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The Effect of Joint Custody on Family Outcomes

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Abstract

Since the 1970s almost all US states have introduced a form of joint custody after divorce. I analyze the causal effect of these custody law reforms on different family outcomes. My identification strategy exploits the different timing of reforms across the US states. Estimations based on state panel data suggest that the introduction of joint custody led to an increase in marriage rates, an increase in overall fertility (including a shift from non-marital to marital fertility), and an increase in divorce rates for older couples. Accordingly, female labor market participation decreased. Further, male suicide rates and domestic violence fell in treated states. The empirical evidence is consistent with the hypothesis that joint custody increased the relative bargaining power of men within marriage.

JEL Classification: J12, J13, J18, K36, D13, N32, R2.

Keywords: Joint custody, marriage, divorce, fertility, marriage-specific investment, suicide.

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1 Introduction

The American family has undergone radical changes over the last decades. Marriage rates have been falling over the last thirty years, cohabitation has emerged as an important social institution and divorce rates rose sharply from the mid-1960s to the early 1980s (Stevenson and Wolfers, 2007). These dramatic demographic changes came along with an increased economic independence of women and radical changes in family law. The economic literature has focused so far on changes in divorce law. In particular, scholars have studied the impact of the move from mutual consent to unilateral divorce laws.¹

A further aspect of family law, namely custody law, has gained hardly any attention in the literature.² The allocation of custody, however, is a crucial aspect of every divorce since it governs the actual post-divorce living arrangements. Many states have changed their custody law fundamentally since the 1970s. Traditionally, after divorce, one parent was assigned sole custody, and usually the mother was exclusively responsible for the child. The father was restricted to specified visitation rights. In 1973, Indiana was the first US state who introduced a law favoring joint custody (Brinig and Buckley, 1998) and improved thereby the access of divorced fathers to their children. Since then joint custody spread to nearly all US states.

No uniform approach to joint custody has emerged in these laws. However, certain aspects have been widely approved (McKnight, 1991). First, courts award (joint) custody in accordance with the best interests of the child. Second, a joint custody award may comprise both joint legal custody and/or joint physical custody.³ And third, in almost all US states judges have discretion to rule in favor of joint custody even without parents' mutual consent. Researchers have focused on the effect of joint custody on children's well-being. Proponents typically argue that children may benefit from ongoing support and resources from both parents. This is captured in various dimensions such as behavioral adjustment (Bauserman, 2002), economic well-being (Seltzer, 1991; Del Boca and Ribero, 1998; Allen et al., 2011), educational attainment (Leo, 2006; Nunley and Seals, 2011) and parental involvement (Bowman and Ahrons, 1985; Huang et al., 2003). Opponents object that children under joint custody are exposed to ongoing parental conflict (Kuehl, 1989). However, the causal relationship between custody arrangements and child outcomes is far from clear and the empirical evidence is mostly inconclusive.

In this paper, I am concerned with an even more fundamental question: I explore if the introduction of laws permitting joint custody after divorce has an impact on the incidence of marriage, fertility and divorce. The move from sole custody to joint custody causes a redistribution of the gains from marriage between spouses for the case of divorce (*redistribution effect*). Assuming

¹Most of the papers study the effects of unilateral divorce law (and laws regarding the division of matrimonial property) on divorce (Peters, 1986; Allen, 1992; Peters, 1992; Friedberg, 1998; Wolfers, 2006; Matouschek and Rasul, 2008). Other outcomes are marriage (Rasul, 2003, 2006a), marriage and fertility (Alesina and Giuliano, 2007; Drewianka, 2008), marriage-specific investments (Stevenson, 2007), female labor supply (Gray, 1998; Genadek et al., 2007; Stevenson, 2008), various child-outcomes (Johnson and Mazingo, 2000; Gruber, 2004; Cáceres-Delpiano and Giolito, 2008), and domestic violence and suicide (Dee, 2003; Stevenson and Wolfers, 2006).

²The only paper that has previously examined the impact of joint custody laws on divorce is Brinig and Buckley (1998). They find a negative effect of the introduction of joint custody on divorce rates. I am not aware of any attempt to study the impact of custody law on marriage or fertility rates.

³Joint legal custody means that both parents share the right and the obligation of making major decisions about their child's upbringing. Joint physical custody means that the child spends a significant amount of time with each parent.

that the outside option of divorce determines the bargaining power within marriage, I expect a shift of power from women to men. Men (supposedly the short side of the marriage market) should face a higher incentive to marry after the reform, and an increase in marriage rates can be expected. Secondly, the option of joint custody may affect the expected utility in the state of divorce, and the expected cost of the divorce process (*cost effects*). If joint custody reduces the expected cost of divorce, the reform may increase the likelihood of divorce. However, joint custody may also affect spouses' behavior during marriage and may change their incentives to make marriage-specific investments, such as children (*behavioral effect*). Men should be willing to invest more in children, since this is now a less risky investment for them. If joint custody causes an increase in aggregate incentive to invest, one should observe an increase in the value of marriage and a raise in marriage and marital fertility rates. Higher levels of marriage-specific investments should in turn reduce the likelihood of divorce. In sum, I expect the joint custody reform to increase the incidence of marriage, and to shift fertility from out-of-wedlock into marriage. The impact on divorce rates is unclear due to countervailing effects.

In order to identify the causal effect of joint custody on different family outcomes I exploit the variation occurring from the different timing of reforms across the US states. I provide evidence that after the introduction of joint custody, marriage rates increased permanently in adopting states. The delayed and increasing effect on marriage is especially strong among subgroups with a plausibly higher awareness of custody law. There is evidence for a shift of fertility from out-of-wedlock into marriage that follows a very similar pattern. The increase in marital fertility exceeds the decline in non-marital fertility, and a significant increase in total fertility can be observed. These findings are supported by consistent effects on labor market behavior (i. e. a decrease in female labor force participation). The effect of joint custody on the overall incidence of divorce is less clear. However, there is stronger evidence for an increase in divorce rates of spouses between 35 and 44 years of age. Finally, I find that joint custody laws have decreased (especially male) suicides and domestic violence. All these results are consistent with the hypothesis that joint custody increased the relative bargaining power of men within marriage by improving their expected utility after divorce. I conclude that joint custody has increased men's incentive to marry, the group which is supposedly more reluctant.

This paper makes several contributions to the literature. Among others, I provide evidence on unintended consequences of custody law reforms. No attention was given to the potential impact of joint custody laws on the incidence of marriage, fertility and divorce. Second, the results help to understand family decision-making, and to evaluate models of distribution within the family. Third, this paper clarifies different layers of selection which have to be considered when studying the effect of joint custody on post-divorce (child) outcomes. Finally, the results might be interesting for policy-makers, who typically worry about the decline in marriage rates, and intend to encourage marriage, marital fertility and to prevent divorce.

The paper is organized as follows: First, I discuss potential effects of joint custody on marriage, fertility, and divorce. Then I present the identification strategy and the data. The next section discusses the main estimation results. Subsequently, I provide supporting evidence on the impact of joint custody on labor market participation. Before I conclude the paper, I examine the impact of joint custody on suicide and domestic violence.

2 Theoretical considerations

Divorce law typically necessitates a specified division of matrimonial property (including intangible assets) in order to dissolve marriage legally. Concerning child custody the division was traditionally very sharp: One parent became sole custodian and the other was restricted to specified visitation rights. Although most states had a sole custody regime with a gender-neutral rule since the 1980s – i.e. courts were supposed to decide in best interests of the child without applying any presumption – mother sole placement has been the dominant arrangement in practice for a long time.⁴ In fact, its decline since the mid 1980s has been almost exclusively due to the increasing number of joint custody arrangements and only to a very small extent due to increases of male sole custodians (Cancian and Meyer, 1998). That means, one can presume a sole custody regime with a de facto maternal preference in the following discussion.

After divorce, the family is separated in two households and it is no longer possible that the parents spend time with their child jointly. In particular, the father’s tight time constraint may affect the child’s well-being adversely per se. On top of that the father also loses control over child expenditures. He has hardly any opportunity to monitor and enforce an optimal level of child expenditures. This may reduce his incentive to spend on the child (Weiss and Willis, 1985). On the other hand, the mother will not internalize the effects of her child-related actions on the father. In sum, the return to child-investments is greater during marriage than after divorce, and an inefficiently low level of child well-being may be observed in the divorce state.

Why does joint custody matter? There are several ways in which the move from a sole custody regime with a de facto maternal preference to an institutional setting with joint custody may affect the decision to marry, to have kids and to divorce. In order to discuss potential effects of the introduction of joint custody, one has to consider different preference orderings over certain custody arrangements. I presume that parents are altruistic towards their children in the sense that their utility depends on the welfare of their children. Consequently, it is a natural starting point that parents are interested in spending time with their children and that they want to remain custodian after divorce. I assume, therefore, that fathers prefer a joint custody arrangement rather than giving sole custody to the mother. With respect to mothers I do not make a restrictive assumption, since it is a priori not clear whether they prefer to be sole custodian or to share parental rights and obligations with the fathers. Based on these two possible preference orderings for mothers, I discuss the impact of the introduction of joint custody. Thereby, I distinguish three different channels, a redistribution effect, a cost effect, and a behavioral effect.

Redistribution effect If both parents prefer joint custody over sole custody, the switch from a sole custody regime to a joint custody regime is clearly appreciated by both. In this case the reform should unambiguously increase the incentive to marry for both sexes. If only men are in favor of joint custody, and women would prefer to keep the sole custody with maternal preference, the joint custody reform causes a redistribution of the gains from marriage between

⁴Traditionally, a sole custody regime with strict paternal preference was in place; even when the father had committed the marital fault. This changed in the nineteenth-century, when courts began to award custody to the mother when the father was at fault (Mnookin, 1975). In the twentieth century the focus has shifted from parental fault to the interests of the child. This first resulted in a sole custody regime with maternal preference and became later a gender-neutral rule system (Brinig and Buckley, 1998).

spouses in the case of divorce. Given that men (women) gain (lose) from this redistribution they should face a higher (lower) incentive to marry. In terms of an external threat point model (e. g. Manser and Brown, 1980; McElroy and Horney, 1981), which assumes that the outside option of divorce determines the bargaining power within marriage, the changing incentives are caused by a shift of bargaining power from women to men. In this situation, the effect of joint custody on marriage rates is a priori unclear, and depends on the condition of the marriage market. The marriage market is a highly regulated market in the sense that there is typically only one type of marriage contract available, which is given by family law. Consistent with this observation is the common belief that men are typically more reluctant to marry. This would mean that there is a disequilibrium on the marriage market, where men represent the short side.⁵ Assuming this is true, then the introduction of joint custody should increase marriage rates, even if women would prefer a sole custody regime.

Cost effects There are possible cost effects which may alter the incentive to divorce. First, the additional option of joint custody after divorce may affect the expected utility in the state of divorce and affect the divorce decision (of existing marriages). If both parents are actually in favor of a joint custody agreement, the aggregate incentive to divorce clearly increases. As compared to if the joint custody reform is only appreciated by men, the expected utility in the state of divorce increases for men, and decreases for women. The impact on the aggregate incentive to divorce is ambiguous. A further potential cost effect operates through the cost of the divorce process. Halla and Hölzl (2007) show that part of the parents who would not be able to find a mutually binding custody agreement in the sole custody regime can find an agreement in a joint custody regime. This is equivalent to a reduction in the cost of divorce.⁶ This cost effect should increase the aggregate incentive to divorce.

Behavioral effect Finally, there is a potential behavioral effect. The availability of joint custody after divorce may affect the spouses' behavior during marriage. In particular, there is a possible impact on the parents' incentives to invest in children, or more generally to make marriage-specific investments. Whether the introduction of joint custody increases or decreases the incentive to invest is a priori not clear. However, at least for men it seems likely that they are willing to invest more in children under joint custody, since they can expect to spend a substantial amount of time with them even after potential divorce. If the joint custody reform causes an increase in their aggregate incentive to invest, the value of marriage rises. This increases the incentive to marry and one should observe an increase in marriage (and marital fertility) rates. Symmetrically, if joint custody decreases the aggregate incentive to invest one should observe a fall in marriage rates.

Moreover, if one thinks of divorce as a (partly) endogenous event, in the sense that the likelihood of divorce is determined by the level of the spouses' marriage-specific investment, the

⁵It is hard to prove this claim. However, one way to measure the willingness/incentives to marry among sexes is given by survey data that directly asks individuals whether they would prefer to marry. Starting in 1976 and continuing to the present, the *Monitoring the Future* study asks annually a nationally representative sample of high school seniors the same set of questions on marriage. Examining several questions on marriage, one can quickly see that the proportion of females who have a preference for (early) marriage is consistently higher than the proportion of males. For a comprehensive discussion, see, Thornton and Young-DeMarco (2001).

⁶In fact, their empirical analysis shows that the introduction of joint custody in Austria enables more parents to divorce by mutual consent (low cost) versus divorce by fault (high cost). However, they do not find any impact of the joint custody reform on the incidence of divorce.

behavioral effect could affect the likelihood of divorce as well (Rasul, 2006b). In the case of an increase in the aggregate investment, moving to joint custody should reduce the probability of divorce and divorce rates are expected to fall. Whereas, if the joint custody reform decreases the aggregate incentive to investment, divorce rates should go up.

Post-divorce time allocation Finally, under a joint custody regime, divorced mothers (fathers) should spend on average less (more) time on parenting after divorce. This re-distribution of child care responsibilities may affect the time spent on the re-marriage market and, therefore, the likelihood (and stability) of second marriages. This channel should increase the probability and the stability of second marriages of women. For men, a reversed effect can be expected; which may offset countervailing effects discussed above.

