Marriage and the Global Economic Crisis

Daniel Schneider
Princeton University

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*Office of Population Research, Department of Sociology, 284 Wallace Hall, Princeton University, Princeton, NJ 08544. Phone: 646-942-6074; Email: djschnei@princeton.edu. I am grateful for advice from Sara McLanahan, Devah Pager, Vivian Zelizer, Josh Goldstein, Brienna Perelli-Harris, and seminar audiences at Princeton University and the Max Planck Institute for Demographic Studies. A previous version of this paper was presented at the 2010 European Population Conference. Peter Tufano and Annamaria Lusardi generously granted me access to this data set which was collected in conjunction with the global market research firm, TNS and, in particular with assistance from Bertina Bus, Maria Eugenia Garcia-Neder, Ellen Sills-Levy, and Bob Neuhaus. The author thanks the National Science Foundation Graduate Research Fellowship and Princeton University for financial support. This work was also supported by NSF Doctoral Dissertation Improvement Grant #1028874. The views expressed herein do not reflect those of TNS.

Marriage and the Global Economic Crisis

ABSTRACT
I exploit the exogenous shock to household wealth created by the Global Economic Crisis to assess the recently advanced theory that wealth has become an important pre-requisite of marriage. I draw on a unique set of survey data collected in the summer of 2009 in the United States, Canada, Great Britain, France and Germany that contains information on changes in wealth and on changes in marital intentions. I show that wealth loss is strongly associated with being less likely to marry as a result of the economic crisis. However, contrary to theory, I find little evidence of significant variation in the relationship between wealth and first marriage across these five countries.

The timing of marriage has changed dramatically in the United States over the past fifty years. This shift is evidenced perhaps most clearly by changes in two indicators: the median age at first marriage and the share of the population that will ever marry. Since 1950, the median age at first marriage in the United States has risen markedly, to 27.4 for men and 25.6 for women, up from 22.8 and 20.3, respectively in 1950 (Cherlin, 2010; Census, 2006). At the same time, the share of men and women who will never marry has also grown from 5% in 1970 to 10% in 2000 (Fischer and Hout, 2006; Fitch and Ruggles, 2000).

But, despite these shifts towards later and less marriage, matrimony remains widely desired in the United States (Thorton and Young-DeMarco, 2001). For instance, a February 2010 poll of Americans found that 82% of men and women aged 18 – 29 considered "having a successful marriage" to be "one of the most important things" or a "very important, but not the most important, thing" in life. Just 6% replied that it was not important at all (Pew, 2010). Similarly, a 2007 poll found that just 8% of men and women aged 13-24 said that they probably or definitely did not want to get married. Of that 8%, just 4% thought marriage was an "outdated institution" (Associated Press, 2007). These public opinion results point to the continued salience of marriage in the United States.

What then explains this disconnect between behavior and preferences? Substantial scholarship suggests that the timing of marriage is affected by the ability of men and women to marshal the economic resources that are viewed as normative pre-requisites of marriage. Over the past thirty years, scholars have documented the relationship between marriage and income, employment, and education, arguing that men who show evidence of labor market success are more likely to marry (Oppenhiemer, Kalmijn, and Lim, 1997; Wilson, 1987; Sweeney, 2002), perhaps because these economic factors signal future economic stability and facilitate assortative mating (Oppenheimer, 1988). These markers of labor market performance may function similarly for

women (Sweeney, 2002), but the relationship may also run in the reverse, with more economically successful women less likely to marry because of increased self-sufficiency (Becker, 1981).

The inability of young people to access these resources, because, for instance, of the declining labor force position of working-class men (Oppenheimer, 1988) may have then precipitated changes in marriage patterns. It is also possible that the economic standard for marriage may have risen. Cherlin (2004, 2009) argues that increasingly marriage is seen as a status good, a relationship reserved for those who have achieved some level of economic success. Cherlin argues that particularly in the contemporary period, economic resources have come to serve as a key symbolic qualification for marriage, marking out those with the necessary status from those who are not "ready." Cherlin (2004) describes the change as one in which marriage

> *…has evolved from a marker of conformity to a marker of prestige. Marriage is a status one builds up to, often by living with a partner beforehand, by attaining steady employment or starting a career, by putting away some savings, and even by having children. Marriage's place in the life course used to come before those investments were made, but now it often comes afterward. It used to be the foundation of adult personal life; now it is sometimes the capstone. It is something to be achieved through one's own efforts rather than something to which one routinely accedes (Cherlin, 2004: 855).*

If the economic standard for marriage has risen, it appears that it may have also broadened to include new kinds of economic resources. Recent literature on economic factors and marriage is distinct for looking beyond education, employment, and income to consider the role of wealth, such as homes, cars, and financial assets, in governing marriage entry.

