

**Recession and Divorce in the United States:
Economic Conditions and the Odds of Divorce, 2007-2009**

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ABSTRACT

The economic recession that began in 2007 prompted speculation over its effects on divorce rates in the U.S. Opposing hypotheses suggest either the recession increases divorce through a stress mechanism; or it reduces divorce by increasing its economic costs or strengthening family bonds. The American Community Survey now offers a large-scale, repeated national sample survey with size large enough to test state-level divorce patterns – and timing suitable for examining potential effects of changing economic conditions. After establishing an individual-level model predicting women’s divorce, I test whether unemployment, home prices and home foreclosures are associated with the odds of divorce. Results show a robust decline in divorce from 2008 to 2009. However, higher state unemployment is associated with increased odds of divorce. Interactions between state and individual effects suggest fruitful avenues for further research.

INTRODUCTION

Crude and refined divorce rates have fallen in the United States since the early 1980s, despite swings in the business cycle (Amato 2010; Kreider and Ellis 2011; Stevenson and Wolfers 2007). Further, over the last century, dramatic waves in period-based divorce rates belie a near-linear upward trend in divorce probabilities for sequential birth cohorts (Schoen and Canudas-Romo 2006). Thus, economic cycles do not appear to be the major influence in long-term divorce trends. Nevertheless, the severity of the economic recession that began in 2007 has prompted speculation over its effects on U.S. families, and early effects have apparently been found already, for example, on fertility (Sutton, Hamilton and Mathews 2011) and cohabitation (Kreider 2010). In this paper I offer the first large-scale multivariate description of the determinants of divorce using the American Community Survey (ACS), and test hypotheses for the recession's impact on the odds of divorce.

Several theories suggest economic recessions might affect couples' odds of divorce, even if only in the short term (Amato and Beattie 2011). On the one hand, economic hardship adds stress to marriages that *increases* the risk of marital conflict and dissolution (Hardie and Lucas 2010; White and Rogers 2000). Job loss and low earnings are perhaps the best studied aspects of economic hardship, with men's conditions usually found to be especially consequential (Lewin 2005; Ono 1998). But home foreclosure, poverty, wage declines, job shift changes, fear of unemployment, or other economic threats (actual or perceived) may have similar stressing effects.

On the other hand, there are two mechanisms by which economic hardship might *reduce* the occurrence of divorce, at least temporarily. First, loss of a job or a decline in the value of a home may make divorce more costly relative to a spouse's or couple's available resources.

Divorcing presents potential costs in housing, legal fees, childcare and losses from diminished economies of scale. The recession may have increased the economic barriers that make these costs insurmountable for some people considering a divorce. Beyond the direct effects, by altering available opportunities and prices, fluctuations in the job and housing markets may shift decision-making in families that do not themselves suffer job loss or experience home foreclosure (for example, we have seen broad recent declines in economic expectations [Hurd and Rohwedder 2010]).

Second, hard economic times within families may draw some couples closer together in resilience, so that even those considering divorce might set aside their conflicts and pull together, resulting in declining divorce rates. Wilcox (2011) has advanced this argument for the recent recession, partly based on the agreement of some survey respondents with the statement, “the recession has deepened my commitment to my marriage.”¹

In the recent recession, men’s unemployment, falling home prices and rising rates of home foreclosures in particular have been pronounced features of the household economic landscape (Farber 2011; Mattingly and Smith 2010). The collapse in home prices in particular was much more dramatic than had been seen in the previous six recessions (Gascon 2009). Home foreclosures tripled from 2006 to 2009, to almost 2.5 million per year (Mian, Sufi and Trebbi 2011). Foreclosures and falling home prices contribute to the economic stress levels in millions more households than were directly affected by job loss.

While there is abundant evidence that economic stress increases the odds of divorce at the family level, such evidence for the cost or resilience predictions is as yet elusive. However,

¹ However, Wilcox also reports that those who acknowledge financial stress as a result of the recession place themselves at *higher* subjective risk of divorce or separation. The data from that study are not publically available.

consistent with the expectation that recessions forestall or prevent divorces, two recent studies have analyzed state-level time series of divorce and unemployment rates, and both find that higher unemployment is associated with lower divorce rates since 1980, using a variety of state- and year-level fixed-effects specifications (Amato and Beattie 2011; Hellerstein and Morrill 2011). This paper builds upon those studies, neither of which focuses directly on the recent recession, tests indicators of the housing crisis, or uses data with individual-level covariates.

Of course, different impacts on divorce during recessions might be operating simultaneously – working in opposite directions for different families, or even presenting opposing influences within the same families. That means a finding of no contextual effect on divorce cannot rule out such mechanisms. But given the severity of the economic shock that began in late 2007 – and some of the unique qualities of this recession – we may be able to discern which, if any, of these mechanisms were active in the recent period.

