The Welfare Effects of Increased Legal Tolerance toward Domestic Violence

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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. In addition, I find suggestive evidence that while unmarried women began to express less tolerance toward domestic violence, married women did not, possibly due to the supressive atmosphere the law brought to the role of married women. These findings suggest that the bill reduced married women's welfare partly through a psychological channel and highlight the importance of the legal institution in harnessing domestic violence even in a country where women's labor force participation rate is very high.

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

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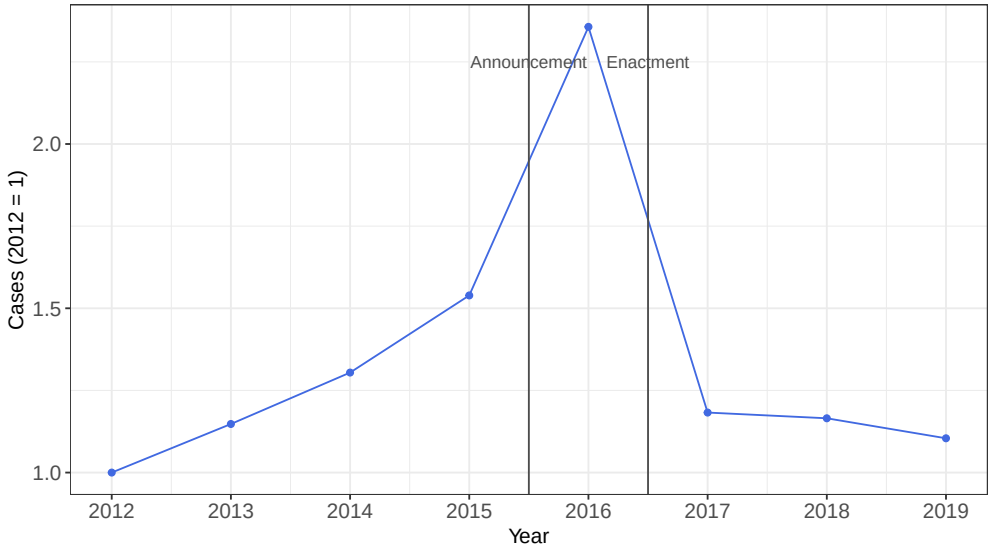
1 Introduction

Domestic violence leaves a long-lasting negative impact on women's (Delara 2016) and children's lives (Monnat and Chandler 2015), but it is still quite prevalent across the world, both in developing and OECD countries (Devries et al. 2013; Garcia-Moreno et al. 2006) as we witnessed during the COVID-19 lockdown (Bhalotra et al. 2021a; Clerici and Tripodi 2021). Despite the urgency to take action, several post-communist countries go against it: Poland is leaving the European treaty on violence against women (Margolis 2020),[1] Belarus has been prosecuting female political activists (Halubovich 2021), Hungary has been tightening LGBTQ+ suppression (Knight and Gall 2020; Rankin 2021), Russia has decriminalized some forms of domestic violence (Isajanyan 2017), to list a few. Indeed, international and domestic organizations have been expressing their concerns over such gender regressive policies; in the case of the Russian policy, for example, these organizations include the United Nations (The Moscow Times 2019), the Human Rights Watch (2018), local NGOs and activists (Human Rights Watch 2017; Regnum 2019; Roache 2021). Yet, there is little empirical evidence on such policies' consequences.

Figure 1: Number of reported domestic violence in Russia (2012=1)



Notes: This figure plots the number of reported violent crimes committed by men against their female partner (domestic violence) in Russia from 2012 to 2019, normalized by its 2012 value. The value in 2012 was 11.5 thousands. The vertical lines indicate the announcement (2016) and the enactment years (2017) of the bill. The hike in 2016 seems to come from that "until July 2016, the norms of the Criminal Code, under which most cases of domestic violence were initiated, belonged to the category of private prosecution" and the police did not investigate the cases (Kholmogorova and Alekhina 2017), which has changed in July 2016 by explicitly stating that the domestic violence was subject to the Criminal Code.
Source: The Federal State Statistics Service: Family, motherhood and childhood (https://rosstat.gov.ru/folder/13807). Retrieved on August 12, 2022.

To fill the gap in the literature, this paper studies the effect of increased legal tolerance toward

1. The official name of the treaty is the "Council of Europe Convention on preventing and combating violence against women and domestic violence."

domestic violence on married women's welfare using the Russian domestic violence decriminalization bill as a case study. Russia introduced the bill to the national congress in 2016, which was eventually enacted in 2017 (Isajanyan 2017). After the enactment, the domestic violence reporting has dropped quite sharply, as shown in Figure 1; we cannot attribute such a sharp drop only to the Russian domestic violence trend. Using difference-in-differences with unmarried women as a control group and flexibly controlling for macroeconomic shocks, I find that the bill decreased married women's life satisfaction and increased their depression. Although positive, the change in married women's alcohol consumption was statistically insignificant, presumably because alcohol drinking is incompatible with the traditional gender norm. I also find suggestive evidence that while unmarried women started to express less tolerance toward domestic violence, married women did not, which is presumably due to the supressive atmosphere the bill brought to the role of married women. Taken together, the bill decreased married women's welfare, and a part of the decrease was through a psychological channel.

This paper's contribution is twofold. First, I show that increased legal tolerance toward domestic violence can reduce married women's welfare even in a country where women are highly educated and actively participate in the labor force, contributing to the literature on the role of legal institutions in domestic violence. While there is evidence that criminalizing domestic violence in a developing country decreases domestic violence incidence (Sanin 2021a),[2] there is little evidence on the effects of the opposite legal change and in a country where women are actively participating in the 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 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 of 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[3]; Amaral et al. (2022) find similar evidence in the UK that arresting abusers reduces future domestic violence incidence. However, another study finds contradictory results: Iyengar (2009) uses 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.

Second, this paper contributes to the literature on the role of women's economic power in reducing domestic violence by highlighting the importance of legal institutions. While women's high economic power can backlash (Ericsson 2020; Erten and Keskin 2021; Tur-Prats 2019),[4] evidence

2. Sanin (2021a) uses criminalization of gender-based violence in Rwanda and the Rwandan Genocide.

3. 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.