Fertility Children are the key mechanism through which joint custody laws affect the incidence of marriage and divorce. Since the timing of marriage and fertility is ambiguous, one should distinguish two cases. A changing marriage behavior may be triggered by existing children or by planned fertility. In the first case, parents (especially fathers) ensure the potential benefits of joint custody due to legitimization of children born out-of-wedlock. In the second case, spouses think ahead and may be influenced by friends and family who went through divorce and had a better experience with joint custody. The first channel does not (necessarily) imply any impact of joint custody on fertility. However, it is possible that the marriage decision (caused by joint custody) leads to more fertility. The second channel implies – given that planned fertility is realized – unambiguously an increase in marital fertility rates. Assuming fertility would have also taken place in the counterfactual situation of cohabitation, joint custody should decrease non-marital fertility, and the legitimacy ratio should go up. As discussed above, the existing joint custody laws may increase the spouses incentives to make relationship-specific investments (behavioral effect). This effect may apply to spouses who have married because of the joint custody reform (henceforth *marginal marriages*), as well as to couples who would have also married without the reform (henceforth *always-taking marriages*). This channel may lead to an increase in overall fertility.

To sum up, under realistic circumstances I expect the joint custody reform to increase marriage rates. The impact on divorce rates is a priori not clear. There are possibly countervailing effects, and it remains an empirical question if and how joint custody affects the incidence of divorce. Given that, joint custody increases the incidence of marriage, a shift from non-marital to marital fertility can be expected. That means, the legitimacy ratio should go up. Potentially, joint custody may even affect overall fertility rates. Accordingly, a change in female labor force participation can be expected. A thorough discussion of the potential effect of joint custody on labor market behavior is provided in Section 6.4 before I present the respective estimation results.

3 Identification strategy

The first joint custody statute was passed in Indiana in 1973, and since then shared parenting has spread to nearly all 50 states (see Table 1). While there is no uniform approach to joint custody, most statutes are comparable in the sense that parents are supposed to share the rights and obligations concerning the child after divorce more equally compared to sole custody. Regarding

the allocation of the joint custody awards, however, one should distinguish between statutes that require parental agreement and those who do not.⁷ In the first case, the consent of both parents is required in order to obtain a joint custody award. In the second case, judges have discretion to rule in favor of joint custody (without parents' mutual consent) if it conforms to the best interests of the child. Unfortunately, there is not much variation across states and time. Most of the states do not require a parental agreement. Only 6 states required at some point in time parental agreement. Given the dominance of statutes which do not require a parental agreement, I use the wider definition in my empirical analysis below.⁸

The introduction of joint custody did not follow any systematic geographical patterns, and no particularly small nor particularly large states have been early or late adopters; see Figure A.1 and A.2 in the W-A. There are also no systematic patterns with respect to political ideology discernible. Indeed, there had been 24 Republican governors and 25 Democratic governors in the state-years when joint custody laws were passed (see Table 1). This apparently arbitrary assignment of joint custody laws across states and time is corroborated by the assessment of the legislative discourse of joint custody laws by Jacob (1988, Ch. 8). He reports that joint custody reforms were discussed by a small group of proponents (such as fathers' groups, but also women lawyers' associations) and passed legislatures in relative obscurity. In sum, the different timing of joint custody reforms across the US seems to provide a useful quasi-experimental setting to study the causal effect of joint custody on family outcomes.⁹

First of all, I want to describe the development of joint custody awards after the reforms across states. Therefore, I use micro-level data from divorce certificates provided by the *National Vital Statistics System* (NVSS) of the *National Center for Health Statistics* (NCHS). This data covers divorces from all state-years in the so-called divorce-registration area. It captures the universe of divorces in small states, and a representative sample in larger states. For each divorce basic information, such as the number of children under 18 years of age, physical custody arrangement, duration of marriage, and the spouses' age, race, number of marriage and their state of residence, is included. Information is available for the majority of states from 1968 to 1995, but the custody allocation is recorded only from 1989 and onwards (Clarke, 1995). The information on custody allocation is available on a family level (and not for each child). Joint physical custody is defined in the data as a minimum of 30% time share with each parent. The data does not include any information on (joint) legal custody. In the 111 state-years in which joint custody is available, it has been awarded in about 25% of all 179,997 cases, see Table A.1 in the W-A.

In order to find out how the incidence of joint custody awards evolved in the years following the reforms, I define the variable $jc_{i,s,t}$, which is equal to one if joint custody is awarded for all

⁷A further differentiation is whether joint custody statutes simply allow joint custody awards, or whether they even include a preference or a presumption for it. (The latter two forms may only be applicable if both parents are in agreement in requesting it.) However, this differentiation seems to be in practice quite unclear and therefore hardly codeable. For instance, in the case of California (which language has become a model for many other statutes) there has been considerable confusion, even among legal scholars, whether it implies a presumption for joint custody or not (McIsaac, 1991).

⁸If I restrict the definition of joint custody only to those 857 state-years where no parental agreement has been required, I find very similar results compared to the wider definition (927 state-years). In most of the cases the effect of joint custody increases in statistical significance, see Section A.5 of the Web-Appendix (henceforth W-A).

⁹It should be noted that given the *Uniform Child Custody Jurisdiction Act* from 1968 custody law in general applies based on the child's state of residence. That means, there is no chance to take advantage of (joint) custody laws of other states by marriage or divorce 'tourism'.

children of family i (in state s in year t) and zero if sole custody is awarded for all children. I estimate a probit model (with frequency weights), where I include a series of binary variables equal to one if a state has introduced joint custody certain years ago, as explanatory variables of special interest (*dynamic model*). Given the relatively small number of available state-years, I will also report estimation results from a less demanding specification, where I include a single variable that captures the years since joint custody has been introduced (*linear model*). In each case, I control for state fixed-effects, year fixed-effects, whether unilateral divorce is available or not, and all available spouses' characteristics. In additional specifications linear and quadratic state-specific time trends are added.

Estimation results are summarized in Table 2. Considering the richest specification of the linear model I find that the probability of a joint custody award increases ceteris paribus by about 3 percentage points each year after the introduction of joint custody. The dynamic model suggest a similar growth pattern of joint custody, however, at a somewhat lower rate. Unilateral divorce law has no statistically significant impact on the likelihood of a joint custody award. The micro-level control variables show some interesting regularities and highlight that joint custody is not randomly assigned. For instance, the probability of a joint custody arrangement increases with duration of marriage, the husband's age at the time of divorce, and it decreases with the number of the spouses' prior marriages.

4 Data

I have to define a measure of the incidence of marriage, divorce, and fertility. The standard in the literature seems to be crude marriage and divorce rates – i. e. the number of marriages (divorces) per 1,000 of the total population (see, e. g., Friedberg, 1998; Wolfers, 2006). However, these two variables may hide much of the underlying variation of interest, because the population 'at-risk' is not considered properly. In case of marriage, the best measure would be the number of marriages per 1,000 of the non-married population. Alternatively, one could also argue that married people are at-risk to divorce and re-marry. In order to quantify the incidence of divorce one would prefer to calculate the number of divorces per 1,000 of the married population.

However, there is a trade-off between the accuracy of the measurement and the extent of available data. The stock of (non-)married people is not available, except for the years in which the decennial US census has been conducted. Therefore, in a first step, I quantify the incidence of marriage and divorce based on series on the number of cases per 1,000 of the population between 15 and 55 years of age (henceforth adults). People in this age group should be the relevant sub-population with respect to custody issues. In particular, I use the absolute number of marriages and divorces from the annual editions of the *Vital Statistics* and combine this information with state-level population data constructed from the *Reading Survey of Epidemiology and End Results* provided by the *National Bureau of Economic Research*. For simplicity, I will refer to these measures as marriage and divorce rates. These rates can be constructed for all states from 1969 through 2003 and should be sufficiently long to cleanly distinguish the causal effects of joint custody from pre-existing trends in marriage and divorce rates.¹⁰

¹⁰I disregard Nevada from my analysis since its marriage market is (most probably due to Las Vegas) very different compared to the other states. The average marriage rate of Nevada is about 12 times higher than the

In a second step, I use a proxy for the stock of married and non-married population to check the robustness of the results. This proxy is constructed based on information on the stock of married population from the decennial US Census from 1960 to 2000 and on the flow into and out of marriage from the annual editions of the *Vital Statistics*. This allows me to construct series on the number of marriages per 1,000 non-married population (and the number of divorces per 1,000 married population) for all states from 1969 through 2000. Figure 1 compares the average development of the different measures of the incidence of marriage and divorce over time. In each case, one can observe a sustained decline in marriage rates. Divorce rates at first rose sharply, peaked in the early 1980s and have been declining since then.

In a third step, I carry out a separate analysis of the effect of joint custody on marriage and divorce rates for demographic sub-groups. Group-specific marriage rates are based on micro-level data from marriage certificates provided by the NVSS of the NCHS.¹¹ This data includes basic demographic characteristics of the spouses and is available for the majority of states, but as in the case of divorces certificates only from 1968 until 1995. Unfortunately, the marriage certificates data does not include any information on children. Older couples without kids, or with previous kids that are older, could have served as a control group. Again, this data captures the universe of cases in small states, and a representative sample in larger states. In particular, I calculate marriage number- and age-specific rates, where I distinguish between the following age-groups: 20 to 24 years, 25 to 34 years, 35 to 44 years, and 45 to 54 years.¹²

To test suppositions on fertility behavior I calculate annual age-specific fertility rates. Thereby I distinguish between marital, non-marital, and total fertility rates – defined as the absolute number of births to married, unmarried, and all mothers from a certain age-group per 1,000 female population of this age-group. The absolute number of births is derived from micro-level birth certificate data from the NVSS of the NCHS. Further, I define the legitimacy ratio, as the number of marital births divided by all births multiplied by 100. All data definitions and descriptive statistics are provided in Section A.1.1 of the W-A.

5 Estimation strategy

My research design enables a difference-in-differences (DiD) approach. The standard DiD estimator imposes the restrictive assumption of an immediate and constant response to the policy intervention (*static model*). Since these assumptions may not hold in case of joint custody reforms, I mainly focus on an empirical strategy suggested by Wolfers (2006) that imposes less structure on the dynamic effects of the policy intervention. In particular, I estimate a DiD panel fixed-effects models, where the outcome variable $O_{s,t}$ is a measure of the incidence of marriage,

average of all other states. Its divorce rate is nearly the triple of the rest of the US.

¹¹Group-specific divorce rates are constructed based on the aforementioned micro-level data from divorce certificates. Since I need here only basic information on the spouses, I can employ the full available time span starting 1968 through 1995.

¹²I do not analyze the effect of joint custody on demographic outcomes of teenagers. This age-group is more likely affected by joint custody through an additional channel that operates through their parents' reaction to the reform. This additional channel complicates the interpretation of estimated effects.

divorce or fertility in state s in year t ,

$$O_{s,t} = \sum_r \alpha_r * JC_{s,t}^r + \sum_s \beta_s * State_s + \sum_t \gamma_t * Year_t \left[+ \sum_s \delta_s * State_s * Trends \right] + \sum_r \zeta_r * UD_{s,t}^r + \eta * EP_{s,t} + \theta * \mathbf{X}_{s,t} + \varepsilon_{s,t}, \quad (1)$$

and $JC_{s,t}^r$ denotes a series of binary variables equal to one if a state has introduced joint custody r years ago (*dynamic model*). My empirical strategy is to identify whether joint custody law explains the change in marriage (divorce, fertility) rates between states adopting joint custody at a different point in time. Therefore, the identification of α_r is guaranteed by variation across states and across years in which states adopted joint custody. The flexible specification allows me to trace out the full adjustment path of marriage rates. I include lags up to 17 years following the reform. That means, the effects of joint custody, will be identified based on at least 32 treatment states, see Figure A.6 in the W-A. For completeness, I will also report estimation results from the standard static DiD model. Where possible, I report the estimated coefficients as the percent change in the respective rate due to the adoption of the joint law (evaluated using the unweighted mean as the base).

For each outcome I compare three different specifications: Specification I controls for state fixed-effects (β_s) and year fixed-effects (γ_t). Specification II adds linear state-specific time trends, and specification III comprises, in addition, state-specific quadratic time trends. Each of these three specifications includes a rich set of control variables. First, I allow for the possibility that the introduction of joint custody is correlated with the move from mutual consent to unilateral divorce laws. Under mutual consent law both spouses need to agree to divorce. Unilateral divorce law allows either party to file for divorce without the consent of the other. This switch re-assigns the right to divorce from being held jointly, to being held individually.¹³ I control for unilateral divorce law in an equivalent way as for joint custody and include $UD_{s,t}^r$.

Second, I control for the prevailing law for to the division of matrimonial property in divorce. I distinguish between common property regimes (base group) and equitable property regimes $EP_{s,t}$. In the former regime, spouses were generally only entitled to assets they themselves brought into marriage, while in the latter, property was generally divided more equally.

Third, I control for a further set of control variables (denoted by $\mathbf{X}_{s,t}$) that comprises different age-at-marriage laws, legalized abortion, the sex ratio, the gross state product (GSP) per capita¹⁴ and the whole sex-race-age-distribution of each state. The method of estimation is population weighted least squares and robust standard errors – allowing for clustering by state and heteroskedasticity of unknown form – are calculated throughout. Data sources and definitions of all control variables are provided in Section A.1.2 of the W-A.

¹³There is a vivid debate in the economics literature whether the move from mutual consent to unilateral divorce laws has caused the large rise in divorce rates (Peters, 1986; Allen, 1992; Peters, 1992; Friedberg, 1998; Wolfers, 2006; Matouschek and Rasul, 2008), and whether it has increased (Alesina and Giuliano, 2007) or decreased (Rasul, 2003, 2006a) marriage rates. With respect to fertility, Alesina and Giuliano (2007) find a decrease in non-marital and total fertility rates, with marital fertility rates remaining constant. Drewianka (2008) also finds a decline in non-marital fertility. However, in addition, he reports an increase in total and marital fertility rates.

