When Protection Fails:
Effects of Military Bases on Sexual Violence in Colombia

Felipe Parra   **Sakina Shibuya**

July 22, 2025

Sexual Violence by Soldiers of Colombia's Public Forces is Well-known.

EL PAÍS

International

EUROPE · USA · US ELECTION

López Obrador says he will "recognize" Maduro's government when "100% of the votes" have been co

Colombia's peace court to investigate 47 complaints of sexual violence in armed conflict

Women from the Caribbean gave their testimonies to the peace tribunal about violations suffered by the former FARC and the Army

CATALINA OQUENDO
Bogota · MAY 24, 2020 · 18:17 EDT

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General says army has 'zero tolerance' for sexual abusers
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The New York Times

Seven Colombian Soldiers Charged in Rape of Indigenous Girl

The charges, announced by the attorney general, follow years of accusations of illegal killings. The defendants pleaded guilty in a closed hearing.

By Julie Turkewitz
June 26, 2020

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Colombian Special Jurisdiction for Peace opens a National Case on Conflict-related Sexual and Gender-based Violence

IN CONFLICT, HUMAN RIGHTS, JEP, NEWS, NEWS ARCHIVE, PEACE, PEACE PROCESSES, PEACE PROCESSES, TRANSITIONAL JUSTICE, WOMEN TAGS CONFLICT, HUMAN RIGHTS, PEACE, PEACE ACCORD, PEACE IN COLOMBIA, WOMEN   02/11/2023   0 ♥

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Sexual Violence by State Forces Is Common in Armed Conflicts.

Share of Conflicts Involving Reported Sexual Violence (1989-2021)
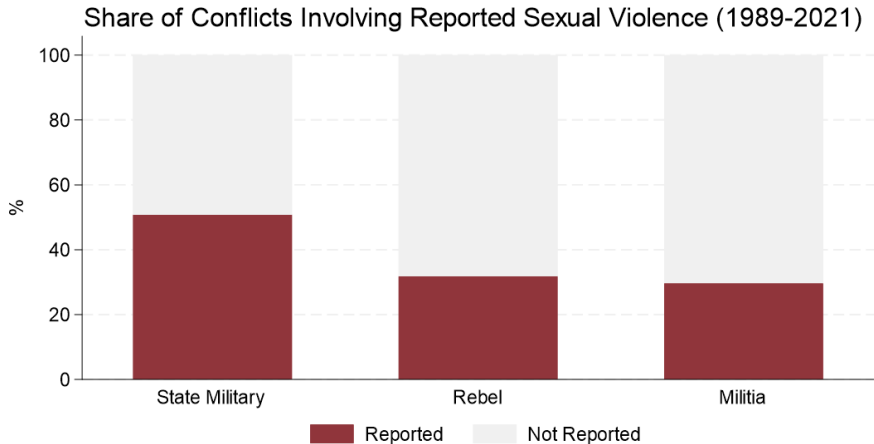
Note: Sexual Violence in Armed Conflict (SVAC) dataset (Cohen and Nordas, 2014).
During this period, state militaries, rebel groups, and militia groups were engaged in 189, 176, and 64 unique conflicts, respectively.
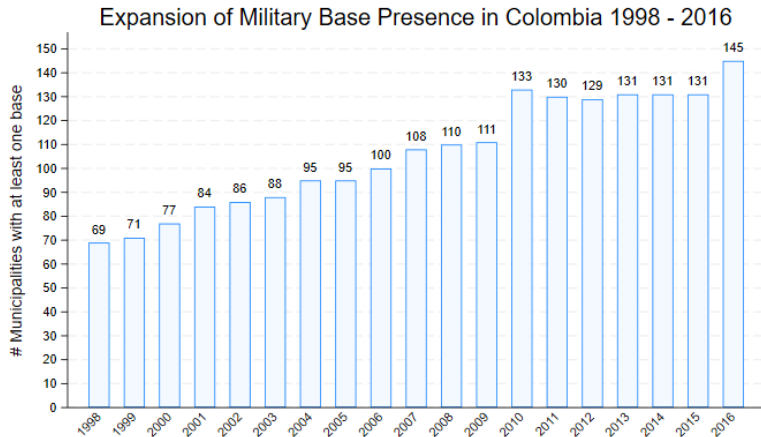
This Paper: The Impact of Soldier Presence on Women.

- Colombia provides a unique setting with **variation in the timing and location** of military base expansions.

- Difference-in-differences approach with staggered treatment.
  (de Chaisemartin and D'Haultfœuille, 2024)

- Key finding: **Sexual crime rate rises by 72%** within 16 years of base introduction.

- Driven by less-trained, lower-paid drafted soldiers.

- Alternative explanations (population, security, reporting) ruled out.
  → **Government soldier presence is the main driver.**

Colombian Conflict & Military Expansion

- Conflict ongoing since the 1960s.

- Military expansion from 2000 to 2016.

- By building bases of the Army.

- All across the country.
  Map

Expansion of Military Base Presence in Colombia 1998 - 2016

Y-axis: # Municipalities with at least one base

Values by year: 1998: 69, 1999: 71, 2000: 77, 2001: 84, 2002: 86, 2003: 88, 2004: 95, 2005: 95, 2006: 100, 2007: 108, 2008: 110, 2009: 111, 2010: 133, 2011: 130, 2012: 129, 2013: 131, 2014: 131, 2015: 131, 2016: 145

Data

Treatment: Military Bases

- Unique municipality-level panel data of military bases from 1998-2016.
- Constructed from government publications and newspapers.