This focus on wealth is apparent in a number of recent qualitative studies of marriage among low-income and working-class men and women. These studies have looked beyond income, employment, and education to document the emergence of an asset-based standard of marriage. Young men and women report that before they get married, they feel they must have some money in the bank, own a car, and perhaps even a home (Edin and Kefalas, 2005; Gibson-Davis, Edin, and McLanahan, 2005; Smocking, Manning, and Porter, 2004). For instance, Edin and Kefalas (2005) report one respondent's view of marriage, that only "after everything is situated the way I want it to

be situated, then I'll be ready to get married. After I have a house and a car and everything, and I'm financially stable…" (2005: 112). This sentiment is mirrored in interviews with young men and women from all across the United States including those living in cities such as Austin, Boston, Charleston, Chicago, Milwaukee, New York, Toledo, Philadelphia, and San Antonio (Smock, Manning, and Porter, 2005; Cherlin, 2004; Edin, Kefalas, and Reed, 2004; Gibson-Davis, Edin, and McLanahan, 2005, Edin and Kefalas, 2005).

These theoretical and qualitative studies offer two possible explanations for why wealth might matter for marriage. First, wealth may affect marriage for the same reasons that scholars hypothesized that education, employment, and income affected marriage: because it serves as a signal of future economic prospects and because it provides current-use value. Second, wealth may matter for marriage for very different reasons than labor market success matters for marriage: wealth could serve to satisfy a new cultural standard of marriage that imbues marriage with significant social status. This later explanation suggests the priority given to wealth would be an element of a new cultural process governing marriage entry. Cherlin (2004, 2009) has argued that this emphasis on wealth is indicative of a change in how people view the institution of marriage in the United States – as a marker of status – and of a change in the role of economic resources– to symbolic qualifications.

Prior Demographic Research and Unanswered Questions

There has, however, been relatively little quantitative research on the relationship between wealth and marriage and even less work that would distinguish between the explanations for the importance of wealth for marriage. The few papers on the topic do though seem to bear out the hypotheses and findings of this qualitative and theoretical literature. For instance, Dew and Price (2009) find that visible assets – such as a car – are positive predictors of first marriage for non-cohabiting men in the late 1980s and early 1990s. Schneider (2011) draws on data from the National

Longitudinal Survey of Youth – 1979 to show that the simple ownership of assets such as a home, car, or financial assets, is positively related to first marriage for men and women and that inequalities in asset ownership by race and education explain a portion of the disparities in marriage entry along those same axes.

However, this small volume of empirical work is limited in three key respects. First, it is difficult to separate the role of wealth in marriage entry from other economic characteristics and from more difficult-to-observe "personality" characteristics that might be causally linked to both wealth and marriage. For instance, identification is made difficult because income, employment, education, and wealth are all tightly linked. While such resources can be observed and adjusted for, other characteristics, such as responsibility, maturity, or foresightedness, which might cause wealth and marriage, are more difficult to control for. This problem of endogeniety makes it difficult to offer clear inferences about the relationship between wealth and marriage.

Second, much of the prior quantitative work on wealth and marriage has focused on marriages mostly occurring in the 1980s and 1990s (Schneider, 2011; Dew and Price, 2010; Mamun, 2005). This work detects a relationship between wealth and first marriage that accords with the ethnographic and theoretical work discussed above. However, that qualitative research is based on marriage in the first decade of the 21st century. No quantitative demographic research examines the link between wealth and marriage in this more contemporary period.

Finally, third, the small volume of quantitative research on wealth and marriage has not been able to clearly adjudicate between the two explanations for why wealth might matter for marriage. One possible way of doing so would be to examine the relationship between wealth and marriage in cross-national perspective. Cherlin (2009) suggests that the U.S. is unique in having come to imbue marriage with special social status and economic resources such as wealth with symbolic importance. Yet, that proposition has not been tested in any research that compares the United States with

Europe. Previous qualitative and quantitative studies of the link between wealth and marriage have been confined to the United States only or to homeownership in the European context (Holland, 2010; Mulder, 2006; Mulder and Wagner, 2001).

The Global Economic Crisis as an Empirical Test

Beginning in December of 2007, American and European financial markets began a long and at times sharp decline that left them, by March at 2009, at just 50% of their value relative to start of that period.[1] That was but one symptom of a deep and far-reaching global economic crisis. For instance, in the United States, the 10.2% unemployment rate recorded in November 2009 was the highest in the last quarter century and 7.1 million foreclosures were recorded in 2008 and 2009 alone (Goodman, 2009; Levy, 2009).

These events conspired to significantly decrease household wealth in the United States and abroad. Moreover, these wealth losses were difficult to foresee and reached across asset-classes, affecting both the stock market and housing market broadly. In this way, the economic crisis caused an exogenous shock to household wealth. Just as the ownership of assets may increase the likelihood of marriage, the loss of wealth as precipitated by the economic crisis may depress the likelihood of marriage. By focusing on wealth losses caused by the economic crisis, we can circumvent some of the problems of endogeniety that have constrained prior work on this topic.

A focus on the economic crisis also helps to address two other limitations of prior work on the relationship between wealth and marriage. First, the economic crisis provides an opportunity to gain insight into the relationship between wealth and marriage in the contemporary period, extending prior findings that have focused on marriage in the 1980s and 1990s. Second, the economic crisis

[1] Based on performance of Dow Jones, S&P 500, and S&P Europe 350. Data drawn from Google Finance.

was global, affecting households and national economies in North America, Europe, and beyond, allowing for a cross-national test of the relationship between wealth loss and marriage.