¹⁴The GSP is a potentially problematic control, since it may itself be influenced by joint custody laws (see Section 6.4). However, its exclusion changes the results only marginally.

6 Estimation results

First, I discuss the effect of joint custody on marriage and divorce rates. Then I present the analysis of fertility behavior and labor market participation. In a final step, I consider the impact on suicide rates and domestic violence.

6.1 The effect on marriage

Results for marriage rates are summarized in Table 3 and in the upper panel of Figure 2. The standard static DiD model suggest a positive effect of joint custody on marriage rates, however, the effect is not statistically significant at conventional levels. It seems crucial to relax the assumption of an immediate and constant response of marriage rates due to the joint custody reform.¹⁵ Each of the three specifications of the dynamic model shows that the introduction of joint custody had no immediate impact on marriage rates, but finds a large and statistically significant increase in the marriage rate starting 5 years after the reform. Considering specification M-II, one can see that the annual rate of marriages per 1,000 adults increased on average by 4.9% in treatment states (compared to control states) in the period of 5 to 6 years after the reform. The effect of the reform grows over time. Seven to eight years after the reform, I observe an effect of plus 6.6%. The full effect of the reform after 17 years following the adoption of joint custody is plus 9.2%. The average effect over 18 years following the reform is about plus 5%. The quantitative impact of the joint custody reform is about twice of that of the change in property law, and also higher than that of unilateral divorce law (see below).

A delayed and growing impact of the introduction of joint custody over time seems plausible and supports a causal interpretation. First, a process of behavioral change requires a significant period of time, and one would not expect an immediate response. Second, the observed pattern is in line with the development of joint custody awards following the years after the reform (see Table 2). Since it takes some time until joint custody is assigned, there might be a slow diffusion of information on the new custody law. In a next step, people have to observe divorced couples who share joint custody and learn that this is actually a good option. Only after potentially beneficial effects of the law on life after divorce become evident, one would expect an effect of joint custody on the incidence of marriage.

The upper panel of Figure 2 depicts the estimated coefficients from the three specifications, and also includes results from additional specifications. One of these controls (compared to specification M-III) also for leads starting at year minus 9 (or less) to check whether the increase in marriage rates postdated the change in custody law. The coefficients on the binary variables capturing the periods prior to the joint custody law are individually and jointly statistically insignificant, quantitatively very small (basically zero) and do not exhibit a trend. The coefficients on the lags hardly change (see, also, Table A.2 in the W-A). So the timing evidence supports a causal interpretation.

I test the sensitivity of the results to a number of alternative specifications. First, the result is not sensitive to the specific modeling of the dynamic effects of the reform. For instance, if I

¹⁵This can be illustrated by step-wise re-defining the joint-custody-dummy to be one x years ($x = 0, 1, 2, 3, \dots$) after the reform (and zero otherwise). By re-defining some early years after the reform – where no effect has yet kicked in – the significant effect of the reform becomes visible; this applies to all outcomes under consideration.

pool three years to generate the binary variables capturing the effects of the reform I find the same pattern. Equivalently, the results are not sensitive to the specific number of lags included. Second, I examine the robustness to the sample chosen. To test the importance of the time period chosen, I skip in turn single years. It turns out that the omission of particular years does not influence the results. I also omit, in turn, single states. For instance, I drop the most populated states, California and New York, from the analysis. California is also one of the earlier adopters of joint custody. However, the results are not very sensitive to these modifications of the sample. Finally, one might be concerned with reversion to the mean. For instance, if marriage markets had been out of equilibrium in 1968, and if treatment states were further from their long-run equilibrium, there would have been convergence of marriage rates of treatment and control states. I ran specifications where I control for the share of married population in 1960, interacted with year fixed-effects. The results provide no evidence for convergence in marriage rates over time, and the effect of joint custody remains positive and statistically significant.

While most of the control variables are statistically significant explanatory variables of the marriage rate, their inclusion has little impact on the effect of joint custody as such. One can see that the move to an equitable property regime significantly reduces marriage rates (about minus 2%). This result can be explained by an equivalent line of reasoning as in the case of joint custody. A more equal division of custody improves the situation of men, and one expects an increase in marriage rates. Whereas a more equal division of property in divorce is on average a disadvantage for men, and a decrease in marriage rates can be expected.

In accordance with Alesina and Giuliano (2007) I observe in specification M-III (and to a lesser extent also in M-II) a positive effect on marriage rates in states which have switched from mutual consent divorce to unilateral divorce. In contrast, specification M-I (which does not control for any state-specific trends) suggests a (insignificant) negative effect, as put forward by Rasul (2003, 2006a). To the extent that Rasul (2003, 2006a) does not control for any state-specific time trends (among other methodical differences), this comparison helps to reconcile these conflicting results. Overall, however, one has to conclude that there is no robust effect of unilateral divorce law on the incidence of marriage; see also Drewianka (2008). The fact that impact of joint custody is (compared to that of unilateral divorce law) more robust across specifications and quantitatively more important also makes some intuitive sense. In the case of joint custody law it is easier to understand how the legal change has affected incentives for men and women.

One might argue that the number of marriages per 1,000 adults is an imprecise metric, and the analysis should be based on the number of marriages per 1,000 non-married population. If I use the the number of marriages per 1,000 non-married population (based on the proxy for the non-married population from 1969 through 2000) as the dependent variable, I find the same pattern as the last specification in Figure 2 shows. The results are very similar if I use the number of marriages per 1,000 non-married females or males as the dependent variable.

In order to find out which demographic sub-groups have reacted most strongly to the reform I examine age- and marriage number-specific rates. Thereby, I follow an equivalent estimation strategy as above. However, due to the restricted time span, I include only lags up to 11 years following the reform. Figure 3 summarizes the estimation results based on specification III. Joint

custody has increased the number of marriages across all groups. In the majority of the cases the coefficients of the estimated effect of joint custody are statistically significant starting 4 to 5 years after the reform. However, the effect is quantitatively larger for spouses with divorce experience and, somewhat surprisingly, for older spouses (35 years of age and older). Clearly, spouses who went through divorce before should be more aware of (the potential implications of) prevailing custody law. With respect to age, one could have expected a stronger effect for younger spouses. The opposite result may be explained by a higher awareness of the importance of custody law among older spouses; older spouses and their respective peers are more likely to have divorce experience. The marriage of older spouses (especially in the case of brides out of childbearing age) can be motivated by the legitimization of children born out-of-wedlock due to subsequent marriage. In fact, using the *Current Population Survey, June 1995: Fertility and Marital History Supplement* to obtain a proxy for the incidence of legitimization, I find evidence that joint custody increased the incidence of legitimization (details are provided in Section A.3 of the W-A). The fact that joint custody has a stronger effect on the re-marriage of women (compared to men) is consistent with the idea that joint custody provides divorced mothers with a respite from parental duties that allows them more time to participate in the re-marriage market. In sum, the separate analysis of demographic sub-groups is revealing and supports a causal interpretation. However, it should also be noted that this analysis (and the respective analysis in the case of divorce below) has less statistical power. The data is only available for a sub-sample of state-years, and I cannot capture the precise population at-risk. Clearly, it would be desirable to verify these results in better data if any opportunity arises.

6.2 The effect on divorce

The baseline results of the effect of joint custody on divorce rates are summarized in Table 3 and in the lower panel of Figure 2. I do not observe a really clear-cut effect of joint custody on divorce rates. The majority of the coefficients across specifications show a positive sign. However, the estimates are mainly statistically insignificant. Still, specification D-III shows (with the exception of the lag on 9 to 12 years after the reform) a quantitatively increasing impact of joint custody on divorce rates. It should be noted that Brinig and Buckley (1998) find a negative impact of joint custody on divorce. Possible reasons for diverging results are given by their different measurement of divorce (crude divorce rate), their shorter sample (1980 through 1991), the omission of state-specific time trends, and the inclusion of potentially endogenous covariates (such as the female employment rate).

To get further insights I use the number of divorces per 1,000 married population as an alternative dependent variable. This variable is based on my proxy variable for the share of married population for all states from 1969 through 2000 explained above. Since joint custody increased the number of marriages, there are more people at-risk to divorce, and divorces per 1,000 adults may be an inappropriate metric. The last specification in Figure 2 shows a similar pattern, however, all coefficients shrink in size.

The lack of a clear-cut effect of joint custody on divorce rates may be the result of countervailing effects. As discussed above, on the one hand, joint custody decreases the cost of divorce (cost effect) which should increase divorce rates. On the other hand joint custody may

increase marriage-specific investment (behavioral effect, see also Section 6.3 and 6.4) which could decrease divorce rates. On top of that, joint custody may change the selection into marriage. Since marginal marriages can be expected to be of lower match quality, this selection effect may increase divorce rates.

As in the case of marriage, I look at the effect of joint custody on divorce rates of demographic sub-groups. In particular, I analyze marriage-number and age-specific divorce rates. The marriage number-specific divorce rates are the absolute number of divorces of the respective group per 1,000 adult population. The age-specific rates are defined as the absolute number of divorces of females (males) per 1,000 female (male) population of this age-group. In accordance with the analysis of the aggregate divorce rates almost all coefficients show a positive sign and lack of statistical significance (see Figure A.7 and Table A.4 in the W-A). However, this more detailed analysis reveals that the estimated positive effect of joint custody on divorce is clearer for spouses between 35 and 44 years of age. Since this age-group responded comparably strong to reform in terms of higher marriage rates this supports the idea that marginal marriages are of lower match quality.

With respect to the control variables, the results on unilateral divorce are worth mentioning. In specification D-I (see Table 3) the results on unilateral divorce show the pattern described by Wolfers (2006). I find an immediate spike after the introduction that dissipates over time and an eventual decline. After including state-specific linear time trends (see Specification D-II) the initial increase is more pronounced, also eventually declines, however, does not turn negative. Finally, Specification D-III (adding state-specific quadratic time trends) gives no eventual decline in the effects; and suggests a permanent increase. These results hold also for the number of divorces per 1,000 of the married population. Correspondingly, Wolfers (2006, p. 1816) concludes that “[...] *the eventual decline in the divorce rate is less robust, and a range of alternative specifications suggests that this decline may be illusory*”. That means, in my sample the finding of a transitory (vs. permanent) increase in divorce rates depends on the specification of state-specific time-trends. In any case, it should be noted that for an explicit analysis of the impact of unilateral divorce law, the sample should be ideally extended back as done by Wolfers (2006).

In sum, I cannot put forward very convincing evidence on the hypothesis that joint custody had an *overall* impact on the incidence of divorce. However, I cannot rule out that joint custody operates through different channels that offset each other. For instance, additional marriages that would have not occurred under single custody may be of lower match quality (i.e. higher likelihood of divorce), but due to increased marriage-specific investments (behavioral effect), I do not observe an overall impact on divorce rates.

Apart from the analysis of the marriage and the divorce rate – two *flow* measures – it is instructive to analyze the impact on the *stock* of currently married population. This analysis should give the net effect of the two flow measures. It should be emphasized that the impact of any intervention does not have necessarily the same sign on the flow and the stock measurements.¹⁶ Unfortunately, no ideal data source exists to examine the effect of joint custody on the stock

¹⁶For instance, an intervention may create additional marriages. However, if these additional marriages are very instable, and/or the policy increases the divorce likelihood of existing (and/or subsequent ‘always-taking’) marriages, the stock of married people may even decrease. In fact, this is what I observe for the introduction of unilateral divorce law for all age-groups (except for females between 20 and 24 years of age). Detailed output is available in Table A.9 in the W-A.

of married people. The best available data-set, the *Current Population Survey* (CPS), has two drawbacks: First, in early years many states are grouped together. Secondly, and probably more severe, one can only capture an individual’s current state of residence – which may not be the state of marriage or divorce, since the American population is extremely mobile. Still, by and large, a micro-level data analysis of the effect of joint custody on the stock of married population gives results that are in line with observed patterns on the flow in and out of marriage. As expected, I observe for the majority of the sub-groups that joint custody had a positive effect on the probability of being *currently* married. Details are provided in Section A.4 the W-A.

6.3 The effect on fertility behavior

The introduction of joint custody, and in particular the results on the incidence of marriage, have testable implications for fertility behavior. Given that the increase in marriage rates is not only driven by the legitimization of children born out-of-wedlock (or changing post-divorce time allocation), I expect an increase in marital fertility rates. Further, a decrease in non-marital fertility rates and an associated increase in the legitimacy ratio can be expected.

In order to verify these suppositions I use annual age-specific (total, marital, and non-marital) fertility rates for all states (excluding Nevada) from 1969 through 2002. The age-specific (marital, non-marital) fertility rate is defined as the absolute number of births to all (married, unmarried) mothers from a certain age-group per 1,000 female population of this age-group. Further, I define the age-specific legitimacy ratio as the number of marital births divided by all births to mothers from a certain age-group multiplied by 100. Information on legitimacy of new-borns is not available for 120 state-years, since not all authorities recorded information on the mothers’ marital status.

Estimation results based on an equivalent estimation strategy as in the case of marriage and divorce are summarized in Table 4. As expected, I observe a positive effect of joint custody on marital fertility. One can see patterns in accordance with the results on marriage rates – the effect on marital fertility rates grows as well in absolute terms over time. However, the coefficients are only individually significantly for the group of females between 35 to 44 years of age, and partly for those between 25 and 34. The average effect over 18 years following the reform is about plus 8% for the former group, and the long run effect amounts to 14%. There is also some evidence for a decrease in non-marital fertility. This indicates that marginal marriages would have had children in the counterfactual situation of cohabitation. However, the estimated coefficients are only jointly and not individually statistically significant. Accordingly, I observe positive (but mostly individually statistically insignificant) effects on the legitimacy ratio. Notably, the increase in marital fertility did not only offset the decrease in non-marital fertility, but joint custody increased overall fertility rates (significantly for women 25 years of age and older). That means, existing joint custody laws have increased spouses willingness to make marriage-specific investments. To which extent additional fertility is within the marginal or always-taking marriage cannot be disentangled. Figure 4 shows that the statistically significant effects of joint custody on fertility behavior exhibit a plausible timing that supports a causal interpretation of these results; see also Figure A.9. With respect to the quantitative importance, it can be noted that the effects of joint custody law on fertility behavior are typically smaller

compared to those of unilateral divorce law. The introduction of unilateral divorce law shows patterns very similar to those described by Drewianka (2008); Alesina and Giuliano (2007). I find a clear and strong decrease in non-marital fertility, and an increase in the legitimacy ratio. Compared to Alesina and Giuliano (2007), I also find a statistically significant positive effect on (marital) fertility of females between 35 to 44 years of age.

