

# Is It True That Unilateral Divorce Improves the Empowerment of Women?

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## Abstract

There is evidence that unilateral divorce decreases domestic violence and improves the bargaining power of women within households. Yet, this evidence mainly comes from developed countries and little is known about the effect of unilateral divorce in developing countries. This paper analyzes the effect of unilateral divorce in Mexico on labor supply of women, bargaining power, and intimate partner violence (IPV). Using a national-state representative survey that focuses on women's empowerment and applying a difference-in-differences strategy, the results show: (1) unilateral divorce increased intimate partner violence (IPV); (2) there is no evidence that unilateral divorce affected the women's bargaining power within the household; and (3) there is evidence of heterogeneous effects regarding female labor supply. In particular, married women with young children participated more in the labor market, while married women without young children participated less. Unilateral divorce can be a mechanism that reduces violent relationships; however, it may have unintended consequences for women who remain married.

**Keywords:** unilateral divorce, intimate partner violence, labor supply, bargaining power.

**JEL:** J12, J16, J22.

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# 1 Introduction

Can unilateral divorce contribute to the empowerment of women? If women wish to leave their marriages, then unilateral divorce will increase their bargaining power within the household (Chiappori et al., 2002). However, Macmillan and Gartner (1999) suggest that when the balance of power in relationships within the household are affected, men may choose to execute violence to re-establish social norms of male dominance (male backlash theory). Thus, the effect of unilateral divorce on women's empowerment is an empirical unknown that remains to be tested.

In 2015, the Mexican's Supreme Court unexpectedly approved unilateral divorce and this paper exploits the effects of this ruling on women's labor supply, bargaining power, and intimate partner violence (IPV). Implementing a differences-in-difference approach, and using married couples as the treatment group and cohabiting couples as a control group, the results show that unilateral divorce increased intimate partner violence (IPV) by 2.2 percentage points. This corresponds with a 6.3% increase when compared to the prevalence of IPV in the treatment group prior to the Supreme Court's ruling. I find no evidence that unilateral divorce affected women's bargaining power. In addition, I find evidence of heterogeneous effects regarding labor: (1) married women with young children increased their participation in the labor market by 1.8 percentage points, and (2) married women without young children reduced the latter by 3.2 percentage points.

This work relates to literature studying the effects of unilateral divorce and women’s empowerment. In terms of female labor supply, in states that adopted unilateral divorce in the USA, Stevenson (2008) found a one percentage point increase in participation in the labor market. Using data from the USA, Genadek et al. (2007) found that unilateral divorce increased participation in labor market for married women with young children by 2%, and decreased for married women without children by 3%. Hoehn-Velasco and Penglase (2019b), using data from Mexico, found that unilateral divorce increased labor supply of women who have between one and three children by 6.0%. In addition, the latter authors found that unilateral divorce decreased women’s bargaining power. However, this result was not robust to alternative specifications.<sup>1</sup>

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<sup>1</sup>My results coincide qualitatively with Hoehn-Velasco and Penglase (2019b), despite the fact that I used a different database and methodology. Regarding the data, I used the 2006, 2011, and 2016 National Survey on Relationships within the Household (ENDIREH). This is a national-state representative survey regarding women’s empowerment in Mexico. Hoehn-Velasco and Penglase (2019b), used the National Household Income and Expenditures Survey (ENIGH) over the years 2008, 2010, 2012, 2014, and 2016. The ENIGH is representative at the national level. Regarding my methodology, I used a difference-in-difference approach, exploiting an unexpected approval of unilateral divorce in Mexico in February 2015 by the Supreme Court. Following Brassiolo (2016), I took married couples as the treatment group and cohabiting couples as a control group. This methodology was applied to 25 of the 32 states in which there was no record of implementation of the unilateral divorce law prior to the resolution of the Supreme Court. Hoehn-Velasco and Penglase (2019b) examine the state-level variation in the adoption of the unilateral divorce in order to analyze its effect on the female labor supply. They consider that a state has adopted unilateral divorce when it has recorded more than ten unilateral divorces in the respective quarter-year. In addition, when they find discrepancies between the data and the evidence of legislated adaptation of unilateral divorce at the state level, they “defer to the data and consider the state as having passed unilateral divorce legislation.” Finally, Hoehn-Velasco and Penglase (2019b) used a structural model to uncover the bargaining power of women within the household. In my case, I used a reduced-form estimation.

In terms of intimate partner violence (IPV), Stevenson and Wolfers (2006) found that the implementation of unilateral divorce in the USA caused a reduction of 30 percent in domestic violence. In the case of Spain, Brassiolo (2016) uncovered a decline between 27 and 36 percent in spousal conflict. Yet, García-Ramos (2017), using data from Mexico, found that unilateral divorce increased intimate partner violence by 3.4 percentage points.<sup>2</sup>

There are three main contributions of this paper. First, this paper shows that the implementation of unilateral divorce can have unintended consequences on women's empowerment. In particular, the study finds that the implementation of unilateral divorce increased IPV, which supports the male backlash hypothesis. In addition, this result contrasts with previous evidence indicating a decrease in IPV after the implementation of unilateral divorce (Stevenson and Wolfers, 2006; Brassiolo, 2016). Second, the current research does not find evidence that unilateral divorce affected the bargaining power within the household, as predicted