DATA AND METHODS

Data

I draw on a multi-national survey fielded in August and September of 2009. This data has only recently been collected and has been used in just two studies to date (Lusardi, Schneider, and Tufano, 2010; 2011). The global market-research firm TNS fielded the survey using an online questionnaire given to members of its Ncompass and Express Online omnibus panels, i.e., individuals who are surveyed regularly on behalf of multiple clients. Typical response rates vary from 7.5% to 19.5% and the number of people approached is determined based on desired sample size. The full set of survey data contains nationally representative samples of respondents age 18-65 in 13 countries: the United States, Great Britain, Canada, France, Germany, Luxemburg, Portugal, Netherlands, Italy, Mexico, Argentina, Singapore, and Hong Kong for a total of 13,853 respondents. However, although many of the same questions were asked in each of the 13 countries, questions about demographic and economic characteristics are only fully comparable for five countries. This study then uses data on 6,485 respondents, including 2,148 in the United States, 1,001 in Great Britain, 1,132 in Canada, 1,097 in France, and 1,107 in Germany.

Because of the repeat nature of an omnibus panel, the participants can be selected through stratified sampling so as to be representative of each country's population 18–65 years of age, and results can be subsequently weighted to better reflect each nation's population. Despite this multiple dimension weighting, on-line survey methods have certain limitations as well as advantages. Studies have shown on-line surveys to reduce social desirability bias (Bronner and Kuijlen, 2007; Duffy et al

2005). However, survey participants must have broadband access, which varies by country (OECD, 2010) and which may lead to the exclusion of more marginal population groups.

Measures

I assess how wealth losses stemming from the economic crisis may have affected respondents' plans to marry. The outcome variable is drawn from responses to a question that asked respondents, "As a result of the economic crisis, are you any more or less likely to get married the immediate future?" Respondents were given the option of selecting either "more likely," "less likely," "no difference," "not relevant," or "don't know / refuse." This question has the virtue of allowing respondents to self-select on relevancy. In the U.S. sample, 44% of respondents answered that the crisis had affected their plans to marry and 56% reported that the question was not relevant. The percentage reporting that the question was not relevant fairly closely aligns with the 57% of the U.S. population age 18-65 that was married in 2009 (Census, 2011).

My key predictor variable is constructed from a survey item that asked respondents about changes in wealth since the economic crisis. Respondents were asked in August or September of 2009, "How does your current "wealth" (financial assets you own, value of your house, other real estate, business equity etc.) compare to your wealth a year ago?" Respondents reported if it was approximately the same, had increased (0% - 10% or > 10%), or had declined (1% - 10%, 10% - 29%, 30% - 50%, or > 50%). For ease of interpretation, I collapse these response options into a four-category variable: a gain in wealth (of any magnitude), stasis in wealth, a small loss in wealth (less than 30% decline in value), or a large loss in wealth (30% decline in value or more). In some analyses, I further collapse this variable into gain in wealth, stasis in wealth, or loss in wealth.

Of some importance is that this variable captures changes in wealth. Though this data was collected at single point in time, the dependent variable and this measure of wealth both capture

changes in state, in essence simulating, with cross-sectional data, a differencing approach that would normally require longitudinal data.

Further, this measure of change in wealth has the virtue of delinking wealth losses from amount of wealth holdings in so far as large holdings are not necessary to sustain large *percentage* wealth losses in the same way that large holdings can be expected to be mechanically linked to large *value* wealth losses. To make this separation still clearer, I also include a measure of current wealth holdings derived from a question that prompted respondents to provide the combined value of their financial assets, as falling within a set of value ranges (depending on the country). In my first set of analyses, of the U.S. sample only, I use all 13 available value ranges. In my cross-national analyses, I recoded the data such that the responses were distributed into four categories: the bottom 30 percent by wealth, the 30^{th} – 60^{th} percentile by wealth, the 60^{th} – 90^{th} percentile by wealth, and the top 10 percent by wealth. I then combined these into a single variable.

Individual measures of the wealth shocks caused by the economic crisis are likely less endogenous than measures of individual wealth used in prior research. However, I adjust my models for a number of other economic characteristics in a further effort to take account of omitted variable bias in the relationship between wealth and marriage. Wealth is associated with education, income, and employment (Schneider and Tufano, 2008; McGrath and Keister, 2008) and these economic characteristics are also linked to marriage (Oppenheimer, Kalmijn and Lim, 1997; Clarkberg, 1999; Sweeney, 2002). In models that only use the U.S. sample, I include a nine-category measure of income (less than $20,000; $20,000 - $29,999; $30,000 - $39,999; $40,000 - $49,999; $50,000 - $59,999; $60,000 - $74,999; $75,000 - $99,999, $100,000 - $149,999; greater than $150,000) with the first category omitted. I also control for education using a four-category measure that compares those with a high school degree of less to those with trade or technical training, some college education, or a college degree or more. Third, I code respondents as either employed

(working full time, part time, or self-employed), out of the labor force (retired, unable to work, disabled, in school, or not working and not seeking work), or unemployed and seeking work. I include the dichotomous indicators of being out of the labor force and of being unemployed in my models.

