

Social Security Rules and Divorce Decisions

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Social Security provides retirement benefits to age-eligible workers who have a history of at least 10 years of covered employment. In line with Social Security's goal of providing adequate retirement income for families, spouses of those eligible workers, who are not eligible for higher benefits based on their own work history, are entitled to receive 50% of the benefit of their husband or wife, even if they have never worked or paid Social Security taxes. However, the eligibility for the spousal benefit is conditional on the duration of marriage. Only individuals who were married to an eligible worker for at least 10 years are entitled to receive the spousal benefit (before a 1977 policy change, the duration of marriage requirement was 20 years). Consequently, the economic incentives surrounding the rules of Social Security spousal benefits may play an important role in divorce decisions. An individual, who would otherwise prefer to divorce her spouse, may decide to postpone the divorce decision past the 10-year marriage duration period to become eligible for future spousal benefits. Such behavior appears to be particularly important for spouses with limited work history and/or those approaching retirement age.

The goal of this analysis is to evaluate whether the economic incentives embedded in regulations of eligibility for Social Security spousal benefits affect the likelihood and timing of marriage termination through a divorce. In 1970, the Social Security Administration reported that individuals receiving spousal benefits made up 16% of benefits recipients; in contrast, that number was 7% in 2005. In recent decades, American families have experienced many structural and economic changes affecting their composition and economic well-being, including high rates of marriages ending in divorce (Amato, 2010). The lifetime probability of marriage dissolution is somewhere between 40 and 50% (Amato, 2010). While recent divorce rates are not the highest rates seen historically, they have increased since the 1960s. In 1960 the divorce rate in the U.S. was 2.2%, increasing 136% to a rate of 5.2% in 1980, followed by a drop to 3.6% in 2006 (Cherlin, 2010). Economically, in the last thirty years there has been a continued increase in labor force attachment and earning power for women (Blau & Kahn, 2007), an increase in dual-income households (Raley, Mattingly, & Bianchi, 2006), and wealth accumulation that is greater for those who are married (Lupton & Smith, 2003).

The changes in family and economic structure in the U.S. have led to criticism of the Social Security spousal benefit in terms of equity: One-earner families receive a higher rate of return from Social Security compared to two-earner families. Additionally, there is concern over efficiency and labor supply. Labor supply decisions may be distorted for secondary earners because their benefits will only increase when their contributions to Social Security are larger than the spousal benefit (Feldstein & Samwick, 1992; Goda, 2007).

Our analysis is focused on couples of pre-retirement age. We pay extra attention to wives, a group particularly vulnerable given the high poverty rates among older divorced women. According to recent data, 17.6% of divorced women aged 65 or older live in poverty, compared with 10.7% of all women aged 65 or older, or 14.1% of widowed women in the same age range. Differences in poverty rates are even larger for women of older age. For example, 20.2% of divorced women aged 80 or older are poor, compared with 13% of all women and 14.4% of widowed women aged 80 or older (Social Security Administration, 2012). One in three divorced women in the Generation X cohort (the cohort born between 1966 and 1975) is expected to be ineligible for spousal benefits due to their marriage lasting less than 10 years (see Butrica and Smith, 2012, for a detailed description of the financial situation of retired

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divorced women). Additionally, women are specifically being studied due to the fact that in 2006, 98% of the 2.5 million individuals receiving spousal benefits were women.

There are other important reasons to study the interactions between Social Security and divorce decisions. Moral hazard accompanying Social Security rules may help explain growing divorce rates and indicate inefficiencies in economic behaviors. Ethical and equity concerns may arise if couples respond to economic incentives embedded in spousal behavior. Hypothetically, it is possible that a single individual with a history of covered employment receives lower retirement benefits than a divorced spouse who never worked yet purposefully extended the duration of her marriage. Moreover, with increases in non-marital cohabitation, it may not be equitable for legally married couples to receive different Social Security benefits than cohabiting couples.

Literature Review

There have been few studies that have investigated whether divorce decisions are influenced by Social Security rules. Using the 1985-2003 Marital History File of the Panel Study of Income Dynamics, Goda, Shoven, and Slavov (2007) examined whether couples characterized by a large disparity in earnings between spouses (presumably couples for whom the spousal benefits are more valuable) are more likely to delay divorce from year nine to year ten compared to other couples. They found that vulnerable couples were slightly more likely to delay the divorce. However, the effect was small in magnitude and statistically insignificant.