Outcome: Sexual Violence

- Lawsuits data since 2000 from the Attorney General's Office.
- **Sexual crime rate**: # of lawsuits over sexual crime per 100,000 inhabitants.
- Aggregated by two years for detectability.
- **Registered cases** and indicted cases.
- Recorded victims are mostly young women. Victim Characteristics

Major challenge: Endogenous *location* and *timing* of base presence

Identification Strategy: Difference-in-Differences / Event Study

Major challenge: Endogenous *location* and *timing* of base presence

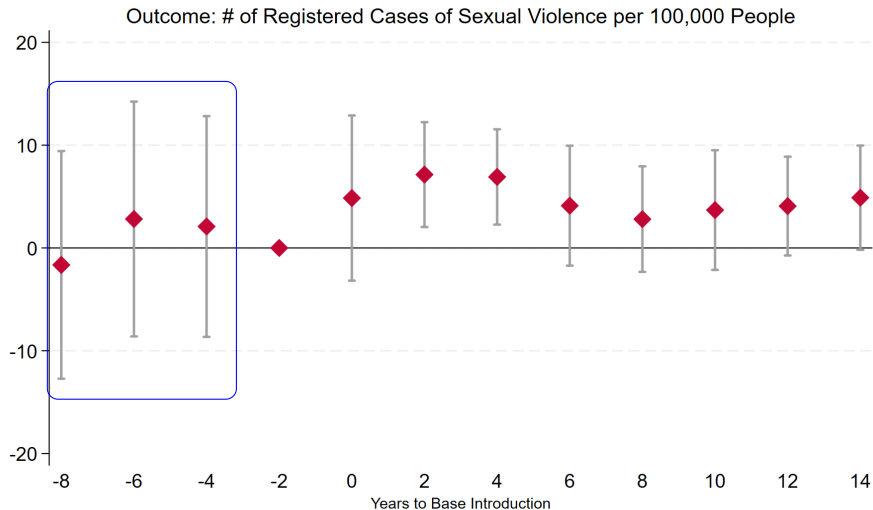**de Chaisemartin and D'Haultfœuille (dCdH) estimation**

- Staggered, non-absorbing treatment.
- Standard errors are clustered at the municipality level.

Major challenge: Endogenous *location* and *timing* of base presence

de Chaisemartin and D'Haultfœuille (dCdH) estimation

- Staggered, non-absorbing treatment.
- Standard errors are clustered at the municipality level.

Parallel Trend: Drop the major cities and the **never-treated** municipalities.
  $\rightarrow$ Compare the treated to **the not-yet treated**.

No Anticipation: Quick mobilization of soldiers w/o buildings. New base

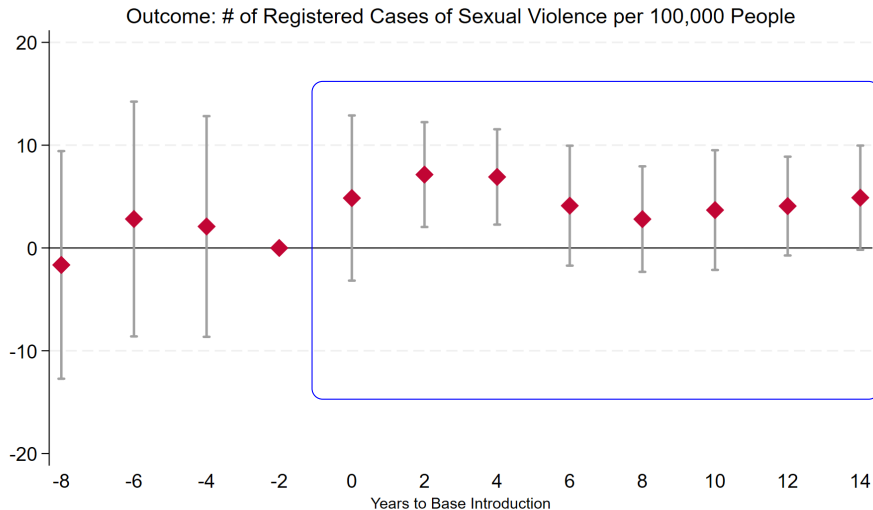# Registered Cases of Sexual Violence Increase

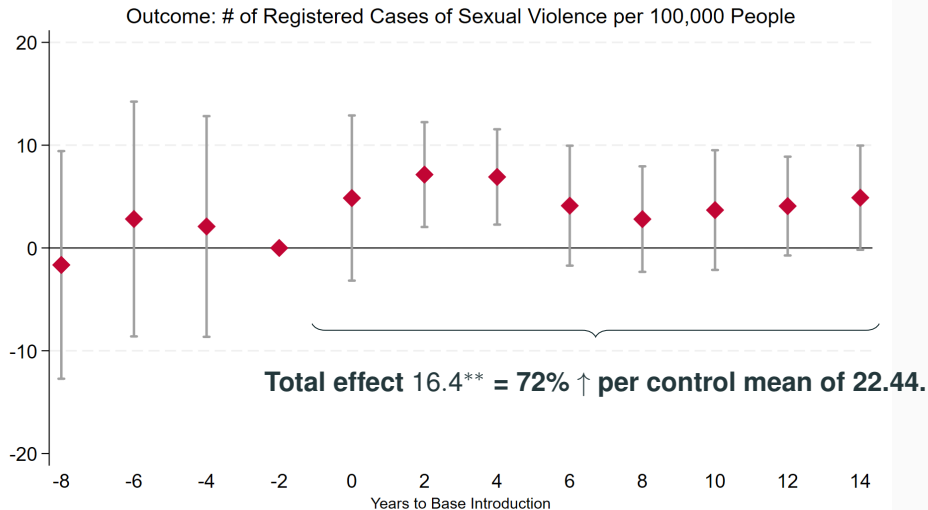Outcome: # of Registered Cases of Sexual Violence per 100,000 People

Lines are 95% confidence intervals. *** p < 0.01, ** p < 0.05, * p < 0.1.   Indicted cases   Total effect

Outcome: # of Registered Cases of Sexual Violence per 100,000 People

Years to Base Introduction

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Registered Cases of Sexual Violence Increase

Outcome: # of Registered Cases of Sexual Violence per 100,000 People

Total effect 16.4** = 72% ↑ per control mean of 22.44.