In my analysis of the cross-national data, I attempt to adjust for the possible confounding relationship between wealth, marriage, and other economic characteristics by including cross-nationally harmonized measures of income, education, and employment. Respondents were asked to report their households' combined yearly pre-tax income with response options listed as a series of value ranges. However, both the number of response options and the value of the ranges differed across countries. For each country, I recoded the data such that the responses fell into four approximately equal-sized quartiles. I then combined the country-specific quartiles of income into a single income variable. I enter dichotomous indicators for income quartile into the regression equations, with the top quartile omitted as the reference group. I parse education into a three-category variable: high school diploma or less, technical school or some college education, and college degree or more education. I then enter education into the regression equations as a set of dichotomous indicator variables, with high school diploma or less as the reference category. Information on employment status is available for the United States, Great Britain, France, and Germany, but not for Canada. For the four countries for which this data is available, I adopt the measures of employment discussed above for the U.S. In my main models I do not include this measure of unemployment, but do test the robustness of my results to the inclusion of this measure (and so to the exclusion of Canada) and find that the results are substantively similar (not shown in tables).

I also adjust the models for several demographic characteristics. In the models limited to the U.S. sample, I control for race/ethnicity (comparing black, Hispanic, Asian, and other respondents

to white), for the presence of children in the household, for co-residence with parents, for region (comparing North East, Mid-West, and West to South), and for marital status (comparing separated, divorced or widowed, and never married, to those co-residing with a partner). In both the analysis of the U.S. sample only and of the cross-national analyses, I include a measure of gender of the respondent, equal to one if the respondent is female. In both the U.S.-only and cross-national analyses, age is coded as a categorical variable separating those who are age 18-24, 25-34, 35-49, and 50-64. I enter age into the regression equations as a set of dichotomous indicator variables, with 50-64 as the reference category.

The survey also collected two pieces of information that are less commonly measured but are potentially important covariates: respondents' financial planning and respondents' risk literacy. While prior work has been able to adjust for confounds such as education, income, and employment such studies have not been able to include controls for more difficult to observe measures such as foresight and financial responsibility. I create a scale variable that combines responses to seven items gauging respondents' financial planning in the year prior to the crisis: (1) Wrote down a plan for your income and expenses for the coming year, (2) Reviewed your retirement statements and accounts, (3) Tried to figure out how much you and your family need to save for retirement, (4) Calculated the value of what you own and debts you owe, (5) Tried to determine what type and how much insurance coverage you need, (6) Considered how much your financial holdings (savings and investments) might change depending on the performance of financial markets, and (7) Actively learned about financial matters. The scale has an alpha of 0.68. I also created a dichotomous variable equal to one if the respondent provided a correct response to each of three questions designed to gauge "risk literacy." Respondents were asked to calculate the expected return on a lottery, calculate the expected return on an investment, and answer a question about risk and diversification.

Analytic Strategy

Much of the prior research on wealth and marriage has focused on the U.S. and I begin by examining the U.S. sample only. I first provide some descriptive analysis of the two key variables: changes in plans to marry and changes in wealth, showing the distribution of responses to each item and their bivariate association. I then estimate a logistic regression model with a dichotomous measure of being less likely to marry (vs. more likely or equally likely) as the outcome variable and changes in wealth as the key predictor. I report the results from three model specifications, contrasting the unadjusted model, a model with standard economic and demographic covariates, and a model that also includes the measures of risk literacy and financial planning.

I next estimate similar models on a pooled sample of data for the respondents in the United States, Canada, Great Britain, France, and Germany. I first estimate the model just with country fixed effects and then include the full set of controls discussed above. I also test the robustness of these results to exclusion criteria on age and marital status that are designed to restrict the sample to respondents more likely to be considering a first marriage.

Finally, prior literature suggests that wealth may matter differently for marriage intentions depending on country - that, specifically, wealth may play a more important role in the United States. To assess this proposition, I re-estimate the logistic regression models separately by country and test for differences in the relationship between changes in wealth and marital intentions between the United States and Canada, Great Britain, France and Germany.

Of the 6,485 respondents interviewed in the United States, Canada, Great Britain, France, and Germany, 2,393 reported that the question of change in plans to marry was relevant to them. Of these respondents, I exclude the 58 who were missing information on my measures of gender, age, education, financial planning, and risk literacy, a 2.42% reduction in sample size. Of the remaining respondents, 34% were missing data on income, wealth, or changes in wealth. I include

dichotomous indicators for those respondents who are missing data on any of these variables. I also assess the robustness of my results to handling missing data using multiple imputation. For this robustness check, I used the ice (Imputation through Chained Equations) routine in Stata (Royston, 2009) to impute missing data for education, income, wealth, and changes in wealth, using logistic models to impute missing data for dichotomous variables and multinomial logistic regression models to impute missing data for categorical variables. For each such regression, I included the full set of model covariates as predictors, along my dependent variable; changes in marital intentions. I create five imputations of the data and analyze it using the mim commands in Stata (Royston, Carlin, and White, 2009). Comparing the main models with the re-estimates using the multiply imputed data shows that there is very little change in either the size or the statistical significance of the relationships between wealth changes and changes in marital intentions. For instance, the odds ratios on wealth losses in Models 1, 2, and 3 of Tables 1 and 2 shift by between 2% and 3% when comparing the baseline estimates to the estimates from multiply imputed data (not presented in tables).

