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'Til Recession Do Us Part: Booms, Busts, and Divorce in the United States

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Abstract.

A general hypothesis regarding the impact of permanent income levels and business cycle fluctuations on divorce rate at the state level in the United States is analyzed in the paper. Using data for 45 states over the 1978-2009 sample period, the paper shows that the higher the level of transitory income, the higher is the incidence of divorce. In other words, divorce is pro-cyclical. Why do divorce decrease during recession and increase during expansion? When an economy is in crisis and people's incomes are low, the cost of divorce will prevent a couple from divorcing irrespective of the quality of their marriage. In this case, divorce is not an effective option. Extending this reasoning to the Great Recession of 2007-9, it can be argued that scarce employment opportunities and reductions in the value of martial assets had forced couples to remain together, notwithstanding marital difficulties. As the economy moved into a slow and moderate recovery beginning in mid-2009, this pent-up demand for divorce was released and the rates increased. That, in large part, is why divorce generally follow a 'pro-cyclical' course, fluctuating in sympathy with the economy.

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"They started to fight when the money got tight, and they just didn't count on the tears …"

Billy Joel "Scenes from an Italian Restaurant"

I.   Introduction

Do recessions tear married couples apart? Or do they push them closer together? When the Census Bureau released its 2009 American Community Survey (ACS) estimates, many news accounts focused on showing how the numbers measured the impact of the 2007-2009 Great Recession. The implications for families of the economic and financial crises have been the subject of widespread speculation, ranging from coverage of the 'he-cession' of job loss in traditionally-male dominated sectors of employment and its consequences for marriage and divorce, to recent claims about the increasing prevalence of 'undivorced' couples who lead separate lives as they cannot afford to liquidate jointly-held assets that are now worth pennies on the dollar (Brines and Serafini, 2010; Paul, 2010)

Several news stories – including those in the *New York Times, Wall Street Journal, USA Today, Associated Press and AOL News* – highlighted ACS findings that for the first time, more 25-to-34-year-olds have never married than are married. Among those ages 18 and older, 52% are married, the lowest proportion in more than a century. Young adults, according to this narrative, have less money to spend on a wedding and are less eager to enter into a lifetime commitment during times of economic uncertainty.

Mather and Lavery (2010) noted that marriage rates among young people have been dropping for years, but the decline has accelerated since the recession began. Cohen (2010) has also picked up on the idea that the recession "…*seems to be hurrying along a decline in marriage*". A survey conducted in 2008 in London among financial analysts, stockbrokers and hedge-fund managers suggested that the economic downturn prompted an upsurge in divorces among high-earners in London's financial center (*Economist,* 2008). One explanation is that the defecting spouses of high earners are getting out before the economic crunch reduces the potential for lucrative settlements. Using county-level data from the state of Washington, Brines and Serafini (2010) showed that rising unemployment led to an increase in the number of divorce filings and this effect was most pronounced during the 2008 recession.

On the other hand, another survey result from the UK showed that as the recession took hold in 2008, the number of divorces fell to the lowest level since 1975, suggesting that more couples may be staying together because the economic crisis left them unable to afford to split (Cassidy 2010). Unlike the high income earners, the link between divorce rates and economic conditions is less clear-cut for the middle income earners, not least since the main marital asset is houses rather than spouses. Rising inflation and falling house prices put pressure on marriages and might thus contribute to higher divorce rates. Still the same factors also make splitting up more complicated. Falling property prices mean that selling the family home may not provide sufficient funds for two separate homes, especially now that lenders have become much more selective (Economist, 2010). Using data from 1976-2009, Hellerstein and Morrill (2011) found that a one percentage point increase in the unemployment rate is associated with about a one percent decline in the contemporaneous divorce rate.

Yet some have sounded a contrarian and optimistic view. Stevenson and Wolfers (2007) and Wolfers (2010) have suggested that marriage and divorce rates have remained remarkably immune to the ups and downs of the business cycle. In 2009 there were about 2.1 million marriages in the United States. Although it does represent a slight decline since the Great Recession began, Wolfers (2010) argue that it's the same rate of decline that existed during the preceding business cycles and reflects a 30-year trend. Other researchers have focused on the response of family arrangements to sudden or severe economic dislocations that may challenge norms of household resource allocation or otherwise disrupt long-established patterns of behavior in marriage (Elder 1974; Ware 1982; Westin 1976). Still others point to the enduring resilience of family bonds, and suggest that these ties are remarkably adaptive in their ability to absorb social, economic, and cultural "shocks." These authors maintain that the fragility of marriage in recent years is vastly overstated.