Dickert-Conlin and Meghea (2004) used a large sample of divorce records from Vital Statistics compiled by the National Center for Health Statistics to conduct a differences-in-difference analysis focused on the exogenous 1977 law change. The change in legislation shortened the requirement of 20 years to 10 years of marriage to be eligible to receive the spousal benefit. The comparison of divorce rates of 7-year marriages (the control group) with those of 9- and 10-year marriages (the treatment groups) both before and after 1977 revealed some evidence of a decline in the divorce rate for 9-year marriages. At the same time, the study failed to document a significant impact on 10-year marriages. Dickert-Conlin and Meghea (2004) also did not find compelling evidence that the Social Security rules prevent women whose marriages lasted for at least 10 years from remarrying (spousal benefits are provided to these women given that they do not remarry). It is important to note that couples where the secondary earner plans to claim spousal benefits rather than benefits based on her own earnings record are the only couples that the predicted effect on behavior applies to. The analysis by Dickert-Conlin and Meghea (2004) did not distinguish between these groups, providing a possible alternative explanation for their findings. An effect may not be identified for women overall if many women are claiming benefits on their own record, as only a subset of women alter their behavior (see Brien, Dickert-Conlin, & Weaver, 2004), for a more comprehensive review of recent literature on how marriage, divorce, and re-marriage decisions are affected by economic incentives).

One of the policy debates related to the spousal benefits policy and possible reforms is that the current divorce rules are inequitable. The equity concern rises from the fact that under current regulations, a secondary worker with a marriage that lasted just short of the 10 years (e.g., lasting 9 years and 11 months) is not eligible for any spousal benefits from Social Security from that marriage. In contrast, if the marriage did last past the 10-year mark, even by just one day, the secondary worker from that marriage would receive spousal benefits based on their ex-spouse's entire earnings history at retirement. Also discussed in the policy debate are the disparities from taxes paid relative to benefits received that can be created by the spousal benefits. Under current regulation, a primary earner who marries multiple times for 10 years may have several spousal benefits being drawn by their ex-spouses from just the one earnings history.

Data and Empirical Model

The empirical analysis uses a pooled sample of marriages drawn from the 1992-2010 waves of the Health and Retirement Study (HRS). The HRS is a large longitudinal survey of more than 22,000 Americans older than 50 years that is carried out every 2 years by the University of Michigan. In our

study, HRS respondents are organized into married couples. The analysis uses all intact marriages observed in the 1992-2010 HRS waves, as well as marriages that dissolved in this time period through a divorce. We did not include as separate observations marriages that are reported by the HRS respondents but that dissolved before 1992. If the marriage ended through divorce, one observation of such marriage in the divorced state is included in the analysis sample based on the HRS data extracted from the first survey wave in which the marriage is in the divorced state. This implies that the pooled analysis sample comprises multiple observations of the same marriages in different time periods (multiple observations of intact marriages and one potential observation when a marriage is in the divorced state). The results of multivariate analysis presented later in the paper use clustered standard errors to account for multiple occurrences of the same marriages in the sample. All marriages that dissolved through the death of a spouse are excluded, and the analysis sample is additionally limited to couples where both spouses are younger than 65 years. The final sample consists of 23,885 observations. Since the HRS oversamples certain demographic groups, the descriptive analysis presented in this paper uses weights to produce estimates representative of the entire segment of the U.S. population between 51-64 years old.

To measure the effect of Social Security rules of spousal benefit eligibility on the probability of divorce we use the maximum likelihood technique to estimate the parameters of the following logistic regression model:

$$D_{t,i} = \beta_1 E_{t-1,i} + \sum_k \gamma_k X_{t-1,i,k} + \varepsilon_{i,t} \tag{1}$$

Where $D_{t,i}$ takes the value of one if the marriage i is in the divorced status in time t and zero otherwise, E is a dummy indicator variable that measures eligibility for Social Security spousal benefit, X is a set of socio-demographic characteristics of the couple and other control variables, e is a random error term, and b_1 and g_k are model parameters to be estimated. The hypothesis testable with Equation (1) is that $b_1 > 0$ which implies that holding the effect of other factors constant, Social Security rules that require marriages to last at least 10 years before a spouse is eligible for spousal benefits have a positive effect on divorce probability. In other words, if households are purposefully delaying the divorce decision past the ten years marriage duration period, couples should be more likely to divorce if their marriage lasted longer than 10 years. The set of control variables included in the above equation includes length of marriage in years, husband's and wife's age when marriage started, race of the husband, education of both spouses, number of children in the family, husband's and wife's religion, family's income, net wealth, region of residence, and control dummies for the HRS survey wave. Due to the fact that a small percentage of couples report zero income and/or zero or negative net wealth, both variables are included in the regression equation following the inverse hyperbolic transformation (denoted arsinh in subsequent tables).

All independent variables in Equation (1) are measured in the HRS wave that precedes the wave when measurement of marriage status is taken. This chronology of measurement ensures proper identification of the event that occurred first (divorce or 10th marriage anniversary) and that the change of the dependent variable does not impact the independent variables through reverse causality (if the independent variables were measured in the same wave as the dependent variable it would be easy to argue that the divorce affects household income or wealth, rather than the opposite).