Thorough individual-level analyses of marital outcomes for the recent recession would optimally involve relationship and homeownership histories as well as employment and other information for both spouses (e.g., Hansen 2005). However, the introduction of a divorce event question in the American Community Survey in 2008 presents the opportunity to calculate the odds of divorce for all states for the years 2008 and 2009, and includes important covariates such as marital duration, marriage order, education and race/ethnicity (Elliot, Simmon and Lewis 2010). If recession indicators across states are associated with rising divorce rates, that would be consistent with the stress perspective at the couple level, as economic shock and hardship fray marital relationships. If, on the other hand, states with more severe recession symptoms have lower divorce rates, that might be consistent either with the costs-of-divorce perspective, or with the family resilience argument. In the process of examining these propositions, this paper

presents, to my knowledge, the first multivariate analysis of incidence of divorce using the new data from the American Community Survey.

HYPOTHESES

From this review, two hypotheses emerge for state-level effects, holding constant individual-level characteristics. If economic hardship puts strain on marital relationships, the experience of unemployment or home foreclosure may increase the odds of divorce. Thus, *ceteris paribus*,

H₁: Economic stress. Divorce rates are higher in states with greater or faster-rising unemployment and foreclosure rates, and greater declines in home prices.

On the other hand, divorce is often costly, and economic crises may make it unaffordable for more people, especially those needing to sell a home. And, although the evidence is scant, Wilcox (2010) speculates that couples experiencing economic hardship may rally around their relationships – especially postponing or reconsidering divorce. Thus,

H₂. Divorce costs or resilience. Divorce rates are lower in states with lower or faster-falling house prices, and greater or faster-rising unemployment and foreclosure rates.

Any of these economic trends may increase the relative costs of divorce by making it more difficult or lucrative to sell homes and/or find new jobs. Home prices are pertinent if people considering divorce face the decision to sell a home – as falling home prices, especially given highly-leveraged mortgages, leave many families financially stuck in their homes. On the other hand, foreclosures represent a potential shock to couples, but also contaminate real estate markets for all sellers.

Using a few simple state-level indicators of the severity of recession drawing from the unemployment and housing crises, therefore, I offer tests of the association between the recent recession and divorce patterns, which might help illuminate the mechanisms for such an association. Further, I test two preliminary hypotheses regarding this recession's potential unique effects on divorce dynamics. Recent research emphasizes the growing social-class divide in divorce patterns (Isen and Stevensen 2010; Martin 2006). To test whether adverse economic conditions exacerbate these trends, I examine the interaction between state-level indicators and education effects, such that,

H₃. Inequality. Unemployment, foreclosures, and declining home prices increase education-level disparities in divorce propensities.

And, because this recession involved a mortgage crisis in which recent home buyers were especially likely to be over-leveraged and at high risk of default, it is possible the recession was especially hard on marriages of shorter duration, exacerbating the greater tendency of lower-duration marriages to dissolve (Sweeney and Phillips 2004). Thus,

H₄. Recently-married risks. Unemployment, foreclosures, and declining home prices increase divorce odds more for those in marriages of lower duration.

In the next section I describe the research design, before turning to the results.

DATA AND METHOD

I estimate odds of divorce for individuals by state from the pooled 2008 and 2009 American Community Survey (ACS), using data made available by IPUMS (Ruggles et al., 2010). The ACS is an annual survey of more than 2.2 million U.S. households, weighted to represent the national population. Because of its large sample size, it offers the opportunity to analyze divorce for all 50 states and District of Columbia, with some crucial individual-level

covariates (Elliot, Simmon and Lewis 2010). In contrast, the vital statistics registration of divorces excludes 5 states, including California, and does not include covariates (Tejada-Vera and Sutton 2010).

The sample includes women who are: (a) ages 20 and older; (b) currently married, or divorced in the 12 months preceding the survey, and; (c) living in the U.S. one year before the survey. Women report whether they have divorced in the previous 12 months. I code women according to their residence in one of the 50 states or the District of Columbia; however, because divorce often takes a year or more to unfold, I use the location in which the women were living one year earlier, and exclude those living outside the country at that time. The cross-sectional nature of the data, and its household construction, impose limitations, for example precluding consideration of cohabitation and work history, homeownership at the time of the divorce, or spouse characteristics (since the spouse is no longer present). I estimate logistic regression models for the odds of divorce among women who are married or divorced in the previous year, with state-level fixed effects and standard errors adjusted for the clustering within states.

State variables

State-level unemployment data are from the Bureau of Labor Statistics' Local Area Unemployment Statistics Program, which publishes annual average unemployment rates for every state and the District of Columbia (BLS 2011). For home prices I use the House Price Index (HPI) published by the Federal Housing Finance Agency. The HPI is based on same-house sales among single-family homes. Because it requires a home to be sold before its price is recorded, it reflects sale price trends more than home values per se. It is scaled so that 1991 prices are equal to 100; I averaged the unadjusted quarterly values for each calendar year (Federal Housing Finance Agency 2011). Real estate foreclosure data are from the private

company Realtytrac, which for the years 2007-2009 released an annual report that included the percentage of housing units with at least one foreclosure filing during the calendar year (Realtytrac 2007, 2008, 2009).