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<sup>2</sup>This result is mainly obtained by two states that first passed the unilateral divorce law (Mexico City and Hidalgo). The difference between the magnitude of our results is due to the data used and the methodology. Regarding the data, both studies used the National Survey on Relationships within the Household (ENDIREH). The principal difference is that I used the survey for the years 2006, 2011, and 2016, when the survey was representative at the state level. García-Ramos (2017) used the 2003, 2006, 2011, and 2016 survey waves. In the case of 2003, the survey was representative only at the national level and for 11 states, namely, Baja California, Coahuila, Chiapas, Chihuahua, Hidalgo, Michoacan, Nuevo Leon, Quintana Roo, Sonora, Yucatan and Zacatecas. Regarding the methodology, I referred to a Supreme Court resolution in favor of unilateral divorce (February 2015), and to 25 states that had not adopted the latter prior to this resolution. I took married couples as the treatment group and cohabiting couples as a control group. García-Ramos (2017) examined variation at the state level with regard to the introduction of unilateral divorce. In particular, she referred to the implementation of the unilateral divorce in Mexico City and the state of Hidalgo during the period 2006-2011; and 13 states during the period 2011-2016.

by Chiappori et al. (2002). Finally, this paper presents evidence supporting heterogeneous effects on female labor supply based on the number of children within the household. This result is in line with previous findings in the USA (Genadek et al., 2007).

The remainder of this paper is organized as follows. Section II presents the background context to the implementation of unilateral divorce in Mexico. Section III describes the data and empirical methods. Section IV presents the results and Section V concludes the paper.

## 2 The Unilateral Divorce in Mexico

The unilateral divorce is a legal instrument in which both spouses can end the marriage without having to prove grounds for absolute divorce (Mendez-Sanchez, 2014). In October 2008, Mexico City passed unilateral divorce with only one requirement: the couple must have been married for at least one year prior to filing for divorce. In terms of custody of children, the law required that the parents make an agreement between themselves. In terms of children under 12, however, the law grants sole custody to the mother.<sup>3</sup> The ruling in Mexico City started a chain reaction. In March 2011, the state of Hidalgo instituted unilateral divorce.

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<sup>3</sup>An important exception was the cases where the mother was the source of violence.

Subsequently, five other states (Coahuila, Sinaloa, State of Mexico, Guerrero and Yucatan) adopted unilateral divorce between 2012 and 2014 (see Table 1, Column 4 Panel C).

Mendez-Sanchez (2014) found that the approval of the unilateral divorce increased the divorce rate by 0.15 per 1,000 adults. Moreover, Hoehn-Velasco and Penglase (2019a) found that unilateral divorce increased the divorce rate by 0.09 per 1,000 adults. In particular, given an average divorce rate per quarter of 0.30, they infer that divorce rates increased around 30 percent after the reform.<sup>4</sup>

In February 2015, the Supreme Court resolved a controversial case that required women having to present proof grounds of divorce in the states of Veracruz and Morelos. With three votes against two, the resolution rejected the requirement entirely; allowing the possibility of divorce due to the pure desire of one of the spouses. The primary argument was that requiring grounds for absolute divorce violated the Mexican *constitutional* right which allows people to develop freely. This was a national resolution that legalized unilateral divorce across the country.

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<sup>4</sup>Mendez-Sanchez (2014) conducted a qualitative (not representative) survey among Mexican lawyers in order to understand the advantages and disadvantages of unilateral divorce. He found that the cost of unilateral divorce was estimated between \$250 and \$500 dollars, while the cost of other types of divorce were over \$500 dollars. One of the disadvantages that the respondents pointed out was the growing rupture of families and the problem of reconciling the rights of the child.

Several states added their own local laws to the Supreme Court's resolution. Yet, not every state implemented this harmonization. For the states that opted out, the inhabitants of these states could take advantage of the Supreme Court's decision. Table 1 Panel A presents the states that harmonized their local laws to include unilateral divorce prior to November 2016.<sup>5</sup> Table 1, Panel B presents the states that harmonized their local laws after November 2016, or the states that opted out. Finally, Table 1 Panel C presents the states that had approved the unilateral divorce prior to the resolution of the Supreme Court.

The states of interest for this paper are presented in Panels A and B. A treatment group (women who are married) and a control group (women who are not married but cohabiting with their partners) were specifically derived from these states. In 2016, the percentage of divorces via unilateral divorce was, on average, 28.6% in the states that had added their laws to the Supreme Court's resolution (Panel A), and around 13% in the states that had not (Panel B). In terms of the states that added to the Supreme Court's resolution, Aguascalientes had the highest percentage rate (98.2%), and Michoacan had the lowest (5.9%). Among the states that did not add their own laws, Campeche had the highest percentage rate (76.6%), and Zacatecas had the lowest (0%). It is worth mentioning that Zacatecas is the only state that has zero cases of unilateral divorce. These results

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<sup>5</sup>Data for three waves of a national-state representative survey regarding women's empowerment were used for the current paper: 2006, 2011 and 2016. The data for the third wave were collected during October-November 2016. Thus, I use November 2016 as a reference.

show that following the Supreme Court’s resolution, many households used the unilateral divorce mechanism. This occurred even in states where local laws were not adopted to the Supreme Court’s resolution, but individuals were able to use it.