Social Security rules of spousal benefit eligibility should have a stronger effect on couples where one of the spouses is more vulnerable to the loss of Social Security spousal benefit. If one of the spouses worked for less than 10 years in his/her life, but the wife/husband of such an individual worked for more than 10 year, the vulnerable spouse would stand to benefit more from delaying the marriage duration past the 10th marriage anniversary. To test for the differential effect related to the degree of vulnerability, we modify Equation (1) in the following fashion:

$$D_{t,i} = \beta_1 E_{t-1,i} + \beta_2 V_{t-1,i} + \beta_3 (E_{t-1,i} * V_{t-1,i}) + \sum_k \gamma_k X_{t-1,i,k} + \varepsilon_{i,t} \tag{2}$$

Where V represents a dummy variable that equals one if there is a vulnerable spouse in the family and zero otherwise, and other elements are defined as in Equation (1). This new specification allows us to test the differential effects on probability of divorce across: (a) couples with a vulnerable spouse who is eligible for spousal benefits versus couples with a vulnerable spouse who is not eligible (test of linear

restriction $H_0: b_1 + b_3 = 0$) and (b) couples with a vulnerable spouse who is eligible for spousal benefits versus couples with a non-vulnerable spouse who is eligible for spousal benefits ($H_0: b_2 + b_3 = 0$).

Results

Table 1 reports the descriptive statistics for couples included in the analysis sample. About 2% (485 observations) of the marriages in the pooled 1992-2010 HRS are in the divorced state. The average marriage duration is 30 years and about 97% of marriages are past the 10th anniversary, a finding hardly surprising given the focus of the HRS on older segments of population. About 22% of couples consist of at least one spouse vulnerable to the loss of the Social Security spousal benefit. A great majority of these marriages (19% of the total sample) are observations of couples where the wife worked less than 10 years in her life while her husband worked more than 10 years in his life. On average, husbands are 57 years old and wives are 55 years old. The average age of the husband (wife) at the beginning of marriage was 27 (25) years old. White couples comprise 87% of the sample. Both husbands and wives completed an average of 13 years of formal education and have 2.8 children. Roughly 58-60% of the analyzed spouses are Protestant, 29-30% are Catholic, while smaller groups reported other or no religious affiliation. The average income of the sampled marriages amounts to \$111,455 and the average net worth equals \$385,310 (All dollar variables are measured in 2010 dollars).

Table 2 presents the results of the multivariate analysis. Results in the first column indicate a positive but statistically insignificant correlation between the fact that the marriage lasted more than 10 years and the probability of divorce. Columns II-IV report results from models with added variables indicating vulnerability to the Social Security rules and the interaction terms between these variables and the dummy for marriage lasting more than 10 years. Columns II, III, and IV includes the results with controls for the vulnerable spouse being identified as husband, spouse, or either of the spouses, respectively. Results indicate no significant or differential effect of the fact that the marriage lasted more than 10 years across couples where the husband is the vulnerable spouse (Column II). The tests of linear restrictions for models where the wife is identified as the vulnerable spouse (Column III) indicate that couples with a vulnerable wife who is eligible for the Social Security spousal benefit are more likely to divorce than couples with a non-vulnerable wife who is also eligible for the same benefit. This finding, however, cannot be interpreted as definitive evidence of the positive effect of 10-year marriage tenure on the probability of divorce. As a matter of fact, the comparison of couples with a vulnerable wife who is eligible for spousal benefit against couples with a vulnerable spouse who is non-eligible based on marriage duration points to insignificant effect. Similar results are observed when the dummy variable for spousal vulnerability is operationalized for either husband or wife (Column IV). All these results suggest that the 10-year marriage requirement as the condition of eligibility for Social Security spousal benefits does not impact the marital outcome.

Results reported in Table 2 identify other factors that affect the probability of divorce. The likelihood of marriage dissolution reduces by about 9% for each additional year of marriage duration. The higher the wife's age at the beginning of marriage, the lower the probability of divorce. The likelihood of divorce is also negatively correlated with family wealth. Finally, better educated wives are slightly more likely to divorce their husbands (effect marginally significant).