Levels of unemployment, home prices and foreclosures reflect economic conditions that may influence divorce rates, while changes in these measures reflect the severity of the recessionary shock net of the baseline rates. Amato and Beattie (2011) find the strongest effects of unemployment on divorce in the contemporaneous year or with a one-year lag. However, the ACS asks not about the calendar year, but rather about the 12 months previous to the interview. Therefore, I lag state variables one year and also use one-year changes. The change variables reflect 2007-2008 changes for the 2008 cases, and 2008-2009 changes for the 2009 cases. The variables used in the regressions are summarized in Table 1, and all state values are listed in Appendix Table A1. In the home price and foreclosure data, Nevada is an extreme outlier, with several scores greater than 3 standard deviations away from the state means; I therefore exclude Nevada from the regression models.²

Individual variables

Sweeney and Phillips (2004), using data from 1995, predict divorce using measures of race, age at marriage, education, and premarital fertility history, which are commonly associated with divorce outcomes (Amato 2010). Only some of those variables are available here, but the ACS data are much more recent; large-scale analyses of divorce risks have recently relied on the

² Nevada's housing collapse was accompanied by an increase in divorce rate from 2008 to 2009 of 21.9 to 24.3 per 1,000 married women. Note that, unlike the vital statistics reports, which include many divorces recorded in Nevada for people who live in other states, the ACS provides a divorce rate for those who report living in the Nevada.

Current Population Survey's marital history, which ended in 1995, or other surveys from the 1990s or early 2000s (e.g., Phillips and Sweeney 2006; Bulanda and Brown 2007).

The ACS includes information on the year of the most recent marriage, which allows construction of a marital duration variable; and on the number of marriages a person has experienced, which identifies marriage order (Martin and Bumpass 1989). In early models, marital duration had a highly linear negative effect on the odds of divorce, but age showed an uneven progression across categories; thus I enter duration as a linear term but retain five-year categories for age. Foreign-born status, which is associated with lower odds of divorce (Phillips and Sweeney 2006), is entered as a dummy variable, as are the common race and ethnicity categories (Bulanda and Brown 2007). Education in the ACS includes many categories, but after initial models, I collapsed them to three: less than high school complete, high school or some college complete, and B.A. or higher degree complete.

RESULTS

With population weights, the ACS provides an estimate of 1,304,298 divorced women in 2008, and 1,209,820 in 2009. The corresponding refined divorce rates – using as the denominator all married women, not just those age 20 or older – are 21.6 per 1,000 married women in 2008 and 20.0 in 2009.³ The lagged unemployment rates range from 2.7% to 8.3%, while one-year changes in unemployment rates range from 0% to 5% during the two years prior to 2008 and 2009. Home prices fell from 228 the year before 2008 to 209 the year before 2009, with average changes of about -7 and -5 in the two years. Housing units in foreclosure represented .007% to 4.5% of all units, with one-year changes from near zero to almost 3% across states.

³ This number for 2008 is several thousand less than that obtained in Ellis, Simmons and Lewis (2010), presumably because I exclude those not living in the U.S. one year earlier. Ellis et al. provide a thorough comparison of ACS with other sources of data on divorce.

The regression results are presented in Table 2 and Table 3. Models 1 and 2 show the individual effects, with and without state fixed effects. Controlling for individual characteristics, the coefficient for the 2009 year dummy variable ($-.063, p < .001$) indicates an odds ratio of .94 – significantly lower odds of divorce in 2009, net of other factors and state fixed effects. The rest of the coefficients update prior research without altering our substantive understanding. The odds of divorce decline with marital duration and increase with marriage order; are highest for women in their late 20s; are lowest for those with B.A. degrees or more education; and are lower for the foreign born, Whites, and Asian/Pacific Islander women while highest for Black and American Indian women. The introduction of state fixed effects in Model 2 does little to alter the models, except to reduce the Hispanic difference from Whites, and increase the Asian/Pacific Islander difference – both groups with distinct geographic distributions.

Model 3 shows the state-level effects, net of individual characteristics. The state unemployment rate (but not unemployment change) is significantly associated with higher odds of divorce, and this effect is substantial. A one-point difference in the unemployment rate is associated with a 12% increase in the relative odds of divorce. Thus, a difference in unemployment of 2.3% (the average state change), increases the predicted chance of divorce – for a 40-year-old, White, native-born high school graduate in the 10th year of her first marriage (living in an otherwise average state) – from 2.4% to 3.1%. On the other hand, the foreclosure rate (but not change) is associated with lower odds of divorce. Making a similar calculation about the effect size, the odds ratio of .80 for a one-point difference in foreclosure rates implies a change in the predicted decline in the chance of divorce for the same woman from 2.4% to 2.1% (given an increase in foreclosure rates at the average level of .56). House sales prices have no significant effects in Model 3. This provides some support for both the economic stress and

divorce costs/resilience hypotheses. Because the effects are found for rates instead of changes, however, support for the effect of the recession *per se* is weaker.

