The Welfare Effects of Increased Legal Tolerance toward Domestic Violence

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Preliminary draft. Please do not cite or circulate.

February 22, 2022

Abstract

This paper studies how increased legal tolerance toward domestic violence affects married women's welfare using the domestic violence decriminalization bill introduced to the Russian national congress in 2016. Using difference-in-differences and flexibly controlling for macroeconomic shocks, I find that the bill decreased married women's life satisfaction and increased depression, especially among those with a college degree and a highly qualified white-collar occupation who are supposed to be more sensitive to gender regressive atmosphere. Consistent with this conjecture, people became more tolerant toward general and domestic violence after the bill. These findings suggest that the bill reduced married women's welfare partly through the gender regressive atmosphere.

JEL codes: J12, I31, K36, P37
Keywords: domestic violence, welfare, social norm, law, Russia

1 Introduction

Domestic violence leaves a long-lasting negative impact on women's (Delara 2016) and children's lives (Monnat and Chandler 2015). However, as we witnessed during the COVID-19 lockdown (Bhalotra et al. 2021a; Clerici and Tripodi 2021), domestic violence is quite prevalent across the world, both in developing and OECD countries (Devries et al. 2013; Garcia-Moreno et al. 2006). Despite the urgency to take action, several post-communist countries go against it: Poland is leaving the European treaty on violence against women[1] and Belarus is prosecuting female political activists,[2] to list a few. While international organizations express their concerns over such policies, there is not much empirical evidence on their consequences.

To fill the gap in the literature, this paper studies the effect of increased legal tolerance toward domestic violence on married women's welfare using the Russian domestic violence decriminalization bill. Russia introduced a bill to decriminalize some forms of domestic violence to the national congress in 2016, which was eventually enacted in 2017 (Isajanyan 2017). The bill has been criticized by several international organizations such as the United Nations[3] and the Human Rights Watch (2018), among others, as well as Russian NGOs and activists,[4,5,6] but it is still in force.

Using difference-in-differences with unmarried women as a control group and flexibly controlling for macroeconomic shocks, I find that the law decreased married women's life satisfaction and increased their depression level, with larger effects on women with a college degree and a highly qualified white-collar occupation who are presumably less prone to domestic violence but more sensitive to regressive gender unequal atmosphere. Consistent with this conjecture, people became more tolerant toward general as well as domestic violence after the bill. Taken together, the bill has likely reduced women's welfare partly because of the suppressive atmosphere it brought.[7]

This paper's main contribution is to the literature on the role of legal institutions on domestic violence: this paper provides evidence on how increased legal tolerance toward domestic violence affects married women's welfare in a country where women are highly educated and actively participate in labor force. While there is evidence that introducing a stricter law against domestic violence in a developing country decreases domestic violence incidence (Sanin 2021),[8] there is little evidence on the effects of a legal change in the opposite direction and in a country where women are actively participating in labor market. Aside from legal tolerance toward domestic violence, the studies find that women's higher legal power over marital relationships and reproductive issues reduces domestic violence. For example, Stevenson and Wolfers (2006) use the introduction of the

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1. https://www.hrw.org/news/2020/07/28/poland-abandoning-commitment-women; the official name of the treaty is the "Council of Europe Convention on preventing and combating violence against women and domestic violence."
2. https://news.un.org/en/story/2021/10/1104092
3. https://www.themoscowtimes.com/2019/04/12/un-committee-sides-against-russia-in-first-domestic-violence-ruling-a65226
4. https://regnum.ru/news/society/2777954.html
5. https://time.com/5942127/russia-domestic-violence-women/
6. https://www.hrw.org/news/2017/01/23/russia-bill-decriminalize-domestic-violence
7. This also suggests that, since depression reduces one's economic outcomes (Ridley et al. 2020), the post-communist countries' regressive gender policies will likely affect their economy negatively.
8. Sanin (2021) uses criminalization of gender-based violence in Rwanda and the Rwandan Genocide.

US unilateral divorce law and find that the law decreased domestic violence. Corroborating this, Aizer and Dal Bó (2009) use the introduction of policies that prohibit women from withdrawing prosecution for their violent partner in California and find that the policies increased domestic violence reporting presumably because they worked as commitment devices for women's time-inconsistent preference.[9] However, another study finds contradictory results: Iyengar (2009) uses the introduction of a mandatory arrest law in some US states that required police to arrest reported abusers increased the probability that the abusers killed women due to a reduction in reporting and an increase in men's retaliation. On reproductive issues, Muratori (2021) uses abortion law change in Texas and finds that limiting access to abortion increases domestic violence and other violence against women.

This paper also relates to the literature on the effect of women's economic power on domestic violence. While studies also find that women's high economic power can backlash (Ericsson 2020; Erten and Keskin 2021; Tur-Prats 2019),[10] this strand of literature suggests that women's economic power reduces domestic violence. Leading evidence on this claim comes from Bhalotra et al. (2021b), who use Brazil's mass layoffs and examine women's and men's job loss separately. They find that women's job loss increases domestic violence, which suggests that women's economic power has stronger effect in reducing domestic violence than backlash effect. Corroborating this, Molina and Tanaka (2021) use increased demand for garment factory workers in Myanmar and find that women's increased paid employment opportunities reduce domestic violence. Outside the employment context, Haushofer et al. (2019) find that unconditional cash transfers to women reduced domestic violence in Kenya.

The remainder of the paper proceeds as follows. Section 2 provides details of the Russian domestic violence decriminalization bill. Section 3 describes data. Section 4 presents empirical strategy. Section 5 presents the results. Section 6 concludes.

2 Institutional context

Gender development in Russia and other post-communist countries   Women in post-communist countries were once running far ahead of western counterparts for their labor force participation (e.g., see Boelmann, Raute, and Schönberg 2021). Even today, women in post-communist countries, and especially Russia, are highly educated and actively participating in labor market relative to men. Figure 1 plots the gender development index for Russia (blue), post-communist countries other than Russia (green), BRICS other than Russia (red), and OECD countries (purple) for the period from 1995 to 2019. Gender development index is a ratio of women's

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9. That is, after their partner stops battering them, they will consider the cost of breaking up higher than the cost of receiving battery in the future.

10. Ericsson (2020) finds that an increase in women's potential earnings leads to higher domestic violence in Sweden and Erten and Keskin (2021) find that a decline in female employment reduces domestic violence using Syrian refugee arrivals in Turkey. Tur-Prats (2019) find that households in areas where mother-in-law takes care of some domestic work – hence women have more time to participate in the labor force – experience lower rate of domestic violence in Spain.

and men's human development index, which is calculated from mean and expected years of schooling, gross national income (GNI) per capita, and life expectancy at birth. Thus, the higher the index, the more women are educated, the more women earn, and the longer women live relative to men, with 1 being gender parity.