RESULTS

Changes in Wealth and Changes in Marital Plans in the United States

In the U.S., a large share of respondents (59%) reports that their likelihood of marriage is unchanged by the economic crisis. But, I also find that a significant minority of respondents (29%) reports that the economic crisis has affected their marriage plans. This impact cuts two ways. Most prominently, I find that a substantial minority of respondents report being less likely to marry as a result of the crisis. More than one-quarter of respondents (29%) in the United States report a decreased likelihood or marriage. A smaller share of respondents (12%) reports just the opposite - the economic crisis has made them more likely to marry. Respondents also report that the

economic crisis precipitated changes in wealth holdings. While about a quarter of respondents reported that their wealth remained relatively unchanged, large shares of respondents reported wealth losses: 45% of individuals lost some wealth and 18% of individuals lost at least 30% of their wealth.

Figure 1 presents bivariate evidence of the relationship between changes in wealth and changes in plans to marry in the United States. Here, we expect that wealth losses should be associated with being less likely to marry and that wealth gains should be linked with being more likely to marry. Tracking the red bars (% less likely to marry) across the categories of change in wealth shows a steadily increasing relationship between larger losses in wealth and higher likelihood of reduced plans to marry. Among respondents who report no change in wealth, 24% report being less likely to marry – a share that rises to 33% of respondents experiencing a loss of less than 30% and to 35% of respondents experiencing a loss in wealth greater than 30%. A small but noticeable share of respondents in each category of wealth change reports being more likely to marry. Of note, this share, 21%, is highest among those reporting gains in wealth.

If the changes in wealth experienced by respondents are exogenous to individual characteristics, then the bivariate relationships reported in the prior section may be accurate measures of the relationship between wealth change and marital intentions. Table 1 examines if this is the case. Model 1 presents odds ratios from a logistic regression for which the outcome is equal to one if the respondent reported being less likely to marry as a result of the crisis and zero otherwise and the primary predictor is changes in wealth. Not adjusting for any other characteristics, those who have lost up to 30% of wealth have 58% higher odds and those who have lost 30% or more of wealth have 76% higher odds of being less likely to marry as a result of the economic crisis, relative to those whose wealth is unchanged.

Model 2 shows the relationship between changes in marital intentions and changes in wealth after adjusting for income, education, employment, and demographic characteristics. As in Model 1, there is a positive relationship between having experienced losses in wealth and being less likely to marry as a result of the crisis. Moreover, the odds ratios on wealth loss shift relatively little (from 1.581 to 1.639 among those losing up to 30% of wealth and from 1.760 to 1.704 among those losing 30% or more of wealth) between Model 1 and Model 2. Finally, Model 3 adjusts for two additional characteristics that might plausibly confound the relationship between wealth and marriage but that are much less commonly measured in other data sources: financial planning and risk literacy. Yet even adjusting for these characteristics leaves the relationship between being less likely to marry and changes in wealth largely unaffected.

The models described above compare respondents who report being less likely to marry with those reporting that they would be just as likely or more likely to marry as a result of the economic crisis. We might expect, however, that changes in wealth would be differentially related to being just as likely to marry and to being more likely to marry. To allow for this type of variation, I estimated a multi-nomial logistic regression model in which the outcome could be (1) less likely to marry, (2) more likely to marry, or (3) just as likely to marry. However, using the four-category measure of changes in wealth (gain, same, losses < 30%, losses >= 30%) produces small cell sizes among respondents who report being more likely to marry. Consequently, I substitute a measure of any wealth losses in these models for the more fine-grained measure used above. As before, respondents who experienced any loss in wealth have a higher risk of being less likely to marry while there is no significant relationship between gaining wealth and being less likely to marry (relative to the base outcome of no change in the chances of marriage). In contrast, I find that while losses are not significantly related to being more likely to marry, gains in wealth are; respondents whose wealth

increased over the prior year have a much higher risk of being more likely to marry (not shown in tables).

Wealth and Marriage in Five Developed Countries

The pronounced changes in marital intentions as a result of the economic crisis are not unique to the United States. While the share of respondents (who found the question applicable) reporting that they would be less likely to marry is largest in the U.S. at 29%, 25% of respondents in the U.K. also expressed that sentiment as did 20% of those in France and Germany, and 18% of those in Canada. While just 12% of respondents in the U.S. and 9% of respondents in Canada reported being more likely to marry, the fraction was higher in the U.K., France, and Germany at 12%, 17%, and 21% respectively.

Drawing on the pooled sample of respondents in these five countries, I first estimate a logistic regression model predicting being less likely to marry as a function of changes in wealth, first with just country fixed-effects (Model 1) and then including possibly confounding individual characteristics (Model 2 and Model 3). Table 2 reports the results of these models. I test whether there is relationship between a categorical measure of wealth loss and dichotomous indicator of being less likely to marry (versus no different or more likely). I find that respondents reporting a reduction in wealth of less than 30% have 48% higher odds ($p < 0.001$) of being less likely to marry, relative to respondents who report no change in their wealth. Respondents who report a reduction in wealth of more than 30% have 81% higher odds ($p < 0.001$) of being less likely to marry relative to those with no change in wealth. There is no statistically significant relationship between an increase in wealth and being less likely to marry.