## 3 Data and Empirical Strategy

### 3.1 Description of Data

The National Survey on Relationships within the Household (ENDIREH (2006), ENDIREH (2011), and ENDIREH (2016)) was used to estimate the effects of unilateral divorce on the female labor supply, intimate partner violence (IPV), and bargaining power. ENDIREH is a national-state representative survey which collects data pertaining to domestic violence and empowerment for women aged 15 or older, and who are in: (1) a relationship (married or cohabiting); (2) who were previously married but now divorced, separated or widowed; and (3) single women. For purposes of this paper, the sample was restricted only to women living with their husbands (married or cohabited), and aged between 15 and 60 years.<sup>6</sup>

ENDIREH provides information for 30 items in four categories of intimate part-

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<sup>6</sup>In the case of Mexico, for workers who joined a formal work before 1997, they can access to a pension when they turn 60 years old. The transition to a pension can affect the bargaining power within the household. To minimize this problem, it was decided to limit the information for women up to 60 years old.



ner violence: emotional, economic, physical, and sexual. For the current study, questions on domestic violence were applied when they referred to an incident of violence in the last twelve months. For the 30 items<sup>7</sup>, the value of zero was adopted if a woman replied “never”, and one if a woman replied “sometimes” or “frequently”. Then, using ENDIREH’s four categories of violence, a value of one was assigned if the woman experienced violence over the last 12 months, and zero otherwise. Thus, the indices measuring intimate partner violence range between 0 and 1.

In terms of women’s bargaining power, ENDIREH provides information for four items pertaining to making household decisions.<sup>8</sup> Specifically, the questions on household decisions took the value of one if the woman reported that she jointly (with her partner) or independently makes decisions, and zero otherwise. Using these items, an index was developed with the value ranging between 0 and 4. In terms of female labor supply, the women were asked whether they worked any hours the week prior to the survey. The answer was confirmed by verifying the occupied position (employee, self-employed worker, employer, or other position). This variable adopted the value of one if it was confirmed that the woman was working, and zero otherwise.

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<sup>7</sup>Table 10 presents the prevalence of each item by category of intimate partner violence.

<sup>8</sup>Table 10 Panel E presents each item by category. The selected questions appear in the three rounds of the survey.

As explained in the previous section, this paper exploits the Supreme Court's resolution that ruled in favor of unilateral divorce. Following Brassiolo (2016), married couples were defined as the treatment group and cohabiting couples as the control group. In addition, only the 25 states that did not apply the unilateral divorce rule prior to the resolution of the Supreme Court were included (see Table 1, Panels A and B).

Table 2 compares the measures of the variable of interest (female labor supply, IPV, and bargaining power) between 2011 and 2016 for the treatment and control group. Regarding female labor supply, the descriptive statistics show that the reform generated a small decrease in labor supply (-0.01)<sup>9</sup>. In addition, it is observed that the reform increased IPV (.03), and decreased women's bargaining power (-0.02).

Table 2, Panel B includes information for the controls that were used including female characteristics, partner and household characteristics, and other state characteristics. Female characteristics include age, education, speaking an indigenous language, and violence in her family of origin. Partner and household characteristics include the partner's age, education, and speaking an indigenous language. In addition, the controls include having children who are 18 years old or less, remit-

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<sup>9</sup>This value was obtained as follows:  $(.40-.44)-(0.39-0.42)$ . The same strategy was followed for the other variables of interest, i.e., IPV and women's bargaining power.

tances, and cash transfers from PROGRESA. Finally, state characteristics include homicides per 100,000 inhabitants, living in a rural area, Gross Domestic Product, sex ratio (males to females), and inequality (Gini coefficient).

### 3.2 Empirical Strategy

To estimate the effect of unilateral divorce on the female labor supply, intimate partner violence (IPV) and women’s bargaining power, a differences-in-differences strategy was applied, with reference to the aforementioned resolution of the Supreme Court in February 2015, and the 25 states that were affected by this reform (see Table 1, Panel A and B). Data for three periods were used: 2006, 2011 and 2016. Married couples were taken as the treatment group and cohabiting couples as the control. The regression is as follows:

$$Y_{igt} = \beta_0 + \beta_1 \text{Married}_g + \beta_2 \text{Married}_g T_t + \beta_4 X_{igt} + \theta_s + \gamma_t + e_{igt} \quad (1)$$

where  $Y_{igt}$  is the outcome of interest (labor supply, IPV, or women’s empowerment) for women  $i$ , in marital group  $g$  and year  $t$ ;  $\text{Married}_g$  is an indicator for the treatment group;  $T_t$  is a binary indicator for the post-reform period;  $X_{igt}$  is a vector of controls;  $\theta_s$  is a set of state-fixed effects; and  $\gamma_t$  is a set of year dummies. Standard errors were clustered at the state level to correct for autocorrelation of the outcome measure across years within a state. The coefficient of interest is  $\beta_2$

which is the difference-in-differences estimator.

In order to identify the causal effect, the above difference-in-differences (DID) estimator need to satisfy the following:

1. The additive structure imposed is correct.
2.  $cov(e_{igt}, Married_g T_t) = 0$ .

The latter assumption is known as a *parallel-trend*, meaning that the outcome variables of the treatment and comparison groups followed the same trend over time before the legislation of unilateral divorce took place. In other words, the unobserved characteristics that created a gap between the measured treatment and control outcomes are assumed to be time invariant, consequently eliminating the problem of omitted variable bias.

To check for the validity of this assumption, the most straightforward strategy is that of graphically examining the data and comparing the trends of both groups in the pre-treatment period. Another common strategy is to conduct a falsification test. For the purposes of the current study, the difference-in-differences model will be re-estimated by assuming that the Supreme Court resolution was introduced at some point between 2006 and 2011. Since this acts as a “placebo”, it could be

expected that the differences-in-differences coefficient be close to zero and statistically insignificant.