So which view is correct? Will the recession strengthen or weaken marriage? Two conflicting explanations of this relationship have been given in the literature (South, 1985). On the one hand, economic booms make divorce more affordable, providing unhappy couples the financial means to end their marriages. So demand for divorce would increase as income increases thus leading to the widely held belief that the number of divorces increases during economic expansions and decreases during recessions. On the other hand, deteriorating economic conditions, due to say high unemployment, place strains on marital relationship and lead to more divorce (Liker and Elder, 1983). According to this view, divorce would increase during economic downturns.

This paper will analyze the impact of business cycle fluctuations on marriage and divorce in the United States using state-level data. In particular, it will provide evidence on the impact of the Great Recession of 2007-9 on marital status. Determining how macroeconomic conditions affect divorce rates is an important component in understanding the stability of marriages. Another motivation for this study is that the results would suggest important avenues for future research on the determinants of divorce at the individual-level. For example, researchers and policymakers have long sought to identify factors that contribute to marital instability, particularly in at-risk populations. Identifying how macroeconomic conditions, affect families will contribute to our understanding of how families may or may not cope with business cycles.

The rest of the paper is organized as follows. Section II reviews the literature while Section III discusses the trend in marriage and divorce in the United States. Section IV presents the methodology while Section V discusses the data source and estimation results. The paper ends with a summary and conclusions in Section VI.

II.   Literature Review

Although economic uncertainty has been linked to marital disruption by several recent empirical studies, there is a lack of consensus regarding how economic downturns might impact family behavior. Most mechanisms linking economic context to family behavior support one of two arguments, one centered on *relational stress* and the other on *relative costs* (Brines and Serafini 2010; Fischer and Liefbroer 2006). Under the relational stress approach, family life is disrupted during economic downturns, especially for low-income families, because spouses are under pressure to keep their families and lifestyles afloat. Conflicts arise when partners, especially men, are chronically unemployed or have insufficient earnings (Cherlin 1992; Brines and Serafini 2010). In addition, during periods of economic contraction, partners may avoid costly joint investments such as housing because they lack the financial resources or because the uncertainty of the environment deters large investments of this type. This has consequences for marriage and divorce because these investments strengthen interdependence and build cohesiveness in couples; when they are foregone, spouses miss an opportunity to solidify their ties to each other (Brines and Joyner 1999).

The relative costs argument, on the other hand, implies that marriage break-up should be *less likely* during periods of economic recession. Divorce may be especially costly during this period as it involves the loss of marital surplus realized through economies of scale and household specialization that may help people maintain their standard of living or even survive in the event that one or both spouses lose work or earned income (Becker, Landes and Michael 1977; Becker 1981). Thus, the negative financial prospects that characterize recessionary periods may convince spouses, especially financially-dependent spouses, to wait out their marriages (Cherlin 1992; Peters 1993). During the Great Recession of 2007-9, , the mainstream media has touted these types of arguments to explain perceived trends among some couples who, in a more affluent or stable period, might otherwise divorce (Brines and Serafini, 2010).

A number of recent papers have supported the relational stress perspective; that is, relationships are less durable during periods of economic hardship. For example, South (1985) analyzed several cohorts spanning 1949 to 1979 and found that during periods of high unemployment the divorce rate increased, whereas during periods of economic growth, the divorce rate decreased. He argued that throughout the postwar period, the financial and social costs of divorce decreased, and this secular trend held through recessionary periods. As a result, spouses dissatisfied with their marriages faced a more liberal legal environment, less social stigma, higher average incomes relative to pre-war decades, and a growing female labor force that was less dependent on marriage for economic support (South 1985, pp. 38-39). More recent research has linked other macro-level indicators of economic uncertainty to marital instability, such as, men's declining labor market opportunities (Ruggles 1997), rising inflation (Nunley 2009), and eroding consumer confidence (Fischer and Liefbroer 2006). Using data from the Netherlands, Fischer and Liefbroer (2006) show a negative relationship between consumer confidence and marital dissolution rates suggesting again that divorce is counter-cyclical.

On the other hand, Weiss and Willis (1997) suggest that divorce probabilities are influenced by unexpected changes in income. Using data from the National Longitudinal Study of the High School Class of 1972, they show that an increase in the husband's earnings is stabilizing to marriage while a rise in the wife's earnings is destabilizing. Charles and Stephens (2004) use a similar framework and, using the Panel Study of Income Dynamics, report that divorce rates rise in response to a husband being laid off from a job, but not as a result of job loss due to disability or plant closing. They conclude that while a lay-off provides information to the wife about her husband's future

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earnings potential, job loss due to a plant closing does not change the wife's information set. Further, they argue that there is a stigma to leaving a disabled spouse, so the (social) cost of divorce in this case is prohibitively high. In contrast, using the Survey of Income Program and Participation, Singleton (2009) finds that disability of a husband increases the probability of divorce, particularly in the case of young men.