The figure shows that Russia had a very high gender development index at the beginning of 2000 – above gender parity and above OECD countries. Although their index has been gradually deteriorating since then, it is still higher than that of OECD and slightly above gender parity. Other post-communist countries also had a gender development index higher than that of OCED countries in 1995; although their index has not improved since then, their index is still very close to that of OECD. These are stark contrasts to the situation in other BRICS – a group of countries with a similar degree of economic development as Russia – whose gender development indexes have been very low, although they have been catching up OECD countries.[11]

Changes in battery penalties in the mid-2010s   In July 2015, the Russian Supreme Court introduced a bill to make light battery[12] an administrative offense rather than a criminal offense to the Russian national congress (Isajanyan 2017). The bill initially included light battery against any person, including family members,[13] but before its implementation, the congress kept light battery against family members as a criminal offense.

However, the Russian Orthodox Church immediately made a statement against the exclusion of light battery toward family members from the bill, saying that it has "no moral justification and legal grounds" (Russian Orthodox Church 2016). Then a group of Russian national congress members introduced a bill to decriminalize light battery toward family members to the national congress in November 2016, which was enacted in February 2017. Figure 2 presents the timeline of the changes in light battery penalties and Table 1 presents changes in the penalties for various batteries. Table 2 presents the details of the penalties for various batteries shown in Table 1.

The politicians' and the Russian Orthodox Church's intention may have been to decriminalize battery against family members in general. However, what NGOs and activists were concerned about this bill was the decriminalization of domestic violence.[14,15] The bill has been criticized by several international organizations such as the United Nations[16] and the Human Rights Watch

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11. Appendix Figure A1 presents women's (Panel A) and men's (Panel B) human development index for groups of countries included in Figure 1. The figure shows that women's human development index in Russia and other post-communist countries lags behind the OCED countries, likely because of the difference in the degree of economic development. However, compared to countries with a similar degree of economic development – other BRICS – women's human development in Russia and other post-communist countries is much higher.

12. Battery is defined as "Beatings or other violent actions that caused physical pain" (The Russian Federation 1996)
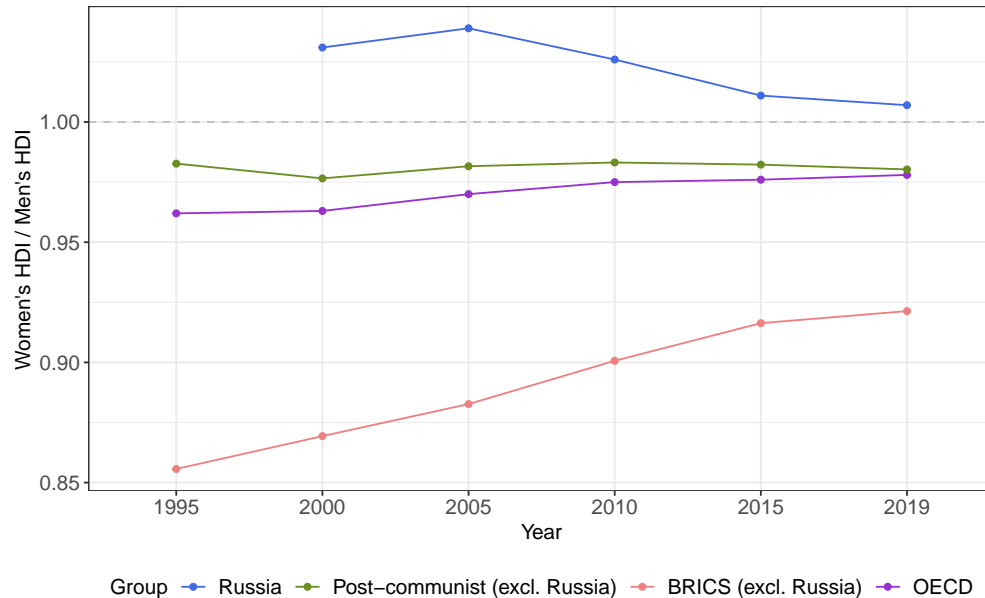
13. Family members are defined as "close relatives (husband, wife, parents, children, adoptive parents, adopted children, siblings, grandfathers, grandmothers, grandchildren), guardians , trustees, as well as persons who are in property with the person who committed the act provided for in this article, or persons who maintain a common household with him" (The Russian Federation 2016).

14. https://www.economist.com/europe/2017/01/28/why-russia-is-about-to-decriminalise-wife-beating

15. https://www.hrw.org/news/2017/01/23/russia-bill-decriminalize-domestic-violence

16. https://www.themoscowtimes.com/2019/04/12/un-committee-sides-against-russia-in-first-domestic-violence-ruling-a65226

Figure 1: Gender Development Index of Russia and groups of countries

Notes: This figure plots the gender development index for Russia (blue), post-communist countries other than Russia (green), BRICS other than Russia (red), and OECD countries (purple) for the period from 1995 to 2019. Gender development index is a ratio of women's and men's human development index, which is calculated from mean and expected years of schooling, gross national income (GNI) per capita, and life expectancy at birth. Thus, the higher the index, the more women are educated, the more women earn, and the longer women live relative to men, with 1 being gender parity. For the exact calculation of the index, see the technical notes of United Nations Development Programme (2020). Other BRICS are Brazil, India, China, and South Africa. Post-communist countries are initial Comecon members as defined in Britannica (*Comecon* 2019): former Soviet Union (Russia, Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan), Bulgaria, former Czechoslovakia (Czechia and Slovakia), Hungary, Poland, and Romania.
Source: UNDP Human Development Reports, Gender Development Index (http://hdr.undp.org/en/indicators/137906). Retrieved on December 26, 2021.

(2018), among others, as well as Russian NGOs and activists,[17,18,19] but it is still in force.

There are two things to note. First, these reforms are unlikely to be driven by that Russian people became more violent; rather, it is likely a part of a larger criminal law reform as the Supreme Court of the Russian Federation (2015) explains: it is an attempt for "humanization and liberalization of criminal legislation" of Russia. Figure 3 supports this claim: it plots the number of all registered crimes and serious crimes in Russia for the period from 2011 to 2019, normalized by their respective value in 2011. All (blue) includes all types of crimes, Murder (green) includes murders including attempts, Serious battery (red) includes batteries that result in serious injury, and Serious robbery (purple) includes stealing from someone with life-threatening means of violence.