Model 2 introduces controls for gender, age, income, education, and wealth. Of note, even after adjusting for these possibly confounding factors, the relationship between wealth and marriage

intentions is little changed. Respondents who lost up to 30% of their wealth had 54% higher odds ($p < 0.001$) and those who lost 30% or more of their wealth had 78% higher odds ($p < 0.001$) of being less likely to marry, relative to those whose wealth was unchanged. Further adjusting for risk literacy and financial planning (Model 3) also does not substantively change these results.

The models presented thus far include all eligible respondents ages 18 – 64. However, it may be the case that wealth and marriage are differentially tied for young adults as opposed to those in middle age. Such variation would be noteworthy because shifts in the meaning of marriage may have the most important life-course consequences for young adults. There are two age-based concerns to consider in particular.

The first concern is that, given age patterns of saving, it may be that young adults were relatively little affected by the shocks to the housing and equities markets from the global economic crisis. These young adults may have had little in savings and, to the extent that they held financial assets, such wealth may have been held in less risky products such as savings accounts. Table 3 provides some evidence that mitigates these concerns. I compare young adults, age 18-34, a group clustered in age around the median age of first marriage in the United States, Canada, Great Britain, France, and Germany, with the oldest respondents in the sample, those 50 - 64. It appears that while young adults are les wealthy than their older counterparts, they still hold substantial assets. For example, while about 40% of young adults held less than 1,000 (Euros, Pounds, Dollars, or Canadian Dollars depending on the country) in assets, about 35% had between 1,000 and 20,000 and 25% held more than 20,000 in wealth. Additionally, it appears that the wealth holdings of young adults were affected by the economic crisis. Twenty-four percent of young adults reported up to a 30% decline in wealth and 12% reported a decline of greater than 30%, smaller than the shares of older adults reporting such declines, 37% and 14% respectively, but still representing large shares of the young adults.

The second age-based concern is that despite having some financial assets and despite such assets being affected by the crisis, young adults may still put less emphasis on wealth as a pre-requisite for marriage because of their earlier life-course stage, one perhaps more focused on education and career than the accumulation of financial assets. This concern admittedly runs counter to the qualitative evidence on wealth and marriage in the United States, but could certainly shape the relationship in Canada, Great Britain, France, or Germany. To test for this possibility I re-estimate Model 3 from Table 2 on three subgroups: (1) respondents age 18 – 34, (2) respondents who have never been widowed, divorced, or separated, and (3) respondents who are single, never married, and are not cohabiting (with the key distinction between the groups being the presence of cohabiters). These sample exclusions allow me to hone in more precisely on young people entering first marriages. However, the latter two tests are only possible for respondents in the United States, Canada, France, and Germany as no information on marital status is available for respondents in Great Britain.

Table 4 presents the estimates from these models. Model 1 shows the relationship between changes in wealth and being less likely to marry for respondents age 18 – 34. I find that wealth losses increase the likelihood of being less likely to marry, raising the odds by 2.16 times ($p < 0.001$) for those losing more than 30% in wealth and by 1.76 times ($p < 0.001$) for those losing up to 30% of wealth. For young people as for all respondents, wealth losses seems to discourage plans to marry and, if anything, these effects appear larger among younger respondents than among all respondents. However, of note, young people reporting gains in wealth also have somewhat higher odds of being less likely to marry than those whose wealth stayed approximately the same (OR = 1.195, $p < 0.05$). Models 2 and 3 report evidence of a similar dynamic for respondents who have never been separated, divorced, or widowed and for respondents who are single, never married, and not cohabiting. For both groups, wealth losses are linked with a higher likelihood of being less likely

to marry. In Models 2 and 3, there is no evidence of positive effects of wealth gain on being less likely to marry.

Cross-National Heterogeneity in the Effect of Wealth Changes on Marital Intentions

The results presented in Table 2 reveal something about the role of country in changing marital intentions. It appears that, relative to the United States, after adjusting for individual characteristics, Canadian, French and German respondents had approximately 65% the odds of being less likely to marry while the odds for respondents in the U.K. were not different from those in the U.S. (Model 3). These relationships speak to the overall effect of the economic crisis on marriage intentions in these countries. The coefficients on the country fixed-effects do not reveal, however, how the relationship between changes in wealth and marriage intentions might vary by country context.

Table 5 presents estimates of the relationship between changes in wealth and being less likely to marry, estimated separately by country. In these models, I collapse the categories of wealth change into any gain and any loss (compared with approximately the same wealth) because limited sample sizes in Canada, Great Britain, France, and Germany creates sparse cell counts when I employ the four -category measure of wealth.

As discussed above, for the United States, the relationship between wealth loss and lower likelihood of marriage is quite similar to that found in the pooled models. Respondents who have lost any wealth have 65% higher odds ($p < 0.05$) of being less likely to marry, relative to those whose wealth was unchanged. There is no relationship between wealth gains and lowered likelihood. The relationship between wealth loss and being less likely to marry is not statistically significant in any of the four other countries, but the point estimates are of a similar size in Canada, France, and the U.K. to that of the United States. Germany stands out for having a noticeably different point estimate that is quite close to one.

I next use the test recommended by Paternoster, et. al. (1998) to test for significant differences between the estimates for the United States and the other four. Implementing the test using the coefficients and standard errors generated from the models reported in Table 6, I find that there are no significant differences in the relationship between wealth loss and marriage across countries.