Hellerstein and Morrill (2011) provide empirical evidence that the divorce rate is pro-cyclical, at least in recent decades. Using state-level data from 1976-1998, their estimate show that a one percentage point increase in the unemployment rate over the sample period is associated with about a one percent decline in the contemporaneous divorce rate. Their result that divorce is pro-cyclical is robust to various alternative specifications. Amato and Beattie (2011) analyzed data from 50 states and the District of Columbia from 1960 to 2005 to study how the unemployment rate and the divorce rate are related. They found unemployment to be positively related to divorce in a bivariate analysis, but the association is not significant when state and year fixed effects are included in the statistical model. When the sample is divided into time periods, unemployment is negatively and significantly associated with divorce after 1980. These findings provide the strongest support for a "cost of divorce" perspective and suggest that a high rate of unemployment decreases the rate of divorce, net of unobserved time-invariant state characteristics and period (year) trends.

Thus, we know little so far about how changes in the economy have affected families during the first decade of the 21st century (Brines and Serafini 2010). Changes in the structure of labor markets and the rise of new forms of contingent or nonstandard employment may have acclimated today's husbands and wives, especially young married people, to the idea that work is precarious (see Kalleberg 2009). Unemployment may be less disruptive for marriages today because it might mean something different than it did just two decades ago. On the other hand, the concurrent rise in homeownership and in beliefs about the centrality of investing to build wealth or ensure a prosperous future in an era of flat wages may have introduced a new factor in calculations of the costs of divorce.

Relative income, as a measure of uncertainty and instability, has been linked to marital disruption. Most studies have examined the role of women's contribution to household income as a predictor of

divorce and have found mixed results (see White and Rogers 2000). For the past several decades, the risk of divorce is substantially higher for lower-income families relative to their higher earning counterparts, especially during the early years of marriage (Cherlin 1992; Preston and McDonald 1979; but see Mott and Moore 1979). Indeed, several studies examining the effects of macro-economic factors on divorce rates at the county or district level have found a similar pattern; higher median incomes are negatively associated with the incidence of divorce (Breault and Kposowa 1987). However, men's declining labor market position should be particularly destabilizing for marriages, particularly because men are still more likely to occupy the breadwinner role, an argument that has been supported elsewhere (Ruggles 1997). This argument may be particularly important in the Great Recession period insofar as men are more adversely impacted relative to women.

III. Trends in Marriage and Divorce

Fewer couples get divorced in times of economic difficulty, but is that because their marriages are great, or because they're too broke to get divorced? "The Survey of Marital Generosity" conducted by the National Marriage Project at the University of Virginia in 2011, seems to suggest that both things may occur in times of national hardship. Despite previous findings that financial stress tends to weaken marriages, the survey from a nationally representative sample of 1,197 married Americans aged 18 to 45, found that 29 percent of Americans believe the most recent recession deepened their commitment to marriage. What's more, 38 percent of couples who had been considering divorce prior to the recession put those plans aside.

This survey suggests that while there are certainly cases of couples delaying marriage as the result of a job loss due to the Great Recession, is not likely the primary cause for the decline in the percentage of married persons between 2008 and 2009.The proportion of people 15 years and over who are married is on the decline in the United States and has been for decades, during both times of economic growth and recessions (see Figures 1-3 for the trend in divorce rate both at the aggregate and disaggregated level). There are several factors at work contributing to this decline. As the percentage of married persons has declined from 67 percent in 1950 to 54 percent in 2009, the percentage of divorced persons has risen. In2009, more than 23 million or 9.7 percent of the population was divorced compared to just 2.2 percent in 1950. Last year 30 percent of the population 15 years and over had never been married compared to 23 percent in 1950. Both men

and women are delaying marriage. In 1970, the median age for first marriage was 23 years for men and 21 for women. Last year median age for first marriage had risen to 28 years for men and 26 years for women. As these trends suggest, the percentage of the population married would likely have declined between 2008 and 2009 even if the economy had been booming. Between 2005 and 2006 during the height of the last expansion, the percentage of the population that was married declined by 0.4 percent. The percentage of the population that is married has declined or remained unchanged in12 out of the past 15 fifteen years.

In the decade and a half that followed the passing of the no-fault divorce bill in California in 1969, virtually every state in the Union followed California's lead and enacted a no-fault divorce law of its own. This legal transformation was only one of the more visible signs of the divorce revolution then sweeping the United States: From 1960 to 1980, the divorce rate more than doubled — from 9.2 divorces per 1,000 married women to 22.6 divorces per 1,000 married women. In the years since 1980, however, these trends have not continued on straight upward paths, and the story of divorce has grown increasingly complicated. In the case of divorce, as in so many others, the worst consequences of the social revolution of the 1960s and '70s are now felt disproportionately by the poor and less educated, while the wealthy elites who set off these transformations in the first place have managed to reclaim somewhat healthier and more stable habits of married life. This imbalance leaves our cultural and political elites less well attuned to the magnitude of social dysfunction in much of American society, and leaves the most vulnerable Americans — especially children living in poor and working-class communities — even worse off than they would otherwise be.