4. 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

suggests that women's economic power has the net positive effect on reducing domestic violence. For example, Bhalotra et al. (2021b), who use Brazil's mass layoffs and examine women's and men's job loss separately, find that women's job loss increases domestic violence, which suggests that women's economic power has a stronger effect on 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. Further, Sanin (2021b) uses a rapid expansion of the coffee mills in Rwanda as a positive shock to women's paid employment and finds that women in the affected areas participate more in household decisions and experience less domestic violence. Outside the employment context, however, the evidence is mixed (J-PAL 2022).

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

2 Institutional context

2.1 Gender development in Russia and other post-communist countries

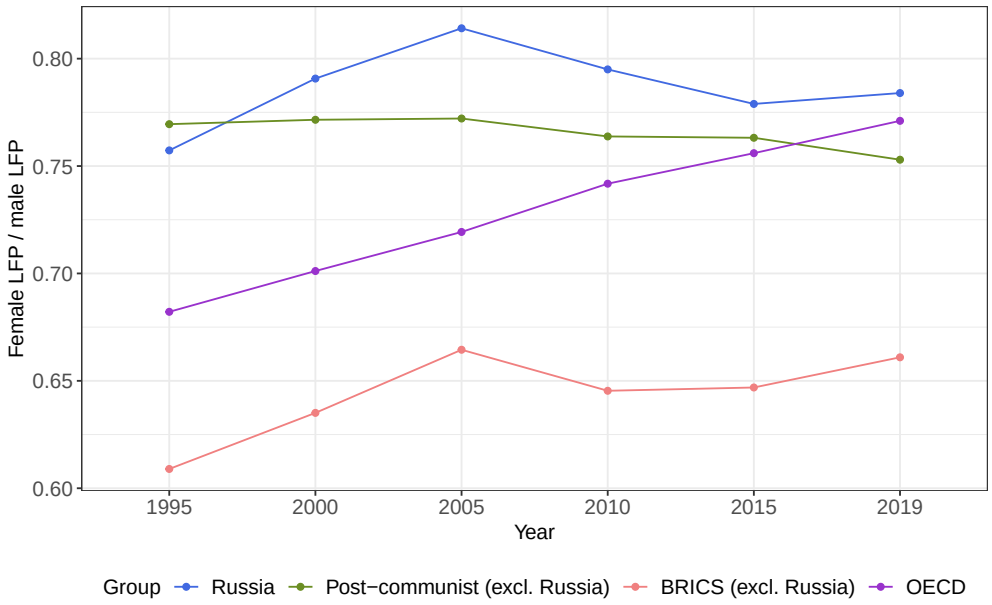
Women in post-communist countries were once running far ahead of western counterparts for their labor force participation (e.g., see Bauernschuster and Rainer 2012; Boelmann, Raute, and Schönberg 2021; Campa and Serafinelli 2018). Even today, they are actively participating in the labor market and are highly educated relative to men. Figure 2 plots the ratio of female to male labor force participation rate for Russia (blue), post-communist countries other than Russia (green), BRICS other than Russia (red), and OECD countries (purple) from 1995 to 2019 and shows that Russia and other post-communist countries had higher female labor force participation relative to men than OCED countries did; while the OECD countries have been catching up, Russia still has higher female labor force participation rate (relative to men) than the OCED countries. These are stark contrasts to the situation in other BRICS – a group of countries with a similar degree of economic development as Russia; namely, Brazil, India, China, and South Africa – whose female labor force participation rate relative to men have been very low, although they have been catching up OECD countries.

Corroborating Figure 2, Figure 3 plots the gender development index – a composite index of schooling, earnings, and life expectancy – again for Russia (blue), post-communist countries other than Russia (green), BRICS other than Russia (red), and OECD countries (purple) from 1995 to 2019.[5] The figure shows that Russia had a very high gender development index at the beginning

Spain, which suggests that men become more violent when women do not take care of the household chores. These studies are not contradictory to that women's economic power has net positive effect; in deed, when we examine women's and men's employment separately, the former is positively associated with domestic violence incidence while the latter is negatively associated (Bhalotra et al. 2021c).

5. Gender development index is a ratio of women's and men's human development index, which is calculated from (i) mean and expected years of schooling, (ii) gross national income (GNI) per capita, and (iii) life expectancy at birth. Thus, the higher the index, the more women are educated, the more women earn, and the longer women live

Figure 2: Ratio of female to male labor force participation rate



Notes: This figure plots the ratio of female to male labor force participation rate for Russia (blue), post-communist countries other than Russia (green), BRICS other than Russia (red), and OECD countries (purple) from 1995 to 2019. 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: The World Bank (https://data.worldbank.org/indicator/SL.TLF.CACT.FM.ZS). Retrieved on September 6, 2022.

of 2000 – above gender parity and 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 OCED countries in 1995; although their index has not improved since then, it is still very close to that of OECD. Again, these are stark contrasts to the situation in other BRICS whose gender development indexes have been low.[6]

2.2 Changes in battery penalties in the mid-2010s

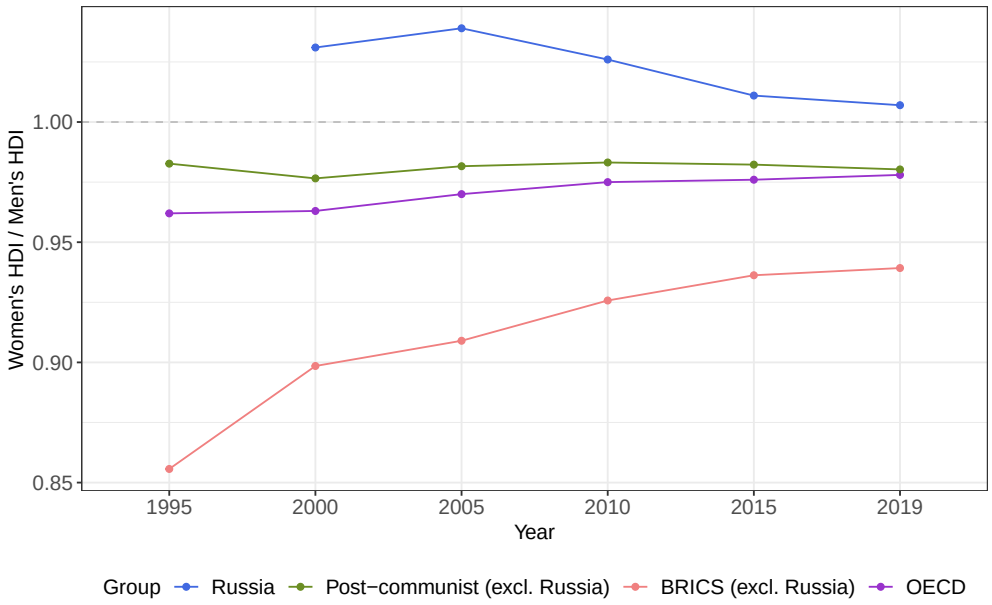
In July 2015, the Russian Supreme Court introduced a bill to make a light battery[7] an administrative offense rather than a criminal offense to the Russian national congress (Isajanyan 2017). The bill initially did not distinguish between battery against family and non-family members as the then-

relative to men, with 1 being gender parity.