Finally, I consider the effect of joint custody on abortion. Given the findings of the effect of joint custody laws on the incidence of marriage and fertility, one would expect a negative impact. To measure the incidence of abortion, I use the abortion rate (absolute number of abortions per 1,000 females between 15 and 44 years of age) and the abortion ratio (absolute number of abortions per 1,000 live births). As expected, I observe for both outcome variables a negative impact of joint custody that grows in absolute terms over time. However, this effect is sensitive to the inclusion of state-specific quadratic time trends. This latter specification gives an effect of joint custody that follows an inverted U-shape over time. Detailed estimation output can be found in Table A.5 and Figure A.10 in the W-A. In sum, the findings on fertility corroborate my suppositions and constitutes additional supportive evidence for the findings on the incidence of marriage presented above.

6.4 The effect on labor force participation

In this section, I want to examine the effect of joint custody on labor market behavior. This may provide additional supportive evidence for the results presented so far. Moreover, it may help us to further our understanding of how joint custody laws have altered intra-household bargaining, and the resulting incentives for spouses to make marriage-specific investment.

Joint custody law may affect labor force participation for several reasons. First, since it increases marriage and marital fertility rates, a decrease in labor force participation of females (especially married females) can be expected.¹⁷ Second, joint custody may also change female labor force participation through a change in relative bargaining power within marriage. Assuming that the outside option of divorce of each spouse determines his or her bargaining power within marriage, a shift in bargaining power toward husbands can be expected. Whether a reduced bargaining power of wives should increase or decrease their labor force participation is a priori not clear.¹⁸ Finally, joint custody may affect the labor force participation of divorced spouses through a redistribution of child care responsibilities. Under a joint custody regime divorced mothers (fathers) should spent on average less (more) time on parenting after divorce. This may increase (decrease) the labor force participation of divorced females (males). Alternatively, women may spent their additional time on the re-marriage market; which increases their likelihood of re-marriage, and that in turn could decrease their labor force participation.¹⁹ In sum, one cannot derive a clear prediction for the effect of joint custody laws on labor force participa-

¹⁷For married men I expect, if at all, relatively little effects, since existing empirical evidence (e.g. Angrist and Evans, 1998) shows that men's labor market behavior is typically largely insensitive to exogenous shocks, such as variation in family size.

¹⁸For instance, Gray (1998) finds that married women engage in less market work when they lose bargaining power. In contrast, Chiappori et al. (2002) put forward that bargaining power and female labor supply are inversely related.

¹⁹In addition, a comparably higher number of children of divorced spouses (in joint custody regimes) may increase the overall parenting time, and decrease the labor force participation of either or both spouses.

tion. However, given the estimated effect of joint custody on (marital) fertility, a decrease in the labor force participation of (married) females seems likely.

An empirical test of this hypothesis is, however, complicated for two reasons. First, no ideal data to test this supposition is available, and second the fact that joint custody changes the likelihood of marriage and divorce may generate selection effects. A separate analysis of married and divorced women may confound the causal channels discussed above with selection effects due to a changing composition of the stock of married and divorced population. Therefore, I proceed in two steps. First, I apply my estimation strategy from above to identify the *overall* effect of joint custody on labor force participation (i. e. for all women). I still expect here a negative effect of the reform, since non-divorced women should dominate anyways. In a second step, I restrict the analysis to the sample of married women. While it is hard to assess how joint custody laws change the selection into (and out of) marriage with respect to marriage-specific investment, and thus whether the selection effects should lead to a finding of less or more investment, similar results as in the case of all women would be at least reassuring. The best available data set is the CPS. As argued above, one drawback of this data is that it only includes information on the current state of residence. However, given that custody law in general applies based on the child's state of residence (see Section 5 in paper) spouses should make their *current* labor force participation decision based on the prevailing custody law in their *current* state of residence. Whereas their marriage decision has been potentially made under the prevailing custody law in their *former* state of residence. A second drawback is given by the fact that 31 states are grouped together between 1969 and 1972, 37 states are grouped together between 1973 and 1976, and I cannot include observations from these 272 state-years.

Based on micro-level data I estimate the probability that a women (in a specific age-group) is *currently* in the labor force. As method of estimation, I use a linear probability model with frequency weights, where I include the same set of covariates as in specification III of equation (1).²⁰ Table 5 summarizes the results for the sample of all women and married women only.

As expected, I find for women in all age-groups (except for women between 45 and 54 years of age) a statistically significant decrease in likelihood of being in the labor force. As in the case of marriage and fertility rates, the effect of the reform grows in absolute terms over time. The average effect over 18 years following the reform is across these age-groups about minus 4 percentage points. The different pattern for women above 45 years of age may be explained by the fact that this group had undergone investment in human capital (longer) before the introduction of joint custody and/or child care responsibilities are less binding. The upper panel of Figure 5 shows that the effect of joint custody can be disentangled from pre-existing trends. However, in the case of women between 35 and 44 years of age, surprisingly, the inclusion of leads has an impact on the estimated effect. If I restrict the analysis to the (potentially selected) sample of married women, I find comparable patterns. In accordance with Stevenson (2008), the control variables on unilateral divorce law show a positive effect on female labor force participation.

²⁰Note, instead of controlling for the race-age distribution, I include race and age dummies. In order to capture the full effects of the reform, I do not include any individual controls that might be affected by the reform (such as marital status or children). For an alternative specification see Table A.6 in the W-A.

6.5 The effect on suicide and domestic violence

The introduction of joint custody improved the situation of men (after divorce) and should have increased their relative bargaining power within marriage. Given that this supposition is consistent with the empirical results so far, one should be able to discern a higher level of well-being of men – within marriage and after divorce. In the case of women, the prediction is less clear. First, depending on their preferences, women may actually be in favor of a joint custody arrangement. Secondly, even if not, their loss of bargaining power may be compensated by men’s increased willingness to marry and to make marriage-specific investment.

In order to quantify men and women’s well-being, I follow Stevenson and Wolfers (2006) and examine the effect of the legal change on the incidence of suicide and domestic violence. In particular, I examine the effect of joint custody on sex-specific suicide rates of the *total* population. The choice of the dependent variable is motivated by data limitations (suicide rates by marital status are only available since 1978) and by the fact that joint custody affects the likelihood of marriage and divorce. I use (an updated version of) the data provided by Stevenson and Wolfers (2006) and examine the period from 1964 through 2003. For comparability, I follow their basic specification (see Table I in their paper) and enhance this by controls for the introduction of joint custody, all the additional control variables (available for this time span), and state-specific time trends. Table 6 summarizes the estimation results. In accordance, with Stevenson and Wolfers (2006) I find a negative impact of unilateral divorce law on female suicide and a positive effect for men. In contrast, joint custody laws caused a decline in both sexes’ suicide rates that increased over the years following the reform. For males, each specification yields comparable results, and the timing evidence (see upper panel of Figure 6) supports a causal interpretation. Male suicide rates declined about 9% (specification MS-III) in the long run in states that adopted joint custody laws. For females, the results are sensitive to the inclusion of state-specific quadratic time trends. Quantitatively the estimated coefficients are quite similar to those of males, however, individual statistical significance vanishes after the inclusion of state-specific quadratic time trends. Moreover, as the lower panel of Figure 6 shows, in the latter specification, it is also harder to disentangle the effect from pre-existing trends.

To examine the effect of joint custody on domestic violence, I use the cross-sectional survey data provided by Stevenson and Wolfers (2006). This data provides information on different types of domestic violence within intact marriages (from the majority of states) for the years 1976 and 1985. This allows me to compare changes in domestic violence among households from 21 treatment states (states who have adopted joint custody between 1976 and 1984) to those from 14 control states (states who adopted joint custody after 1985). For details see Table A.7 in the W-A. Based on the richest specifications, I find evidence that joint custody laws reduced *overall violence* from husband to wives by about 2.7 percentage points.²¹ Given an average incidence rate of 11.7%, overall violence appears to have declined by about a fifth in treatment states between 1976 and 1985.

²¹I do not find any statistically significant effect on severe violence. Severe violence is defined as kicking, biting, hitting with fist, hitting or trying to hit with something, beating up a partner, threatening with gun or knife, or using a gun or a knife, in the past year. Overall violence also includes throwing something at partner, pushing, grabbing or shoving, and slapping.

7 Conclusions

Under joint custody, parents share access to their child and child-rearing responsibilities even after the divorce. So far, the literature has paid little attention to the potential far-ranging effects of custody law. I utilize the variation occurring from the different timing of custody law reforms across the US to identify causal effects of joint custody laws on different family outcomes.

The results show a clear long-run increase in marriage rates, beginning 5 years following the reform. The delayed and increasing causal effect on marriage is consistent with the gradual dissemination of joint custody awards. The impact on the incidence of marriage is strongest for spouses above 35 years of age, and for spouse with past divorce experience – a sub-group with a plausibly higher awareness of custody law. I find a shift of fertility from out-of-wedlock into marriage (i. e. the legitimacy ratio goes up) that is not as statistically significant, however, which follows a very similar pattern. The increase in marital fertility exceeds the decline in non-marital fertility, and I observe an increase in total fertility. In line with the results on marriage, changes in fertility behavior are most pronounced for women above 35 years of age. The changes in marital and fertility behavior, are also reflected in a changing labor market behavior of women. Joint custody laws decreased female labor force participation. The effect on the overall incidence of divorce is less clear. However, I find significant evidence for an increase in divorce rates for spouses between 35 and 44 years of age – the group with a comparably high share of marginal marriages. Finally, there is evidence that the introduction of joint custody has decreased suicide, with a stronger impact for men, and has lead to a fall in domestic violence. This empirical evidence supports the idea that joint custody increased the relative bargaining power of men within marriage by improving their expected utility after divorce. In other words, joint custody increased the incentive to marry for men – the group which is typically more reluctant to marry.

The results have important implications. First, the paper has documented unintended consequences of custody law reforms. No attention was given to the potential consequences on the formation and dissolution of families. However, in fact joint custody reforms have dampened the ongoing decline of the traditional organization of the family, and have reinforced the traditional division of labor within the family. Second, they help to understand how decisions are made in families, and to evaluate models of distribution within the family (Lundberg and Pollak, 1996). To the extent that effect of joint custody on marriage-specific investment (such as children and home production) is caused by a shift in bargaining power, the results provide supportive evidence for external threat point models that rely on the spouses' outside options to determine intra-household distribution. In contrast, internal threat models (such as separate-spheres models) or common-preference models predict no impact of joint custody laws on relative bargaining power within the household. Third, as in the case of unilateral divorce law, my empirical analysis can be regarded as a test of the Coase Theorem. Becker et al. (1977) argued that if spouses can bargain efficiently, the Coase theorem implies that a change in divorce law only affects the distribution of welfare within marriage, but not the incidence of marriage or divorce. Unilateral divorce simply re-assigns the right to divorce from being held jointly, to being held individually. Equivalently, under a sole custody regime, the right to spend time with the child after divorce is held individually. The introduction of joint custody re-assigns this right to being held jointly. The results can be interpreted as evidence that spouses may be unable to bargain efficiently

over time with the child (e. g. due to transactions costs or the existence of private information). Fourth, there are important implications for the literature studying the impact of custody law on any (child) outcome. I directly showed that couples with joint custody awards are selected. Given that joint custody has an impact on the incidence of marriage, fertility, and divorce, further potential layers of selection have to be considered. Finally, the results should be of considerable interest to policy-makers. For varying reasons the public worries about the decline in marriage and policy-makers have on their agenda to increase marriage rates. A large number of policies have been designed in the US to increase the incidence of marriage and marital fertility and to stabilize existing marriages. In the case of joint custody, no attention was given to its potential marriage promoting effect when it was considered. Based on the interpretation that joint custody increased marriage rates by increasing the incentive to marry for men – the short side of the marriage market – the paper points out a more general phenomenon that is amenable to policy intervention. The state may deregulate (or re-regulate) the marriage market by allowing (or offering a range of) different marriage contracts, which may increase the incidence of marriage. In principal, a first step in this direction is given by the introduction of the additional option of covenant marriages (Brinig, 1999).

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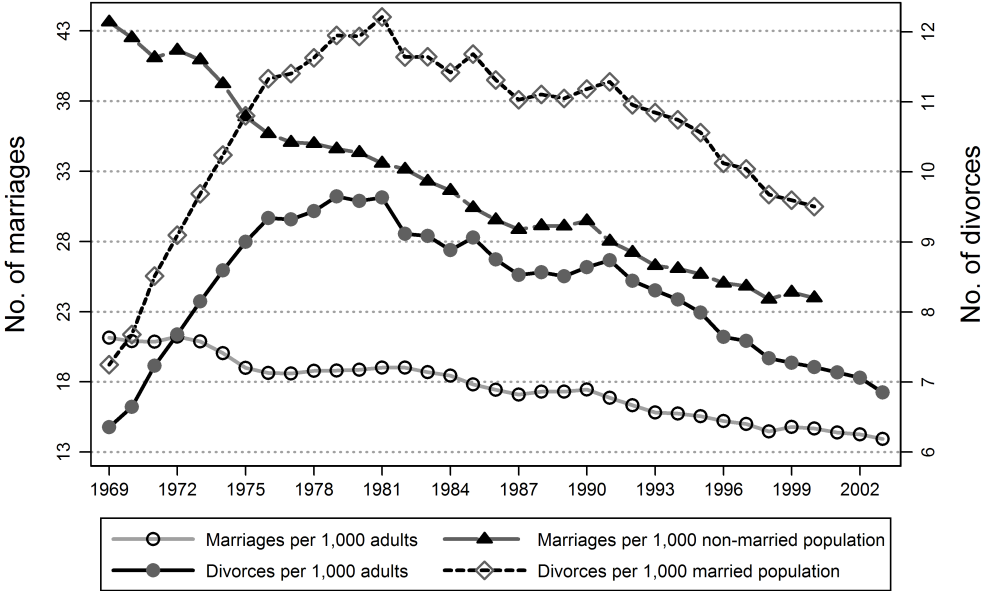
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Figure 1: Development of marriage and divorce rates^a



^a This graphs summarizes the development of average marriage and divorce rates based on annual US state-level data (excluding Nevada) from 1969 through 2003, and 2000 respectively. For further details see Section A.1.1 in the W-A.