The figure shows that registered cases for total crime and violent crimes have been decreasing from 2011 to 2015. While there is a jump in total crime in 2015, it is mainly driven by increase in theft that does not involve violence and fraud (Federal State Statistics Service 2017), neither of

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17. https://regnum.ru/news/society/2777954.html
18. https://time.com/5942127/russia-domestic-violence-women/
19. https://www.hrw.org/news/2017/01/23/russia-bill-decriminalize-domestic-violence

Figure 2: Timeline of changes in light battery penalties in Russia
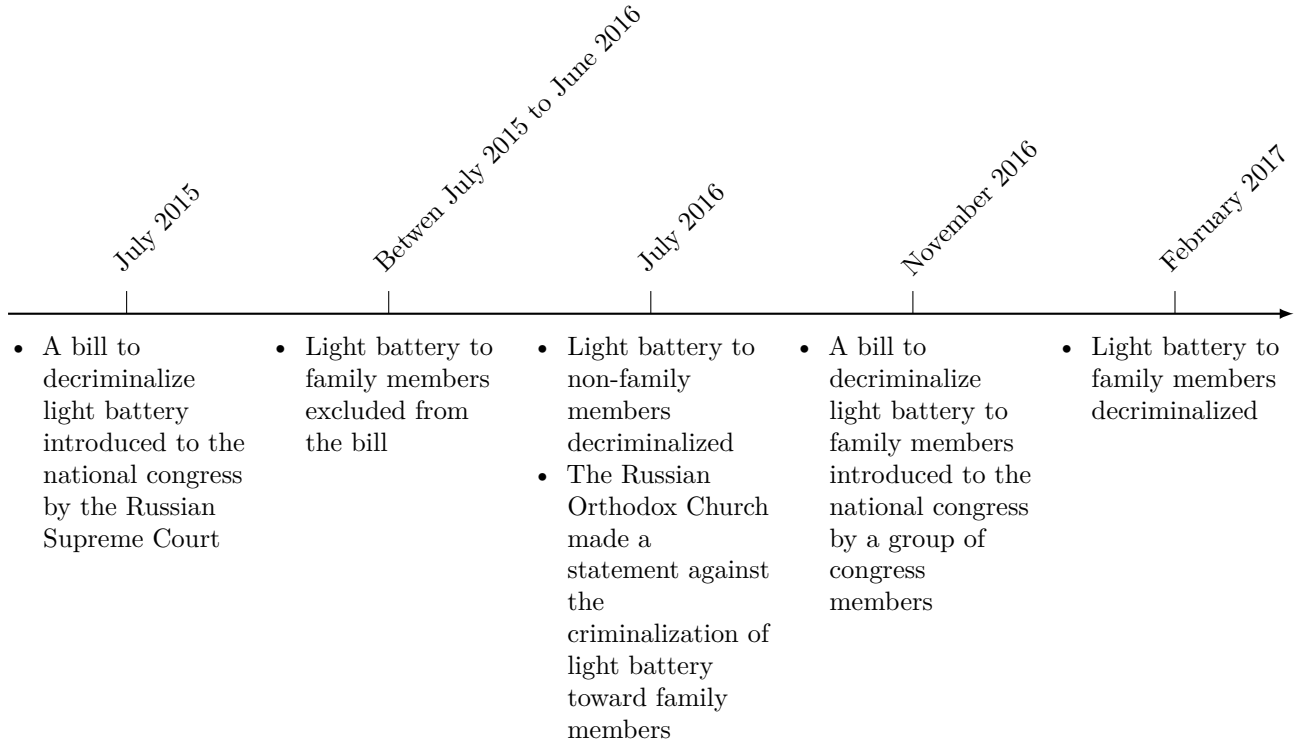
Notes: This figure shows the timeline of the changes in light battery penalties.
Sources: Isajanyan (2017), Human Rights Watch (2018), Russian Orthodox Church (2016), and The Russian Federation (2016, 2017).

Table 1: Changes in penalties for various batteries

	- July 2016	July 2016 - February 2017	February 2017 -
Battery to a family member 1st time in a given year	Criminal offense	Criminal offense (modified)	Administrative offense
Battery to a non-family member 1st time in a given year	Criminal offense	Administrative offense	
Battery to anyone 2nd time or more in a given year	Criminal offense	Criminal offense (modified)	
Battery to anyone that results in injury	Serious criminal offense		

Notes: This table shows changes in penalties for various batteries. Battery is defined as "Beatings or other violent actions that caused physical pain" (The Russian Federation 1996). Family member is defined as "close relatives (husband, wife, parents, children, adoptive parents, adopted children, siblings, grandfathers, grandmothers, grandchildren), guardians, trustees, as well as persons who are in property with the person who committed the act provided for in this article, or persons who maintain a common household with him" (The Russian Federation 2016).
Sources: Isajanyan (2017), Human Rights Watch (2018), and The Russian Federation (2016, 2017).

which is subject of the battery decriminalization bill and likely reflect a drop in the GDP growth in

Table 2: Details of the penalties for various batteries (one of the following applies)

	Administrative offense	Criminal offense	Criminal offense (modified)	Serious criminal offense
Fine (max.)	30000 rubles (≈400 USD)	40000 rubles (≈540 USD)		NA
Imprisonment (max.)	15 days	3 months		2 years
Labor (max.)	NA	6 months		2 years
Community service (max.)	120 hours	360 hours	240 hours	360 hours

Notes: This table presents the details of the penalties for various batteries shown in Table 1.
Sources: Isajanyan (2017), Human Rights Watch (2018), and The Russian Federation (2016, 2017).

Figure 3: Number of registered crimes in Russia by type (2011=1)
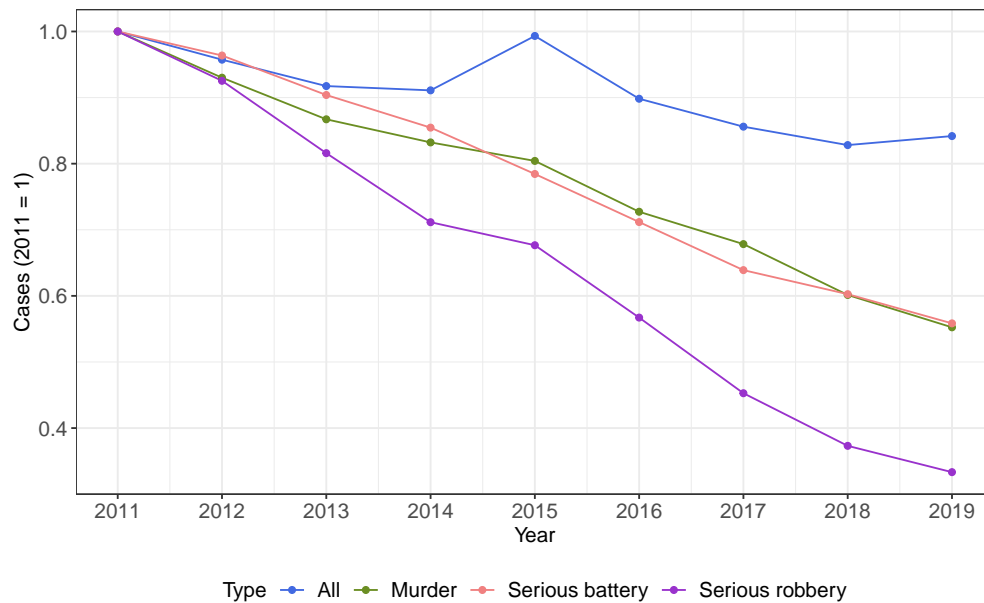
Notes: This figure plots the number of registered crimes by type in Russia for the period from 2011 to 2019, normalized by their respective value in 2011. All (blue) includes all types of crimes, Murder (green) includes murders including attempts, Serious battery (red) includes batteries that result in serious injury, and Serious robbery (purple) includes stealing from someone with life-threatening means of violence. Values in 2011 (in thousands): 2404.8 for All, 14.3 for Murder, 38.5 for Serious battery, and 20.1 for Serious robbery.
Sources: Federal State Statistics Service (2017, 2021).