After rising from 16.4 per 1000 married women in 2005 to 17.5 per 1000 married women in 2007, divorce rates in the US fell to 16.9 per 1000 married women in 2008. This divorce decline suggests that most married couples have not responded to the economic crisis following the 2007-9 recession by divorcing. Instead, judging by divorce trends, many couple appear to be developing a new appreciation for the economic and social support that marriage can provide in tough times.

IV. Methodology

In this paper we consider a general hypothesis regarding the impact of permanent income levels and business cycle fluctuations on divorce rate at the state level. To do so, we follow Melitz and

Zumer (2002) and use the regression model that they used to examine the regional distribution and stabilization through the central government budget. Gokcekus and Suzuki (2011) used the same model to analyze the impact of business cycle on corruption.

Consider the following equation:

$$DIVORCE_{i,t} = \beta_0 + \beta_1\underline{INCOME_i} + \beta_2(INCOME_{i,t} - \underline{INCOME_i}) + \varepsilon_{i,t} \quad\quad (1)$$

Where $DIVORCE_{i,t}$, defined as $DIVORCE_{i,t}/ DIVORCE_{AVE,t}$, stands for the relative level of divorce; $INCOME_{i,t}$ is $GDP_{i,t}/GDP_{AVE,t}$, and GDP is per capita gross state product; and $\varepsilon_{i,t}$ is a disturbance term. Subscripts i and t refer to state (i=1,2,...M) and year (t=1,2,...T), and AVE is the average over the sample state. The average of $INCOME_{i,t}$ over the entire period, $\underline{INCOME_i}$ reflects the level of permanent income in state i relative to other states in the sample. The deviation, $(INCOME_{i,t} - \underline{INCOME_i})$, reflects transitory income.

Gokcekus and Suzuki (2011) have shown that coefficient β_1 can exist even when there is no movement in the time series, whereas coefficient β_2 depends entirely on such movement. This can be shown by decomposing Equation (1) into two components:

$$DIVORCE_{i,t} = \beta_0 + \beta_1\underline{INCOME_i} + \eta_i \quad\quad (2)$$

$$DIVORCE_{i,t} - \underline{DIVORCE_i} = \beta_2(INCOME_{i,t} - \underline{INCOME_i}) + \mu_{i,t} \quad\quad (3)$$

Where η_i and $\mu_{i,t}$ are two disturbance terms. As η_i and $\mu_{i,t}$ adds up to $\varepsilon_{i,t,}$ Equations (2) and (3) add up to Equation (1).

The coefficient β_1 measures the response to the level of permanent income while the coefficient β_2 shows the effect of contemporary transitory deviations from the long run average income level on divorce rate over the business cycle. In other words, it shows the cyclical behavior of divorce.

Melitz and Zumer (2002) and Gokcekus and Suzuki (2011) argue that a distributed-lag version of the equations is more appropriate when there are lagged impact. Accordingly, Equation (3) could be re-formulated as

$$\text{DIVORCE}_{i,t} - \underline{\text{DIVORCE}}_i = \sum_{j=0}^{L}\beta_{2,t-j}(\text{INCOME}_{i,t-j} - \underline{\text{INCOME}}_i) + \upsilon_{i,t} \qquad\qquad (4)$$

Where L is the number of lags; $\sum_{j=0}^{L}\beta_{2,t-j}$ is the cumulative sum of the effect of transitory deviations, and $\upsilon_{i,t}$ is the disturbance term.

V. Data Source and Empirical Results

The measure of divorce used in this study is the refined divorce rate, defined as the number of divorces per 1,000 married women age 15 and older. South (1985) has argued that although the refined divorce rate is insensitive to the age composition of the married population, the measure compares favorably with age-specific divorce rates and is clearly preferable to two other measures, the crude divorce rate and the ratio of divorces to marriages.

Data on gross state product are taken from the Bureau of Economic Analysis. The state-level annual divorce rate data are from the vital statistics data series prepared by the National Center for Health Statistics. Updates by Justin Wolfers:

 http://bpp.wharton.upenn.edu/jwolfers/data/DivorceDataAppendix.pdf

are used to update the series through 1998. Figures for 1999-2009 are again taken from the National Center for Health Statistics:

 http://www.cdc.gov/nchs/data/nvss/divorce_rates_90_95_99-09.pdf

The sample period runs from 1978 through 2009. Unfortunately, consistent divorce data is not available for all states in the U.S. The Vital Statistics are missing data for a number of years for California, Hawaii, Indiana, Louisiana and New Mexico. These five states are therefore dropped from the analysis.