Years to Base Introduction

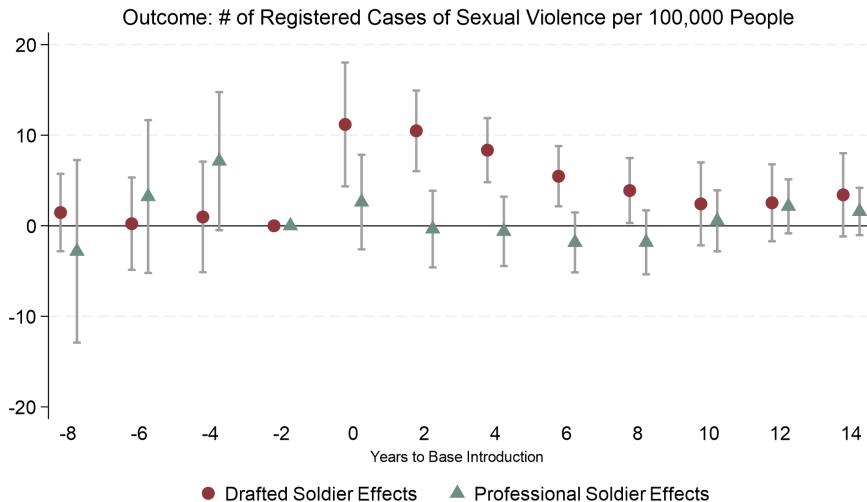Lines are 95% confidence intervals. *** p < 0.01, ** p < 0.05, * p < 0.1. Indicted cases   Total effect

Types of Military Bases and Municipalities

- **Standard:** drafted, less-trained soldiers.

- **Counterinsurgency:** professional, better-trained soldiers.

- Most treated municipalities have standard bases only.

- We estimate separate effects by base type.

Share of Treated Municipalities

Base Type	
Standard only	64%
Counter-insurgency only	34%
Both	2%

Increase in Registered Cases Driven by Draftee Presence

Outcome: # of Registered Cases of Sexual Violence per 100,000 People

Years to Base Introduction

● Drafted Soldier Effects   ▲ Professional Soldier Effects

Lines are 95% confidence intervals. Indicted cases

Is government soldier presence really driving the results?

Do bases change demographic composition, leading to more sex crimes?
No change in female and male population levels and sex ratio. Population Sex ratio

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Are soldiers or non-state armed actors committing sexual crimes?
Rightist paramilitary presence may partially contribute to the increase.

Gov't soldier presence is a significant driver of sexual violence.

- **72% increase** in sexual crime rate over the 16 years after base introduction.
- Driven by the presence of **less trained, lower-paid drafted soldiers**.
- Because increased sexual violence *not* driven by changes in:
  1) demographics, 2) security situations, or 3) reporting.

Implications.

- Unintended negative consequences of a gov't program.
- **Sexual violence has lasting economic consequences.**
  (Sabia et al., 2013; Adams-Prassl et al., 2024; Adams et al., 2024)

Appendix

Exploring Consequences of Increased Sexual Violence

Do increased sexual violence translate into increased fertility?

Do increased sexual violence translate into increased child support disputes?

Exploring Consequences of Increased Sexual Violence

Do increased sexual violence translate into increased fertility?

No change in overall and single-mother fertility across age groups.

Overall - Age 10-39   Overall - Age 10-19   Overall - Age 20-29   Overall - Age 30-39   By soldier types   Single-mother

Do increased sexual violence translate into increased child support disputes?

No evidence of change in child support disputes.

Registered cases   Indicted cases   By soldier types - registered   By soldier types - indicted

Number of army bases as treatment.
Estimated effects on the *intensive* margin are similar to the extensive margin results.
Sexual violence Fertility Child support

Spill-over to neighboring municipalities.
No evidence of base effect spreading to neighbors. Spill-over

Bases Were Built All over the Country

Military Bases
- Only in 1999
- Only in 2016
- In both years
- Neither
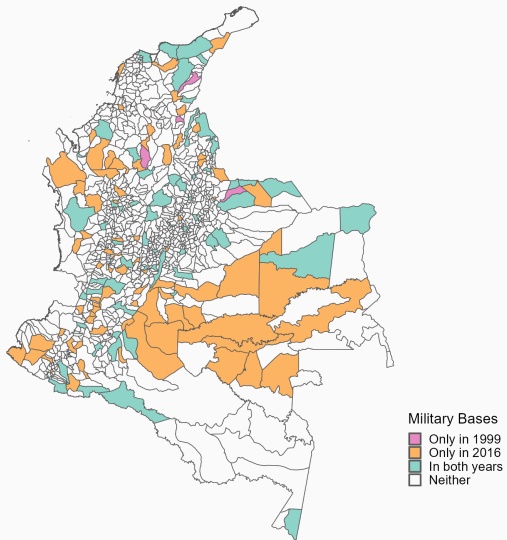
Table 1: Monthly Compensation by Soldier Categories

	Basic Soldiers	Professional Soldiers	% Difference
2000	US$9.20	US$83.48	807.06
2001	US$10.11	US$91.79	807.52
2002	US$10.93	US$99.17	807.53
2003	US$11.74	US$106.56	807.55
2004	US$12.66	US$114.90	807.54
2005	US$13.49	US$122.44	807.58
2006	US$14.43	US$130.95	807.57
2007	US$15.34	US$139.20	807.57
2008	US$16.32	US$148.12	807.56
2009	US$17.57	US$159.48	807.56
2010	US$17.92	US$165.29	822.16

Source: Authors' calculation based on Decrees 1794 and 2724 of 2000, 2737 of 2001, 745 of 2002, 3552 of 2003, 4158 of 2004, 923 of 2005, 407 of 2006, 1515 of 2007, 673 of 2008, 737 of 2009 , 1530 of 2010, and the yearly minimum wage from Datosmacro (2022). Values in Colombian pesos (COP) are converted to the U.S. dollar (USD) values using the 2023 average conversion rate of COP 4,362 to USD 1.

Note: The compensation for conscripted soldiers are called bonus (*bonificación* in Spanish), which is meant to as an allowance to supplement the supply of uniforms, and basic necessities including food and hygiene products. Conscripted soldiers can receive a 40% increase in their monthly bonus if their performance is exceptional. Meanwhile, the compensation for professional soldiers is a salary, and determined as 140% of the legal minimum wage. Volunteer soldiers, as professional soldiers were known before 2000, who have already served before December 31, 2000 receive the 160% of minimum wage.
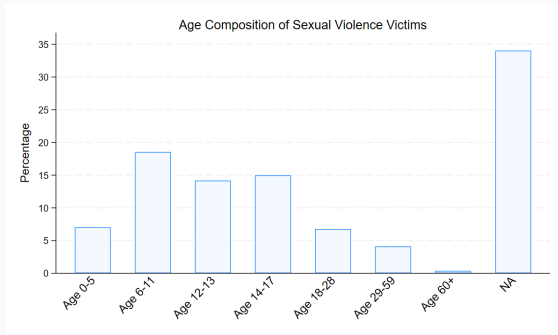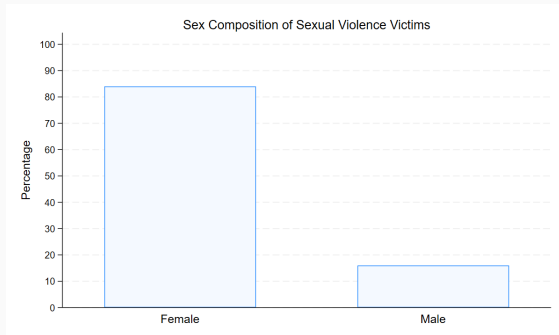
Figure 1: Battalion Julio Londoño in Established in 2007, Department of Chocó

Source: P217 National Army of Colombia. (2010). Military Engineers in Colombia: 200 Years of History 1810-2010.