Model 4 introduces the interaction terms for hypotheses 3 and 4. The inequality hypothesis receives some support from the marginal positive effect of unemployment rates on divorce for those with less than high school complete. However, a stronger effect is found for foreclosures' positive association with divorce among those with college degrees, which reduces inequality. House prices have marginally significant effects as well, with falling prices associated with decreased educational inequality and higher prices associated with increased inequality. Finally, the recently married hypothesis receives mixed support. In states where unemployment was higher and foreclosures increased, low-duration marriages were even more likely to end in divorce. However, where house prices were higher, or where they fell more, the duration effect on divorce was reduced.

DISCUSSION

In summary, this analysis of the divorce rate among a sample of 1.32 million U.S. women in 2008-2009 provides some evidence for effects of the economic crisis on the odds of divorce. The national divorce rate declined during the recession in these data, from 21.6 per 1,000 married women to 20.0, and this decline holds in the presence of individual-level controls and state fixed effects. However, this decline is not out of line with the overall trend of declining divorce rates since the early 1980s. Further, the relative odds of divorce are greater in states where unemployment rates are higher, which is not consistent with recent time-series results at the state level reported by Amato and Beattie (2011) and Hellerstein and Morrill (2011) for earlier periods. Whether this discrepancy results from specific features of this time period or the

individual-level multivariate models I use remains to be seen. On the other hand, higher foreclosure rates are associated with lower levels of divorce – albeit with a substantively smaller effect. This should at least raise the question of housing market effects on divorce, which future studies may be able to pursue in more depth.

With regard to the dynamics of divorce, I can draw no firm directional conclusions about the recession's potential exacerbation of educational disparities in divorce, which are a growing concern in the literature (Isen and Stevensen 2010; Martin 2006). The ACS data show a large divide in divorce odds between those with higher and lower levels of education, but not clear evidence of a change in that pattern during this crucial year of the recession. The evidence from unemployment rates and foreclosure increases suggests this recession was especially punishing for more recently-married couples – those, I suggested, which are more likely to have bought homes during the run-up to the housing collapse. However, the house price effects contradict that hypothesis, so no conclusion is warranted.

In light of the contradictions in these results, any interpretation of recession effects on divorce is obviously speculative. Indeed, these results should interject a note of caution into the fast-moving discourse on the effects of the recession, which the news media and public have been eager to consume. Consider the response to W. Bradford Wilcox's (2009:17) conclusion, based on the (continued) national decline in divorce rates, that "one piece of good news emerging from the last two years is that marital stability is up." Bishop Richard Williamson (2009) declared that "every cloud has a silver lining," and called the report "some good news for Christmas." The *New York Times* columnist Ross Douthat (2009) paraphrased the report to say, "economic stress seems to have made American marriages slightly more stable overall." These conclusions were undoubtedly premature, and may have been wrong altogether.

Although the recession formally ended when economic growth was recorded in 2009, its effects in terms of high unemployment and foreclosure rates have persisted into 2011. However, with regard to divorce, history shows that fluctuations in divorce rates resulting from changing economic conditions may reflect the *timing* of divorce more than the odds of divorce for specific marriages or birth cohorts (Schoen and Canudas-Romo 2006). In fact, the long-term effects of this recession may in the end follow from changes in the timing and quality of marriages during the down years, rather than from the dynamics within already-married couples (Cvrcek 2011). Further impacts of these events on American family structure and behavior are likely to emerge in future studies.

REFERENCES

- Amato, Paul R. 2010. "Research on Divorce: Continuing Trends and New Developments" *Journal of Marriage and the Family* 72(3) 560-666.
- Amato, Paul R. and Brett Beattie. 2011. "Does the unemployment rate affect the divorce rate? An analysis of state data 1960-2005." *Social Science Research* 40(3):705-715.
- Bulanda, Jennifer R. and Susan L. Brown. 2007. "Race-ethnic differences in marital quality and divorce." *Social Science Research* 36(3):945-967.
- Douthat, Ross. 2009. "Evaluations: Marriage and the Recession." *New York Times*. Blog post, December 8. <http://douthat.blogs.nytimes.com/2009/12/08/marriage-and-the-recession/>. Accessed June 30, 2011.
- Elliott, Diana B., Tavia Simmons, and Jamie M. Lewis. 2010. "Evaluation of the Marital Events Items on the ACS." U.S. Census Bureau working paper. http://www.census.gov/hhes/socdemo/marriage/data/acs/Evaluation_paper.pdf (accessed June 29, 2011).
- Elmer, Peter J. and Steven A Seelig. 1998. "The Rising Long-Term Trend of Single-Family Mortgage Foreclosure Rates." Federal Deposit Insurance Corporation Working Paper 98-2. <http://ssrn.com/abstract=126128>. Accessed June 20, 2011.
- Farber, Henry S. 2011. "Job Loss in the Great Recession: Historical Perspective from the Displaced Workers Survey, 1984-2010." National Bureau of Economic Research Working Paper 17040. <http://www.nber.org/papers/w17040> (accessed June 30, 2011).
- Federal Housing Finance Agency. 2011. House Price Index. <http://www.fhfa.gov/Default.aspx?Page=296>. Accessed June 30, 2011.
- Gascon, Charles S. 2009. "This Is Not Your Father's Recession ... or Is It?" *The Regional Economist* (April):6-12.
- Hansen, Hans-Tore. 2005. "Unemployment and Marital Dissolution: A Panel Data Study of Norway." *European Sociological Review* 21(2):135-148.
- Hardie, Jessica H. and Amy Lucas. 2010. "Economic Factors and Relationship Quality Among Young Couples: Comparing Cohabitation and Marriage." *Journal of Marriage and Family* 72(5):1141-1154.
- Hurd, Michael D. and Susan Rohwedder. 2010. "Effects of the Financial Crisis and Great Recession on American Households." National Bureau of Economic Research Working Paper 16407. <http://www.nber.org/papers/w16407>. Accessed June 30, 2011.