2015.[20],[21]

Second, the Russian legal stance against domestic violence was not necessarily looser than OECD countries as of the mid-2010s. For example, it was police officers' discretion whether a domestic

20. https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=RU

21. Although Federal State Statistics Service (2017) does not provide full breakdown of all crimes, the increase in all crimes from 2014 to 2015 is 197.9 thousands, the increase in theft that does not involve violence is 109.6 thousands, and the increase in fraud is 40.4 thousands.

violence abuser should be arrested in about half of the US states (American Bar Association 2014), and the European countries made a Europe-wide treaty against domestic violence only in 2011 (Council of Europe 2011). What makes this Russian case unique is that it sends an explicit message that some forms of domestic violence are not crimes. In what follows, I refer to the bill that decriminalized light battery toward family members as the "domestic violence decriminalization bill."

3   Data

Data on married women's welfare   To examine the effect of the bill on married women's welfare, I use the Russia Longitudinal Monitoring Survey (RLMS), an individual and household panel survey data conducted every year by researchers at the Higher School of Economics of Moscow and the University of North Carolina at Chapel Hill (Kozyreva, Kosolapov, and Popkin 2016). The RLMS is a household-level nationally-representative annual survey where interviewers visit selected households and interview as many household members as possible. For household members of 13 years old and younger, the interviewers ask questions to the adult instead. From 2010 to 2013, above 6000 households and 16000 individuals were interviewed every year. The RLMS adds additional households each year to keep the number of households balanced.

The data contains information on individuals' health and welfare as well as demographics; I use it for the analysis for the period from 2011-2019 but exclude those who are added after 2015 because I could not define their marital status before the introduction of the domestic violence decriminalization bill.

Table 3 describes welfare measures that are my dependent variables (Panel A), demographic characteristics (Panel B), education level (Panel C), and occupation category (Panel D) for married (Treated) and unmarried women (Control) and their differences before the introduction of the domestic violence decriminalization bill (2011-2015). Marital status is defined as of 2015. Panel A shows average treated women have higher welfare than control women: they are more satisfied with their life and experience less depression than control women.[22,23]

Panel B shows that treated women are younger and more likely to be employed than control women. Treated women are also slightly more likely to be Russian Orthodox, although the difference is quantitatively small (3%). Panel C shows that treated women are more educated than control women. Corroborating this, Panel D shows that treated women are more likely to be in a higher paid occupation.

Thus, Panel A suggests that a simple comparison between treated and control women would not yield a causal effect of the bill and that the use of difference-in-differences would be appropriate.

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22. English translation for the life satisfaction question is "satisfaction with life at present." The answer choices are "fully satisfied" being 1, "rather satisfied" being 2, "both yes and no" being 3, "less than satisfied" being 4, and "not at all satisfied" being 5. For ease of interpretation, I rescaled the answers into [0,1] interval and recoded it so that the higher the value, the more satisfied with the life.

23. English translation for the depression question is "had depression in last 12M?" and the answer choices are 1 being yes and 2 being no. I recoded this variable for ease of interpretation so that 0 being no and 1 being yes.

Table 3: Summary statistics for RLMS data: Treated vs. control women, 2011-2015

	Treated		Control		Difference (Treated – Control)		
	Mean	SD	Mean	SD	Mean	SE	P-value
Panel A: Welfare measures							
Life satisfaction (0-1)	0.60	0.25	0.51	0.28	0.09	0.01	0.00
Depression in the past 12 months (0/1)	0.11	0.31	0.15	0.35	-0.04	0.01	0.00
Panel B: Demographic characteristics							
Age	43.41	13.85	48.85	17.04	-5.45	0.39	0.00
Employed	0.64	0.48	0.51	0.50	0.13	0.01	0.00
Russian Orthodox	0.89	0.32	0.85	0.35	0.03	0.01	0.00
Panel C: Education							
Primary school or below	0.09	0.29	0.14	0.35	-0.05	0.01	0.00
Secondary school	0.57	0.49	0.60	0.49	-0.03	0.01	0.01
College or above	0.33	0.47	0.25	0.44	0.08	0.01	0.00
Panel D: Occupation category							
Managers/Professionals	0.58	0.49	0.52	0.50	0.06	0.01	0.00
Clerical/Services	0.28	0.45	0.31	0.46	-0.02	0.01	0.07
Blue-collar	0.09	0.29	0.14	0.34	-0.04	0.01	0.00
Agriculture/Craft	0.04	0.19	0.03	0.17	0.01	0.01	0.29
Military	0.00	0.07	0.00	0.03	0.00	0.00	0.00
Observations	15992		11815				
Individuals	3800		3066				

Notes: This table describes welfare measures that are my dependent variables (Panel A), demographic characteristics (Panel B), education level (Panel C), and occupation category (Panel D) for married (Treated) and unmarried women (Control) and their differences before the bill (2011-2015). Marital status is that of 2015. Occupation classification follows ISCO-08 (International Labour Office 2012) and defined as follows: Managers/Professionals (group 1, 2, and 3), Clerical/Services (group 4 and 5), Blue-collar (group 8 and 9), Agriculture/Craft (group 6 and 7), and Military (group 0). P-values of the difference between treated and control are calculated with standard errors clustered at the individual level.

However, Panels B-D suggests that macroeconomic shocks would likely have affected treated and control women differently and thus they are likely on a different time trend, invalidating standard difference-in-differences. My approach to deal with this possible differential time trend is to flexibly control for macroeconomic shocks at the region-education-occupation cell level.[24]

Data on people's attitudes To supplement the analysis of married women's welfare, I use the World Values Survey (WVS, Inglehart et al. 2020), a repeated cross-sectional nationally-representative survey that has been conducted since 1981 in more than 120 countries. The survey

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24. Appendix Figure A2 presents simple year-by-year average and 95% confidence intervals of age at marriage (Panel A), employment status at marriage (Panel B), marriage rate (Panel C), and divorce rate (Panel D) around the bill, relative to the base year (2015). It shows that after the bill, women tend to postpone their marriage (Panel A). Although there is no significant change in employment status, marriage rate, or divorce rate (Panels B, C, D), the bill may have affected the composition of married women, thus I fix the marital status at the base year.

collects information on people's values in several dimensions such as "social, political, economic, religious and cultural values."[25] The main variables of interests are the answers to the question about (i) how justifiable it is "For a man to beat his wife" and (ii) how justifiable is "Violence against other people." I use the former as a proxy of an attitude toward domestic violence and the latter an attitude toward general violence. Around the domestic violence decriminalization bill, Russia was surveyed in 2011 and 2017. Thus, I use these two waves of the Russian survey. I include both women and men in the analysis.