## 4 Results

### 4.1 Differences-in-differences

Table 3 presents the effects of unilateral divorce on the female labor supply (work), IPV, and household decisions. Female characteristics, partner and household characteristics, and state characteristics were controlled for.<sup>10</sup> The difference-in-differences coefficients suggest that unilateral divorce has no effect on the female labor supply (column 1). Regarding intimate partner violence (IPV), the difference-in-differences results suggest an increase in IPV (.022) among the treatment group in comparison with the control group following the reform (column 2). This corresponds to a 6.2% increase in IPV when compared with the prevalence of IPV in the treatment group prior to the reform. Finally, the results show that unilateral divorce decreased the household decisions taken by women by .034 (column 3). This corresponds to a decrease of around 1% in the index of household decisions.

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<sup>10</sup>Female characteristics include age, education, speaking an indigenous language, and violence within family of origin. Partner and household characteristics include the partner's age, education, and speaking an indigenous language. Children who are 18 years old or less were also included. State characteristics include homicides per 100,000 inhabitants, economic growth, sex ratio, inequality (Gini coefficient), and living in a rural area.

To test the robustness of these results, a falsification test was conducted, as presented in Table 4. Specifically, this re-estimated Table 3, assuming that unilateral divorce had been introduced at some point between 2006 and 2011. It could be expected that the coefficient associated with the difference-in-differences would be close to zero and insignificant. Regarding the three variables that are shown to be statistically significant in Table 3 (IPV and household decisions), the only variable that passed this robustness test was IPV (see Table 4, column 2). This result contrasts with previous findings in the literature, which found a decrease in IPV as a consequence of unilateral divorce in Spain (Brassiolo, 2016), and in the USA (Stevenson and Wolfers, 2006).

One of the limitations of these studies is that there was a possible change in the composition of the groups after the reform, particularly in the case of the group of women who remained married. If women who suffered violence decided to divorce, then it is possible to observe a decrease in domestic violence simply because this group is no longer in the “treatment”. If this hypothesis is true, what we are observing in the results presented here is a lower-bound effect of the reform. That is, the effect of the reform is greater than that observed, which was mitigated by women who suffered violence and no longer continued in the “treatment”.

Another important point is to know the type of intimate partner violence (IPV)

that increased as a result of the reform. Table 5 presents the effects of the reform by type of violence. The results show that the main type of violence that increased was emotional (.018) and economical (.018). There are no effects on physical or sexual violence.

Finally, it may be the case that there exist important heterogeneous effects mediating the effects of unilateral divorce. As pointed out by Genadek et al. (2007) and Hassani-Nezhad and Sjogren (2014), unilateral divorce can have important varying effects depending on education, age, and the number of children. The following section explores these heterogeneous effects.

## 4.2 Heterogeneous effects

*Number of children.* Genadek et al. (2007) proposed that unilateral divorce laws potentially affect married women with young children differently than married women without children. In particular, these authors propose that the bargaining power within the household is different for mothers than non-mothers. Using data from the USA, they found that unilateral divorce increased the labor force participation of married women with young children by 2%, and decreased for married women without children by 3%.

Table 6 presents the effects of unilateral divorce on women with young children (Panel A), and women without young children (Panel B). Regarding female labor participation, it can be seen that unilateral divorce increased this among married women with young children by 1.8%, and decreased it among married women without children by 3.2%. These numbers are similar in magnitude and direction as those found in Genadek et al. (2007). In addition, the current research uncovered that unilateral divorce increased IPV (.022) among married women with young children. Yet, the study did not find that unilateral divorce impacted any measure of IPV and household decision making for married women without children.

A placebo test was conducted in order to verify the robustness of these results, assuming that unilateral divorce had been introduced at some point between 2006 and 2011 for the variables that were statistically significant. These results are presented in Table 9, columns 1-4. For the variables analyzed, the results emerged as robust with regard to the female labor supply (column 1) and IPV for married women with children (column 2). The results are not robust in the case of household decisions for married women with children (column 3). In addition, it was found that the female labor supply results passed this robustness test with regard to married women without children (column 4).

*Education.* Table 7 presents the effects of unilateral divorce on women with a secondary education or above (Panel A), and women with a primary education or



no education (Panel B). Here, the results show that unilateral divorce increased IPV (.026) only among women with a secondary education. I do not find evidence of heterogeneous effects for the other variables of interest. Table 9, column 5, presents the outcome of the falsification test for the variable that was statistically significant and the result is robust. This suggests that men are more likely to exercise violence in the case of more educated women. The reason behind this potential strategy may be that these women have a greater probability of abandoning the marriage if given the option of unilateral divorce.

*Age.* Hassani-Nezhad and Sjogren (2014) propose that unilateral divorce potentially has heterogeneous effects depending on the age of the woman. In particular, they propose that older women have a greater degree of investment in their marriages than younger women. In addition, the authors posit that it would be harder for older women to find a job than younger women.

Table 8, Panel A, presents the effects of unilateral divorce on young women (ages 15-34), and Panel B for older women (ages 35-60). No evidence emerged as to any heterogeneous effects regarding labor. In the case of older women, the results show that unilateral divorce increased the probability of IPV (.017). In addition, a decrease in household decision making was found among young women (-.032) and older women (-.051). Table 9, columns 6 to 8, present the outcomes of the falsification test for the variables that were statistically significant, indicating

that only the increase on IPV for older women is robust.