Back to the main slide.

Recorded Victims Are Mostly Young Women.

No data on victims' gender before 2010, but 84% of reported sex crimes from 2010 to 2016 are against women.

Note: Of cases reported to the Attorney General's Office from 2010 to 2016.

Back to the main slide

72% Rise in Registered Cases Over 16 Years.

Table 2: Average Total Effects on Sexual Violence (dCdH)

Outcome: Number of Cases per 100,000 Inhabitants

	Registered (1)	Indicted (2)
Has Army base	16.399**	16.254
	(7.329)	(10.416)
Obs.	1,224	1,224
Control mean	22.44	14.31

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Robust standard errors in parentheses clustered at the municipality level. The de Chaisemartin and D'Haultfœuille estimator calcuates the *average total effect*, which is the weighted sum of the effects of all periods. This analysis sample includes 153 unique municipalities and excludes 959 never-treated municipalities.

No Change in Indicted Cases

Outcome: # of Indicted Cases of Sexual Violence per 100,000 People
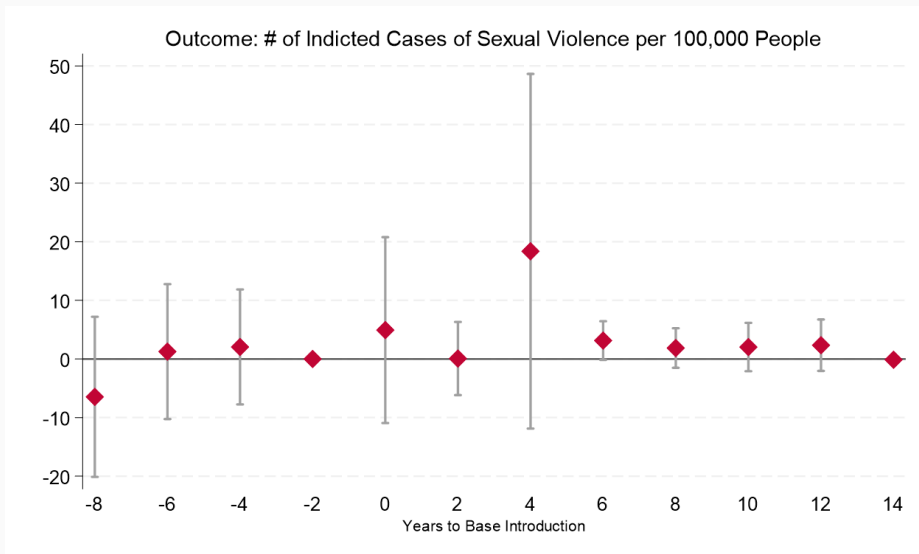
Lines are 95% confidence intervals. Back to registered cases

Effects on Indicted Cases of Sexual Violence by Base Types

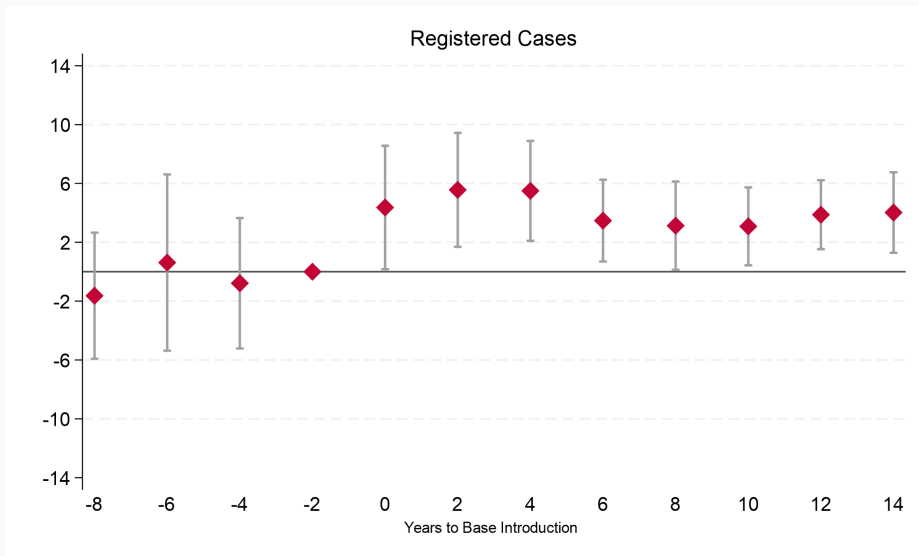Outcome: # of Indicted Cases of Sexual Violence per 100,000 People

Years to Base Introduction

● Drafted Soldier Effects   ▲ Professional Soldier Effects
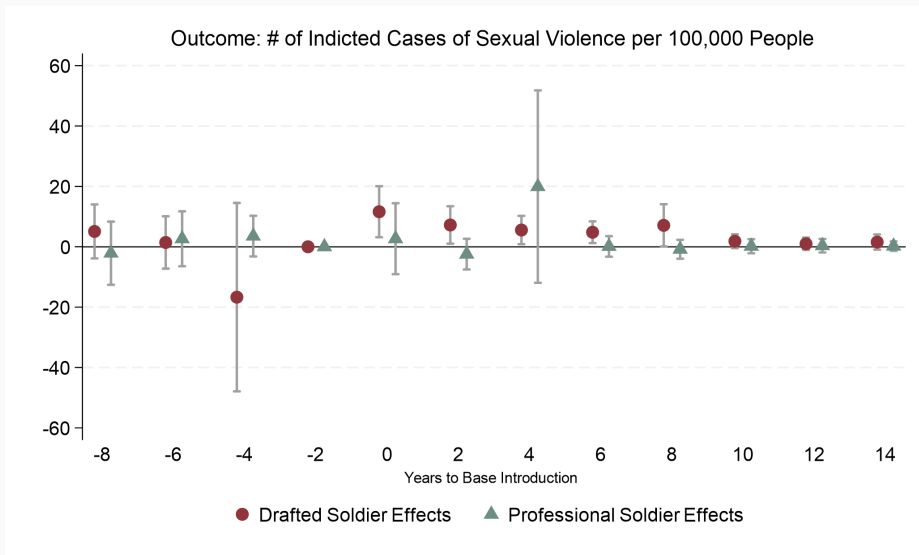
Lines are 95% confidence intervals.   Back to registered cases