6. Appendix Figure A1 presents women's (Panel A) and men's (Panel B) human development index for groups of countries included in Figure 3. 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.

7. Battery is defined as "Beatings or other violent actions that caused physical pain" (The Russian Federation 1996)

Figure 3: 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) from 1995 to 2019. Gender development index is a ratio of women's and men's human development index, 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 the United Nations Development Programme (2020). Other BRICS and post-communist countries are defined in Figure 2.
Source: UNDP Human Development Reports, The gender Development Index (http://hdr.undp.org/en/indicators/137906). Retrieved on December 26, 2021.

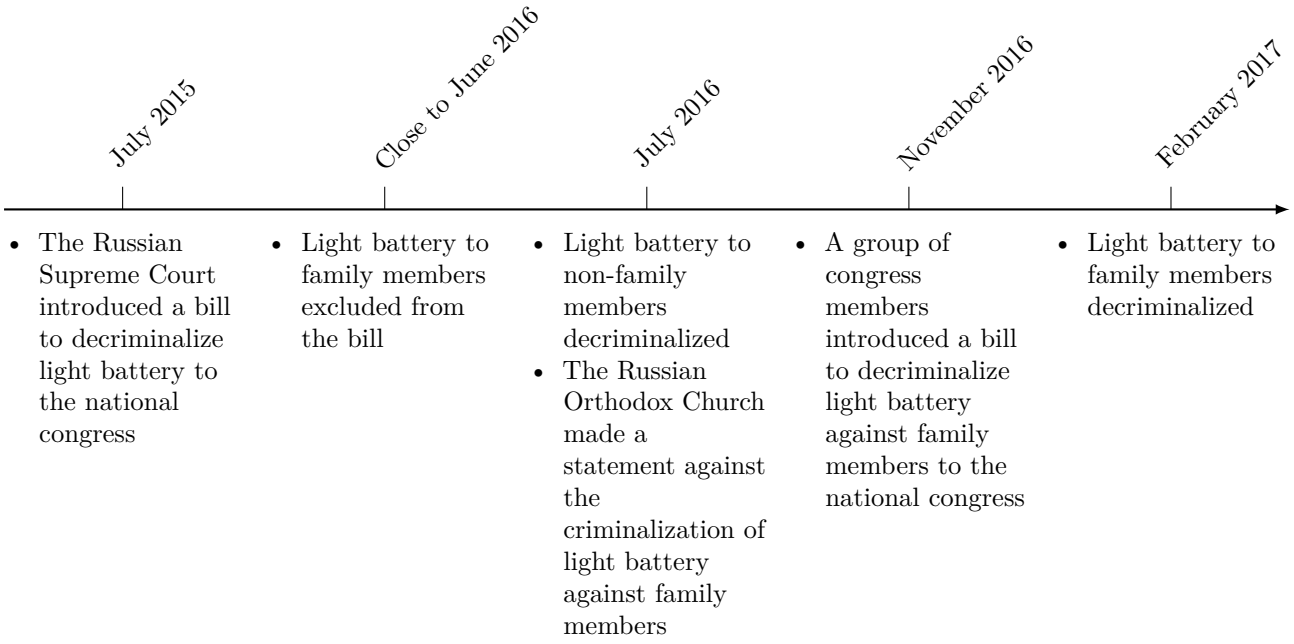
existing law did,[8] but before its implementation, the congress kept light battery against family members as a criminal offense. Although I cannot specify the exact date, the battery against family members seems to have been excluded from the bill near the completion of the law implementation (Kholmogorova and Alekhina 2017).

However, the Russian Orthodox Church immediately criticized the exclusion of light batteries against family members from the bill, saying it had "no moral justification and legal grounds" (Russian Orthodox Church 2016). Then a group of Russian national congress members introduced a bill to decriminalize a light battery against family members to the national congress in November 2016 (Layva 2016), which was enacted in February 2017. Figure 4 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 batteries against family members in general. However, what NGOs and activists were concerned

8. 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).

Figure 4: 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), The Russian Federation (2016, 2017), and (Kholmogorova and Alekhina 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. The battery is "Beatings or other violent actions that caused physical pain" (The Russian Federation 1996). The 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).

about this bill was the decriminalization of domestic violence (Human Rights Watch 2017; The Economist 2017). As we saw in Figure 1 in the introduction, the number of reported domestic violence by men against female partners dropped sharply after the bill. In addition, as shown in Figure 5, the number of marriages (blue line) seems to have dropped in 2016, the announcement

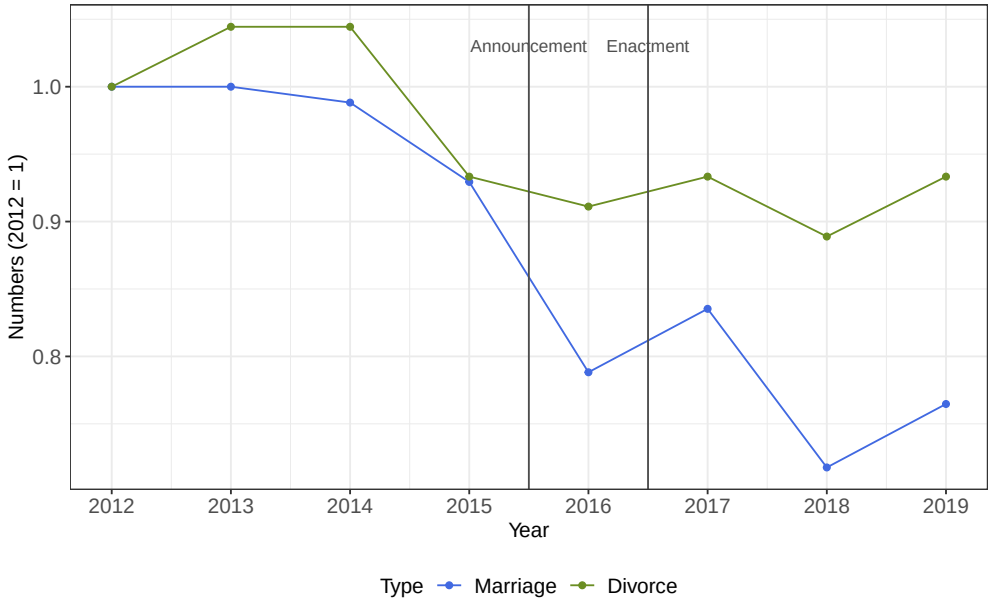
Table 2: Details of the penalties for various batteries (one of the following applies)

