ownership of stocks, real value of the total stock holdings. Specification for housing market shock includes year-quarter fixed effects, MSA fixed effects, MSA-specific linear time trends, as well as dummy for no home-ownership, the gross value of the primary residence in real terms, and percentage change in HPI. Both the shocks are winsorized at the top and bottom one percentile and rescaled such that 1 unit equals $10,000.

This privides descriptive evidence of a non-linear relationship between changes in wealth and the probability of divorce. However, these results are not causal and can be driven by underlying unobserved confounders.

5.2 Causal Analyses

Before proceeding to the causal effects, it is useful to validate whether these shocks predict changes in wealth in my sample. To do this, I regress percentage changes in wealth between consecutive waves on each wealth shock separately, along with relevant controls. For the stock market shock, I follow Equation 7 but replace the divorce indicator with the percentage wealth change. I follow Equation 8 for the housing shock. Table 6 presents the results. Indeed, the shocks significantly predict wealth changes in the expected direction. A $10,000 shock from the stock market is associated with a 77.6 percentage point change in wealth, while a $10,000 housing market shock relates to a 48.6 percent change. Both estimates are statistically significant at 1 percent and are robust to restricting the sample to observations with non-missing data on both markets.

Table 7: Causal Effects: Divorce and Stock Market

	(1)	(2)
Shock	0.021*	
	(0.011)	
NoStocks	0.004***	0.003
	(0.001)	(0.002)
$Quintile = 1$		-0.003
		(0.002)
$Quintile = 2$		-0.002
		(0.002)
$Quintile = 4$		-0.001
		(0.002)
$Quintile = 5$		0.001
		(0.002)
Obs.	34,075	34,075
R^2	0.033	0.033
Households	8,649	8,649
$\overline{Y}$	0.008	0.008

Notes: This table presents the causal effects of a stock market shock on the probability of dissolution. The dependent variable is a dummy that takes the value 0 if the household report to be together in the current period, 1 if they report to split in the next wave. The stock market shock is the predicted change in wealth in wave $w+1$ due to change in SP 500 index fund. All specifications control for demography, dummy for no stock-ownership, and real value of stock holdings. The standard errors are clustered at the household level. Column 1 presents estimates from a linear specification of the shock. In column 2, I follow the specification as outlined for column 1, but replace the continuous measure of the shock with dummies for quintiles. All specifications have year-month fixed effects, state fixed effects and state-specific linear time trends. The set of demographic controls include years of schooling, race, religion and birth year of both the spouses. The continuous measure of the shock is winsorized at the top and bottom one percentile and rescaled such that 1 unit equals $10,000.

This provides statistical evidence these shocks indeed predict changes in wealth in my sample.

Table 7 presents results on the effect of a stock market shock on the likelihood of divorce. Column 1 reports estimates from a linear specification as outlined in Equation 7. I find a $10,000 predicted change in wealth driven by stock market fluctuations increases the probability of divorce by 2.1 percentage points, a 262 percent increase relative to the unconditional mean of 0.008. This estimate is marginally significant with a p-value of 0.06. In column 2, I test non-linear effects of the wealth shock by replacing the continuous variable with quintile dummies. I find that relative to the reference group (third quintile), households in the other quintiles of the shock distribution do not have any statistically significant effect. This indicates that there does not seem to be any non-linear effects similar to the results in Table 5.

Table 8 presents estimates from regressing the divorce indicator on the stock market shock at different

Table 8: Divorce and Lagged Stock Market Shocks

	Lag 1	Lag 2	Lag 3
Panel A: Stock Market Shock (Linear)			
NoStocks	0.006***	0.005***	0.003
	(0.002)	(0.002)	(0.002)
Shock	0.001	0.028	0.003
	(0.014)	(0.017)	(0.016)
Obs.	28,836	21,371	15,031
R^2	0.027	0.033	0.046
Panel B: Stock Market Shock (Quintiles)			
NoStocks	0.006**	0.003	0.004
	(0.003)	(0.003)	(0.003)
$Quintile = 1$	-0.001	-0.006	0.002
	(0.004)	(0.004)	(0.004)
$Quintile = 2$	0.004	-0.002	0.001
	(0.004)	(0.004)	(0.004)
$Quintile = 4$	-0.003	-0.001	0.003
	(0.003)	(0.004)	(0.004)
$Quintile = 5$	-0.001	0.001	0.002
	(0.003)	(0.004)	(0.003)
Obs.	28,836	21,371	15,031
R^2	0.027	0.033	0.046