Table 4: Summary statistics for WVS data: After vs. before the bill

	Post (2017)		Pre (2011)		Difference (Post – Pre)		
	Mean	SD	Mean	SD	Mean	SE	P-value
Panel A: Attitude measures							
Beating wife justifiable (0-1)	0.11	0.20	0.09	0.17	0.02	0.01	0.00
Violence against others justifiable (0-1)	0.11	0.19	0.07	0.15	0.04	0.01	0.00
Panel B: Demographic characteristics							
Age	43.17	15.17	44.04	15.77	-0.87	0.49	0.08
Female	0.58	0.49	0.54	0.50	0.03	0.02	0.04
Married	0.49	0.50	0.57	0.50	-0.08	0.02	0.00
Employed	0.64	0.48	0.64	0.48	0.00	0.02	0.78
Panel C: Education							
Primary school or below	0.10	0.30	0.01	0.07	0.09	0.01	0.00
Secondary school	0.23	0.42	0.67	0.47	-0.44	0.01	0.00
College or above	0.67	0.47	0.32	0.47	0.35	0.01	0.00
Observations	1699		2359				

Notes: This table describes attitude measures (Panel A), demographic characteristics (Panel B), and education level (Panel C) for everyone surveyed after (Post) and before the bill was introduced (Pre) and their differences. P-values of the difference between after and before are calculated with heteroskedasticity-robust standard errors.

Table 4 describes attitude measures (Panel A), demographic characteristics (Panel B), and education level (Panel C) for everyone surveyed after (Post) and before the domestic violence decriminalization bill was introduced (Pre) and their differences. Panel A shows people's attitude toward beating wife justifiable is very low in both periods, but has slightly increased after the bill.[26] Panel A also shows that people's attitude toward violence against others justifiable is very low too in both periods, but has increased after the bill.[27] However, the increase in attitude toward violence against others justifiable is slightly larger.

Panel B shows that there are 8% fewer married people and 3% more women in the post-period

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25. https://www.worldvaluessurvey.org/WVSContents.jsp

26. The answer choices are 1-10 with 1 being "Never justifiable" and 10 being "Always justifiable." I rescaled the answers into [0,1] to make interpretation easier.

27. The answer choices are 1-10 with 1 being "Never justifiable" and 10 being "Always justifiable." I rescaled the answers into [0,1] to make interpretation easier.

survey, but age and employment status are not significantly different. Panel C shows that people are more educated in the post-period than in the pre-period.

4   Empirical strategy

I examine the effect of the domestic violence decriminalization bill on married women's welfare; I focus on married women because they are the group that is most exposed to domestic violence. I use unmarried women as a control group. Although unmarried women's welfare may have also been negatively affected by the bill through a drop in their expected utility from marriage, if anything, my estimate would be conservative.[28]

I consider the event year to be 2016 because (i) the Russian Orthodox Church already made a statement that the battery decriminalization should include domestic violence immediately after its enactment in July 2016 and it is very difficult to object to the Church,[29] (ii) the domestic violence decriminalization bill was introduced to the national congress in November 2016, and (iii) most 2016 data I use was collected from October to December 2016.[30]

Thus, I estimate the following event study form of the difference-in-differences equation via OLS using individual-level panel data with married women as a treated group and unmarried women as a control group, both defined as of 2015 to address the potential endogeneity of marital status to the bill:

$$Y_{it} = \sum_{l=2011, l \neq 2015}^{2019} \beta_l \mathbb{1}[t = l] \times Treated_i + \mu_i + \delta_{it} + \epsilon_{it} \tag{1}$$

where each variable is defined as follows:

- $Y_{it} \in \mathbb{R}$: a welfare measure of individual i in year t, normalized by the base year standard deviation.
- $Treated_i \in \{0, 1\}$: an indicator variable equals 1 if individual i is married as of 2015, 0 otherwise.
- μ_i: individual fixed effects.
- δ_{it}: year-region-education-occupation fixed effects.
- ϵ_{it}: a random error.

and $\mathbb{1}$ is an indicator function. Standard errors are clustered at the individual level.

Individual fixed effects capture individual-level unobserved heterogeneity, and year-region-education-occupation fixed effects capture any macroeconomic shocks specific in a given region in a given education level in a given occupation. Note that occupation is the sector which individual i belongs to, regardless of their employment status, and unaffected by the bill.

I exclude from the sample people below 18 years old and above 74 years old because in Russia,

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28. I define one's marital status at 2015 as discussed later, so the effect on unmarried women may also include actual drop in utility. In any case, my estimate on married women is conservative.

29. https://www.hrw.org/news/2016/11/18/russia-thou-shalt-not-disagree-orthodox-church

30. As shown in Panel A of Figure 4, this seems a valid assumption: married women's life satisfaction drops from 2016 and stays at the lower level. There is no other event that only affects married women's life satisfaction.

the minimum age to get married is 18, and that spouses of people above 74 years old are likely to be too old to commit domestic violence. I also exclude unmarried women who live with their partners and women who are married but live separately to have a cleaner estimate. Thus, the treated group only includes married women who live with their spouse, and the control group unmarried women who do not live with their partner, both in 2015.

The key identification assumption is the parallel trend: treated and control women's welfare follows the same time trend in the absence of the bill, conditional on time-invariant individual-level unobservables and macroeconomic shocks specific in a given region in a given educational level in a given occupation. Under this assumption, β_ls $(l = 2016, ..., 2019)$ capture year-by-year effect of the domestic violence decriminalization bill. β_ls $(l = 2011, ..., 2014)$ capture any differential time trend between treated and control women before the bill, which serves as a sanity check of parallel trend assumption.

5 Results

Figure 4: Effect of the bill on married women's welfare

(a) Life satisfaction   (b) Depression
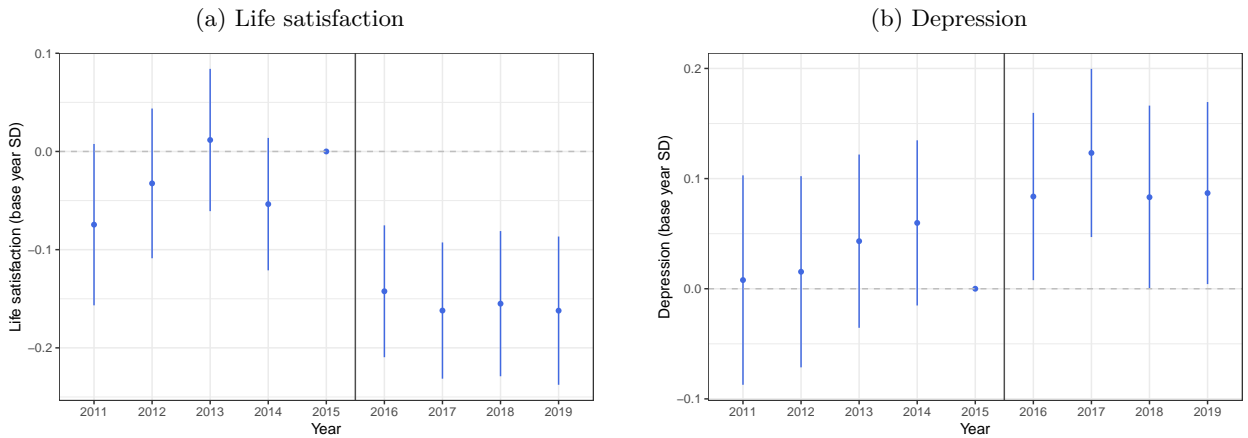
Notes: This figure presents the OLS estimates of β_ls of equation 1 for life satisfaction (Panel A) and depression (Panel B) normalized by the base year (2015) standard deviation along with their 95% confidence intervals. Standard errors are clustered at the individual level.