Continuous Treatment Effect on Registered Cases of Sex Violence

Registered Cases

Lines are 95% confidence intervals. Back to additional results Indicted

Continuous Treatment Effect on Registered Cases of Sex Violence

Indicted Cases
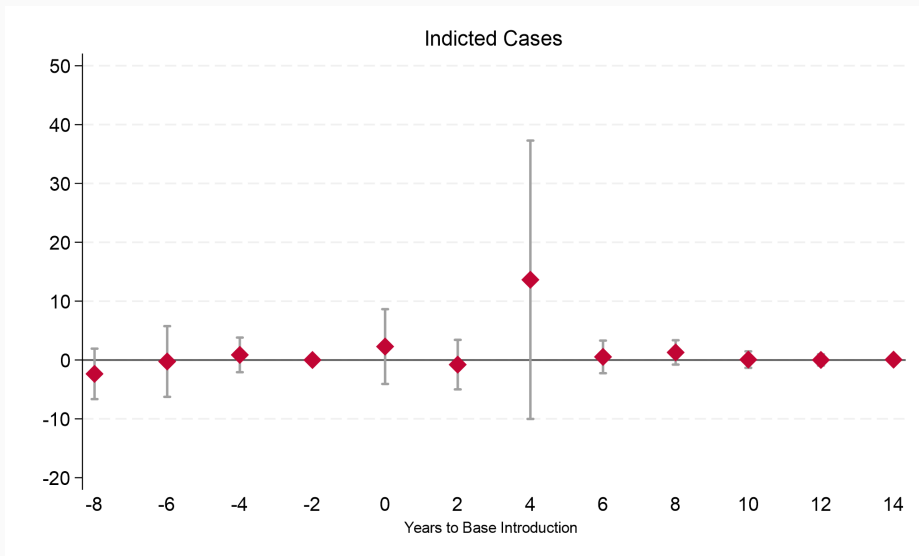
Lines are 95% confidence intervals. (Back to additional results)

No Evidence of Change in Fertility Due to Base Presence

Outcome: # of Conceptions per 1,000 Women - Age 10-39
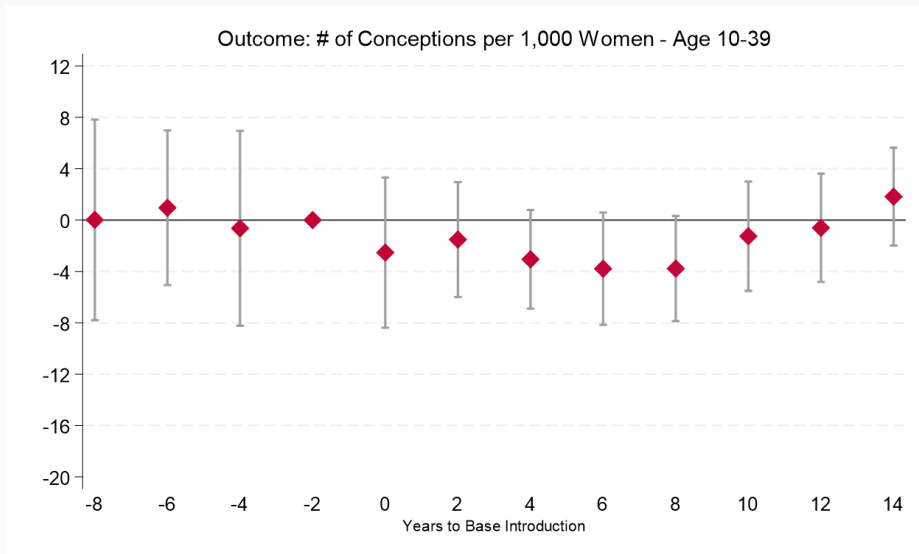
Lines are 95% confidence intervals. Back to the slide

Table 3: Average Total Effects on Fertility (dCdH)

Outcome: Number of Conceptions per 1,000 Women

	Mothers' Age Groups			
	10-39	10-19	20-29	30-39
	(1)	(2)	(3)	(4)
Has Army base	-7.359	-6.126	-12.327	-3.802
	(6.287)	(4.986)	(10.070)	(5.223)
Obs.	1,224	1,224	1,224	1,224
Control mean	128.06	88.28	204.50	103.52