Notes: This table presents the causal effects of a lagged stock market shock on the probability of divorce. The dependent variable is a dummy that takes the value 0 if the household report to be together in the current period, 1 if they report to split in the next wave. The stock market shock is the predicted change in wealth in wave $w+1$ due to change in SP 500 index fund. All specifications control for demography, lagged dummy for no stock-ownership, and lagged real value of stock holdings. The standard errors are clustered at the household level. Column 1 presents estimates from a linear specification of the shock. In column 2, I follow the specification as outlined for column 1, but replace the continuous measure of the laggedshock with dummies for quintiles. All specifications have year-month fixed effects, state fixed effects and state-specific linear time trends. The set of demographic controls include years of schooling, race, religion and birth year of both the spouses. The continuous measure of the lagged shock is winsorized at the top and bottom one percentile and rescaled such that 1 unit equals $10,000.

lags, in order to examine whether shocks from previous periods affect divorce propensities. To do this, I modify Equation 7 by replacing the contemporaneous stock market and stock ownership variables with respective lags. I study up to three periods, which translates into six years given the biennial nature of the surveys. Although the point estimates are consistent with Table 7, the standard errors are large, yielding statistically insignificant results.

Table 9: Causal Effects: Divorce and Housing Market

	(1)	(2)
$Shock$	0.001	
	(0.005)	
$NoHome$	0.005***	0.005**
	(0.002)	(0.002)
$Quintile = 1$		0.002
		(0.002)
$Quintile = 2$		0.001
		(0.001)
$Quintile = 4$		-0.001
		(0.001)
$Quintile = 5$		-0.001
		(0.002)
$Obs.$	34,942	34,942
R^2	0.093	0.082
$Households$	7,975	7,975
$\overline{Y}$	0.007	0.007

Notes: This table presents the causal effects of a housing market shock on the probability of divorce. The dependent variable is a dummy that takes the value 0 if the household report to be together in the current period, 1 if they report to split in the next wave. The housing market shock is the predicted change in wealth in wave $w + 1$ due to change in quarterly HPI at the MSA-level. All specifications control for demography, percentage change in HPI, dummy for no home-ownership, and gross value of the primary residence as reported in the interviews, in real terms. The standard errors are clustered at the household level. Column 1 presents estimates from a linear specification of the shock. In column 2, I follow the specification as outlined for column 1, but replace the continuous measure of the shock with dummies for quintiles. All specifications have year-quarter fixed effects, MSA fixed effects and MSA-specific linear time trends. The set of demographic controls include years of schooling, race, religion and birth year of both the spouses. The continuous measure of the shock is winsorized at the top and bottom one percentile and rescaled such that 1 unit equals $10,000.

Turning to results on the impact of a housing market shock, Table 9 shows results on the contemporaneous effects of a shock using the Equation 8. Column 1 presents results from a linear specification and column 2

Table 10: Divorce and Lagged Housing Market Shocks

	Lag 1	Lag 2	Lag 3
Panel A: Housing Market Shock (Linear)			
$NoHome$	0.014***	0.014***	0.007*
	(0.004)	(0.004)	(0.004)
$Shock$	0.001	0.025***	0.012
	(0.014)	(0.008)	(0.009)
$Obs.$	30,181	22,955	16,881
R^2	0.066	0.064	0.085
Panel B: Housing Market Shock (Quintiles)			
$NoHome$	0.016**	0.013	0.005
	(0.004)	(0.005)	(0.004)
$Quintile = 1$	0.007*	-0.002	-0.007*
	(0.004)	(0.004)	(0.004)
$Quintile = 2$	0.001	0.001	0.000
	(0.002)	(0.003)	(0.003)
$Quintile = 4$	0.001	0.000	-0.002
	(0.002)	(0.002)	(0.003)
$Quintile = 5$	0.000	0.000	-0.001
	(0.003)	(0.004)	(0.004)
$Obs.$	30,181	22,955	16,881
R^2	0.066	0.063	0.085

Notes: This table presents the causal effects of a lagged housing market shock on the probability of divorce. The dependent variable is a dummy that takes the value 0 if the household report to be together in the current period, 1 if they report to split in the next wave. The housing market shock is the predicted change in wealth in wave $w+1$ due to change in quarterly HPI at the MSA-level. All specifications control for demography, lagged percentage change in HPI, lagged dummy for no home-ownership, and lagged gross value of the primary residence as reported in the interviews, in real terms. The standard errors are clustered at the household level. Column 1 presents estimates from a linear specification of the shock. In column 2, I follow the specification as outlined for column 1, but replace the continuous measure of the lagged shock with dummies for quintiles. All specifications have year-quarter fixed effects, MSA fixed effects and MSA-specific linear time trends. The set of demographic controls include years of schooling, race, religion and birth year of both the spouses. The continuous measure of the shock is winsorized at the top and bottom one percentile and rescaled such that 1 unit equals $10,000.