	Administrative offense	Criminal offense	Criminal offense (modified)	Serious criminal offense
Fine (max.)	30000 rubles (≈450 USD)	40000 rubles (≈600 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). The equivalent USD values for fines are calculated using the World Bank's 2017 average USD/ruble exchange rate (https://data.worldbank.org/indicator/PA.NUS.FCRF), retrieved on August 30, 2022.

year of the bill, while the number of divorces seems to have dropped already in 2015.

Figure 5: Number of marriages and divorces in Russia (2012=1)

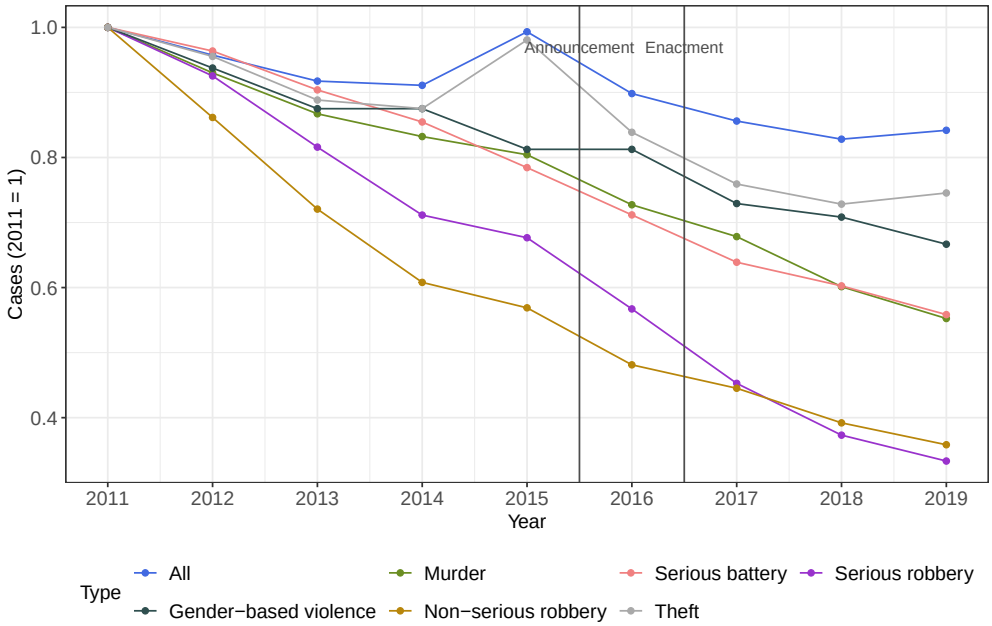


Notes: This figure plots the number of marriages (blue) and divorces (green) per 1000 inhabitants in Russia from 2012 to 2019, normalized by its 2012 value. The value in 2012 is 9.2 for marriage and 4.7 for divorce per 1000 inhabitants. The vertical line indicates the announcement year of the bill (2016).
Source: The Federal State Statistics Service: Demography (https://rosstat.gov.ru/folder/12781). Retrieved on August 15, 2022.

2.3 Remarks

There are a few remarks. First, the bill did not affect serious crimes. Figure 6 plots the number of all registered crimes, serious crimes, and non-serious crimes in Russia from 2011 to 2019, normalized

Figure 6: Number of registered crimes in Russia by type (2011=1)



Notes: This figure plots the number of registered crimes by type in Russia 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, Serious robbery (purple) includes stealing from someone with life-threatening means of violence, Gender-based violence (dark green) includes gender-based violence, Non-serious robbery (yellow) includes stealing from someone with light violence, and Theft (gray) includes stealing from someone without any violence. Values in 2011 (in thousands): 2404.8 for All, 14.3 for Murder, 38.5 for Serious battery, 20.1 for Serious robbery, 4.8 for Gender-based violence, 127.8 for Non-serious robbery, and 1038.6 for Theft. The vertical line indicates the announcement year of the bill (2016).
Sources: The Federal State Statistics Service (2017, 2021).

by their respective value in 2011. It shows that almost all kinds of registered crimes have been decreasing since 2011, and there is no apparent shift in 2016. While there was a jump in total crime in 2015, it was mainly driven by an increase in thefts, which likely reflected a drop in the GDP growth in 2015.[9,10]

Second, the Russian legal stance toward domestic violence was not necessarily looser than that of OECD countries in the mid-2010s. For example, in about half of the US states, it was police officers' discretion whether a domestic violence abuser should be arrested (American Bar Association 2014); for example, Amaral, Bandyophdyay, and Blanes-i-Vidal (2021) show that a domestic violence reporting is more likely to be a subject of criminal investigations when teams with a higher share of female police officers handle the case. Also, the European countries made a Europe-wide treaty against domestic violence only in 2011 (Council of Europe 2011). What makes the Russian case unique is that it made explicit that some forms of domestic violence were not crimes. In what

9. https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=RU
10. Although The Federal State Statistics Service (2017) does not provide full breakdown of all crimes, the increase in all crimes from 2014 to 2015 was 197.9 thousands and the increase in theft was 109.6 thousands. Fraud is also responsible for the overall increase, which increased by 40.4 thousands from 2014 to 2015 (The Federal State Statistics Service 2017).

follows, I refer to the bill that decriminalized a light battery toward family members as the "domestic violence decriminalization bill."

3 Data

3.1 Data on women's welfare

To examine the effect of the bill on married women's welfare, I use the Russia Longitudinal Monitoring Survey (RLMS), a 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 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 women's data for the analysis from 2011-2019 but exclude those who were added after 2015 because I could not define their marital status before the introduction of the domestic violence decriminalization bill. I also restrict the sample to 18 and 74 years old women.[11]

Table 3 describes welfare measures that are my dependent variables (Panel A), demographic characteristics (Panel B), an 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. However, they drink two more grams of alcohol per day on average.[12,13,14]

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%). Also, Panel C shows that treated women are more educated than control women. Further, Panel D shows that treated women are more likely to be in a higher-paid occupation category. Note that the occupation category is defined even if one is unemployed because it is the sector they belong to.