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Robust standard errors in parentheses clustered at the municipality level. The de Chaisemartin and D'Haultfœuille estimator calcules the *average total effect*, which is the weighted sum of the effects of all periods. This analysis sample includes 153 unique municipalities and excludes 959 never-treated municipalities.
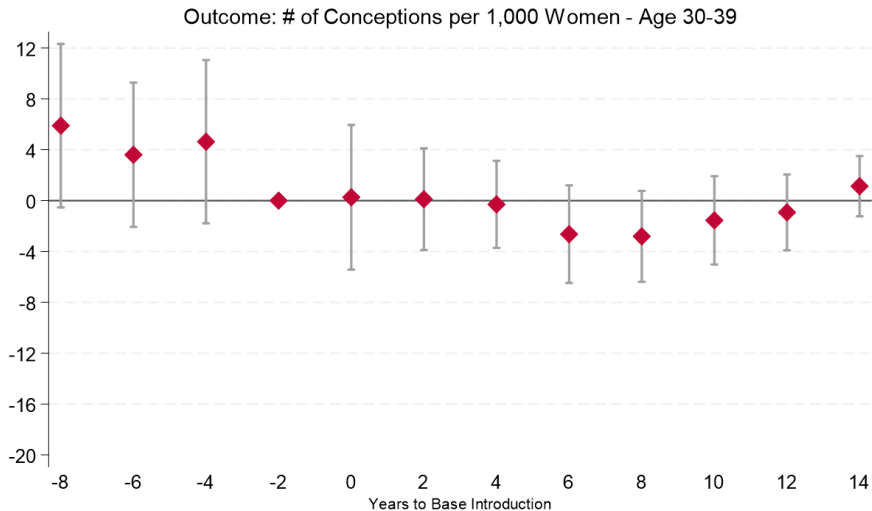
Effects on Fertility (Mothers' Age 10 - 19)
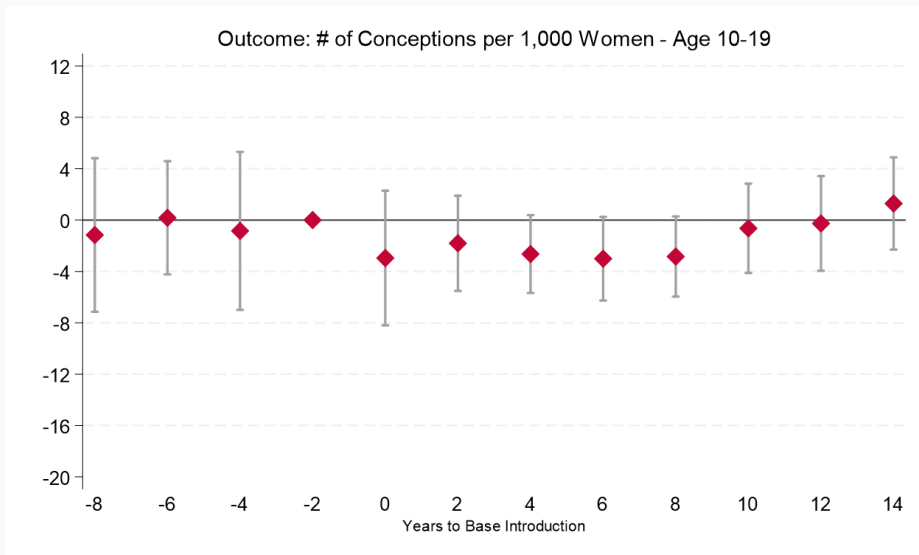
Outcome: # of Conceptions per 1,000 Women - Age 10-19

Lines are 95% confidence intervals. Back to the slide

Effects on Fertility (Mothers' Age 20 - 29)
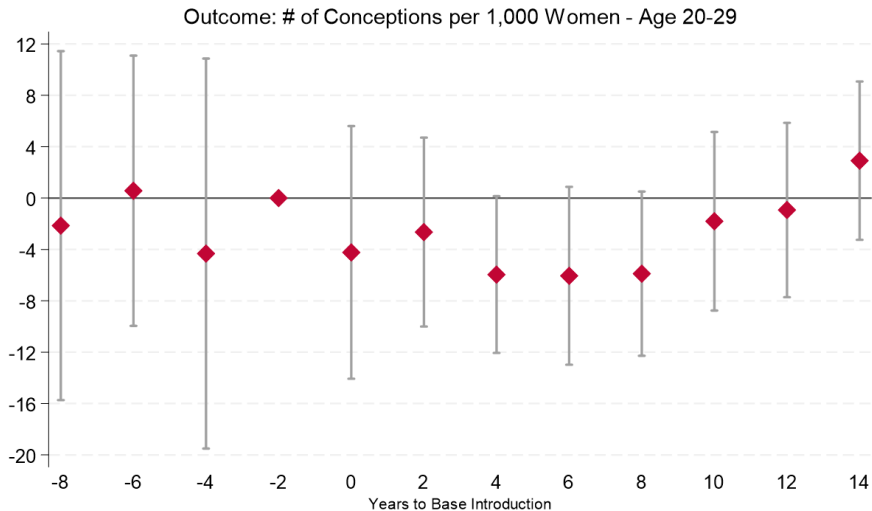
Outcome: # of Conceptions per 1,000 Women - Age 20-29
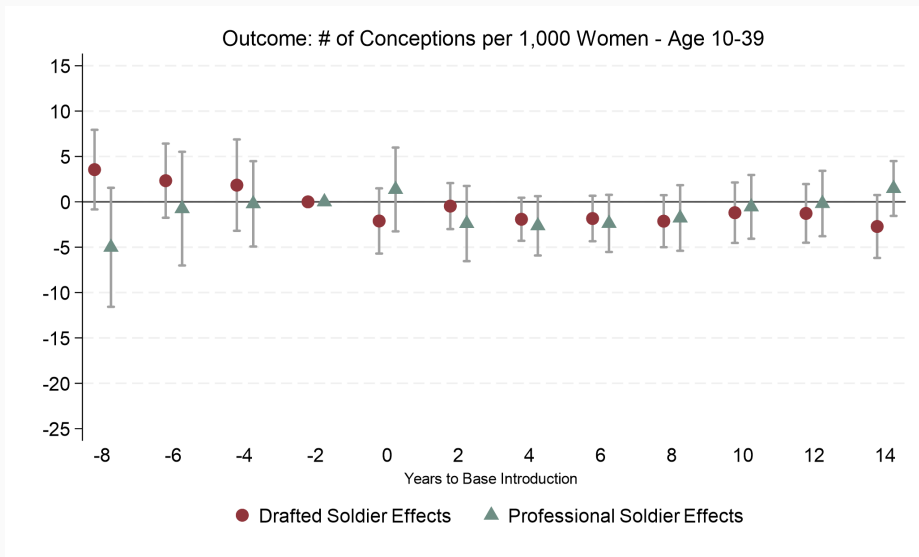
Lines are 95% confidence intervals. Back to the slide

Effects on Fertility (Mothers' Age 30 - 39)