### 4.3 Discussion of results

In theory, it may be expected that a shift from mutual to unilateral divorce may have little effect on divorce rates and, rather, change bargaining power within the household, as implied by the Coase theorem (Becker et al., 1977). In addition, it can be expected that unilateral divorce increases the bargaining power of the person who is willing to leave the marriage, and that this can lead to a reduction in the labor supply (Chiappori et al., 2002).<sup>11</sup> However, the empirical evidence from Mexico shows that unilateral divorce has impacted the divorce rate (Hoehn-Velasco and Penglase, 2019a; Mendez-Sanchez 2014), with the current research finding that unilateral divorce exerts no impact on bargaining power within the household.<sup>12</sup>

Given that bargaining power was not affected, the mechanism by which the female labor supply was affected remains unclear. I do not find effects on average, but heterogeneous effects by children. In particular, the current study found that: (1) married women with young children increased their participation in the

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<sup>11</sup>In particular, the individual who has more power can obtain a monetary transfer from the other individual and use it to get more leisure

<sup>12</sup>Using a structural model, Hoehn-Velasco and Penglase (2019b) likewise find no effect of unilateral divorce on bargaining power.

labor market, and (2) married women without young children decreased the latter. Johnson and Skinner (1986) propose an alternative explanation based on *insurance* against the perceived risk of marital dissolution. In particular, they posit that women may increase their labor participation as a form of insurance in case of potential divorce. The results presented in the current research suggest that this could be the strategy followed by married women with children. In the case of women without children, it is possible that they used another strategy of *insurance*. For example: (1) they can spend more time at home to maintain their marriage; (2) if their income was higher than their husbands, they can quit their job to maintain the “social norms” and avoid conflicts; or (3) another possible mechanism is getting pregnant. While these strategies may function as an incentive for the husband not to leave the marriage, it does imply a decrease in women’s labor participation in the short term.

Finally, the results presented here show that unilateral divorce increased the likelihood of IPV. The model developed by Chiappori et al. (2002) does not offer a direct prediction regarding intimate partner violence. Yet, it can be inferred that when women decrease their bargaining power within the household, this will increase the probability of suffering from more intimate partner violence. This assumes that women value more the marriage than men, and that their bargaining power diminishes as a consequence of unilateral divorce. Yet, as mentioned above, the empirical evidence suggests that this bargaining power was not affected. An

alternative explanation may be that offered by the male backlash theory proposed by Macmillan and Gartner (1999). This hypothesis suggests that when power relations within the household are affected, men can execute violence to re-establish social norms of male dominance.

## 5 Conclusion

This paper analyzes the effect of unilateral divorce on the female labor supply, intimate partner violence (IPV), and decision-making within the household for married couples in Mexico.

The household bargaining models predict that unilateral divorce changes the bargaining power within the household. In particular, the partner threatening divorce will improve his/her bargaining power. The partner who does not want to go out of the marriage will transfer resources to the partner that improved his/her bargaining power. Thus, the partner who increases his/her bargaining power will obtain more goods. These goods include leisure which will translate into a lower labor supply (Chiappori et al., 2002). In addition, we can expect that the increase in bargaining power is inversely related to intimate partner violence (IPV).

Using a differences-in-differences strategy, the current study found no evidence

that unilateral divorce affects bargaining power within the household. This result does not support the household bargaining hypothesis. In addition, I found evidence of heterogeneous effects on the female labor supply, namely: (1) married women with young children increased their labor participation, and (2) married women without young children decreased the same. Finally, emerged evidence that unilateral divorce increased IPV among married women with children, more educated, and older. This result supports the male backlash hypothesis (Macmillan and Gartner, 1999), which predicts an increase in intimate partner violence when traditional power relations within the household are put at risk.

In terms of public policy, the unilateral divorce can be a mechanism that facilitates the termination of violent relationships for many women; however, it may have unintended consequences for women who remain married.

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## Appendix

Table 1: Unilateral Divorce Legislation

	Approved	Approved	Harmonized 1/	Approved	Percentage (Unilateral Divorce/Total Divorce)								
	2006-2011 (1)	2012-2014 (2)	2015-2016 (3)	(4)	2008 (5)	2009 (6)	2010 (7)	2011 (8)	2012 (9)	2013 (10)	2014 (11)	2015 (12)	2016 (13)
<b>Panel A</b>													
Aguascalientes			Yes	June 2015								45.85	98.17
Tamaulipas			Yes	July 2015								10.49	53.95
Nayarit			Yes	June 2015								3.70	29.38
Puebla			Yes	March 2016								0.070	11.88
Tlaxcala			Yes	February 2016								2.33	10.49
Colima			Yes	February 2016								0.23	9.97
Morelos			Yes	February 2015 2/ March 2016								0.33	9.13
Michoacán			Yes	September 2015									5.91
<b>Panel B</b>													
Campeche												25.29	76.66
Nuevo León				December 2016								16.88	69.24
Querétaro				December 2016								21.63	36.43
Guanajuato												0.93	12.42
Tabasco												1.70	6.65
Sonora												0.33	5.62
Chiapas				January 2019								6.44	4.50
Veracruz				February 2015 2/								0.50	3.77
Durango												0.41	2.02
Baja California Sur				January 2017								1.76	1.89
Quintana Roo												0.99	1.40
San Luis Potosí				May 2017								0.12	1.28
Chihuahua												0.18	0.68
Baja California												0.27	0.52
Jalisco				October 2018									0.44
Oaxaca				April 2017									0.39
Zacatecas				June 2017									0.00
<b>Panel C</b>													
Coahuila		Yes		April 2013						50.94	95.49	97.23	97.50
Sinaloa		Yes		February 2013						40.42	90.80	98.58	96.72
Estado de México		Yes		May 2012					35.29	73.91	78.87	80.11	79.42
Guerrero		Yes		March 2012					5.59	37.18	47.40	67.35	75.57
Ciudad de México	Yes			October 2008	1.08	59.09	73.71	72.62	72.90	72.69	70.80	74.78	74.60
Hidalgo	Yes			March 2011				4.03	42.48	57.32	60.36	62.68	68.01
Yucatán		Yes		February 2013					0.04	1.09	13.17	48.13	54.67

Source: INEGI divorce statistics (2008-2016).