As pointed out by Hellerstein and Morrill (2011), this sample period reflect a period where vast changes occurred in the divorce rate. As divorces became more common in the late 1970s and early 1980s, cultural attitude towards divorce shifted and it carried less of a social stigma (also see Thornton and Young-DeMarco, 2001). Moreover, as many states adopted the unilateral and no-fault divorce legislation, it became easier for one partner alone to initiate a divorce and that partner would not have the same burden of establishing fault for grounds of divorce (see Friedberg, 1998). Hellerstein and Morrill (2011) also argued that as long as one of the possible channels by which

macroeconomic conditions affect divorce is through a change in one partner's valuation of the quality of the marital match, this channel will be much more relevant in a situation where one partner can initiate divorce without establishing fault. Moreover, women were entering the labor force in increasing numbers thereby reducing a woman's financial risk in divorcing.

Equations (2)-(4) are estimated separately using five regressions. Equation (2) is initially estimated using OLS and is shown in Column 2 in Table 1. The coefficient β_1 is 0.566 and is statistically significant and negative. This implies that permanent income significantly reduces the occurrence of divorce. As there is a potential for reciprocal influence and endogeneity, the methodology outlined in Chowdhury (2004) is used to estimate Equation (2) using Two Stage Least Squares (2SLS). Latitude is used as an instrumental variable for per capita state income. The results of the 2SLS is reported in Column 3. The coefficient of β_1 is again statistically significant and negative with an absolute value of 0.608. Thus the finding from the OLS that an increase in permanent income significantly reduces the occurrence of divorce is also supported by the 2SLS results.

Next, we estimate the contemporary effect of transitory income on divorce as given in Equation (3). The OLS results are given in Column 4 in Table 1. The results show a statistically significant positive relationship between divorce and transitory income. The β_2 coefficient is positive and equal to 0.224. Equation (3) is also estimated using the generalized method of moment – instrumental variable (GMM-IV) technique (Arellano and Bond, 1991; Chowdhury, 2004). The results are shown in Column 5. The coefficient β_2 is again statistically significant and positive. The coefficient estimate is 0.189. These estimates indicate that divorce practices are more pervasive during business booms.

Finally, we consider the possibility of lagged influence. Equation (4) is estimated using GMM-IV and the estimation results are reported in Column 6. The coefficients $\beta_{2,t}$ and $\beta_{2,t-1}$, are 0.128 and 0.095, respectively. They are both statistically significant. The total effect of the transitory deviations, the cumulative sum, $\sum_{j=0}^{1}\beta_{2,t-j}$ is 0.223. The positive signs of the coefficients are consistent with both the OLS and GMM-IV (without lag) estimation results. Taken together, the results in Table 1 consistently show that the higher the transitory income, the higher is the incidence of divorce. In other words, divorce is pro-cyclical. We find strong evidence that the divorce rate is pro-cyclical, a result that is consistent with the two other very recent studies examining the cyclicality of divorce

using vital statistics data (Amato and Beattie, 2011; Schaller, 2010). These results are also similar to those reported in Hellerstein and Morrill (2011) but contrary to Wolfers (2010). Moreover, the results of Equation (2) show that divorce rates are higher in states with higher income.

VI.   Summary and Conclusions

The Great recession of 2007-9 has caused significant amounts of financial stress and economic hardship for American married couples and has directly affected their personal lives. A secondary affect of the recession has been on divorce rates as the rates have decreased since early spring of 2008 with the deepening of the economic crisis. That trend, however, has recently reversed itself and divorce rates have started to increase. Some of the increase may be attributable to the improved economy. Some of the increase, however, is likely attributable to couples who previously delayed their divorces but are no longer willing to do so.

In this paper we consider a general hypothesis regarding the impact of permanent income levels and business cycle fluctuations on divorce rate at the state level in the United States. Using the regression model developed in Melitz and Zumer (2002), and data for 45 states over the 1978-2009 sample period, the paper shows that the higher the level of transitory income, the higher is the incidence of divorce. In other words, divorce is pro-cyclical.

Why do divorce decrease during recession and increase during expansion? As divorce eliminates the gains from marriage such as household division of labor (Becker, 1991) and the cost sharing of public goods (Lam, 1988), it is costly to the couple. So when an economy is in crisis and people's incomes are low, the cost of divorce will prevent a couple from divorcing irrespective of the quality of their marriage. In this case, divorce is not an effective option for a couple. Extending this reasoning to the Great Recession of 2007-9, it can be argued that scarce employment opportunities and reductions in the value of martial assets had forced couples to remain together, notwithstanding marital difficulties. Unemployment rates have stubbornly remained close to 10%, and the percentage of people working with reduced hours or pay is far in excess of that number. Complicating matters is that divorces are often instigated by financial problems. In many divorces one or both of the spouses involved have either lost a job, have their job in jeopardy, or had their

hours or pay reduced. Consequently, many estranged spouses are in a financial bind, when it comes to their divorce, giving a whole new meaning to the promise "for richer or poorer." Many couples simply do not have enough money necessary to support themselves separately and pay for their other financial obligations As a result, many couples that wanted to separate and divorce had either put their cases on hold and remained together out of economic necessity or were looking for more creative and cost efficient means by which to separate and divorce.