Figure 4 presents the OLS estimates of β_ls of equation 1 for life satisfaction (Panel A) and depression (Panel B) normalized by the base year (2015) standard deviation along with their 95% confidence intervals. Panel A shows that before the bill, the life satisfaction of the treated and control women roughly follows the same time trend, consistent with the parallel trend assumption. After the bill, however, the treated women's life satisfaction drops and stays at the lower level. Panel B shows that even before the bill, depression levels of the treated and control women follow somewhat different time trends, with treated women trending upward. However, after the bill, the treated women's trend seems to jump up and stays at the higher level.

Table 5 presents standard difference-in-differences estimates from equation 1 to quantify the

Table 5: Effect of the bill on married women's welfare

Dependent variable:	Life satisfaction (base year SD)			Depression in the past 12 months (base year SD)		
	(1)	(2)	(3)	(4)	(5)	(6)
Treated x Post	-0.122***	-0.115***	-0.101***	0.076***	0.062***	0.073***
	(0.017)	(0.019)	(0.020)	(0.019)	(0.020)	(0.021)
Treated x Post x College or above		-0.018			0.036*	
		(0.019)			(0.020)	
Treated x Post x Managers/Professionals			-0.046**			0.008
			(0.018)			(0.020)
Individual FE	✓	✓	✓	✓	✓	✓
Time-Region-Education-Occupation FE	✓	✓	✓	✓	✓	✓
Pre-period mean of treated group	0.633	0.633	0.633	0.072	0.072	0.072
Pre-period SD of treated group	0.238	0.238	0.238	0.259	0.259	0.259
Base year SD of treated group	0.240	0.240	0.240	0.245	0.245	0.245
Adj. R-squared	0.445	0.445	0.445	0.257	0.257	0.257
Observations	51787	51787	51787	51306	51306	51306
Individuals	8961	8961	8961	8942	8942	8942

Notes: This table presents standard difference-in-differences estimates from equation 1. Standard errors in parenthesis are clustered at the individual level. Significance levels: * 10%, ** 5%, and *** 1%.

effect. Column 1 shows that the bill decreased treated women's life satisfaction by 12.2% relative to the base year standard deviation and column 4 shows that the law increased treated women's depression by 7.6% relative to the base year standard deviation. They are quantitatively sizable and statistically highly significant.[31]

The table also shows that the bill decreased treated women's life satisfaction in a highly qualified white-collar occupation more (column 3) and increased the depression level of treated women with a college degree more (column 5). Note that these women are presumably less prone to domestic violence but more sensitive to regressive gender unequal atmosphere.[32] Although statistically insignificant and quantitatively small, the results in columns 2 and 6 are consistent with this story.
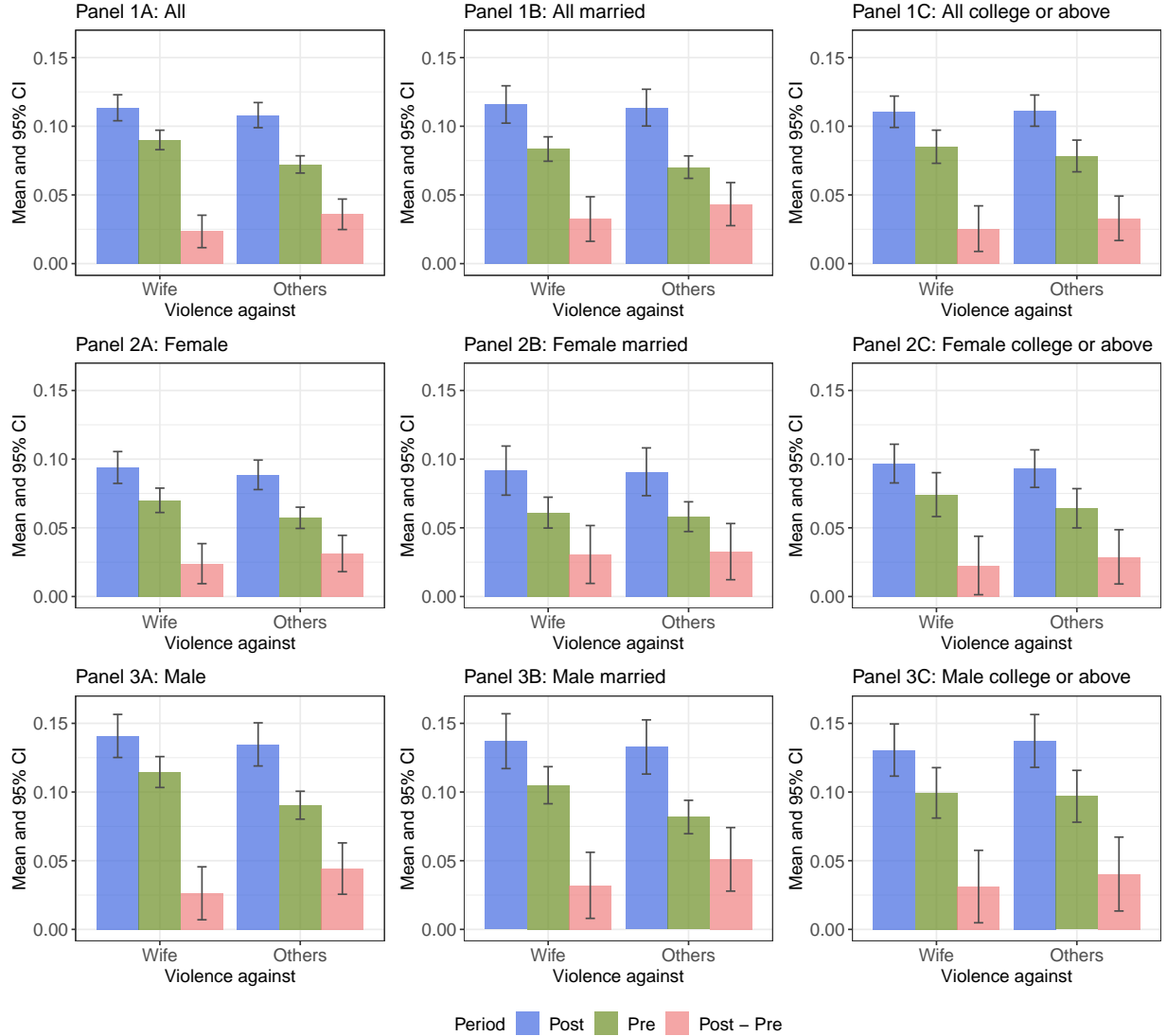
To corroborate the results in Table 5, Figure 5 plots people's attitude toward general and domestic violence before and after the domestic violence decriminalization bill for everyone (Panels 1A-1C), women (Panels 2A-2C), and men (Panels 3A-3C) by their marital status and education level using the WVS data.[33] The figure shows that people became more tolerant toward general as well as domestic violence after the bill, regardless of their gender, marital status, or education level. Thus, these results suggest that the suppressive atmosphere itself may have reduced married women's welfare.