1/ Harmonized before November 2016. This is the month when the ENDIREH information was obtained.

2/ The cases of Morelos and Veracruz refer to the resolution of the Supreme Court.



Table 2: Descriptive Statistics

	2006		2011		2016	
	Treatment	Control	Treatment	Control	Treatment	Control
<b>Panel A. Dependent variables</b>						
Working: 1 Yes 0 No	0.42	0.39	0.44	0.42	0.40	0.39
Intimate Partner Violence (IPV)	0.38	0.47	0.32	0.42	0.26	0.33
Household decisions index (0-4)	3.63	3.51	3.71	3.66	3.82	3.79
<b>Panel B. Control Variables</b>						
Woman's age	39.79	34.35	41.09	33.81	40.79	33.86
Woman's education: 1 Secondary or above 0 Primary or no schooling	0.61	0.52	0.65	0.61	0.72	0.69
Indigenous Woman	0.05	0.07	0.05	0.07	0.06	0.09
Partner's age	43.02	38.68	44.32	38.20	43.96	38.16
Partner's education: 1 Secondary or above 0 Primary or no schooling	0.63	0.54	0.66	0.59	0.69	0.65
Indigenous partner	0.05	0.07	0.05	0.07	0.07	0.09
Children 18 years old or less	1.86	1.82	1.63	1.65	1.50	1.54
Remittances	0.05	0.05	0.02	0.02	0.03	0.03
Cash transfers (PROSPERA)	0.13	0.16	0.14	0.19	0.18	0.19
Receiving blows in family of origin	0.25	0.32	0.29	0.37	0.26	0.31
Being beaten in family of origin	0.37	0.43	0.37	0.43	0.33	0.37
Verbally insulted in family of origin	0.31	0.37	0.21	0.27	0.32	0.37
Log (GDP Per Capita)	11.72	11.68	11.73	11.70	11.79	11.75
Sex ratio (males to females)	102.28	101.59	103.49	102.79	104.18	103.87
Inequality (Gini coefficient)	0.48	0.48	0.48	0.48	0.47	0.46
Homicides per 100,000 inhabitants	8.34	8.91	24.88	25.67	20.93	21.32
Rural: 1 Yes 0 No	0.17	0.20	0.20	0.23	0.27	0.29

Source: National Survey on Relationships within the Household (ENDIREH) 2006, 2011, and 2016.

Table 3: Effect of Unilateral Divorce on Labor, Intimate Partner Violence, and Household Decision Making

	Work	IPV	Household Decision Making
	(1)	(2)	(3)
Married	-0.013** (0.005)	-0.068*** (0.005)	0.063*** (0.011)
Married*Post	0.006 (0.007)	0.022** (0.008)	-0.034** (0.012)
Female characteristics	Yes	Yes	Yes
Partner/household	Yes	Yes	Yes
State characteristics	Yes	Yes	Yes
State/Year FE	Yes	Yes	Yes
$R^2$	0.07	0.09	0.05
Observations	142578	142596	113135
Mean (dep var pre/treat)	0.43	0.35	3.67

Note: Female characteristics include age, education, speaking an indigenous language, and having received blows, insults or been beaten in her family of origin. Partner and household characteristics include partner's age, education, and speaking an indigenous language. In addition, children who are 18 years old or less, remittances, and cash transfers from PROSPERA are included. State characteristics include homicides per 100,000 inhabitants, GDP per capita (log), sex ratio, and inequality (Gini Index). The study also controlled for living in a rural area. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Standard errors are clustered at the state level and reported in parentheses. Source: National Survey on Relationships within the Households (ENDIREH) 2006, 2011, and 2016.

Table 4: Effect of Unilateral Divorce on Labor, Intimate Partner Violence, and Household Decision Making - Falsification tests

	Work (1)	IPV (2)	Household Decision Making (3)
Married	-0.006 (0.007)	-0.070*** (0.006)	0.092*** (0.012)
Married*Post (placebo)	-0.011 (0.008)	0.011 (0.007)	-0.061*** (0.013)
Female characteristics	Yes	Yes	Yes
Partner/household	Yes	Yes	Yes
State characteristics	Yes	Yes	Yes
State/Year FE	Yes	Yes	Yes
$R^2$	0.06	0.08	0.05
Observations	99901	99919	78811

Note: Female characteristics include age, education, speaking an indigenous language, and having received blows, insults or been beaten in her family of origin. Partner and household characteristics include partner's age, education, and speaking an indigenous language. In addition, children who are 18 years old or less, remittances, and cash transfers from PROSPERA are included. State characteristics include homicides per 100,000 inhabitants, GDP per capita (log), sex ratio, and inequality (Gini Index). The study also controlled for living in a rural area. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Standard errors are clustered at the state level and reported in parentheses. Source: National Survey on Relationships within the Households (ENDIREH) 2006, 2011, and 2016.