Outcome: # of Conceptions per 1,000 Women - Age 30-39

Lines are 95% confidence intervals. Back to the slide
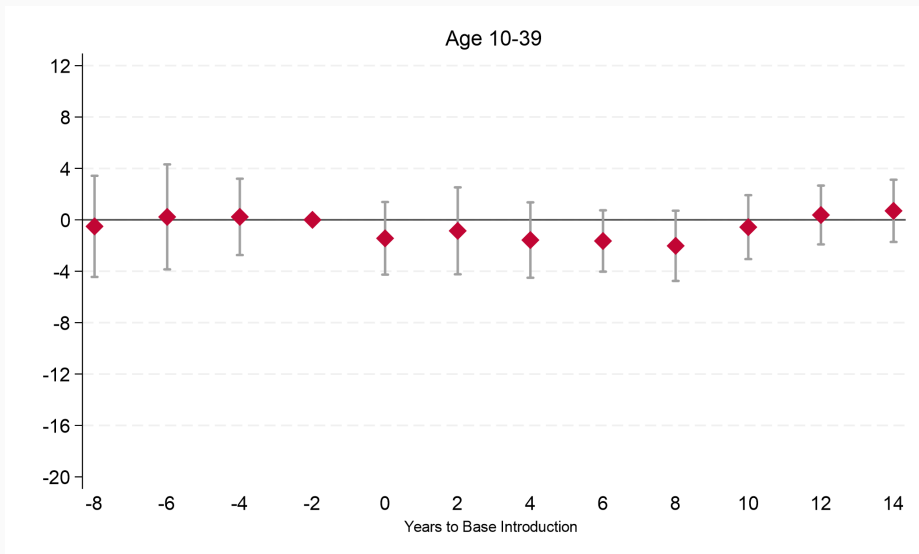
No Evidence of Change in Fertility by Base Type

Outcome: # of Conceptions per 1,000 Women - Age 10-39

Years to Base Introduction

● Drafted Soldier Effects ▲ Professional Soldier Effects

Lines are 95% confidence intervals. Back to the slide

Continuous Treatment Effect on Fertility

Age 10-39

Lines are 95% confidence intervals. Back to additional results

No Change in Fertility by Mothers' Marital Status

Outcome: # of Conceptions per 1,000 Women - Age 10-39

Years to Base Introduction

● Pregnancy w/ partners   ▲ Pregnancy w/o partners
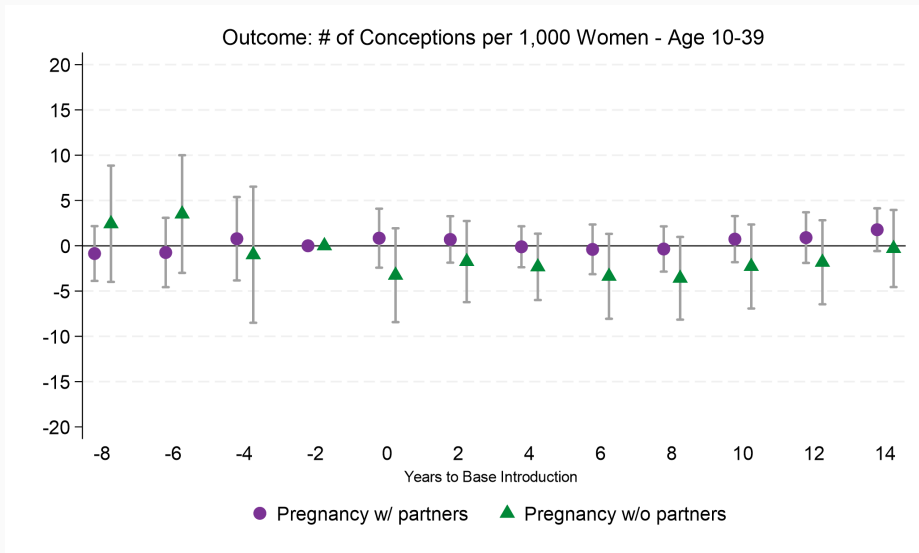
Lines are 95% confidence intervals. Back to additional results

No Strong Evidence of Change in Registered Cases of Child Support Disputes

Outcome: # of Registered Child Support Disputes per 100,000 People
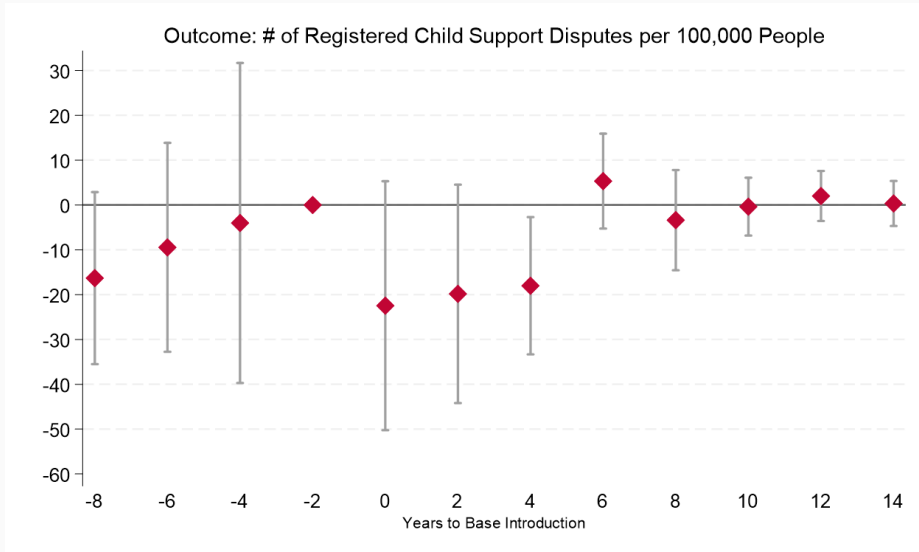
Lines are 95% confidence intervals. Back to the main slide

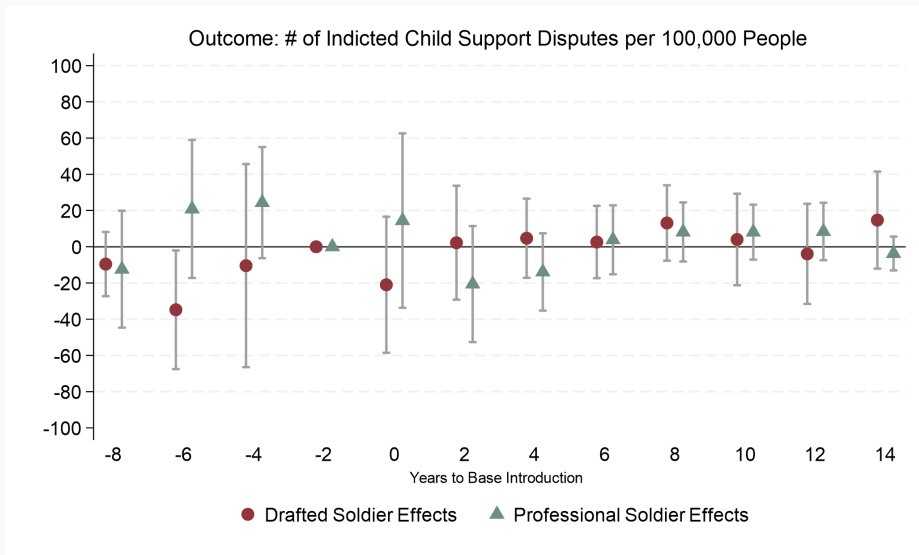# No Strong Evidence of Change in Indicted Cases of Child Support Disputes