DISCUSSION

This work advances our understanding of the changing cultural meaning of marriage and the relationship between wealth and marriage by using an exogenous shock to wealth, studying marriage in the contemporary context, and doing so in a comparative cross-national perspective.

In the U.S., respondents who report wealth losses have significantly higher odds of being less likely to marry as a result of the economic crisis and these odds increase with the magnitude of the wealth loss. Moreover, the relationship between wealth loss and being less likely to marry is robust to controls for standard socio-economic characteristics as well as measures of risk literacy and financial planning. In supplementary analyses, I find that while wealth losses are linked to being less likely to marry, gains in wealth are linked to being more likely to marry.

The economic crisis has had very real effects on marital intentions beyond the U.S. - in Europe and in North America. On average across these countries, 24% of respondents considering marriage report that the economic crisis made marriage less likely and 14% report that the crisis made marriage more likely. The wealth losses engendered by the economic crisis appear to play an important role in explaining these changes in marital intentions. On average across countries, wealth losses are strongly linked to marriage being less likely. Respondents who report losing up to 30% of wealth have 52% higher odds and respondents losing more than 30% of wealth have 74% higher

odds of being less likely to marry relative to respondents whose wealth remained steady and compared to being more likely or just as likely to marry.

While prior theory suggests that this relationship might be particularly pronounced in the United States, I find no evidence of variation in the relationship between wealth losses and changes in marital intentions across these five North American and European countries. We should be careful before taking this as clear evidence against a unique pattern of change in the cultural meaning of marriage in the United States as this work is subject to several limitations.

First, these data are focused on examining the connection between changes in wealth and changes in marital intentions. It is possible however that these reports of intentions are unreliable either because respondents over-estimate their initial chances of marriage or under-estimate the effects of wealth loss on their actual marital behaviors. Second, it is possible that changes in wealth are endogenous and simply proxy for other unobserved characteristics. However, this risk of omitted variable bias is minimized by using the shock to wealth from the economic crisis, adopting a measure of relative change in wealth, and controlling for financial planning and sophistication. Third, it remains difficult to disentangle the instrumental importance of wealth for marriage from the cultural importance of wealth for marriage. Examination of the variation in the relationship between wealth change and marital intentions across countries does help to distinguish the cultural from the instrumental, but the distinction remains difficult to operationalize in quantitative research. Fourth, while the Economic Crisis was global, it's impacts appear to have been more pronounced in the U.S. than in the four other countries examined here. Given the dependent variable asked specifically about changes in marriage plans as a result of the crisis, this variation in the severity of the crisis may limit the power of the cross-national comparison.

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Figure 1: Changes in Plans to Marry by Changes in Wealth in the United States (TNS Global, 2009)

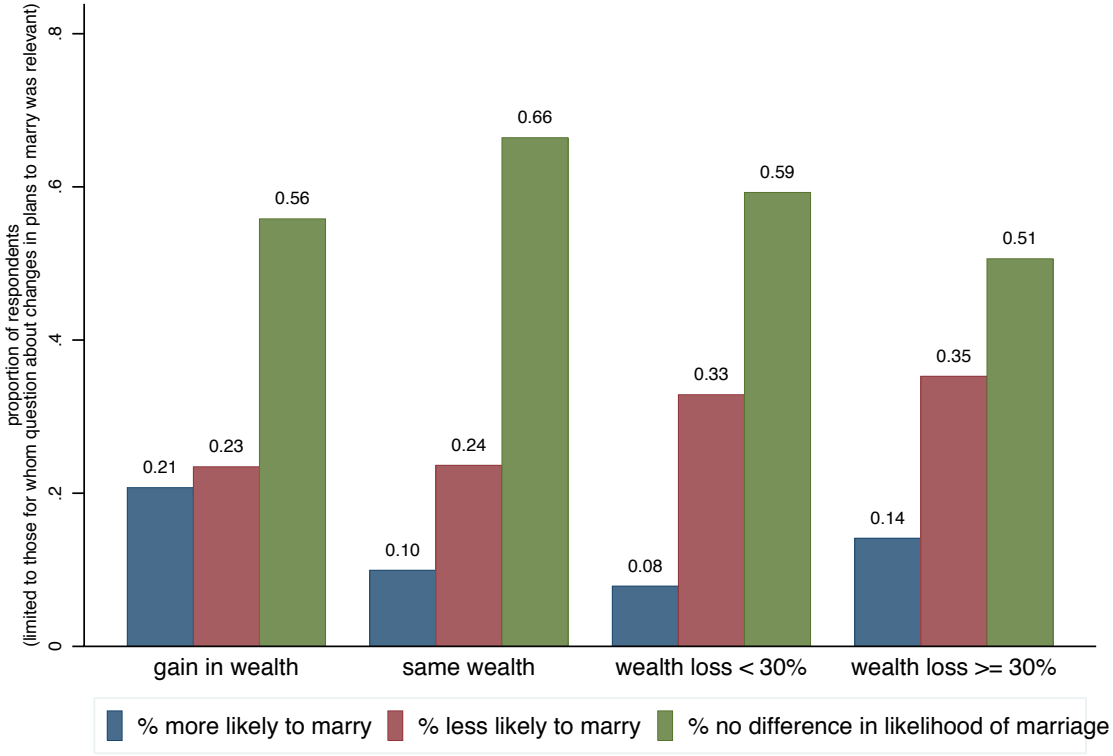

Table 1. Relationship between Changes in Wealth and Being Less Likely to Marry (vs. More Likely or No Different) as a Result of the Crisis. Odds Ratios from Logistic Regression on United States Sample.