Table 5: Effect of Unilateral Divorce on Type of Intimate Partner Violence

	Emotional IPV (1)	Economical IPV (2)	Physical IPV (3)	Sexual IPV (4)
Married	-0.061*** (0.005)	-0.045*** (0.004)	-0.030*** (0.002)	-0.030*** (0.002)
Married*Post	0.018** (0.007)	0.018** (0.006)	0.005 (0.004)	0.005 (0.004)
Female characteristics	Yes	Yes	Yes	Yes
Partner/household	Yes	Yes	Yes	Yes
State characteristics	Yes	Yes	Yes	Yes
State/Year FE	Yes	Yes	Yes	Yes
$R^2$	0.07	0.06	0.04	0.04
Observations	142589	142583	142589	142589

Note: Female characteristics include age, education, speaking an indigenous language, and having received blows, insults or been beaten in her family of origin. Partner and household characteristics include partner's age, education, and speaking an indigenous language. In addition, children who are 18 years old or less, remittances, and cash transfers from PROSPERA are included. State characteristics include homicides per 100,000 inhabitants, GDP per capita (log), sex ratio, and inequality (Gini Index). The study also controlled for living in a rural area. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Standard errors are clustered at the state level and reported in parentheses. Source: National Survey on Relationships within the Households (ENDIREH) 2006, 2011, and 2016.

Table 6: Heterogeneous Impact by Presence of Young Children

	Work (1)	IPV (2)	Household Decision Making (3)
<b>Panel A: Women with young children</b>			
Married	-0.010* (0.005)	-0.071*** (0.005)	0.065*** (0.010)
Married*Post	0.018** (0.008)	0.022** (0.009)	-0.035*** (0.011)
Mean (dep var pre/treat)	0.44	0.37	3.68
<b>Panel B: Women without young children</b>			
Married	-0.018* (0.009)	-0.058*** (0.008)	0.041 (0.034)
Married*Post	-0.032*** (0.011)	0.016 (0.012)	-0.028 (0.036)
Mean (dep var pre/treat)	0.41	0.29	3.61
Female characteristics	Yes	Yes	Yes
Partner/household	Yes	Yes	Yes
State characteristics	Yes	Yes	Yes
State/Year FE	Yes	Yes	Yes

Note: Female characteristics include age, education, speaking an indigenous language, and having received blows, insults or been beaten in her family of origin. Partner and household characteristics include partner's age, education, and speaking an indigenous language. In addition, children who are 18 years old or less, and cash transfers from PROSPERA are included. State characteristics include homicides per 100,000 inhabitants, GDP per capita (log), sex ratio, and inequality (Gini Index). The study also controlled for living in a rural area. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Standard errors are clustered at the state level and reported in parentheses. Source: National Survey on Relationships within the Households (ENDIREH) 2006, 2011, and 2016.

Table 7: Heterogeneous Impact by Women's Education Level

	Work (1)	IPV (2)	Household Decision Making (3)
<b>Panel A: Women with secondary education or above</b>			
Married	-0.001 (0.006)	-0.072*** (0.005)	0.041 (0.034)
Married*Post	0.002 (0.007)	0.026*** (0.008)	-0.028 (0.036)
Mean (dep var pre/treat)	0.50	0.35	3.75
<b>Panel B: Women with primary or no education</b>			
Married	-0.032*** (0.006)	-0.062*** (0.006)	0.098*** (0.017)
Married*Post	0.001 (0.010)	0.020 (0.014)	-0.038 (0.029)
Mean (dep var pre/treat)	0.30	0.34	3.51
Female characteristics	Yes	Yes	Yes
Partner/household	Yes	Yes	Yes
State characteristics	Yes	Yes	Yes
State/Year FE	Yes	Yes	Yes

Note: Female characteristics include age, education, speaking an indigenous language, and having received blows, insults or been beaten in her family of origin. Partner and household characteristics include partner's age, education, and speaking an indigenous language. In addition, children who are 18 years old or less, remittances, and cash transfers from PROSPERA are included. State characteristics include homicides per 100,000 inhabitants, GDP per capita (log), sex ratio, and inequality (Gini Index). The study also controlled for living in a rural area. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Standard errors are clustered at the state level and reported in parentheses. Source: National Survey on Relationships within the Households (ENDIREH) 2006, 2011, and 2016.

Table 8: Heterogeneous Impact by Women's Age

	Work	IPV	Household Decision Making
	(1)	(2)	(3)
<b>Panel A: Age (15-34)</b>			
Married	-0.002 (0.007)	-0.067*** (0.008)	0.055*** (0.013)
Married*Post	0.001 (0.011)	0.008 (0.010)	-0.032*** (0.011)
Mean (dep var pre/treat)	0.40	0.39	3.71
<b>Panel B: Age (35-60)</b>			
Married	-0.046*** (0.007)	-0.062*** (0.004)	0.065*** (0.015)
Married*Post	0.004 (0.009)	0.017* (0.009)	-0.051** (0.020)
Mean (dep var pre/treat)	0.44	0.33	3.65
[1em] heightFemale characteristics	Yes	Yes	Yes
Partner/household	Yes	Yes	Yes
State characteristics	Yes	Yes	Yes
State/Year FE	Yes	Yes	Yes

Note: Female characteristics include age, education, speaking an indigenous language, and having received blows, insults or been beaten in her family of origin. Partner and household characteristics include partner's age, education, and speaking an indigenous language. In addition, children who are 18 years old or less, remittances, and cash transfers from PROSPERA are included. State characteristics include homicides per 100,000 inhabitants, GDP per capita (log), sex ratio, and inequality (Gini Index). The study also controlled for living in a rural area. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Standard errors are clustered at the state level and reported in parentheses. Source: National Survey on Relationships within the Households (ENDIREH) 2006, 2011, and 2016.