A second major reason that divorces are being delayed is directly related to the depressed housing market as the marital assets are worth significantly less today than they were just a few years ago. In the past, divorcing couples often used equity that they built up in their marital residence to fund their divorce and provide each of them with a nest egg to begin their separate lives. Home prices in the last few years have dropped significantly, however, wiping out much or all of the equity. Worse yet, in many situations, couples need to attempt a short sale to separate financially. Anecdotal evidences suggest that in certain cases, moving divorces forward has become more difficult because couples do not have the financial means to support themselves separately.

At the same time, the economic downturn forced many couples to redouble efforts to save their marriages. Despite increased marital stress due to the economy, the divorce rate has actually declined since the financial collapse—one of many trends supposedly caused by the recession. Why? Perhaps it's just too expensive to split up now.

Or perhaps there is a psychological reason behind the drop in divorce during recessions. When surrounded by stories of job loss and foreclosure, couples come to realize what's truly important in life, and their new priorities include serious efforts to make marriages work. In other words, the shift in the broader economic climate have led many Americans to deepen their commitment to marriage and, in some cases, to cancel their plans to divorce.

But when a couple decides to postpone divorce due to a recession, it does not usually mean their desire ultimately to split is reduced. In fact studies have shown that couples that experienced unemployment and the resulting financial crisis are more likely to experience split up down the road. So, for some couples, recessions actually stoke demand for divorce, even as they make it more difficult to achieve.

Now that sentiment has changed after the recession ended. As the economy moved into a slow and moderate recovery beginning in mid-2009, this pent-up demand for divorce was released and the

rates increased. That, in large part, is why divorce generally follow a 'pro-cyclical' course, fluctuating in sympathy with the economy.

References

Amato, Paul R., and Brett Beattie, 2011, "Does the Unemployment Rate Affect the Divorce Rate? An Analysis of State Data 1960-2005," *Social ScienceResearch*, Vol. 40, Issue 3, May, 705-715.

Becker, Gary S., Elizabeth M. Landes, and Robert T. Michael. 1977. "An Economic Analysis of Marital Instability." *The Journal of Political Economy,* 85, 1141-1187.

Breault, K.D. and Augustine J. Kposowa, 1987, "Explaining Divorce in the United States: A Study of 3,111 Counties, 1980." *Journal of Marriage and Family* 49, 549-558.

Brines, Julie and Brian Serafini, 2010, "War, Recession, and Marital Instability: Conditional Effects of Uncertainty in Washington State, 2000-2010", Department of Sociology, University of Washington, mimeo.

Brines, Julie and Kara Joyner, 1999, "The Ties the Bind: Principles of Cohesion in Cohabitation and Marriage." *American Sociological Review,* 64, 333-355.

Cassidy, S., 2010, "Impact of the Recession: More Suicides, Fewer Divorces," *Independent*, 29 January.

Cherlin, Andrew J., 1992, *Marriage, Divorce, Remarriage.* Cambridge, MA: Harvard University Press.

Chowdhury, A., 2004, "Private Savings in Transition Economies: Are There Terms of Trade Shocks?" C*omparative Economic Studies*, 46(4), December, 487-514.

Chowdhury, S., 2004, "The Effect of Democracy and Press Freedom on Corruption: An empirical Test," *Economics Letters*, 85, 93-101.

Eckholm, E. 2010, "Saying No to 'I Do', With the Economy in Mind," *The New York Times*, September 28.

Economist, 2008, "Divorce and Economic Growth: Negatively Correlated," July 24.

Elder, Glen Jr., 1974, *Children of the Great Depression: Social Change in Life Experience.* Chicago IL: University of Chicago Press.

Fischer, Tamar and Aart C. Liefbroer, 2006, "For Richer, For Poorer: The Impact of Macroeconomic Conditions on Union Dissolution Rates in the Netherlands 1972-1996."*European Sociological Review* 22, 519-532.

Friedberg, Leora, 1998, "Did Unilateral Divorce Raise Divorce Rates? Evidence from Panel Data," *American Economic Review*, 88(3), June, 608-627.

Gokcekus, Omer and Yui Suzuki, 2011, "Business Cycle and Corruption," *Economics Letters*, 111, 138-140.

Hellerstein, J., and M. Morrill, 2011, "Booms, Busts, and Divorce," University of Maryland, mimeo, July.

Jacobsen, L. and M. Mather, 2010, "U.S. Economic and Social Trends Since 2000," *Population Bulletin*, 65(1), February.

Kalleberg, Arne, 2009, "Precarious Work, Insecure Workers: Employment Relations in Transition." *American Sociological Review* 74, 1-22.