Thus, Panel A suggests that a simple comparison between treated and control women would not yield a causal effect of the bill, which motivates me to use difference-in-differences. However, Panels

11. See section 4.1 for the justification.

12. 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.

13. 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.

14. I calculate alcohol intake per day following Yakovlev (2018).

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 (1/0)	0.11	0.31	0.15	0.35	−0.04	0.01	0.00
Alcohol intake per day (gram)	25.48	45.59	23.47	45.93	2.01	0.90	0.03
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), an education level (Panel C), and occupation category (Panel D) for married (Treated) and unmarried women (Control) and their differences before the bill (2011-2015). The 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.

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. I deal with this possible differential time trend by flexibly controlling for macroeconomic shocks at the region-education-occupation cell level.

3.2 Data on people's attitudes toward domestic violence

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 conducted since 1981 in more than 120 countries – to examine people's attitude toward domestic violence. The survey collects information on people's values in several dimensions, such as "social, political, economic,

religious and cultural values." The survey is conducted face-to-face, "at respondents home / place of residence."[15] The main variables of interest are the answers to the question about (i) how justifiable "For a man to beat his wife" is and (ii) how much justifiable "Violence against other people" is. I use the former as a proxy for an attitude toward domestic violence and the latter for an attitude toward other violence, both are affected by the bill. Around the bill's introduction, 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 but limit the sample to ages 18-74 to make it consistent with the RLMS.[16]

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							
All							
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
Female							
Beating wife justifiable (0-1)	0.09	0.18	0.07	0.16	0.02	0.01	0.00
Violence against others justifiable (0-1)	0.09	0.17	0.06	0.14	0.03	0.01	0.00
Male							
Beating wife justifiable (0-1)	0.14	0.21	0.11	0.18	0.03	0.01	0.01
Violence against others justifiable (0-1)	0.13	0.21	0.09	0.17	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 for all and by gender (Panel A), demographic characteristics (Panel B), and an 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 for everyone and each gender (Panel A), demographic characteristics (Panel B), and education level (Panel C) for everyone surveyed after (2017, Post) and before (2011, Pre) the domestic violence decriminalization bill and their differences. Panel A

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

16. Russia was also surveyed in 2006, which may have enabled me to test the parallel trend assumption. However, the 2006 survey does not include attitude variables other than toward domestic violence.

shows that people's attitude toward violence has deteriorated from 2011 to 2017: people became more tolerant toward beating wife and violence against others.[17] The deterioration is observed both for women and men, but men's deterioration is slightly larger. Looking at the pre-period, women have less tolerance toward all the violence measures.

Panel B shows there are some unbalances between the two periods: there are 8% fewer married people and 3% more women in the post-period, while age and employment status are not significantly different. Panel C also shows that people are more educated in the post-period than in the pre-period. Thus, I control these variables in the analysis to make the two periods more comparable.

4 Empirical strategy

4.1 Analysis of married women's welfare

I examine the effect of the domestic violence decriminalization bill on married women's welfare using the RLMS; I focus on married women because they are the group most exposed to domestic violence. I use unmarried women as a control group;[18] unmarried women's welfare may have also been negatively affected by the bill through a drop in their expected utility from marriage. Even so, my estimate would be conservative.[19]

I define 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 (Gorbunova and Ovsyannikova 2016), (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.[20]

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:

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

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.

17. 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. The same apples to other attitude measures

18. Men should have followed a different time trend; for example, they were in different kinds of industries and thus were affected by macroeconomic shocks differently.

19. 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 would be conservative.

20. As shown in Panel A of Figure 7, this seems a valid assumption: married women's life satisfaction drops in 2016 and stays at the lower level. There is no other event that only affects married women's life satisfaction.

- μ_i: individual fixed effects.
- $\delta_{\{r,e,o\}\subseteq it}$: 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 category. As discussed in section 3.1, the occupation category is the sector which individual i belongs to, regardless of their employment status.

As discussed in section 3.1, I restrict the sample to women between 18 and 74 years old because people below 18 years old cannot get married in Russia and women above 74 years old must be too old to be victims of 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 includes married women who live with their partners, and the control group includes unmarried women who do not live with their partners, 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 category. Under this assumption, β_ls ($l = 2016, ..., 2019$) capture the 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 the parallel trend assumption.

4.2 Analysis of people's attitudes toward domestic violence

I also example the effect of the domestic violence decriminalization bill on people's attitude toward domestic violence using the WVS. I focus on both women and men in this analysis because men's attitudes can also affect married women's welfare.

Because the WVS only contains data in 2011 and 2017, I use the 2011 data as the pre-period and the 2017 data as post-period, as discussed in section 3.2. Also, since the WVS is not a panel, I use the attitude toward violence against others as a control and take a difference between married and unmarried people. In absence of domestic violence effect, the bill should affect the attitude toward domestic violence and violence against others in the same way for married and unmarried people.

These considerations motivate me to estimate the following triple-differences equation via OLS:

$$Y_{it}^{\Delta} = \beta_1 Married_{it} \times Post_{it} + \beta_2 Married_{it} + \beta_3 Post_{it} + X_{it}'\gamma + \delta_{\{r\}\subseteq it} + \epsilon_{it} \tag{2}$$

where each variable is defined as follows:

- $Y_{it}^{\Delta} \equiv Y_{it}^{DV} - Y_{it}^{violence\ others}$: the difference between the attitudes toward domestic violence and violence against others of individual i in period t.

    - $Y_{it}^{DV} \in \mathbb{R}$: the attitude toward domestic violence of individual i in period t that is affected by the bill.
    - $Y_{it}^{violence\ others} \in \mathbb{R}$: the attitude toward violence against others of individual i in period t that is unaffected by the bill.
- $Married_{it} \in \{0, 1\}$: an indicator variable equals 1 if individual i is married in period t, 0 otherwise.
- $Post_{it} \in \{0, 1\}$: an indicator variable equals 1 if individual i is in the post-period, 0 otherwise.
- X_{it}: a vector of characteristics of individual i in period t.
- $\delta_{\{r\} \subseteq it}$: region fixed effects.
- ϵ_{it}: a random error.