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31. Appendix Table A1 gradually adds fixed effects to show the stability of the estimates.

32. As discussed in the introduction, women's economic power has net positive effects in deterring domestic violence.

33. Appendix Figure A3 presents the same plots but for married and highly educated, and shows very similar pictures as Panels 1C, 2C, and 3C.

Figure 5: Changes in people's attitudes toward general and domestic violence

Notes: This figure plots people's attitude toward general and domestic violence before and after the domestic violence decriminalization bill for everyone (Panels 1A-1C), women (Panels 2A-2C), and men (Panels 3A-3C) by their marital status and education level using the WVS data. The 95% confidence intervals are calculated with heteroskedasticity-robust standard errors.

6 Conclusion

This paper studies the effect of increased legal tolerance toward domestic violence on married women's welfare using the Russian domestic violence decriminalization bill introduced to the national congress in 2016. Using difference-in-differences and flexibly controlling for macroeconomic shocks with unmarried women as a control group, I find that the law decreased married women's life satisfaction and increased depression level. The effect is larger for women with a college degree or a highly qualified white-collar occupation who are supposed to be less prone to domestic violence but more

sensitive to regressive gender unequal atmosphere. Consistent with this interpretation, people became more tolerant toward general as well as domestic violence after the bill. These results suggest that the bill reduced women's welfare partly because of the suppressive atmosphere itself.

This paper contributes to studies on the role of legal institutions on domestic violence; this paper provides evidence on how increased legal tolerance toward domestic violence affects married women's welfare in a country with a highly educated female labor force.

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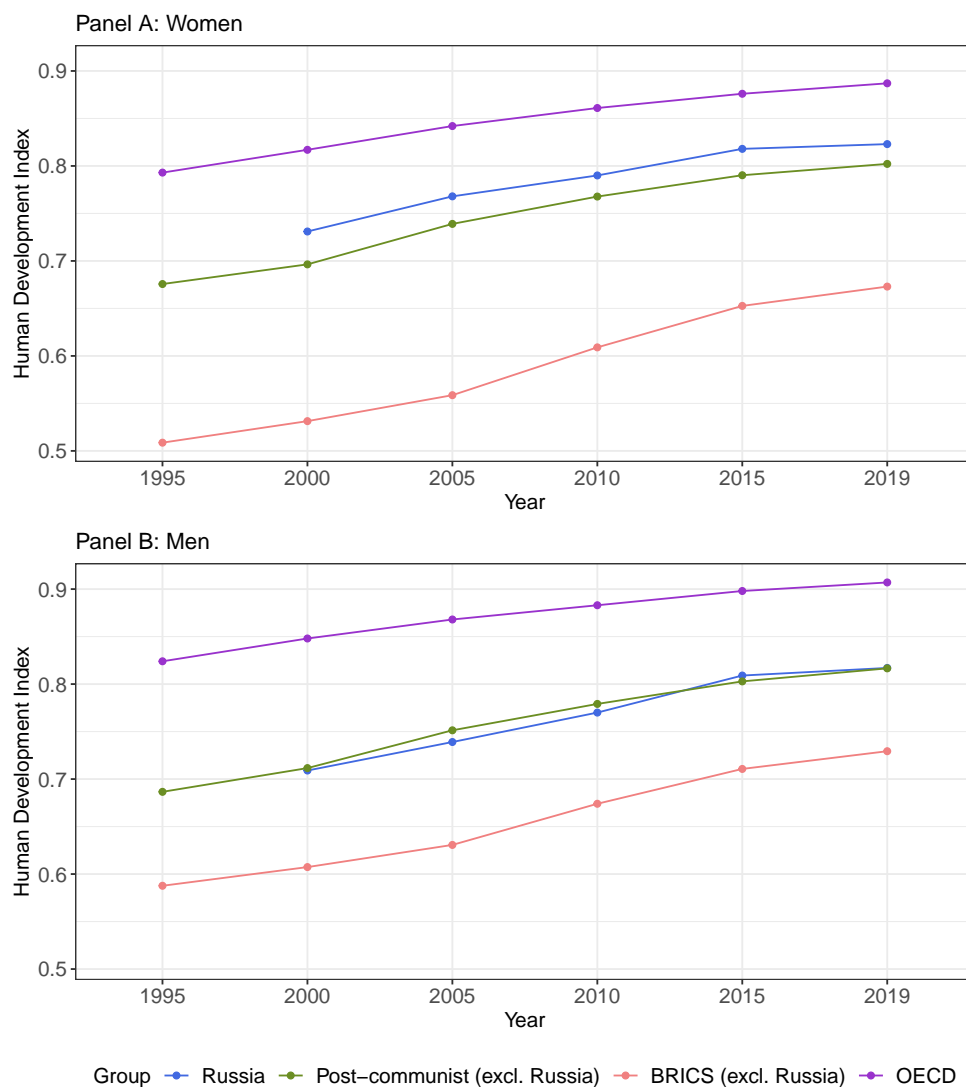
Appendix

Appendix A Additional Figures and Tables

Table A1: Effect of the bill on married women's welfare (stability of the estimates)

Dependent variable:	Life satisfaction (base year SD)					
	(1)	(2)	(3)	(4)	(5)	(6)
Treated x Post	-0.145***	-0.092***	-0.092***	-0.092***	-0.093***	-0.122***
	(0.014)	(0.013)	(0.013)	(0.013)	(0.013)	(0.017)
Treated	0.531***					
	(0.015)					
Post	-0.091***	-0.020*				
	(0.011)	(0.011)				
Individual FE		✓	✓	✓	✓	✓
Time FE			✓			
Time-Region FE				✓		
Time-Region-Education FE					✓	
Time-Region-Occupation FE						✓
Adj. R-squared	0.050	0.463	0.464	0.464	0.464	0.444
Observations	84812	84812	84812	84812	84668	51853
Individuals	12464	12464	12464	12464	12452	8970
Dependent variable:	Depression in the past 12 months (base year SD)					
	(7)	(8)	(9)	(10)	(11)	(12)
Treated x Post	0.070***	0.051***	0.052***	0.052***	0.052***	0.076***
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.019)
Treated	-0.071***					
	(0.014)					
Post	0.078***	0.048***				
	(0.011)	(0.011)				
Individual FE		✓	✓	✓	✓	✓
Time FE			✓			
Time-Region FE				✓		
Time-Region-Education FE					✓	
Time-Region-Occupation FE						✓
Adj. R-squared	0.001	0.290	0.291	0.291	0.291	0.257
Observations	83966	83966	83966	83966	83826	51371
Individuals	12457	12457	12457	12457	12445	8951