- Isen, Adam and Betsey Stevenson. 2010. "Women's Education and Family Behavior: Trends in Marriage, Divorce and Fertility." *National Bureau of Economic Research Working Paper Series* No. 15725.
- Kreider, Rose M. 2010. "Increase in Opposite-Sex Cohabiting Couples From 2009 to 2010 in the Annual Social and Economic Supplement (ASEC) to the Current Population Survey (CPS)." Housing and Household Economic Statistics Division Working Paper. <http://www.census.gov/population/www/socdemo/Inc-Opp-sex-2009-to-2010.pdf>. Accessed June 30, 2011.
- Kreider, Rose M. and Renee Ellis. 2011. "Number, Timing, and Duration of Marriages and Divorces: 2009." U.S. Census Bureau *Current Population Reports* P70-125.
- Lewin, Alisa C. 2005. "The Effect of Economic Stability on Family Stability among Welfare Recipients." *Evaluation Review* 29:223-240.
- Martin, Steven P. 2006. "Trends in marital dissolution by women's education in the United States." *Demographic Research* 15:537-559.
- Martin, Teresa C. and Larry L. Bumpass. 1989. "Recent Trends in Marital Disruption." *Demography* 26(1):37-51.
- Mattingly, Marybeth J. and Kristen E. Smith. 2010. "Changes in Wives' Employment When Husbands Stop Working: A Recession-Prosperity Comparison." *Family Relations*, 59:343-357.
- Mian, Atif, Amir Sufi and Francesco Trebbi. 2011. "Foreclosures, House Prices, and the Real Economy." National Bureau of Economic Research Working Paper 16685. <http://www.nber.org/papers/w16685>. Accessed June 30, 2011.
- Ono, Hiromi. 1998. "Husbands' and Wives' Resources and Marital Dissolution." *Journal of Marriage and Family* 60(3): 674-689.
- Phillips, JA and MM Sweeney. 2006. "Can differential exposure to risk factors explain recent racial and ethnic variation in marital disruption?" *Social Science Research* 35(2):409-434.
- Realtytrac. 2007. "U.S. foreclosure activity increases 75 percent in 2007." <http://www.realtytrac.com/content/press-releases/us-foreclosure-activity-increases-75-percent-in-2007-3604>. (Accessed June 29, 2011.)
- Realtytrac. 2008. "2008 year end foreclosure market report." <http://www.realtytrac.com/content/news-and-opinion/2008-year-end-foreclosure-market-report-4621>. (Accessed June 29, 2011.)

- Realtytrac. 2009. "A record 2.8 million properties receive foreclosure notices in 2009."
<http://www.realtytrac.com/landing/2009-year-end-foreclosure-report.html>. (Accessed June 29, 2011.)
- Schoen, Robert and Vladimir Canudas-Romo. 2006. "Timing Effects on Divorce: 20th Century Experience in the United States." *Journal of Marriage and Family* 68(3):749-758.
- Stevenson, Betsey and Justin Wolfers. 2007. "Marriage and Divorce: Changes and Their Driving Forces." *Journal of Economic Perspectives* 21(2):pp. 27-52.
- Sutton Paul D., Brady E. Hamilton and T. J. Mathews. 2011. "Recent decline in births in the United States, 2007–2009." National Center for Health Statistics data brief 60.
<http://www.cdc.gov/nchs/data/databriefs/db60.pdf>. Accessed June 30, 2011.
- Sweeney, Megan M. and Julie A. Phillips. 2004. "Understanding Racial Differences in Marital Disruption: Recent Trends and Explanations." *Journal of Marriage and Family* 66(3):639-650.
- Tejada-Vera B. and Paul D. Sutton. 2010. "Births, marriages, divorces, and deaths: Provisional data for 2009." *National Vital Statistics Reports* 58(25).
- Wilcox, W. Bradford. 2011. "The Great Recession and Marriage." National Marriage Project web release. <http://www.virginia.edu/marriageproject/pdfs/NMP-GreatRecession.pdf>, accessed June 30, 2011.
- Wilcox, W. Bradford. 2009. "The Great Recession's Silver Lining?" In *The State of Our Unions: Marriage in America, 2009*. W. Bradford Wilcox, editor. Charlottesville, VA: National Marriage Project.
- Williamson, Richard. 2009. "Christmas Cheer." Blog post at
<http://rittertodundteufel.blogspot.com/2009/12/christmas-cheer.html>. Accessed June 30, 2011.