Standard errors are heteroskedasticity-robust.

The key identification assumptions are again the parallel trend and the balance between the two periods: (i) the difference between married and unmarried people's attitude toward domestic violence and violence against others follows the same time trend in the absence of the bill and (ii) the composition of married and unmarried people is balanced between the two periods with respect to characteristics that affect their attitudes, conditional on the covariates within each region. Under these assumptions, β_1 captures the effect of the domestic violence decriminalization bill on married people's attitude toward domestic violence. However, because I cannot test these assumptions, I consider the results suggestive.

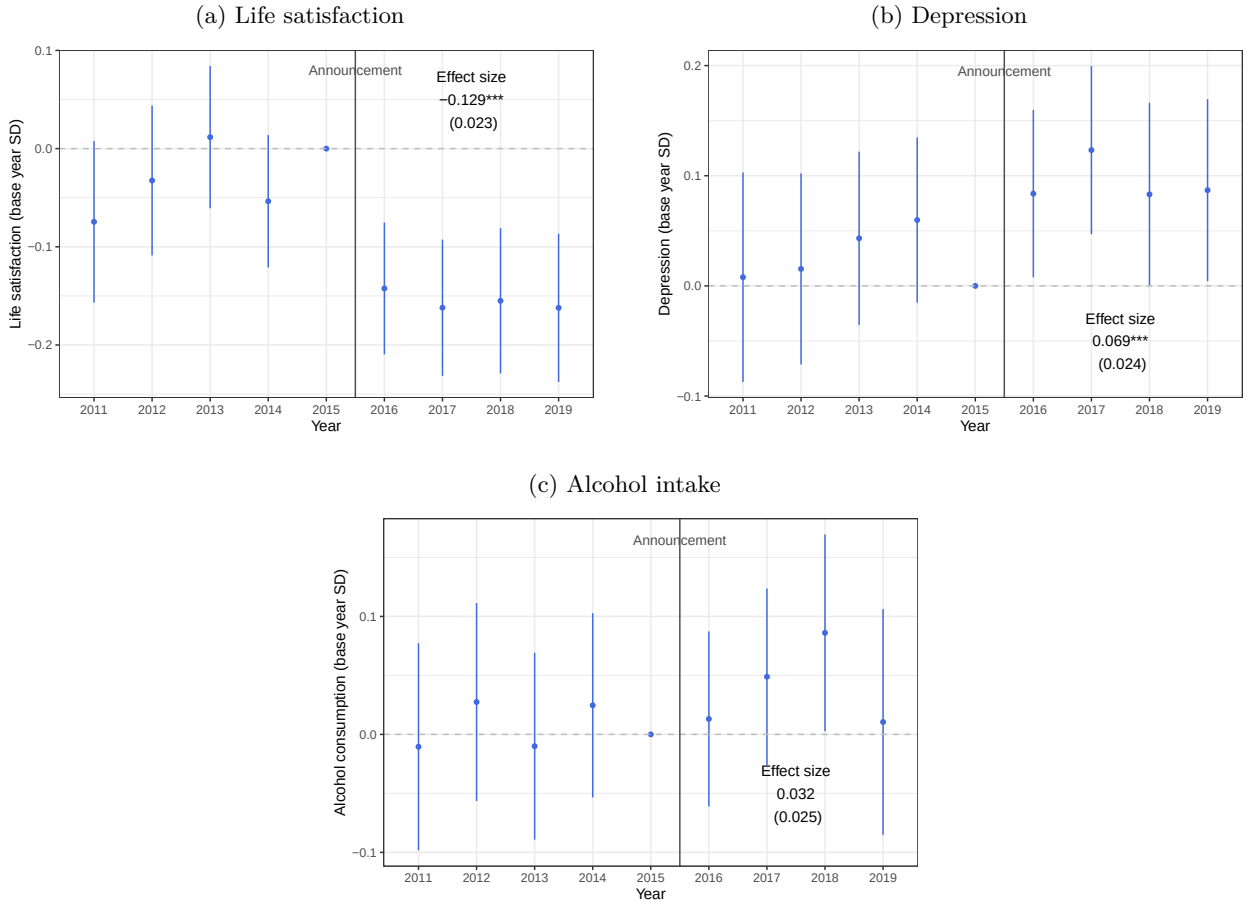
5 Results

5.1 The effect of the bill on married women's welfare

Figure 7 presents the OLS estimates of β_ls of equation 1 for life satisfaction (Panel A), depression (Panel B), and alcohol intake (Panel C) normalized by the base year (2015) standard deviation and 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 jumps up and stays at the higher level. Panel C shows that the treated and control women follow roughly the same time trends before the bill, and while the treated women seem to have increased their alcohol intake after the bill, the increase is statistically insignificant and quantitatively small.

Looking at the average effect size shown inside each figure, Panel A shows that the bill decreased treated women's life satisfaction by 12.9 percentage point base year standard deviations, and Panel B shows that the bill increased treated women's depression by 6.9 percentage point base year standard deviations. They are quantitatively sizable and statistically highly significant. Although positive, the bill did not increase alcohol intake statistically significantly (Panel C); the statistically insignificant

Figure 7: Effect of the bill on married women's welfare



Notes: This figure presents the OLS estimates of β_ls of equation 1 for life satisfaction (Panel A), depression (Panel B), and alcohol intake per day (Panel C) normalized by the base year (2015) standard deviation along with their 95% confidence intervals. All specifications include individual fixed effects and year-region-education-occupation fixed effects. The average effect size and its standard error are shown inside the figure. The vertical lines indicate the announcement year of the bill (2016). Standard errors are clustered at the individual level. Significance levels: * 10%, ** 5%, and *** 1%.

increase could be because drinking alcohol and the traditional gender norm are incompatible.[21]

The results above are unlikely to be driven by the increasing domestic violence trend. First, Panel A of Figure 7 shows that married women's life satisfaction already dropped in 2016 and has not changed since then. If the domestic violence trend had been increasing, life satisfaction should have kept decreasing as well, which is not the case. Thus, the number of domestic violence must have stayed roughly at the 2016 level after the bill. The same applies to depression (Panel B). Alcohol intake may have been increasing from 2016 to 2018, but it dropped in 2019, and those increases are not statistically significant to begin with. The hike in the domestic violence reporting in 2016 shown in Figure 1 seems to come from that "until July 2016, the norms of the Criminal Code, under which

21. The average effect sizes come from columns 7, 14, and 21 of Appendix Table A1. The table also shows the stability of the estimates by gradually adding fixed effects.

most cases of domestic violence were initiated, belonged to the category of private prosecution" and the police did not investigate the cases (Kholmogorova and Alekhina 2017), which has changed in July 2016 by explicitly stating that the domestic violence was subject to the Criminal Code.