Table 1: Year of enactment of joint custody and unilateral divorce laws^a

State	Joint custody	Unilateral divorce	State	Joint custody	Unilateral Divorce
Alabama (AL)	1997 (R)	1971 (D)	Montana (MO)	1981 (D)	1975 (D)
Alaska (AK)	1982 (R)	1935 (D)	Nebraska (NE)	1983 ^b (D)	1972 (D)
Arizona (AZ)	1991 (R)	1973 (R)	Nevada (NV)	1981 (R)	1973 (D)
Arkansas (AR)	2003 (R)	-	New Hampshire (NH)	1974 (R)	1971 (R)
California (CA)	1979 (D)	1970 (R)	New Jersey (NJ)	1981 (D)	-
Colorado (CO)	1983 ^c (D)	1971 (R)	New Mexico (NM)	1982 (D)	1973 (D)
Connecticut (CT)	1981 (D)	1973 (R)	New York (NY)	1981 (D)	-
District of Columbia (DC)	1996 (D)	-	North Carolina (NC)	1979 ^c (D)	-
Delaware (DE)	1981 (R)	-	North Dakota (ND)	1993 (R)	1971 (D)
Florida (FL)	1979 (D)	1971 (D)	Ohio (OH)	1981 (R)	-
Georgia (GA)	1990 (D)	1973 (D)	Oklahoma (OK)	1990 (R)	1953 (D)
Hawaii (HI)	1980 (D)	1973 (D)	Oregon (OR)	1987 ^b (D)	1973 (R)
Idaho (ID)	1982 (D)	1971 (D)	Pennsylvania (PA)	1981 (R)	-
Illinois (IL)	1986 (R)	-	Rhode Island (RI)	1992 (D)	1976 (D)
Indiana (IN)	1973 (R)	1973 (R)	South Carolina (SC)	1996 (R)	-
Iowa (IA)	1977 (R)	1970 (R)	South Dakota (SD)	1989 (R)	1985 (R)
Kansas (KS)	1979 (D)	1969 (D)	Tennessee (TN)	1986 (R)	-
Kentucky (KY)	1979 (D)	1972 (D)	Texas (TX)	1987 (R)	1974 (D)
Louisiana (LA)	1981 (R)	-	Utah (UT)	1988 (R)	-
Maine (ME)	1981 (D)	1973 (D)	Vermont (VT)	1992 ^b (D)	-
Maryland (MD)	1984 (D)	-	Virginia (VA)	1987 (D)	-
Massachusetts (MA)	1983 (D)	1975 (D)	Washington (WA)	-	1973 (R)
Michigan (MI)	1981 (R)	1972 (R)	West Virginia (WV)	-	-
Minnesota (MN)	1981 (R)	1974 (D)	Wisconsin (WI)	1979 ^b (R)	-
Mississippi (MS)	1983 (D)	-	Wyoming (WY)	1993 (D)	1977 (D)
Missouri (MO)	1983 (R)	-			

^a The coding for the introduction of joint custody laws until 1993 is provided by Brinig and Buckley (1998). Sources for enactments after 1993 are as follows AL: AL Stat. Ann. 30-3-150 & 152; AR: AR Tit. 9, s 2, c. 13, sc 14, 9-13-101; DC: DC Code Ann. 16-914; and SC: SC Code 20-3-160 & 7-420(42). The coding for unilateral divorce is from Wolfers (2006). The letter next to the year indicates whether the incumbent governor at that time has been Democrat (D) or Republican (R); source *Wikipedia*. ^b Joint custody requires a parental agreement. ^c Joint custody required a parental agreement until 1987.

Table 2: Determinants of physical joint custody awards^a

	(I)		(II)		(III)	
Linear model^b:						
Years since joint custody reform	0.006***	(0.001)	0.031***	(0.002)	0.029***	(0.016)
Dynamic model:						
Joint custody in effect for						
year 2-3	0.041**	(0.021)	0.033	(0.039)	0.086**	(0.035)
years 4-5	0.025	(0.023)	0.016	(0.039)	0.075**	(0.036)
years 6-7	0.072**	(0.030)	0.048	(0.043)	0.103***	(0.039)
years 8-9	0.072**	(0.036)	0.058	(0.044)	0.102***	(0.039)
years 10-11	0.059	(0.044)	0.060	(0.047)	0.117***	(0.041)
years 12-13	0.079	(0.053)	0.073	(0.050)	0.138***	(0.045)
years 14-15	0.104	(0.065)	0.072	(0.055)	0.138***	(0.053)
years 16+	0.096	(0.071)	0.063	(0.057)	0.151**	(0.062)
Unilateral divorce law ^c	0.064	(0.042)	0.162	(0.119)	0.047	(0.053)
<i>Number of children under 18^d</i>						
Two minors	0.010***	(0.002)	0.010***	(0.002)	0.010***	(0.002)
Three minors	-0.011***	(0.004)	-0.011***	(0.004)	-0.011***	(0.004)
Four minors	-0.029***	(0.006)	-0.029***	(0.006)	-0.029***	(0.006)
Duration of marriage	0.002***	(0.001)	0.002***	(0.001)	0.002***	(0.001)
Spouses' age at decree						
Age of wife	0.000	(0.000)	0.000	(0.000)	0.000	(0.000)
Age of husband	0.002***	(0.000)	0.003***	(0.000)	0.002***	(0.000)
<i>Number of this marriage</i>						
Wife's #	-0.006**	(0.003)	-0.006**	(0.003)	-0.006**	(0.003)
Husband's #	-0.031***	(0.003)	-0.031***	(0.003)	-0.031***	(0.003)
<i>Spouses' race^e</i>						
Only wife is white	-0.074***	(0.007)	-0.075***	(0.007)	-0.075***	(0.007)
Only husband is white	-0.047***	(0.009)	-0.047***	(0.009)	-0.047***	(0.009)
Both spouses are non-white	-0.122***	(0.004)	-0.122***	(0.004)	-0.123***	(0.004)
<i>Place of residence^f</i>						
Only wife is resident	-0.111***	(0.012)	-0.111***	(0.012)	-0.111***	(0.012)
Only husband is resident	-0.027	(0.017)	-0.027	(0.017)	-0.027	(0.017)
Neither is resident	0.002	(0.019)	0.002	(0.019)	0.002	(0.019)
State and year fixed-effects	yes		yes		yes	
State-specific linear time trends	no		yes		yes	
State-specific quadratic time trends	no		no		yes	
Mean of dependent variable	In 25% joint custody is awarded for all children					

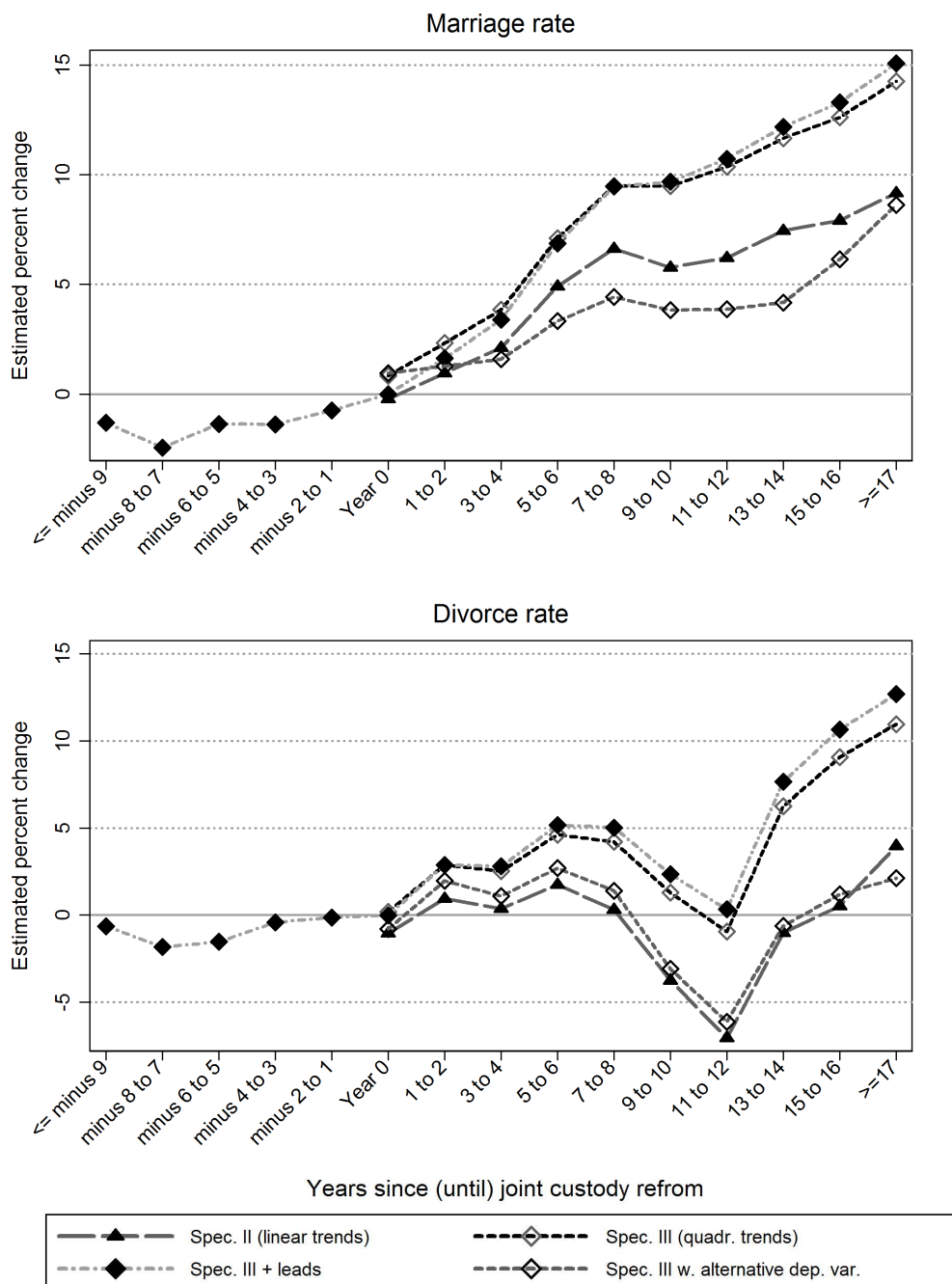
^a This table summarizes estimation results based on micro-level divorce certificate data from the *National Vital Statistics System* of the *National Center for Health Statistics* (NCHS) (National Center for Health Statistics, 1997). It covers 179,997 divorces from all state-years in the so-called divorce-registration area from 1989 through 1995. For details, see, Table A.1 in the W-A. Besides cases with missing information, 3,011 cases where custody is awarded to a third person, and 7,072 cases where the custody arrangement consists of a combination of mother sole custody, father sole custody and/or joint custody are excluded. The dependent variable is equal to one if joint custody (i.e. a minimum of 30% time share with each parent) is awarded for all children, and zero if sole custody is awarded for all children. Note, the NCHS does not provide their definition of joint custody in any officially published document, however, Kuhn and Guidubaldi (1997) quote a personal communication with Sally C. Clarke from the NCHS. Estimated using a probit model with frequency weights. Marginal effects with robust standard errors (allowing for clustering by state-year and heteroskedasticity of unknown form) in parentheses are reported. *, ** and *** indicate statistical significance at the 10% level, 5% level, and 1% level, respectively. ^b Estimation output for control variables (which are the same as in the case of the dynamic model below) is not listed; but available upon request. ^c In 59 state-years unilateral divorce law is available. ^d Base group: one minor. ^e Base group: both spouses are white. ^f Refers to of state of divorce. Base group: both spouses are residents of state of divorce.