Table 1. Variables used in the analysis

	Mean	Min	Max	Std dev
Year 2009	.500	0	1	--
Divorced in last 12 months	.021	0	1	--
Age	48.5	20	95	14.82
Marital duration	21.5	0	81	16.26
First marriage	.765	0	1	--
Second marriage	.189	0	1	--
Third marriage or higher	.046	0	1	--
Less than high school	.111	0	1	--
High school or some college	.585	0	1	--
B.A. or higher degree	.304	0	1	--
Foreign born	.178	0	1	--
Hispanic	.120	0	1	--
American Indian	.012	0	1	--
Asian / Pacific Islander	.060	0	1	--
Black	.073	0	1	--
White	.828	0	1	--
Unemployment change	2.31	0	5	1.33
Unemployment (lagged -1)	5.18	2.7	8.3	1.13
Foreclosure change	.561	-0.34	2.974	.70
Foreclosure (lagged -1)	1.41	0.007	4.52	1.11
House price index change	-6.13	-25.12	3.02	6.96
House price index (lagged -1)	218.55	164	351	36.53
<i>N</i>		1,323,459		

Table 2. Logistic regression coefficients for divorce on individual characteristics

	<i>Model 1</i>	<i>Model 2</i>
Intercept	-3.279 ***	-3.363 ***
Year 2009	-.063 ***	-.063 ***
<i>Individual characteristics</i>		
Marital duration (years)	-.021 ***	-.021 ***
First marriage	--	--
Second marriage	.418 ***	.405 ***
Third or higher marriage	.831 ***	.799 ***
Age 20-24	.137 ***	.120 ***
Age 25-29	.224 ***	.212 ***
Age 30-34	.097 ***	.090 ***
Age 35-39	.047 *	.042 +
Age 40-44	--	--
Age 45-49	-.223 ***	-.222 ***
Age 50-54	-.418 ***	-.416 ***
Age 55-59	-.660 ***	-.658 ***
Age 60-64	-.924 ***	-.922 ***
Age 65-69	-1.108 ***	-1.108 ***
Age 70+	-1.115 ***	-1.116 ***
Less than high school	-.003	-.008
High school or some college	--	--
B.A. or higher degree	-.415 ***	-.412 ***
Foreign born	-.409 ***	-.406 ***
Hispanic	.070 **	.025
White	--	--
American Indian	.266 ***	.240 ***
Asian or Pacific Islander	-.060 +	-.079 *
Black	.604 ***	.612 ***
<i>State fixed effects</i>	No	Yes

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Note: Standard errors are clustered by state.

Table 3. Logistic regression coefficients for divorce on individual and state characteristics

	<i>Model 3</i>	<i>Model 4</i>
Intercept	-2.705 *	-2.467 *
Year 2009	-.034	.045
<i>Individual characteristics</i>		
Marital duration	-.021 ***	-.026 **
First marriage	--	--
Less than high school	-.008	-.564
High school or some college	--	--
B.A. or higher degree	-.412 ***	-.801 **
<i>State characteristics</i>		
Unemployment change	-.041	-.063
Unemployment rate	.116 **	.134 **
Foreclosure change	-.077	.038
Foreclosure rate	-.225 +	-.242 *
House price change	-.006	.003
House price index	-.005	-.006
<i>Marital duration interactions</i>		
Marital duration * year 2009	--	-.005
Marital duration * unemployment change	--	.001
Marital duration * unemployment rate	--	-.002 *
Marital duration * foreclosure change	--	-.010 ***
Marital duration * foreclosure rate	--	.0002
Marital duration * house price change	--	-.001 ***
Marital duration * house price index	--	.0001 *
<i>Education interactions</i>		
Less than high school * year 2009	--	-.061
Less than high school * unemployment change	--	-.006
Less than high school * unemployment rate	--	.086 +
Less than high school * foreclosure change	--	.027
Less than high school * foreclosure rate	--	-.063
Less than high school * house price change	--	.015
Less than high school * house price index	--	.001
BA of higher * year 2009	--	-.023
BA or higher * unemployment change	--	.016
BA or higher * unemployment rate	--	-.001
BA or higher * foreclosure change	--	.079
BA or higher * foreclosure rate	--	.073 *
BA or higher * house price change	--	.013 +
BA or higher * house price index	--	.001 +
<i>State fixed effects</i>	Yes	Yes

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Note: Standard errors are clustered by state.