5.2 Changes in people's attitudes toward domestic violence

To elaborate the results in Figure 7, Table 5 presents the OLS estimates of equation 2 for women (column 1-2), men (column 3-4), and all (column 5-6). The coefficient estimate on the married dummy in column 1 is negative and statistically significant, suggesting that married women was less tolerant toward domestic violence before the bill. However, the sum of the the coefficient estimates on the post dummy and on the post dummy times the married dummy is close to 0, suggesting that married women did not become less tolerant toward domestic violence. Because married women are those who suffer most from the bill and that the attitudes were elicited through face-to-face interviews at their residence, one likely explanation is that married women began to feel pressured to express their intolerance toward domestic violence freely because it was no longer a criminal offense. In contrast, the coefficient estimate on the post dummy is negative and statistically significant, suggesting that unmarried women became less tolerant toward domestic violence. Column 2 controls for individual characteristics and shows that these results are not due to potential unbalance between the two periods.

The coefficient estimate on the married dummy in column 3 shows that married men, too, was less tolerant toward domestic violence, although statistically and quantitatively insignificant. While unmarried men became less tolerant toward domestic violence albeit statistically insignificant, as shown in the coefficient estimate on the post dummy, married men did not, as shown in the coefficient estimate on the married dummy times the post dummy. These results roughly hold even after controlling for individual characteristics.

The coefficient estimate on the married dummy times the post dummy times the female dummy in column 5 is positive albeit statistically insignificant, showing that compared to married men, married women indeed became more tolerant toward domestic violence. As shown in column 6, controlling for individual characteristics gives qualitatively the same results. All the results hold even when we normalize the attitude measures with their gender-specific pre-period mean, presented in Appendix Table A2, which addresses the concern that the trend between the treated and control attitudes are not the same, but their changes are.[22] Taken together, the Russian domestic violence decriminalization bill decreased married women's welfare, and part of the decrease was through a psychological channel.

22. The estimates in Appendix Table A2 is close to Athey and Imbens (2006)'s change-in-change model; thus, when the parallel trend assumption holds for Table 5's results, it does not hold for Appendix Table A2, and vice versa.

Table 5: Changes in people's attitudes toward domestic violence

Dependent variable:	Domestic violence justifiable (relative to violence against others)					
Sample:	Female		Male		All	
	(1)	(2)	(3)	(4)	(5)	(6)
Married x Post	0.015	0.017	−0.004	0.001	−0.002	0.003
	(0.013)	(0.013)	(0.021)	(0.021)	(0.021)	(0.021)
Married	−0.022***	−0.021***	−0.004	−0.015	−0.004	−0.015
	(0.007)	(0.008)	(0.011)	(0.012)	(0.011)	(0.012)
Post	−0.019**	−0.018*	−0.019	−0.014	−0.020	−0.014
	(0.009)	(0.010)	(0.018)	(0.018)	(0.018)	(0.018)
Age		−0.002		0.002		0.002
		(0.002)		(0.002)		(0.002)
Age squared		0.000		−0.000		−0.000
		(0.000)		(0.000)		(0.000)
Employed		0.013*		0.023*		0.023*
		(0.008)		(0.013)		(0.013)
Secondary school		0.008		−0.006		−0.003
		(0.016)		(0.029)		(0.029)
College or above		0.005		−0.036		−0.034
		(0.015)		(0.028)		(0.028)
Married x Post x Female					0.018	0.015
					(0.025)	(0.025)
Female					−0.001	0.082
					(0.011)	(0.059)
Post x Female					−0.000	−0.006
					(0.020)	(0.021)
Married x Female					−0.019	−0.007
					(0.014)	(0.015)
Age x Female						−0.004*
						(0.003)
Age squared x Female						0.000
						(0.000)
Employed x Female						−0.010
						(0.015)
Secondary school x Female						0.009
						(0.032)
College or above x Female						0.038
						(0.032)
Region FE	✓	✓	✓	✓	✓	✓
P-value: Married x Post + Post	0.733	0.954	0.038	0.279		
Adj. R-squared	0.001	0.001	0.013	0.020	0.006	0.010
Observations	2171	2151	1676	1650	3847	3801

Notes: This table presents triple-differences estimates from equation 2. Standard errors in parenthesis are heteroskedasticity-robust. Significance levels: * 10%, ** 5%, and *** 1%.

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 bill decreased married women's life satisfaction and increased the depression level. I also find suggestive evidence that while unmarried women began to express less tolerance toward domestic violence, married women did not, presumably because of the supressive atmosphere the bill brought to the role of married women. These results suggest that the bill reduced women's welfare partly through a psychological channel and that legal institution is still important in a country where women have high economic power.

The results caution against post-communist countries' regressive gender policies because they would negatively affect their economy through the reduction of women's labor market performance, as depression reduces one's economic outcomes (Ridley et al. 2020) and women are an integral part of their economic activities.

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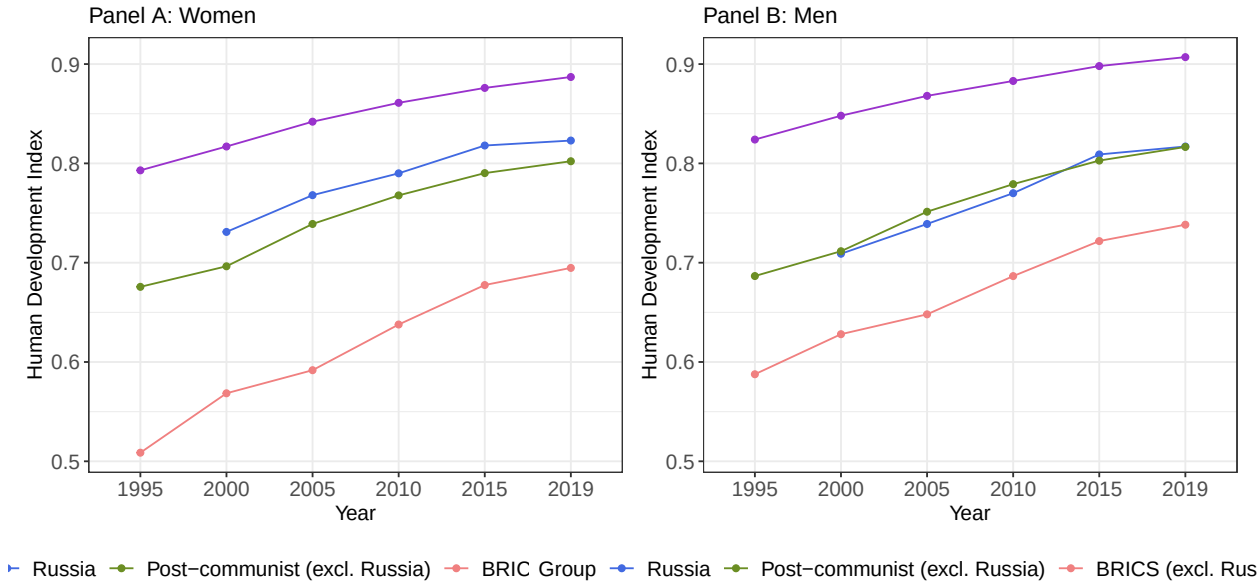
Appendix