Notes: This table presents standard difference-in-differences estimates from equation 1 but gradually adds fixed effects to show the stability of the estimates. Standard errors in parenthesis are clustered at the individual level. Significance levels: * 10%, ** 5%, and *** 1%.
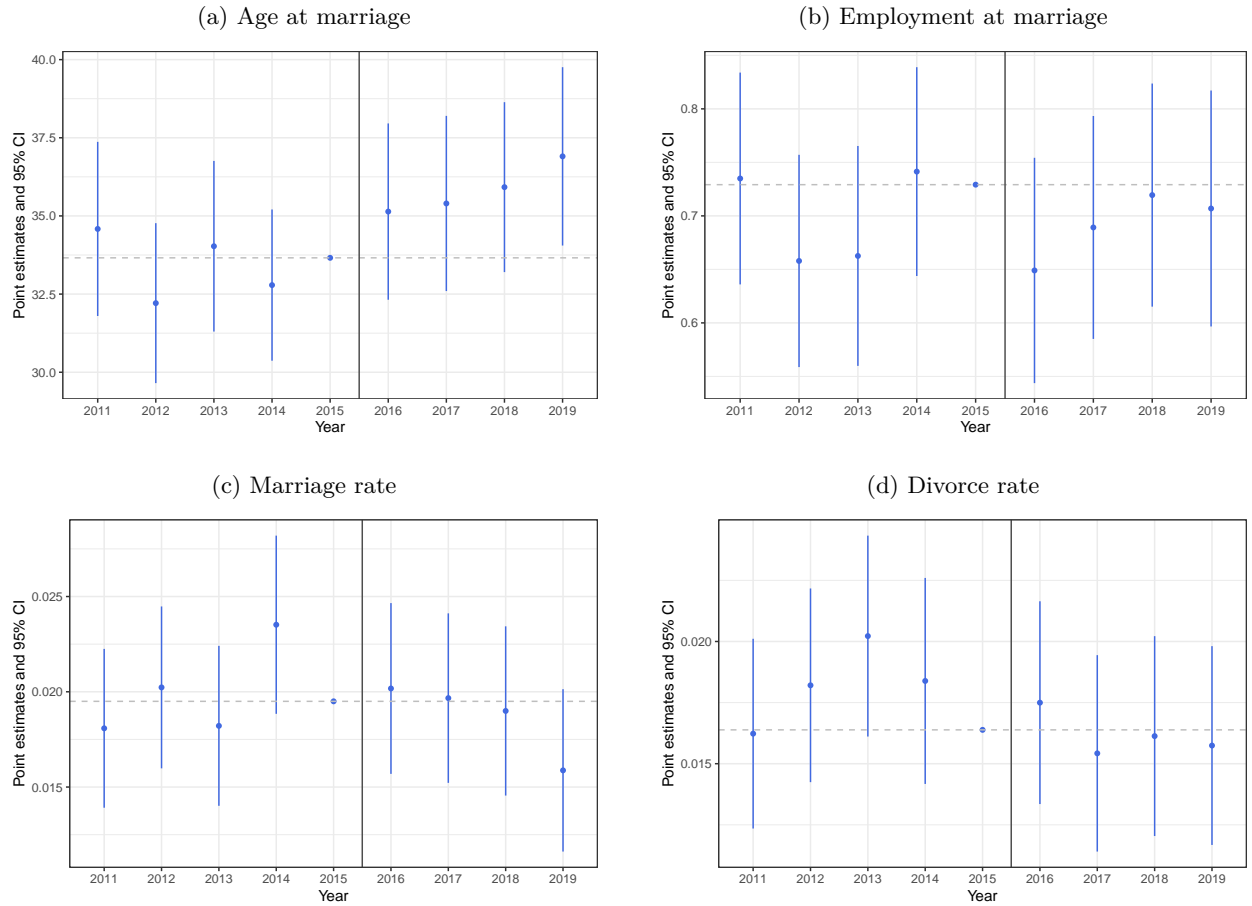
Figure A1: Human Development Index of Russia and groups of countries, by gender

Panel A: Women

Panel B: Men

Group — Russia — Post–communist (excl. Russia) — BRICS (excl. Russia) — OECD

Notes: This figure plots women's (Panel A) and men's (Panel B) human development index (HDI) for Russia (blue), post-communist countries other than Russia (green), BRICS other than Russia (red), and OECD countries (purple) for the period from 1995 to 2019. For the exact calculation of the index, see the technical notes of United Nations Development Programme (2020). BICS are Brazil, India, China, and South Africa. Post-communist countries are initial Comecon members as defined in Britannica (*Comecon* 2019): former Soviet Union (Russia, Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan), Bulgaria, former Czechoslovakia (Czechia and Slovakia), Hungary, Poland, and Romania.
*Source:* UNDP Human Development Reports, Gender Development Index (https://hdr.undp.org/en/indicators/136906 for women, https://hdr.undp.org/en/indicators/137006 for men). Retrieved on February 15, 2022.

Figure A2: Women's selection into marriage and divorce

(a) Age at marriage

(b) Employment at marriage

(c) Marriage rate

(d) Divorce rate

Notes: This figure presents simple year-by-year average and 95% confidence intervals of age at marriage (Panel A), employment status at marriage (Panel B), marriage rate (Panel C), and divorce rate (Panel D) around the bill, relative to the base year (2015). The confidence intervals are heteroskedasticity-robust.

Figure A3: Changes in people's attitudes toward general and domestic violence: Married and college or above

Figure A3: Changes in people's attitudes toward general and domestic violence: Married and college or above
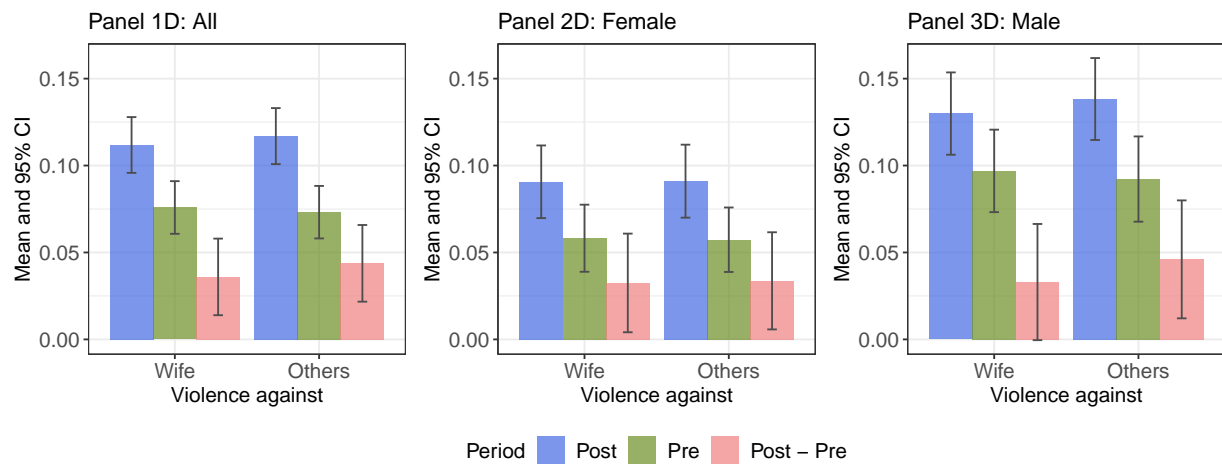
Notes: This figure presents the same plots as Figure 5 but for married and highly educated. The 95% confidence intervals are calculated with heteroskedasticity-robust standard errors.