Table 9: Heterogeneous Effects of Unilateral Divorce on Labor, Intimate Partner Violence, and Household Decision Making - Falsification tests

	Children			Women's Education		Women's Age		
	Children>=1		Children=0	Secondary or above	15-34 years	35-60 years		
	Work	IPV	Household Decisions	Work	IPV	Household Decisions	IPV	Household Decisions
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Married	-0.002 (0.007)	-0.074*** (0.006)	0.096*** (0.013)	-0.020 (0.012)	-0.070*** (0.008)	0.094*** (0.016)	-0.067*** (0.007)	0.080*** (0.020)
Married * Post (placebo)	-0.015 (0.010)	0.012 (0.008)	-0.066*** (0.014)	0.009 (0.016)	0.006 (0.011)	-0.083*** (0.019)	0.011 (0.008)	-0.042** (0.020)
Female characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Partner/household	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State/Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R <sup>2</sup>	0.07	0.08	0.05	0.07	0.08	0.06	0.08	0.05
Observations	78437	78448	69003	21464	61492	27401	64081	51410

Note: Female characteristics include age, education, speaking an indigenous language, and having received blows, insults or been beaten in her family of origin. Partner and household characteristics include partner's age, education, and speaking an indigenous language. In addition, children who are 18 years old or less, remittances, and cash transfers from PROSPERA are included. State characteristics include homicides per 100,000 inhabitants, GDP per capita (log), sex ratio, and inequality (Gini Index). The study also controlled for living in a rural area. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Standard errors are clustered at the state level and reported in parentheses. Source: National Survey on Relationships within the Households (ENDIREH) 2006, 2011, and 2016.



Table 10: Intimate Partner Violence and Household Decision Making by Item

	2006		2011		2016	
	Treatment	Control	Treatment	Control	Treatment	Control
<b>Panel A. Emotional IPV</b>						
Being shamed, underestimated or humiliated	0.07	0.10	0.07	0.10	0.11	0.14
Being ignored or not shown affection	0.10	0.12	0.10	0.12	0.06	0.08
Being accused of infidelity	0.06	0.11	0.06	0.10	0.04	0.08
Being made to feel fear	0.06	0.09	0.05	0.07	0.03	0.05
Being threatened with abandonment or you being forced to leave	0.06	0.11	0.05	0.09	0.06	0.09
Being locked in, forbidden from going out or being visited	0.03	0.05	0.02	0.04	0.01	0.02
Having your children or relatives turned against you	0.02	0.03	0.02	0.03	0.02	0.02
Being spied on	0.02	0.04	0.02	0.03	0.02	0.02
Being threatened with a weapon	0.01	0.01	0.00	0.01	0.04	0.06
Your partner threatening to kill you, himself or the children	0.01	0.03	0.01	0.02	0.01	0.01
Having things belonging to you or the household destroyed, thrown away or hidden	0.03	0.05	0.02	0.04	0.02	0.03
Your partner ceasing communication with you	0.20	0.24	0.16	0.20	0.12	0.16
Your partner becoming angry because household chores are not done to his liking	0.11	0.14	0.08	0.11	0.06	0.07
<b>Panel B. Economical IPV</b>						
Your partner complaining about how you spend money	0.12	0.15	0.10	0.13	0.06	0.08
Your partner being stingy with household expenses, even though he has money	0.07	0.09	0.07	0.08	0.04	0.05
He has not given you the unkeep or threatened you to not giving it	0.04	0.06	0.04	0.05	0.04	0.06
Your partner has spent money needed for the household	0.06	0.09	0.04	0.07	0.03	0.05
Your partner takes money or possessions from you	0.01	0.02	0.01	0.01	0.00	0.00
Your partner has forbidden you to work or study	0.07	0.12	0.04	0.08	0.03	0.05
<b>Panel C. Physical IPV</b>						
Being pushed or having your hair pulled	0.07	0.11	0.03	0.06	0.05	0.08
Being tied up	0.00	0.00	0.00	0.00	0.00	0.00
Being kicked	0.02	0.03	0.01	0.01	0.01	0.01
Having an object thrown at you	0.03	0.05	0.01	0.02	0.01	0.02
Your partner beating you with his hands or an object	0.05	0.08	0.03	0.05	0.03	0.04
Your partner trying to hang or choke you	0.01	0.02	0.01	0.01	0.00	0.01
Your partner assaulted with a knife or blade	0.00	0.01	0.00	0.01	0.00	0.00
Having a weapon fired at you	0.00	0.00	0.00	0.00	0.00	0.00
<b>Panel D. Sexual IPV</b>						
Your partner demanding you have sexual relations	0.05	0.07	0.03	0.03	0.01	0.02
Being forced into sexual acts you do not like	0.01	0.02	0.01	0.01	0.01	0.01
Your partner using physical strength to force you to have sexual relations	0.02	0.02	0.01	0.01	0.01	0.01
<b>Panel E. Household Decision Making</b>						
What to do with the money you earn or that you have	0.93	0.90	0.95	0.93	0.97	0.95
How the money is spent	0.91	0.87	0.92	0.90	0.95	0.93
On permissions for daughters and sons	0.88	0.86	0.90	0.90	0.94	0.94
When to have sex	0.90	0.88	0.93	0.92	0.96	0.96

Source: National Survey on Relationships within the Household (ENDIREH) 2006, 2011, and 2016.