Liker, J.K. and G. Elder, 1983, "Economic hardship and Marital Relations in the 1930s," *American Sociological Review*, 48, June, 343-359.

Mather, M. and D. Lavery, 2010, "In U.S., Proportion Married at Lowest Recorded Levels," Population Reference Bureau, mimeo.

Melitz, J., F. Zumer, 2002, "Regional Redistribution and Stabilization by the Center in Canada, France, the UK and the US: A Reassessment and New Tests," *Journal of Public Economics*, 86, 263-286.

Mott, Frank L. and Sylvia F. Moore, 1979, "The Causes of Marital Disruption Among Young American Women: An Interdisciplinary Perspective." *Journal of Marriage and Family,* 41, 355-365.

NCFMR, 2010, "First Divorces in the U.S., 2008", available at http://ncfmr.bgsu.edu/pdf/family_profiles/file84440.pdf

Nunley, John M. 2009. "Inflation and Other Aggregate Determinants of the Trend in U.S. Divorce Rates since the 1960s." *Applied Economics*

Paul, Pauline, 2010, "The Undivorced," *The New York Times*, July 30.

Peters, Elizabeth H., 1993, "The Importance of Financial Considerations in Divorce Decisions." *Economic Inquiry,* 31, 71-86.

Preston, Samuel H. and John McDonald, 1979, "The Incidence of Divorce Within Cohorts of American Marriages Contracted Since the Civil War." *Demography,* 16, 1-25.

Ruggles, Steven, 1997, "The Rise of Divorce and Separation in the United States, 1880-1990" *Demography,* 34, 455-466.

Schaller, Jessamyn, 2010, "For Richer, if not for Poorer? Marriage and Divorce over the Business Cycle," *Unpublished manuscript*, University of California, Davis, December.

South, S. J., 1985, "Economic Conditions and the Divorce Rate: A Time-Series Analysis of the Postwar United States, *Journal of Marriage and Family*, 47(1), February, 31-41.

Stevenson, B. and J. Wolfers, 2007, "Marriage and Divorce: Changes and their Driving Forces," *Journal of Economic Perspectives*, 21(2), 27-52.

Thornton, Arland and Linda Young-DeMarco, 2001, "Four Decades of Trends in Attitudes Toward Family Issues in the United States: The 1960s through the 1990s," *Journal of Marriage and Family*, 63(4), pp. 1009-1037.

Ware, Susan, 1982, *Holding Their Own: American Women in the 1930s.* Boston, MA: Twayne Publishers.

Westin, Jeane, 1976, *Making Do: How Women Survived the 1930s.* Chicago, IL: Follett.

White, Lynn and Stacy J. Rogers, 2000, "Economic Circumstances and Family Outcomes: A Review of the 1990s." *Journal of Marriage and Family* 62:1035-1051.

Wolfers, J., 2010, "How Marriage Survives," *The New York Times*, October 12.

Table 1: Regression results: divorce as a function of permanent and transitory incomes

| Column 1	Equation (2)		Equation (3)		Eq. (4)
	2	3	4	5	6
Independent Variable (coefficient)	OLS	IV (2SLS)	OLS	GMM IV	GMM IV
Constant (β_0)	0.391 (0.063)	0.644 (0.000)			
Permanent Income (β_1)	-0.566 (0.013)	-0.608 (0.044)			
Transitory Income (β_2)			0.224 (0.023)	0.189 (0.007)	0.165
Transitory Income ($\beta_{2,t}$)					0.128 (0.001)
Transitory Income ($\beta_{2,t-1}$)					0.095 (0.002)
No. of observations	45	45	1350	1350	1350
Adjusted R^2	0.70	0.68	0.18		
Degrees of Freedom	43	43	1349	82	164

P-values are in parentheses.
OLS refers to ordinary least squares; and GMM-IV to Arellano Bond Bover GMM-IV estimation
B_2 in column (5) refers to $\sum_{j=0}^{1}\beta_{2,t-j}$ in Equation (4).