Table 3: The effect of the adoption of joint custody on marriage and divorce rates (percent change)^a

	Marriage rate			Divorce rate		
	(M-I)	(M-II)	(M-III)	(D-I)	(D-II)	(D-III)
Static model:						
Joint custody	-0.1%	0.5%	0.8%	-1.4%	-0.4%	1.6%
Unilateral divorce	-1.0%	1.9%	2.6%*	4.9%	1.1%***	9.2%***
Equal property division	-2.8%	-1.7%**	-1.6%*	-2.4%	-0.4%	-0.8%
Dynamic model:						
Joint custody in effect for						
year 0	-0.7%	-0.2%	0.8%	-1.5%	-1.0%	0.2%
years 1-2	0.3%	1.0%	2.3%	0.7%	0.9%	2.9%*
years 3-4	1.6%	2.1%	3.8%*	0.1%	0.4%	2.5%
years 5-6	5.0%*	4.9%***	7.1%**	1.3%	1.7%	4.6%
years 7-8	6.9%**	6.6%***	9.5%**	-0.2%	0.3%	4.2%
years 9-10	7.2%**	5.8%*	9.5%**	-3.0%	-3.7%	1.3%
years 11-12	9.3%**	6.2%**	10.4%**	-5.0%	-7.0%	-1.0%
years 13-14	11.7%**	7.5%**	11.7%*	2.7%	-1.0%	6.2%
years 15-16	13.3%***	7.9%**	12.6%**	5.4%	0.5%	9.1%
years 17+	17.2%***	9.2%**	14.3%**	11.4%**	4.0%	11.0%
Unilateral divorce in effect for						
year 0	1.3%	2.3%**	3.2%***	5.5%	7.7%**	7.9%**
years 1-2	0.9%	2.7%	4.7%***	6.9%**	10.5%***	11.3%***
years 3-4	-1.5%	2.2%	5.5%**	4.7%	10.6%***	12.1%***
years 5-6	-3.7%	1.1%	5.2%	3.9%	12.4%***	15.2%***
years 7-8	-3.8%	1.7%	6.8%*	1.6%	11.8%***	15.9%***
years 9-10	-2.6%	3.4%	9.1%**	-1.9%	9.2%***	14.8%***
years 11-12	-2.9%	3.4%	9.6%**	-6.0%	6.1%	13.2%**
years 13-14	-3.7%	3.2%	9.3%*	-7.5%	5.6%	13.8%***
years 15-16	-4.8%	2.2%	8.2%	-8.4%*	5.3%	14.9%**
years 17+	-4.6%	3.9%	9.3%*	-9.0%*	7.8%*	18.7%***
Equal property division	-2.6%	-1.8%*	-1.7%**	-2.5%	0.5%	-0.1%
<i>Control variables:</i> ^b						
State-specific linear time trends	no	yes	yes	no	yes	yes
State-specific quadratic time trends	no	no	yes	no	no	yes
Mean of dependent variable	18 marriage per 1,000 adults			9 divorces per 1,000 adults		

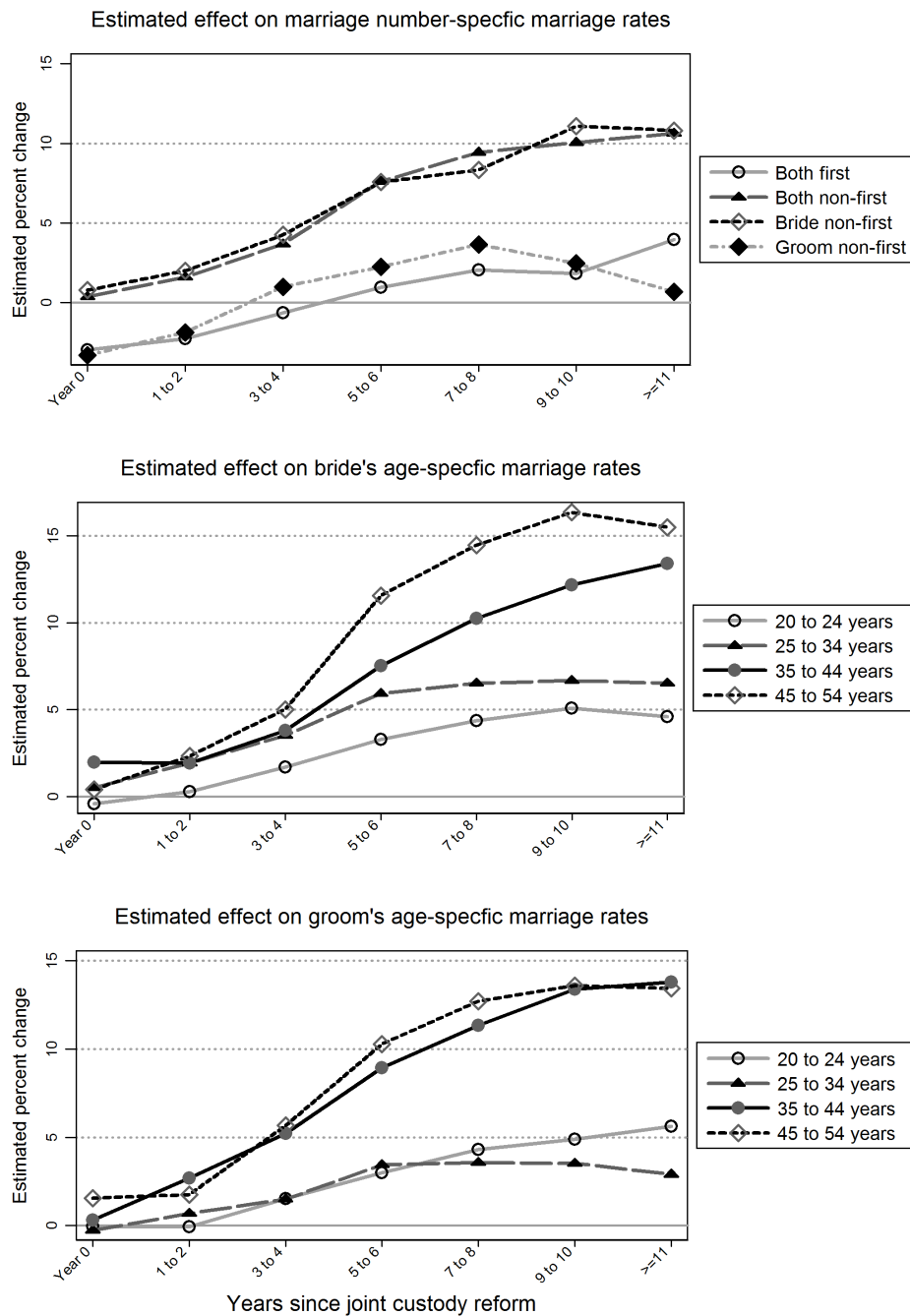
^a This table summarizes estimation results based on annual US state-level data (excluding Nevada) from 1969 through 2003. In columns M-I to M-III the dependent variable is the marriage rate, defined as the absolute number of marriages per 1,000 of the population between 15 and 55 years of age (henceforth adults). The number of observations is equal to 1,711. In columns D-I to D-III the dependent variable is the divorce rate (absolute number of divorces per 1,000 adults). The number of observations is equal to 1,675. Estimated using state population weights (equal to the denominator of the dependent variable). Listed coefficients are reported as the percent change in the marriage/divorce rate due to the adoption of the respective law (the stated number of years ago). Robust standard errors (allowing for clustering by state and heteroskedasticity of unknown form) in parentheses. *, ** and *** indicate statistical significance at the 10% level, 5% level, and 1% level, respectively. ^b Each specification (in each model) includes the variables listed, state and year fixed-effects, the minimum legal ages at marriage (Blank et al., 2009), legalized abortion (Donohue and Levitt, 2001), the gross state product per capita, the adult sex ratio (female adults/male adults), and the whole sex-race-age-distribution of each state. Further details on all variables are provided in Section A.1 in the W-A.

Figure 2: The effect of the adoption of joint custody on marriage and divorce rates (percent change)^a



^a These graphs summarize estimation results of the effect of joint custody on marriage and divorce rates based on annual US state-level data (excluding Nevada) from 1969 through 2003, and 2000 respectively. In the first three specifications the marriage (divorce) rate is defined as the absolute number of marriages (divorces) per 1,000 of the population between 15 and 55 years of age and the number of observations is equal to 1,711 (1,675). In the last case the marriage (divorce) rate is defined as the absolute number of marriages (divorces) per 1,000 of the non-married (married) population and the number of observations is equal to 1,558 (1,536). Each estimation includes the same set of control variables as the respective specification of the dynamic model in Table 3. Estimated using state population weights (equal to the denominator of the dependent variable). Estimated effects are the percent change in the marriage/divorce rate due to the adoption of joint custody the stated number of years ago.

Figure 3: The effect of the adoption of joint custody on group-specific marriage rates (percent change)^a



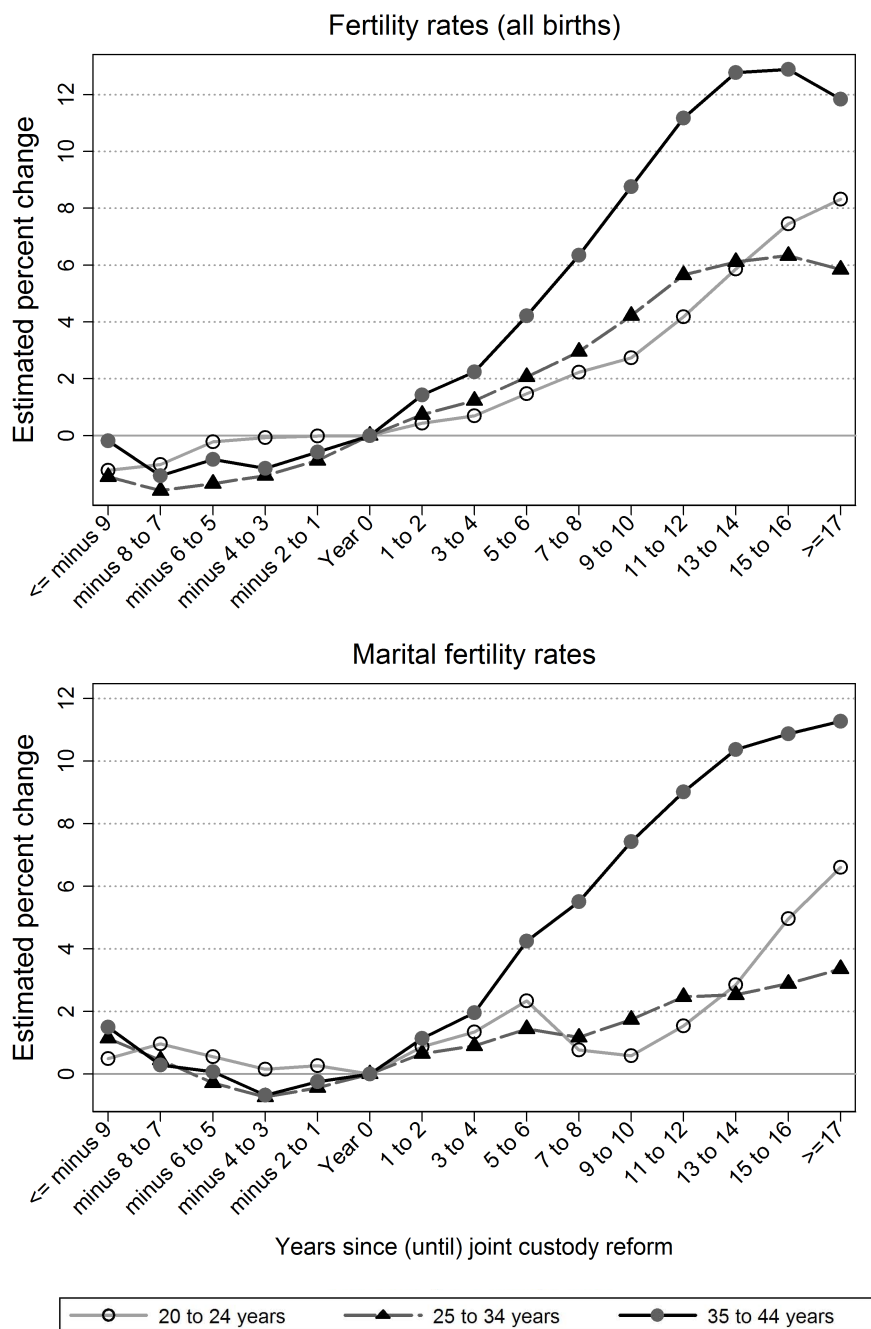
^a These graphs summarize estimation results of the effect of joint custody on group-specific marriage rates based on annual US state-level data (excluding Nevada) from 1969 through 1995. Several state-years are missing; see notes to Figure A.3 in the W-A. The dependent variables are marriage number-specific marriage rates, and spouses' age-specific marriage rates, respectively. Each estimation includes as control variables, state and year fixed-effects, state-specific linear and quadratic time trends, the introduction of unilateral divorce law (with lags up to 11 years after the reform), the prevalence of equal property division in case of divorce, the minimum legal ages at marriage, legalized abortion, the gross state product per capita, the adult sex ratio, and the whole sex-race-age-distribution of each state. Further details on all variables are provided in Section A.1 in the W-A. Estimated using state population weights (equal to the denominator of the respective dependent variable). Estimated effects are the percent change in the respective group-specific marriage rate due to the adoption of joint custody the stated number of years ago. Full estimation output is available in Table A.3 in the W-A.