	Model 1 Unadjusted		Model 2 Adjusted		Model 3 Adjusted	
Change in Wealth						
No Change in wealth (reference)	--		--		--	
Increase in wealth	0.990		0.908		0.894	
Decrease in wealth < 30%	1.581	*	1.639	*	1.622	*
Decrease in wealth >= 30%	1.760	*	1.704	*	1.677	*
$30,000 - $39,999			1.250		1.223	
Constant	0.310	***	0.375	*	0.352	*
Observations	857		857		857	
Pseudo R^2	0.010		0.070		0.072	

* p<.05, ** p<.01, *** p<.001

Notes:
1. Model 2 includes controls for age, gender, education, income, wealth, race/ethnicity, household composition, region, and marital status.
2. Model 3 also includes controls for risk literacy and financial planning.

Table 2. Relationship between Changes in Wealth and Being Less Likely to Marry (vs. More Likely or No Different) as a Result of the Crisis. Odds Ratios from Logistic Regression on Pooled Five-Country Sample with Country-Fixed Effects

	Model 1 Unadjusted		Model 2 Adjusted		Model 3 Adjusted	
Country Fixed-Effects						
United States (reference)	--		--		--	
Canada	0.580	***	0.603	***	0.632	***
Great Britain	0.859	***	0.977		1.033	
France	0.657	***	0.637	***	0.695	***
Germany	0.635	***	0.623	***	0.629	***
Change in Wealth						
No Change in wealth (reference)	--		--		--	
Increase in wealth	0.963		0.967		0.940	**
Decrease in wealth < 30%	1.491	***	1.562	***	1.526	***
Decrease in wealth >= 30%	1.800	***	1.773	***	1.740	***
Constant	0.313	***	0.264	***	0.210	***
Observations	2260		2260		2260	
Pseudo R^2	0.016		0.034		0.040	

* p<.05, ** p<.01, *** p<.001

Note:
1. Model 2 includes controls for age, gender, education, income, and wealth.
2. Model 3 also includes controls for risk literacy and financial planning.

Table 3. Post-Crisis Wealth and Changes in Wealth in Past Year for Respondents Ages 25 – 34 and Ages 45 – 64, Percent of Respondents.

	Age 18 - 34	Age 50 - 64
Post-Crisis Wealth		
Zero	21	17
Less than 1,000	18	11
1,000 to 2,999	11	7
3,000 to 4,999	7	4
5,000 to 9,999	9	7
10,000 to 19,999	8	9
20,000 to 49,999	10	10
50,000 to 99,9999	8	12
100,000 to 249,999	5	12
250,000 to 499,999	2	6
500,000 to 999,999	1	2
> 1 million	0	1
Change in Wealth		
Increase in wealth	27	14
No change in wealth	37	35
Decrease in wealth < 30%	24	37
Decrease in wealth >= 30%	12	14

Table 4. Relationship between Changes in Wealth and Being Less Likely to Marry (vs. More Likely or No Different) as a Result of the Crisis for Three Sub-samples. Odds Ratios from Logistic Regression on Pooled Five-Country Sample with Country-Fixed Effects

	Model 1 Age 18-34		Model 2 Not Sep/Div/Wid		Model 3 Single Never Married, Not Cohabiting	
Country Fixed-Effects						
United States (reference)	--		--		--	
Canada	0.708	***	0.647	***	0.581	***
Great Britain	1.362	***				
France	0.927		0.744	***	0.531	***
Germany	0.481	***	0.595	***	0.871	
Change in Wealth						
No Change in wealth (reference)	--		--		--	
Increase in wealth	1.195	*	0.825		0.845	
Decrease in wealth < 30%	1.761	***	1.528	***	1.708	***
Decrease in wealth >= 30%	2.163	***	1.619	***	1.896	***
Constant	0.312	***	0.207	***	0.329	
Observations	1174		1603		574	
Pseudo R^2	0.057		0.047		0.078	

* p<.05, ** p<.01, *** p<.001

Note: All models include controls for age, gender, education, income, wealth, risk literacy, and financial planning

Table 5. Relationship between Changes in Wealth and Being Less Likely to Marry (vs. More Likely or No Different) as a Result of the Economic Crisis. Odds Ratios from Logistic Regression by Country.

	Model 1 United States		Model 2 Canada	Model 3 Great Britain	Model 4 France	Model 5 Germany	
Change in Wealth							
No Change in wealth (reference)	--		--	--	--	--	
Increase in wealth	0.919		0.957	1.056	0.767	0.972	
Decrease in wealth	1.648	*	2.011	1.867	1.435	0.910	
Constant	0.225	**	0.316	0.400	0.212	0.0221	***
Observations	880		299	383	356	341	
Pseudo R^2	0.046		0.120	0.069	0.092	0.086	

* p<.05, ** p<.01, *** p<.001

Note: All models include controls for age, gender, education, income, wealth, risk literacy, and financial planning.