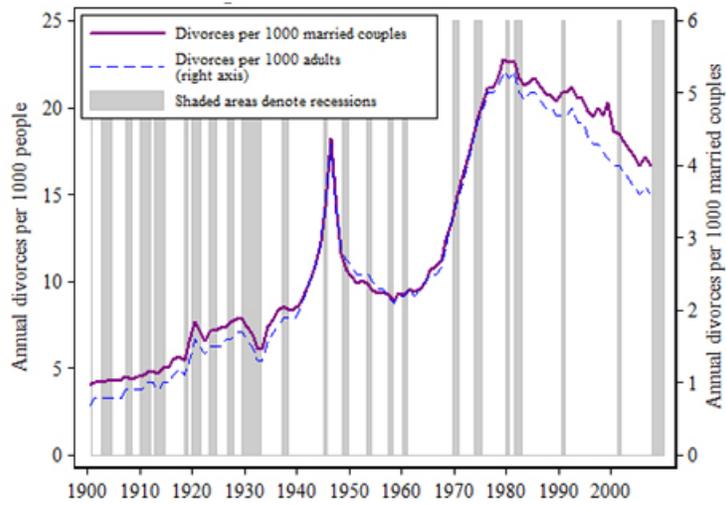**Figure 1: Number of Divorces per 1,000 Married Women Age 15 and Older, by Year, United States**
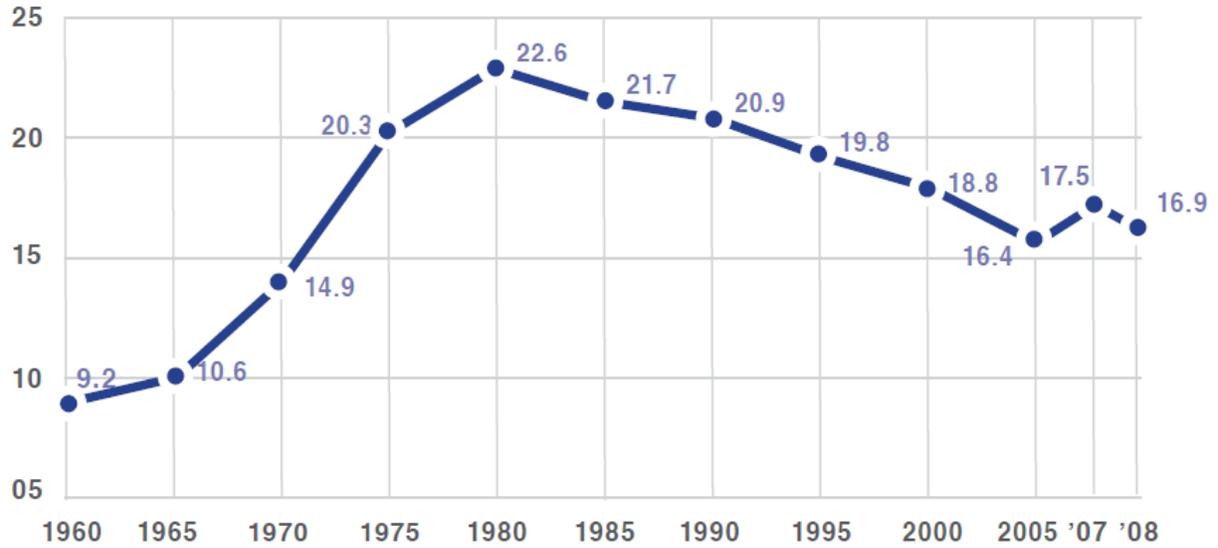
Source: *The State of Our Unions 2009, Figure 5.*

Figure2: Percentage of All Persons Age 15 and Older Who Were Divorced, By Sex and Race, 1960-2010
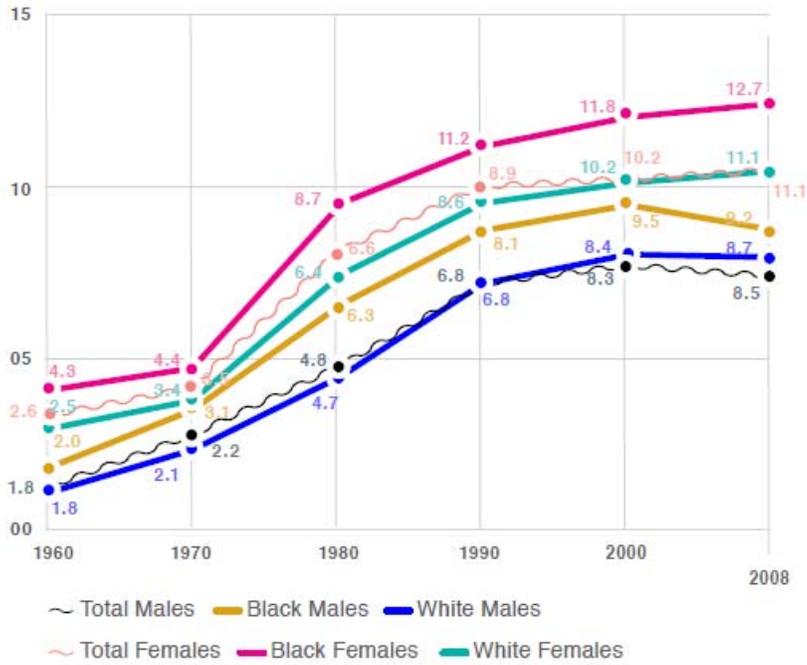
Source: *The State of Our Unions 2009, Figure 6.*

Figure 3: Historical Divorce Rate in the United States, 1900-2009

Source - Wolfers: Divorce and the Business Cycle, 2009