Conclusions

The results from our analysis add to the literature about finances and divorce. Legislation in the United States provides financial incentives that affect individuals' decisions on when to marry and have children. Regulations that condition eligibility for Social Security spousal benefits on marriage length introduce incentives to delay the potential divorce decision for couples with vulnerable spouses. If a marriage dissolves before a couple celebrates their 10th wedding anniversary, neither individuals would be eligible for Social Security benefits based on the work history of the divorced spouse. This analysis attempted to isolate and test the significance of the potential positive effect of the 10-years marriage tenure on the likelihood of divorce with a sample of married individuals who are of pre-retirement

Table 1

Descriptive Statistics, *N* = 23,885

	Mean/Percent
Divorced couple	0.0203
Marriage lasted for at least 10 years	0.9705
Vulnerability to Social Security rules	
Husband is vulnerable (husband has less than 10 years & wife has more than 10 years of work history)	0.0211
Wife is vulnerable (wife has less than 10 years & husband has more than 10 years of work history)	0.1942
Husband or wife is vulnerable	0.2050
Length of the marriage	30.0
Husband's age	57.3
Wife's age	54.6
Husband's age at the time when marriage began	27.2
Wife's age at the time when marriage began	24.5
Husband is white	0.8692
Years of education of husband	13.3
Years of education of wife	13.1
Number of children	2.8
Husband's religion	
Protestant	0.5776
Catholic	0.2878
Jewish	0.0206
No religion	0.1006
Other	0.0134
Wife's religion	
Protestant	0.5969
Catholic	0.3046
Jewish	0.0255
No religion	0.0624
Other	0.0107
Family income (in 2010 dollars)	111,455
Family net wealth (in 2010 dollars)	385,310
Region of residence	
Northeast	0.1780
Midwest	0.2624
South	0.3743
West	0.1848
Other	0.0006
HRS survey wave	
1992	0.0902
1994	0.0805
1996	0.0695
1998	0.1099
2000	0.1000
2002	0.0899
2004	0.1424
2006	0.1246
2008	0.1039
2010	0.0891

Table 2

Odds Ratios From Logistic Regressions, $N = 23,885$

	I	II	III	IV
b_1 : Marriage lasted for at least 10 years	1.0558	1.0354	1.0809	1.2323
b_2 : Indicator of dependence on SS spousal benefit:				
Husband is vulnerable		1.2943		
Wife is vulnerable			3.0774	
Husband or wife is vulnerable				3.7338 †
b_3 : Interaction term: $b_1 * b_2$		1.5241	1.3796	1.1679
Length of the marriage in years	0.9139 ***	0.9142 ***	0.9109 ***	0.9106 ***
Husband's age at the time when marriage began	1.0075	1.0065	1.0016	1.0019
Wife's age at the time when marriage began	0.9611 *	0.9619 *	0.9685 *	0.9681 *
Husband is non-white	1.1902	1.1694	1.1905	1.1534
Years of education of husband	0.9736	0.9752	0.9783	0.9799
Years of education of wife	1.0439	1.0470	1.0979 *	1.0969 *
Number of children	1.0495	1.0494	1.0317	1.0286
Husband's religion (ref: Protestant)				
Catholic	1.0719	1.0626	1.0199	0.9966
Jewish	1.4170	1.4203	1.3461	1.3197
No religion	1.0883	1.0948	1.0255	1.0231
Other	1.3974	1.4261	1.7505	1.7860
Wife's religion (ref: Protestant)				
Catholic	1.3595	1.3654	1.2978	1.3371
Jewish	2.7025	2.6604	2.4232	2.4881
No religion	0.8455	0.8159	0.7866	0.7812
Other	0.4884	0.4936	0.2707	0.2745
arsinh(family income)	0.9464	0.9466	0.9456	0.9465
arsinh(family net wealth)	0.9356 ***	0.9392 **	0.9479 **	0.9519 *
Odds ratios for linear restrictions:				
= $b_1 + b_3$ (tests the effect for vulnerable eligible spouse vs. vulnerable non-eligible spouse)		1.5780	1.4912	1.4392
= $b_2 + b_3$ (tests the effect for vulnerable eligible spouse vs. non-vulnerable eligible spouse)		1.9725	4.2455 ***	4.3607 ***

Note. All models additionally control for region of residence and time (survey wave). *** $p < 0.001$. ** $p < 0.01$. * $p < 0.05$. † $p < 0.1$.

age. Results from logistic regressions for the pooled 1992-2010 data indicate a higher probability of divorce among couples with vulnerable wives who are eligible for Social Security benefits based on their husbands' work history compared to couples with non-vulnerable wives. However, within the group of vulnerable wives, estimations fail to document significant differences in the effects between couples with eligible and non-eligible wives. Similarly, no significant effects were identified for couples where husbands constituted vulnerable spouses.

We conclude that the incentives embedded in the Social Security rules to delay divorce decisions have negligible effect on timing of marriage dissolutions. Possible explanations include lack of knowledge of regulations, unrealistic assessments of forgone future benefits, attaching more value to divorce than to

future benefits, or unobserved characteristics (e.g., expectations of re-marriage, expectations of future earning potential).

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