Appendix A Additional Figures and Tables

Figure A1: Human Development Index of Russia and groups of countries, by gender



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 the United Nations Development Programme (2020). Other BRICS and post-communist countries are defined in Figure 2.
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.

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)	(7)
Treated x Post	0.133***	0.092***	0.092***	0.092***	0.092***	0.129***	0.129***
	(0.018)	(0.017)	(0.017)	(0.017)	(0.017)	(0.023)	(0.023)
Treated	0.380***						
	(0.021)						
Post	0.078***	0.031**					
	(0.014)	(0.013)					
Individual FE		✓	✓	✓	✓	✓	✓
Time FE			✓				
Time-Region FE				✓			
Time-Region-Education FE					✓		
Time-Region-Occupation FE						✓	
Time-Region-Education-Occupation FE							✓
Adj. R-squared	0.051	0.471	0.471	0.471	0.471	0.454	0.453
Observations	49053	49053	49053	49053	48976	28183	28154
Individuals	7148	7148	7148	7148	7139	4866	4861
Dependent variable:	Depression in the past 12 months (base year SD)						
	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Treated x Post	−0.060***	−0.053***	−0.054***	−0.054***	−0.054***	−0.070***	−0.069***
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.024)	(0.024)
Treated	0.018						
	(0.018)						
Post	−0.070***	−0.049***					
	(0.014)	(0.014)					
Individual FE		✓	✓	✓	✓	✓	✓
Time FE			✓				
Time-Region FE				✓			
Time-Region-Education FE					✓		
Time-Region-Occupation FE						✓	
Time-Region-Education-Occupation FE							✓
Adj. R-squared	0.001	0.294	0.295	0.294	0.294	0.264	0.263
Observations	48516	48516	48516	48516	48440	27878	27849
Individuals	7142	7142	7142	7142	7133	4849	4844
Dependent variable:	Alcohol intake per day (base year SD)						
	(15)	(16)	(17)	(18)	(19)	(20)	(21)
Treated x Post	0.001	0.001	−0.001	−0.001	−0.005	−0.032	−0.032
	(0.018)	(0.017)	(0.017)	(0.017)	(0.017)	(0.025)	(0.025)
Treated	0.092***						
	(0.021)						
Post	−0.048***	−0.057***					
	(0.013)	(0.013)					
Individual FE		✓	✓	✓	✓	✓	✓
Time FE			✓				
Time-Region FE				✓			
Time-Region-Education FE					✓		
Time-Region-Occupation FE						✓	
Time-Region-Education-Occupation FE							✓
Adj. R-squared	0.003	0.444	0.446	0.446	0.446	0.425	0.425
Observations	49046	49046	49046	49046	48969	28151	28122
Individuals	7150	7150	7150	7150	7141	4867	4862

Notes: This table presents standard difference-in-differences estimates from equation 1 but gradually adds fixed effects to show the stability of the estimates. The last column in each row corresponds to the effect size reported in Figure 7. Standard errors in parenthesis are clustered at the individual level. Significance levels: * 10%, ** 5%, and *** 1%.

Table A2: Changes in people's attitudes toward domestic violence (normalized by gender-specific pre-period mean)

Dependent variable:	Domestic violence justifiable (relative to violence against others)					
Sample:	Female		Male		All	
	(1)	(2)	(3)	(4)	(5)	(6)
Married x Post	0.194	0.201	−0.076	−0.026	−0.051	−0.004
	(0.210)	(0.213)	(0.209)	(0.210)	(0.210)	(0.211)
Married	−0.304***	−0.270**	0.016	−0.106	0.022	−0.099
	(0.116)	(0.125)	(0.112)	(0.123)	(0.112)	(0.123)
Post	−0.386***	−0.351**	−0.270	−0.217	−0.285	−0.222
	(0.146)	(0.158)	(0.179)	(0.182)	(0.180)	(0.183)
Age		−0.025		0.019		0.021
		(0.024)		(0.021)		(0.021)
Age squared		0.000		−0.000		−0.000
		(0.000)		(0.000)		(0.000)
Employed		0.188		0.226*		0.222*
		(0.122)		(0.128)		(0.129)
Secondary school		0.146		−0.003		0.028
		(0.249)		(0.293)		(0.292)
College or above		0.069		−0.282		−0.265
		(0.244)		(0.284)		(0.283)
Married x Post x Female					0.258	0.219
					(0.296)	(0.299)
Female					0.177	1.071
					(0.131)	(0.726)
Post x Female					−0.108	−0.141
					(0.230)	(0.239)
Married x Female					−0.334**	−0.179
					(0.161)	(0.175)
Age x Female						−0.048
						(0.032)
Age squared x Female						0.000
						(0.000)
Employed x Female						−0.038
						(0.178)
Secondary school x Female						0.100
						(0.382)
College or above x Female						0.324
						(0.374)
Region FE	✓	✓	✓	✓	✓	✓
P-value: Married x Post + Post	0.229	0.386	0.002	0.056		
Adj. R-squared	0.003	0.002	0.013	0.021	0.006	0.008
Observations	2171	2151	1676	1650	3847	3801

Notes: This table presents difference-in-differences estimates from equation 2, but normalizes each attitude measure by the gender-specific pre-period mean. Standard errors in parenthesis are heteroskedasticity-robust. Significance levels: * 10%, ** 5%, and *** 1%.