Controls not shown: age, marriage order, nativity, race/ethnicity.

Appendix Table A1. State variable values

State	Unemployment / 100 in labor force					Home price index (1991=100)					Foreclosures / 100 housing units					Divorces / 1,000 women		
	2007	2008	2009	08-07	09-08	2007	2008	2009	08-07	09-08	2007	2008	2009	08-07	09-08	2008	2009	09-08
Alabama	3.4	5.0	9.7	1.6	4.7	200	197	195	-1.69	-1.12	.27	.37	.93	.10	.56	26.7	27.7	1.0
Alaska	6.1	6.4	7.8	.3	1.4	224	223	220	-.57	-1.44	.49	.70	.87	.21	.17	31.2	16.8	-14.4
Arizona	3.8	5.9	9.7	2.1	3.8	305	252	206	-17.44	-18.12	1.52	4.49	6.12	2.97	1.63	24.6	24.7	.1
Arkansas	5.2	5.3	7.4	.1	2.1	195	189	187	-2.77	-1.26	.51	1.12	1.29	.61	.17	28.1	27.1	-1.1
California	5.3	7.2	11.3	1.9	4.1	253	190	166	-25.12	-12.43	1.92	3.97	4.75	2.05	.78	21.0	18.9	-2.1
Colorado	3.7	4.8	8.3	1.1	3.5	280	271	271	-3.10	-.04	1.92	2.41	2.37	.49	-.04	20.8	18.0	-2.7
Connecticut	4.6	5.6	8.3	1.0	2.7	197	189	180	-4.35	-4.63	.83	1.53	1.37	.70	-.16	16.9	23.9	7.0
Delaware	3.5	4.9	8.0	1.4	3.1	219	208	201	-4.79	-3.26	.27	.66	.78	.39	.12	26.9	19.4	-7.5
Dist. of Columbia	5.4	6.5	9.6	1.1	3.1	351	334	321	-4.86	-3.95	.28	1.48	1.14	1.20	-.34	33.7	31.2	-2.5
Florida	4.0	6.2	10.2	2.2	4.0	293	231	194	-21.24	-16.11	2.00	4.52	5.93	2.52	1.41	22.7	21.1	-1.6
Georgia	4.7	6.3	9.7	1.6	3.4	199	187	177	-6.06	-5.40	1.57	2.20	2.68	.63	.48	25.5	24.6	-.8
Hawaii	2.7	4.0	6.8	1.3	2.8	212	206	189	-2.97	-8.20	.20	.64	1.78	.44	1.14	18.0	17.0	-.9
Idaho	2.9	4.7	7.7	1.8	3.0	264	253	235	-4.15	-7.11	.61	1.38	2.72	.77	1.34	24.1	18.5	-5.6
Illinois	5.1	6.4	10.0	1.3	3.6	212	203	191	-4.62	-5.57	1.25	1.91	2.50	.66	.59	20.3	17.5	-2.8
Indiana	4.6	5.9	10.4	1.3	4.5	169	164	161	-2.82	-1.52	1.03	1.67	1.49	.64	-.18	23.8	19.3	-4.5
Iowa	3.8	4.3	5.6	.5	1.3	201	199	199	-.71	-.27	.31	.41	.43	.10	.02	18.4	19.8	1.4
Kansas	4.1	4.5	7.1	.4	2.6	199	197	197	-.67	-.13	.20	.51	.74	.31	.23	22.9	20.5	-2.4
Kentucky	5.6	6.6	10.7	1.0	4.1	191	190	190	-.42	-.38	.27	.38	.51	.11	.13	29.5	28.0	-1.5
Louisiana	3.8	4.4	6.6	.6	2.2	235	233	231	-.96	-.47	.20	.39	.63	.19	.24	22.8	20.4	-2.4
Maine	4.7	5.4	8.2	.7	2.8	221	216	213	-2.28	-1.60	.04	.41	.46	.37	.05	22.0	18.9	-3.0
Maryland	3.6	4.4	7.1	.8	2.7	268	241	224	-10.18	-6.93	.83	1.41	1.87	.58	.46	20.4	17.6	-2.8
Massachusetts	4.5	5.3	8.2	.8	2.9	241	229	224	-4.94	-1.89	.66	1.64	1.33	.98	-.31	19.9	16.1	-3.9
Michigan	7.1	8.3	13.3	1.2	5.0	185	164	156	-10.94	-4.93	1.95	2.35	2.61	.40	.26	18.3	19.9	1.6
Minnesota	4.6	5.4	8.1	.8	2.7	250	232	223	-7.18	-4.05	.51	.89	1.38	.38	.49	16.3	16.9	.6
Mississippi	6.2	6.8	9.6	.6	2.8	193	188	181	-2.43	-4.01	.11	.18	.43	.07	.25	26.8	26.5	-.3
Missouri	5.1	6.1	9.3	1.0	3.2	205	197	194	-3.70	-1.55	.91	1.19	1.08	.28	-.11	22.8	20.3	-2.5
Montana	3.3	4.5	6.3	1.2	1.8	318	318	310	.21	-2.70	.27	.29	.32	.02	.03	16.9	22.7	5.8
Nebraska	2.9	3.2	4.8	.3	1.6	199	194	195	-2.64	.47	.47	.41	.24	-.06	-.17	17.6	21.6	4.0
Nevada	4.6	6.7	12.5	2.1	5.8	254	193	143	-23.99	-26.05	3.38	7.29	10.17	3.91	2.88	21.9	24.3	2.3
New Hampshire	3.5	3.9	6.3	.4	2.4	230	215	208	-6.58	-3.29	.21	1.13	1.21	.92	.08	15.0	19.6	4.6
New Jersey	4.3	5.5	9.1	1.2	3.6	255	241	229	-5.52	-5.08	.90	1.80	1.81	.90	.01	17.1	11.8	-5.4
New Mexico	3.4	4.5	7.0	1.1	2.5	242	238	227	-1.55	-4.84	.36	.44	.84	.08	.40	23.1	24.8	1.8
New York	4.5	5.3	8.4	.8	3.1	222	218	213	-1.57	-2.46	.49	.63	.63	.14	.00	16.8	16.4	-.4
North Carolina	4.7	6.2	10.8	1.5	4.6	201	200	197	-.74	-1.51	.74	.84	.69	.10	-.15	19.1	21.5	2.3
North Dakota	3.1	3.1	4.3	.0	1.2	208	214	217	3.02	1.41	.08	.12	.13	.04	.01	9.5	18.9	9.4
Ohio	5.6	6.6	10.1	1.0	3.5	173	165	161	-4.76	-2.29	1.80	2.25	2.01	.45	-.24	21.5	21.0	-.5
Oklahoma	4.1	3.7	6.6	.4	2.9	193	193	196	.31	1.26	.52	.78	.80	.26	.02	31.4	23.7	-7.7