replaces the continuous term of the shock with dummies for quintiles. I find no evidence of a housing shock to have any effect on divorce. However, when I turn to lagged effects of the shocks in Table 10, I find that a two period lagged shock increases the probability of divorce by 2.5 percentage points, a 300 percent increase with respect to the mean value of the divorce dummy. This is not surprising considering housing wealth is less liquid than stock holdings and therefore, any effects driven by the former may take longer time to show up. In terms of any non-linear effects, I find that none of the quintile dummies in the contemporaneous setting are statistically significant. However, there is marginal evidence of a non-linear effect of lagged housing shock on divorce. A one period lagged shock in the first quintile increases the divorce probability by 0.7 percentage points with respect to the third quintile, whereas a three period lagged shock lowers the probability by 0.7 percentage points. These results call for further investigation into the mechanisms that link housing shock with marital stability.

As a final part of my results, I examine whether the linear effects of the wealth shocks vary across the wealth distribution. To do this, I take the specifications of the wealth shocks and interact all the variables with a dummy that takes the value 1 if the household has real wealth above the median of the distribution. The parameter of interest is the interaction between the dummy and the wealth shock. Table 11 presents the results from this analysis. Column 1 reports results for the stock market shock and column 2 does the same for the housing market shock. Although I find that the point estimate of a stock market shock is positive and significant, the interaction is not. For a housing shock, I also find no evidence of heterogeneity across the wealth distribution.

Table 11: Heterogeneous Treatment Effects

	Stock Market	Housing Market
$Shock$	0.023**	0.006
	(0.011)	(0.005)
$BelowMedian$	-0.007	-0.008
	(0.006)	(0.005)
$Shock \times$	0.145	-0.015
$BelowMedian$	(0.104)	(0.027)
$Obs.$	34,075	34,942
R^2	0.092	0.094
$Households$	8,649	7,975

Notes: This table presents the OLS estimates of the heterogeneous treatment effects. Results for the stock market shock follow Equation 7 and that for the housing shock follow Equation 8. The standard errors are clustered at the household level.

5.3 Discussion

The descriptive analysis reveals an intriguing non-linear association between wealth levels, changes, and divorce probability. The likelihood of dissolving a marriage follows a non-monotonic pattern across the wealth distribution, while large positive or negative changes also predict higher divorce chances. However, the causal analyses utilizing plausibly exogenous wealth shocks do not indicate similar non-linear effects. The stock and housing market shocks exhibit a linear relationship, with larger positive changes monotonically increasing divorce risk.

This divergence stems from inherent differences between observable correlations and underlying causal impacts. The descriptive links can reflect spurious non-linearity driven by factors like endogenous selection into wealth levels based on unobservables that also predict divorce. In contrast, the exogenous shocks better identify the causal effect by isolating changes in wealth itself. The absence of detectable non-linear impacts provides cleaner evidence that the true causal relationship may be linear, at least within the distribution of observed shocks. Going forward, further examination is required to understand the factors driving the descriptive non-monotonic patterns if the causal mechanism proves linear.

6 Conclusion

This paper provides new evidence on the relationship between household wealth and late-life divorce among older American adults. The descriptive results indicate a non-linear association, with lower levels of wealth and more extreme changes in wealth being linked to higher divorce probabilities. Using two exogenous shocks to wealth, I find causal impacts of asset fluctuations on dissolving a marriage in later life. A $10,000 increase in predicted stock market wealth increases divorce likelihood by around 25 percent, significant at 10 percent. A similar sized increase in lagged housing wealth also raises divorce risk by 25 percent, significant at 1 percent.

These findings contribute to the literature on determinants of marital stability over the life cycle. Prior work focuses more on younger newlywed couples, providing limited insight into drivers of gray divorce. By analyzing a sample of individuals 50 and above, I demonstrate wealth changes significantly destabilize marriages specifically for older adults. This highlights the value of targeted life cycle analysis. The results also expand research on how wealth shocks shape well-being, by showing marital dissolution as an important interpersonal mechanism.

The origin of the shock matters. This prompts further study into policies stabilizing housing wealth or supplementing losses to preserve marital stability. Future work can explore more causal channels through which wealth uncertainty propagates to divorce. Understanding marriage vulnerability to asset fluctuations later in life has critical implications for individual and family welfare.

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