Table 4: The effect of the adoption of joint custody on age-specific fertility behavior^a

Age-specific:	Fertility (all births)					Marital fertility					Non-marital fertility					Legitimacy ratio								
	20 to 24	25 to 34	35 to 44	20 to 24	25 to 34	35 to 44	20 to 24	25 to 34	35 to 44	20 to 24	25 to 34	35 to 44	20 to 24	25 to 34	35 to 44	20 to 24	25 to 34	35 to 44						
Static model:																								
Joint custody	-1.0	(1.1)	0.4	(0.6)	-0.7	(1.0)	0.4	(0.9)	1.0*	(0.6)	-0.5	(1.0)	-1.2	(2.6)	-1.4	(2.9)	-2.3	(3.9)	0.6	(0.6)	0.2	(0.3)	0.1	(0.3)
Unilateral	-2.3*	(1.3)	-1.5	(1.4)	-4.0*	(2.1)	-3.8*	(2.2)	-2.4	(1.6)	-4.0	(2.5)	1.7	(2.4)	2.1	(3.8)	-4.9	(5.1)	-0.8	(0.5)	-0.3	(0.3)	0.5	(0.4)
Equal property	-0.1	(0.7)	-0.1	(0.7)	0.0	(1.2)	-0.1	(1.1)	0.4	(0.6)	0.6	(1.3)	-0.3	(1.2)	-1.8	(1.8)	1.4	(3.7)	0.3	(0.4)	0.2	(0.2)	0.0	(0.3)
Dynamic model:																								
Joint custody in effect for																								
years 0	-0.3	(0.6)	1.0**	(0.5)	0.9	(0.6)	-0.2	(0.8)	0.9*	(0.5)	0.7	(0.6)	0.4	(0.7)	0.7	(0.9)	1.2	(1.7)	-0.2	(0.2)	0.0	(0.1)	-0.1	(0.1)
years 1-2	-0.1	(1.1)	1.6***	(0.6)	2.4**	(0.9)	0.7	(1.3)	1.8**	(0.8)	2.1**	(0.9)	0.0	(1.5)	-0.1	(1.9)	0.6	(3.8)	0.3	(0.3)	0.1	(0.2)	0.0	(0.3)
years 3-4	-0.1	(1.5)	1.9**	(0.9)	3.2**	(1.4)	1.3	(1.6)	2.3*	(1.2)	3.2**	(1.5)	-3.2	(3.1)	-4.4	(3.6)	-4.4	(5.8)	0.8	(0.7)	0.5	(0.3)	0.3	(0.5)
years 5-6	0.4	(1.8)	2.6*	(1.3)	5.2**	(1.9)	2.4	(2.1)	3.1*	(1.7)	5.8***	(2.1)	-5.1	(4.4)	-7.8	(4.8)	-10.0	(7.1)	1.3	(1.0)	0.8*	(0.4)	0.9	(0.6)
years 7-8	0.9	(2.3)	3.3*	(1.6)	7.3***	(2.5)	1.0	(3.0)	3.1	(2.2)	7.3**	(2.7)	-0.9	(4.3)	-4.9	(5.4)	-6.9	(8.4)	0.1	(1.0)	0.5	(0.5)	0.6	(0.7)
years 9-10	1.2	(2.8)	4.4**	(2.0)	9.7***	(3.2)	0.9	(3.8)	3.9	(2.6)	9.4**	(3.6)	-1.2	(5.3)	-4.8	(6.5)	-6.5	(9.6)	-0.2	(1.3)	0.6	(0.6)	0.7	(0.8)
years 11-12	2.4	(3.7)	5.6**	(2.3)	12.0***	(3.9)	1.9	(4.6)	4.8	(3.1)	11.2**	(4.4)	-1.2	(5.3)	-4.1	(6.5)	-2.8	(11.1)	-0.2	(1.5)	0.6	(0.6)	0.6	(1.0)
years 13-14	4.0	(4.9)	5.9**	(2.6)	13.6***	(4.6)	3.3	(5.1)	5.0	(3.4)	12.6**	(5.2)	-1.1	(6.2)	-6.0	(7.1)	-2.4	(12.5)	-0.2	(1.5)	0.7	(0.7)	0.7	(1.1)
years 15-16	5.4	(5.6)	6.0**	(2.7)	13.6***	(5.0)	5.5	(6.0)	5.5	(3.7)	13.3**	(5.6)	-3.6	(6.7)	-12.1	(8.0)	-8.9	(13.7)	0.9	(1.9)	1.1	(0.8)	1.2	(1.2)
years 17+	6.2	(6.5)	5.4*	(3.0)	12.5**	(5.4)	7.2	(7.1)	6.0	(4.0)	13.7**	(6.2)	-7.0	(7.1)	-22.6*	(9.6)	-24.2	(15.5)	2.1	(2.3)	2.0**	(1.0)	2.2	(1.3)
Unilateral divorce law in effect for																								
years 0	-1.2	(1.3)	-0.1	(1.2)	0.2	(1.3)	0.4	(1.4)	-0.1	(1.2)	0.0	(1.4)	-4.1*	(2.2)	-3.5	(3.5)	-8.7*	(4.5)	0.4	(0.6)	0.3	(0.3)	0.7*	(0.4)
years 1-2	-3.3	(2.6)	-0.9	(1.9)	0.4	(2.3)	1.0	(2.6)	0.4	(1.9)	1.7	(2.2)	-7.8*	(4.2)	-9.9	(6.1)	-13.3*	(7.7)	0.7	(1.1)	0.9	(0.6)	1.0*	(0.6)
years 3-4	-4.1	(3.3)	-0.8	(2.6)	1.5	(3.4)	3.3	(5.5)	0.7	(2.8)	3.2	(2.7)	-13.9**	(6.8)	-16.7*	(9.9)	-20.5*	(11.8)	1.7	(1.9)	1.4	(1.0)	1.5*	(0.8)
years 5-6	-3.8	(4.4)	1.1	(3.2)	4.9	(4.3)	4.4	(7.0)	2.0	(3.4)	5.6	(3.5)	-18.8**	(9.0)	-21.3*	(12.7)	-22.5	(14.9)	2.4	(2.5)	1.8	(1.3)	1.4	(0.9)
years 7-8	-3.4	(5.9)	2.0	(4.2)	7.4	(5.8)	8.1	(8.8)	4.5	(3.6)	9.7**	(4.2)	-21.8**	(10.8)	-24.5	(15.0)	-23.5	(17.4)	3.0	(3.0)	2.1	(1.5)	1.4	(1.2)
years 9-10	-3.7	(7.2)	2.6	(4.8)	10.8	(6.7)	11.1	(10.4)	6.0	(3.9)	12.5**	(4.9)	-24.4*	(12.6)	-25.5	(17.3)	-20.0	(18.9)	3.8	(3.7)	2.3	(1.9)	1.1	(1.4)
years 11-12	-3.3	(8.1)	3.0	(5.5)	12.8*	(7.4)	14.2	(11.6)	7.4	(4.5)	14.7***	(5.4)	-28.0*	(14.5)	-30.3	(20.1)	-23.9	(22.4)	4.7	(4.2)	2.9	(2.2)	1.4	(1.7)
years 13-14	-4.3	(9.0)	3.0	(6.2)	14.5*	(8.2)	15.0	(12.7)	7.9	(4.8)	16.7***	(5.8)	-33.4*	(16.1)	-35.8	(22.9)	-26.6	(25.3)	5.3	(4.6)	3.3	(2.4)	1.3	(1.8)
years 15-16	-5.3	(10.0)	2.6	(6.8)	14.9*	(8.9)	16.4	(14.6)	8.5	(5.3)	18.3***	(6.1)	-41.5**	(20.0)	-44.8	(27.5)	-37.6	(29.9)	6.5	(5.7)	4.1	(2.8)	2.1	(2.2)
years 17+	-3.9	(10.8)	3.1	(6.8)	16.0*	(9.3)	18.4	(16.6)	9.1	(5.4)	19.7***	(6.4)	-43.0*	(21.5)	-47.4*	(28.2)	-39.9	(29.2)	7.0	(6.3)	4.4	(3.0)	2.3	(2.3)
Equal property	-0.4	(0.8)	-0.2	(0.7)	-0.3	(1.2)	-0.1	(1.1)	0.4	(0.7)	0.5	(1.4)	0.0	(1.1)	-1.4	(1.9)	1.6	(3.8)	0.3	(0.3)	0.1	(0.2)	0.0	(0.3)
Mean of dep. var.	116.3	91.6	16.0	84.2	81.1	14.3	31.1	10.4	1.7	88.6	89.5													

^a This table summarizes estimation results of the effect of joint custody on age-specific (total/marital/non-marital) fertility rates and the age-specific legitimacy ratio based on annual US state-level data (excluding Nevada) from 1969 through 2002. In the case of total fertility rates the number of observations is equal to 1,666. In the case of the other estimations the number of observations is only 1,546, since authorities in 120 state-years did not record information on the mothers marital status; see notes to Figure A.5 in the W-A. Each specification (in each model) uses the same method of estimation, and includes the same set of control variables as Specification III in Table 3. Estimated effects are the percent change in the respective age-specific fertility rate (and the percentage point change in the legitimacy ratio) due to the adoption of the respective law (the stated number of years ago). Figure A.8 provides a graphical summary of these results.

Figure 4: The effect of the adoption of joint custody on age-specific (marital) fertility rates with leads^a



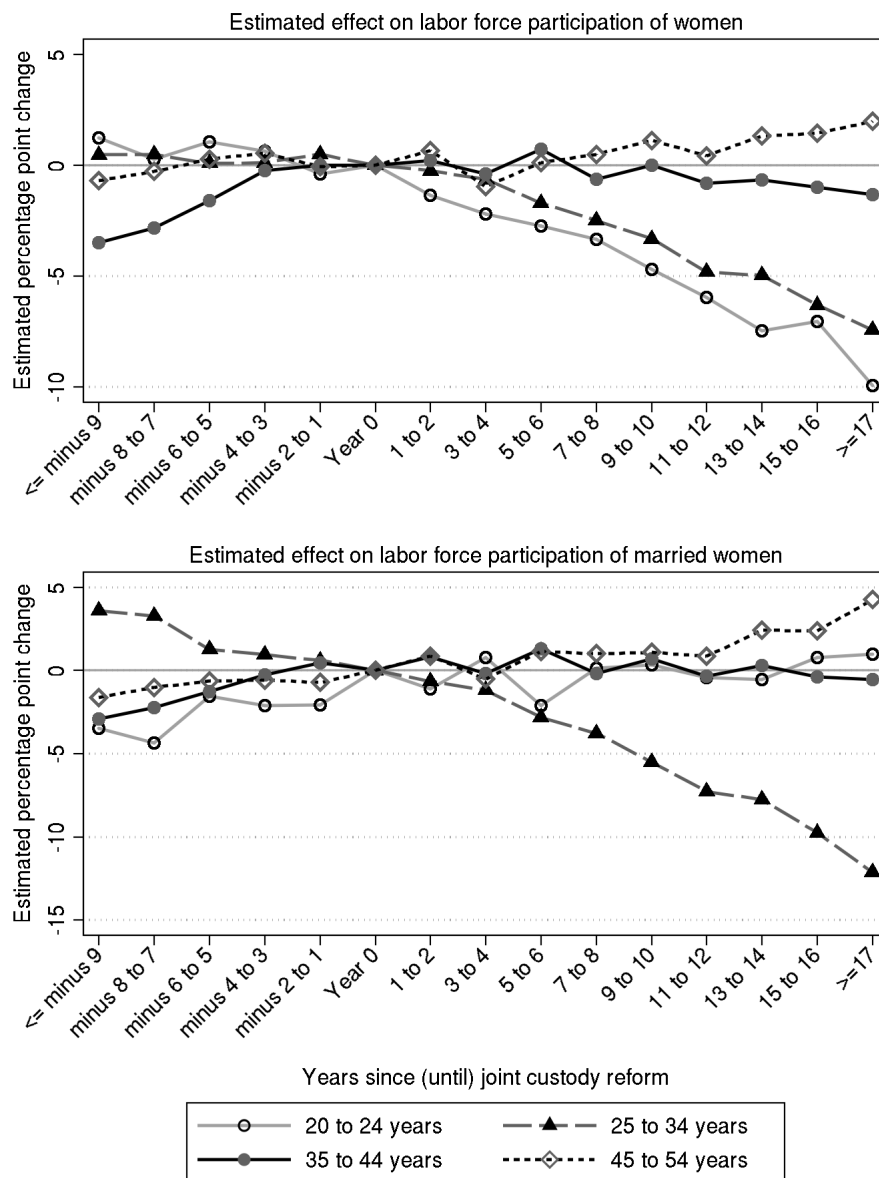
^a These graphs summarize estimation results of the effect of joint custody on age-specific (marital) fertility rates based on annual US state-level data (excluding Nevada) from 1969 through 2002. Each specification (in each panel) is equivalent to that presented in Table 4, however, also controls for leads starting at year minus 9 (or less). Estimated effects are the percent change in the respective fertility rate due to the adoption of joint custody the stated number of years ago.

Table 5: The effect of the adoption of joint custody on female labor force participation (percentage point change)^a