Appendix Table A1. State variables (continued).

State	Unemployment / 100 in labor force					Home price index (1991=100)					Foreclosures / 100 housing units					Divorces / 1,000 women		
	2007	2008	2009	08-07	09-08	2007	2008	2009	08-07	09-08	2007	2008	2009	08-07	09-08	2008	2009	09-08
Oregon	5.2	6.5	11.1	1.3	4.6	337	320	292	-5.22	-8.66	.54	1.13	2.12	.59	.99	22.7	22.6	-.2
Pennsylvania	4.3	5.3	8.0	1.0	2.7	203	199	194	-1.84	-2.26	.30	.68	.82	.38	.14	17.5	15.5	-1.9
Rhode Island	5.3	7.7	10.8	2.4	3.1	226	208	199	-7.90	-4.49	.41	1.46	1.12	1.05	-.34	20.3	20.2	-.1
South Carolina	5.6	6.8	11.3	1.2	4.5	200	198	194	-1.09	-1.90	.22	.76	1.24	.54	.48	19.8	17.6	-2.2
South Dakota	2.9	3.1	5.0	.2	1.9	221	225	226	1.75	.28	.01	.11	.21	.10	.10	11.9	13.6	1.7
Tennessee	4.9	6.6	10.4	1.7	3.8	203	198	192	-2.11	-3.02	.98	1.65	1.49	.67	-.16	23.9	24.4	.5
Texas	4.4	4.9	7.6	.5	2.7	190	191	191	.80	.01	.94	1.04	1.06	.10	.02	25.9	23.1	-2.8
Utah	2.7	3.7	7.1	1.0	3.4	318	304	274	-4.26	-9.85	.85	1.65	2.93	.80	1.28	23.8	18.2	-5.6
Vermont	3.9	4.5	6.9	.6	2.4	217	213	212	-1.91	-.36	.01	.04	.05	.03	.01	28.2	15.3	-12.9
Virginia	3.0	4.0	6.8	1.0	2.8	246	227	219	-7.82	-3.70	.51	1.52	1.59	1.01	.07	20.6	21.1	.6
Washington	4.6	5.5	9.3	.9	3.8	280	268	248	-4.23	-7.56	.57	.97	1.29	.40	.32	24.7	20.6	-4.1
West Virginia	4.2	4.2	7.7	.0	3.5	192	192	188	.01	-1.87	.05	.08	.17	.03	.09	23.4	20.0	-3.4
Wisconsin	4.8	4.9	8.7	.1	3.8	229	224	220	-2.04	-1.83	.49	.78	1.38	.29	.60	20.4	13.7	-6.7
Wyoming	2.8	3.1	6.5	.3	3.4	305	308	294	.88	-4.42	.15	.28	.30	.13	.02	32.7	23.9	-8.8