	Age-specific labor force participation of all women					Age-specific labor force participation of married women									
	20 to 24	25 to 34	35 to 44	45 to 54	55 to 64	20 to 24	25 to 34	35 to 44	45 to 54	55 to 64					
Static model:															
Joint custody	0.6	0.6	0.4	-0.1	(0.5)	-0.7	(0.5)	1.3	(0.9)	0.9*	(0.5)	0.1	(0.5)	0.4	(0.5)
Unilateral divorce	-1.6	1.4	(1.2)	-0.1	(1.3)	0.4	(1.2)	-3.3*	(2.0)	2.6**	(1.2)	0.3	(1.3)	0.6	(1.1)
Equal property	-0.4	-0.4	(0.5)	0.1	(0.6)	1.2*	(0.7)	0.0	(1.0)	-1.0	(0.6)	0.5	(0.7)	1.3*	(0.7)
Dynamic model:															
Joint custody in effect for															
years 0	0.3	(0.9)	-0.3	(0.5)	(0.6)	-0.3	(0.7)	1.6	(1.3)	0.0	(0.7)	-0.9	(0.7)	0.4	(0.7)
years 1-2	-0.8	(0.9)	-0.6	(0.5)	(0.7)	0.2	(0.7)	0.2	(1.3)	-0.1	(0.7)	-0.7	(0.8)	1.2	(0.7)
years 3-4	-1.3	(1.1)	-1.0	(0.7)	(0.8)	-2.4***	(0.9)	1.6	(1.8)	0.1	(0.9)	-2.4***	(0.9)	-0.3	(1.0)
years 5-6	-1.5	(1.4)	-2.1**	(0.9)	(0.9)	-0.5	(1.1)	-1.6	(2.2)	-0.9	(1.1)	-1.7	(1.1)	1.2	(1.2)
years 7-8	-1.7	(1.7)	-3.0***	(1.1)	(1.2)	-0.1	(1.4)	0.3	(2.7)	-1.3	(1.4)	-3.8***	(1.5)	1.0	(1.5)
years 9-10	-2.8	(2.1)	-3.8***	(1.3)	(1.4)	0.4	(1.6)	0.1	(3.2)	-2.5	(1.6)	-3.6***	(1.7)	1.0	(1.8)
years 11-12	-3.8	(2.4)	-5.4***	(1.5)	(1.6)	-0.3	(1.9)	-0.9	(3.8)	-3.7***	(1.9)	-5.2***	(2.0)	0.7	(2.0)
years 13-14	-5.0*	(2.7)	-5.6***	(1.7)	(1.8)	0.6	(2.1)	-1.3	(4.3)	-3.8*	(2.2)	-5.0**	(2.2)	2.2	(2.3)
years 15-16	-4.4	(3.0)	-6.9***	(1.9)	(2.0)	0.7	(2.3)	-0.2	(4.9)	-5.4**	(2.4)	-6.1**	(2.4)	2.1	(2.5)
years 17+	-7.1**	(3.5)	-8.1***	(2.1)	(2.2)	1.2	(2.5)	-0.2	(5.8)	-7.6***	(2.7)	-6.6**	(2.7)	3.9	(2.9)
Unilateral divorce in effect for															
years 0	-0.9	(1.7)	1.9	(1.5)	(1.4)	0.3	(1.2)	-2.2	(2.1)	1.6	(1.6)	-0.8	(1.3)	0.6	(1.1)
years 1-2	0.7	(2.0)	2.9**	(1.4)	(1.6)	2.0	(1.6)	2.3	(2.7)	2.7	(1.7)	1.0	(1.7)	1.8	(1.7)
years 3-4	-0.6	(2.5)	7.3***	(2.0)	(1.8)	2.6	(2.0)	1.7	(3.4)	5.1**	(2.2)	3.3*	(1.9)	2.1	(2.0)
years 5-6	0.1	(3.1)	8.9***	(2.2)	(2.2)	4.2*	(2.4)	4.5	(4.3)	5.7**	(2.5)	4.5*	(2.4)	3.1	(2.5)
years 7-8	1.0	(3.7)	10.1***	(2.5)	(2.6)	4.3	(2.8)	4.7	(5.2)	5.8*	(2.9)	4.7	(2.8)	3.1	(2.8)
years 9-10	3.6	(4.1)	10.9***	(2.9)	(3.0)	4.6	(3.1)	9.5*	(5.7)	5.5	(3.3)	6.3*	(3.3)	3.2	(3.3)
years 11-12	3.2	(4.5)	11.0***	(3.1)	(3.3)	6.8**	(3.4)	11.2*	(6.4)	4.1	(3.7)	5.2	(3.6)	5.7	(3.6)
years 13-14	3.5	(4.9)	12.6***	(3.4)	(3.6)	5.9	(3.7)	10.3	(6.9)	5.9	(4.0)	5.3	(3.9)	3.9	(3.9)
years 15-16	3.2	(5.2)	13.2***	(3.6)	(3.8)	6.1	(3.9)	11.1	(7.4)	5.9	(4.3)	5.2	(4.2)	3.8	(4.2)
years 17+	4.5	(5.6)	14.0***	(3.9)	(4.2)	5.0	(4.2)	15.8**	(7.9)	7.1	(4.6)	4.4	(4.6)	3.1	(4.6)
Equal property division	-0.3	(0.7)	0.1	(0.5)	(0.6)	1.4**	(0.7)	-0.1	(1.0)	-0.7	(0.6)	1.0	(0.7)	1.5**	(0.7)

^a This table summarizes estimation results of the effect of joint custody on the probability of (married) women in an age-specific group to be in the labor force based on micro-level data from the CPS (excluding Nevada) from 1969 through 2003. Observations from 272 state-years are missing, since several states were grouped together in early years. The dependent variables in each case equal to one if the women is in the labor force, and zero otherwise. Estimated using a linear probability model with sample weights. Each estimation includes as state-level control variables, the same set of control variables as specification III of the dynamic model in Table 3. On an individual level a saturated set of binary variables for women's race and age is included. Coefficients give the percentage point change in the age-specific probability to be in the labor force rate due to the adoption of the respective law (the stated number of years ago). Robust standard errors (allowing for clustering by state-year and heteroskedasticity of unknown form) in parentheses. *, **, and *** indicate statistical significance at the 10% level, 5% level, and 1% level, respectively.

Figure 5: The effect of the adoption of joint custody on female labor force participation with leads^a



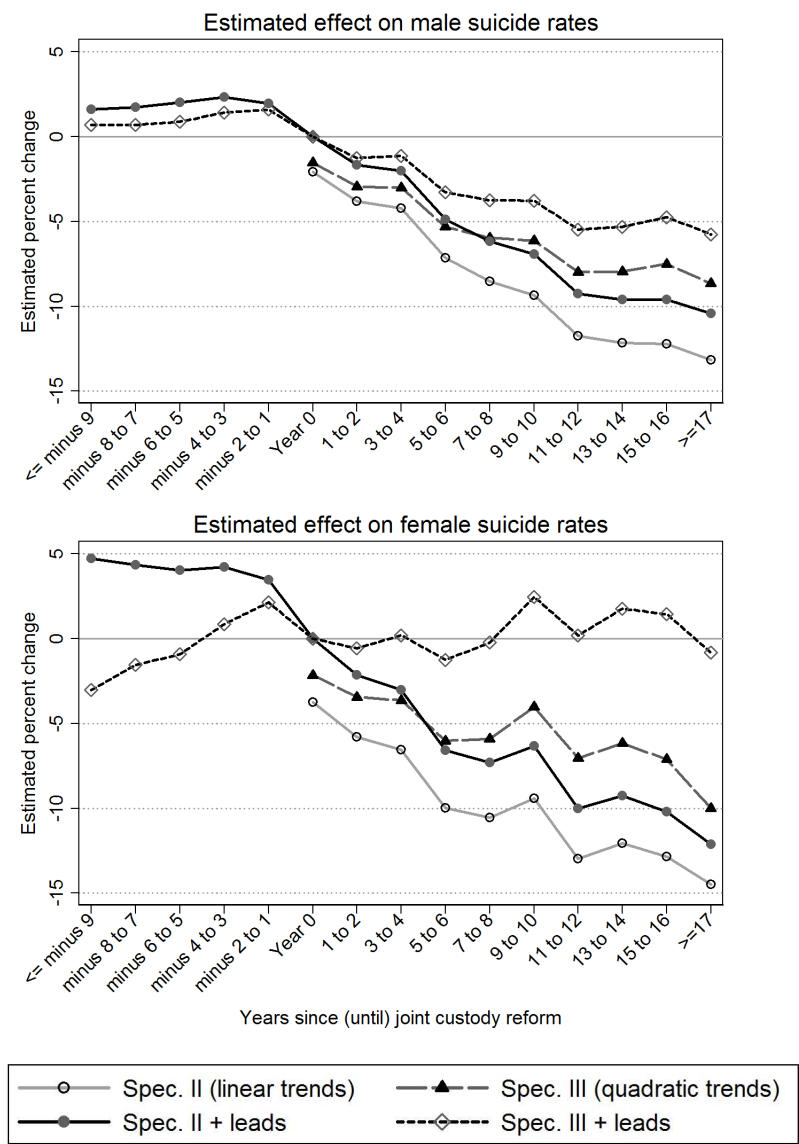
^a These graphs summarize estimation results of the effect of joint custody on the probability of (married) women in an age-specific group to be in the labor force based on micro-level data from the CPS (excluding Nevada) from 1969 through 2003. Each specification (in each panel) is equivalent to that presented in Table 5, however, also controls for leads starting at year minus 9 (or less). Estimated effects are the percentage point change in the age-specific probability to be in the labor force due to the adoption of joint custody the stated number of years ago.

Table 6: The effect of the adoption of joint custody on suicide rates (percent change)^a

	Female suicides			Male suicides		
	(FS-I)	(FS-II)	(FS-III)	(MS-I)	(MS-II)	(MS-III)
Static model:						
Joint custody	-5.5% (3.6)	-5.7%* (3.0)	-3.0% (3.2)	-3.4%** (1.6)	-2.7%** (1.2)	-1.8% (1.1)
Unilateral divorce	-8.9% (6.4)	5.4% (4.2)	9.4% (6.1)	-1.3% (2.9)	4.2%** (1.8)	1.9% (1.6)
Equal property division	6.1% (8.1)	-1.9% (3.1)	-1.8% (2.5)	2.8% (3.0)	-1.0% (1.2)	-1.0% (1.0)
Dynamic model:						
Joint custody in effect for						
year 0	-4.0% (3.2)	-3.8%* (2.1)	-2.2% (2.3)	-1.9% (1.4)	-2.1%* (1.2)	-1.5% (1.1)
years 1-2	-6.6% (4.5)	-5.8%* (3.3)	-3.4% (4.1)	-3.8%** (1.5)	-3.8%** (1.2)	-2.9%** (1.3)
years 3-4	-8.3% (5.2)	-6.5%** (3.2)	-3.6% (4.7)	-4.3%** (2.0)	-4.2%** (1.6)	-3.0% (1.8)
years 5-6	-13.4%** (5.9)	-10.0%** (3.3)	-6.0% (5.4)	-7.7%** (2.4)	-7.2%** (1.7)	-5.3%** (2.3)
years 7-8	-16.3%** (7.2)	-10.5%** (3.5)	-5.9% (6.4)	-9.7%** (2.6)	-8.5%** (2.0)	-6.0%** (2.7)
years 9-10	-17.2%** (9.0)	-9.4%** (4.4)	-4.0% (7.7)	-10.9%** (2.9)	-9.3%** (2.2)	-6.1%** (3.0)
years 11-12	-22.1%** (10.4)	-13.0%** (5.2)	-7.0% (8.9)	-13.3%** (3.6)	-11.7%** (2.7)	-8.0%** (3.8)
years 13-14	-24.9%** (11.3)	-12.1%** (4.4)	-6.2% (8.5)	-14.7%** (4.1)	-12.1%** (2.9)	-8.0%** (4.1)
years 15-16	-28.7%** (13.6)	-12.9%** (4.5)	-7.1% (9.3)	-15.3%** (4.9)	-12.2%** (3.1)	-7.5%** (4.2)
years 17+	-33.7%** (15.3)	-14.5%** (5.4)	-10.0% (9.9)	-15.9%** (6.1)	-13.2%** (3.9)	-8.7% (5.4)
Unilateral divorce in effect for						
year 0	3.4% (6.5)	3.4% (4.6)	2.6% (5.2)	1.8% (2.4)	3.8%** (1.5)	3.1%** (1.4)
years 1-2	4.5% (6.6)	5.8% (4.6)	4.4% (4.6)	2.3% (2.6)	5.1%** (2.1)	4.0%** (1.7)
years 3-4	6.0% (4.7)	5.0% (3.7)	3.9% (4.1)	1.5% (2.3)	3.9%* (2.1)	2.6% (1.8)
years 5-6	2.3% (4.5)	1.5% (3.9)	0.7% (6.3)	0.9% (2.6)	4.3%* (2.5)	3.0% (2.7)
years 7-8	-6.0% (5.3)	-5.9% (5.1)	-6.3% (7.4)	-0.3% (2.5)	4.5%* (2.4)	3.3% (3.2)
years 9-10	-10.6% (6.6)	-10.6%* (6.2)	-11.2% (8.9)	-1.7% (3.0)	3.8% (2.7)	2.5% (3.6)
years 11-12	-12.1% (7.5)	-10.3% (6.3)	-10.1% (9.5)	-0.7% (3.8)	6.5%* (3.4)	5.5% (4.1)
years 13-14	-15.4%* (8.9)	-13.4% (8.2)	-13.4% (11.5)	0.0% (3.8)	7.9%** (3.9)	6.8% (4.7)
years 15-16	-15.1% (9.4)	-12.3% (8.9)	-12.4% (12.2)	-0.5% (3.7)	8.5%** (3.9)	7.5% (4.9)
years 17-18	-18.8%* (10.6)	-15.0% (10.2)	-15.0% (13.7)	-0.8% (4.4)	9.5%** (4.4)	8.6% (5.7)
years 19+	-23.2%** (10.7)	-16.5% (11.3)	-16.2% (14.9)	-6.9% (4.8)	5.9% (5.3)	5.8% (6.7)
Equal property division	1.8% (6.1)	-3.3% (2.9)	-2.7% (2.6)	1.5% (2.4)	-0.8% (1.2)	-0.9% (1.1)
Control variables:^b						
State-specific linear time trends	no	yes	yes	no	yes	yes
State-specific quadratic time trends	no	no	yes	no	no	yes
Mean suicide rate	52 suicides per million women			200 suicides per million men		

^a This table summarizes estimation results based on annual US state-level data (excluding Nevada) from 1964 through 2003. The number of observations is equal to 1,960. The dependent variable is equal to the aggregate state suicide rate by sex; source until 1996 Stevenson and Wolfers (2006); data after 1996 have been downloaded from the *Centers for Disease Control and Prevention's WONDER On-time Database*. Estimated using state population weights. Listed coefficients are reported as the percent change in the sex-specific suicide rate due to the adoption the respective law (the stated number of years ago). Robust standard errors (allowing for clustering by state and heteroskedasticity of unknown form) in parentheses. *, ** and *** indicate statistical significance at the 10% level, 5% level, and 1% level, respectively. ^b Each specification (in each model) includes the variables listed, state and year fixed-effects, the prevalence of equal property division in case of divorce, the minimum legal ages at marriage, legalized abortion, and variables capturing the age and race composition.

Figure 6: The effect of the adoption of joint custody on suicide rates with leads^a



^a These graphs summarize estimation results of the effect of joint custody on sex-specific suicide rates based on annual US state-level data (excluding Nevada) from 1964 through 2003. Each specification (in each panel) is equivalent to the respective specification of the dynamic model presented in Table 6, however, some also controls for leads starting at year minus 9 (or less). Listed coefficients are reported as the percent change in the sex-specific suicide rate due to the adoption of joint custody the stated number of years ago.