Outcome: # of Indicted Child Support Disputes per 100,000 People
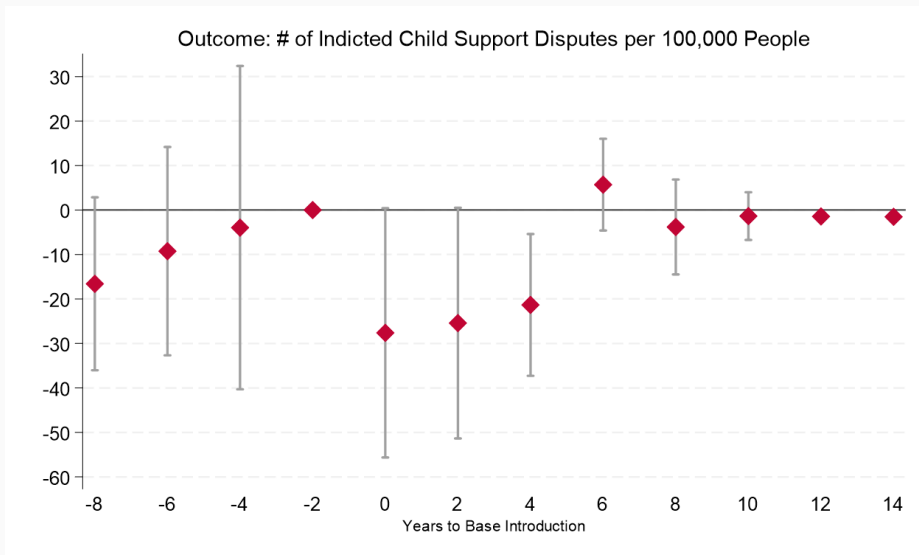
Lines are 95% confidence intervals. Back to the main slide

No Effects on Registered Cases of Child Support Disputes by Base Types

Outcome: # of Registered Child Support Disputes per 100,000 People

Years to Base Introduction

● Drafted Soldier Effects   ▲ Professional Soldier Effects
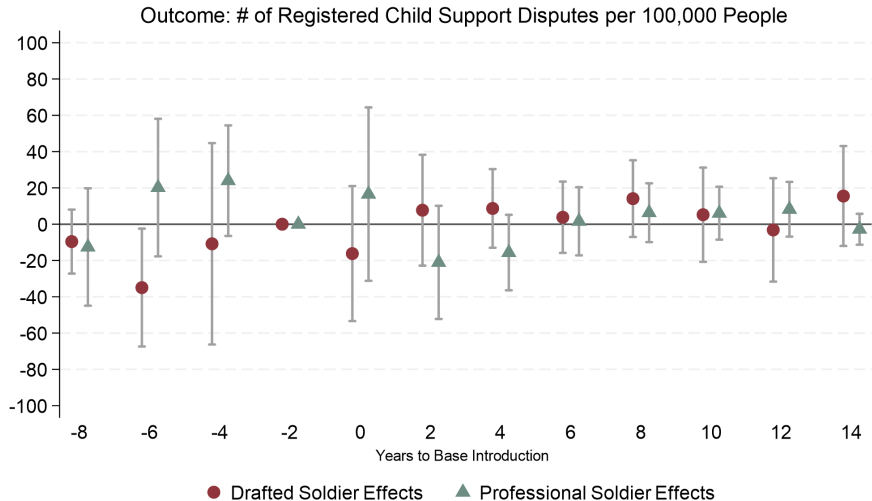
Lines are 95% confidence intervals. Back to summary

No Effects on Indicted Cases of Child Support Disputes by Base Types

Outcome: # of Indicted Child Support Disputes per 100,000 People

Years to Base Introduction

● Drafted Soldier Effects ▲ Professional Soldier Effects

Lines are 95% confidence intervals. Back to summary

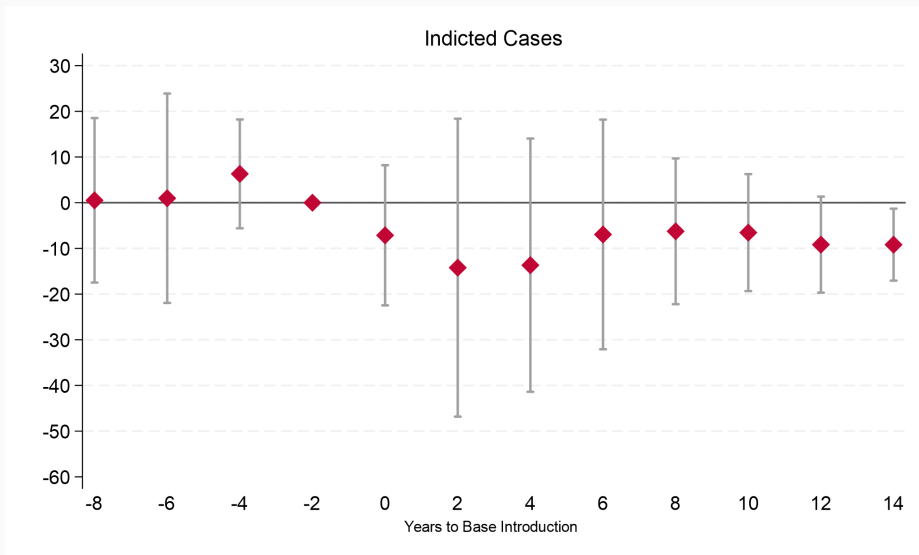# Continuous Treatment Effect on Registered Cases of Child Support Disputes
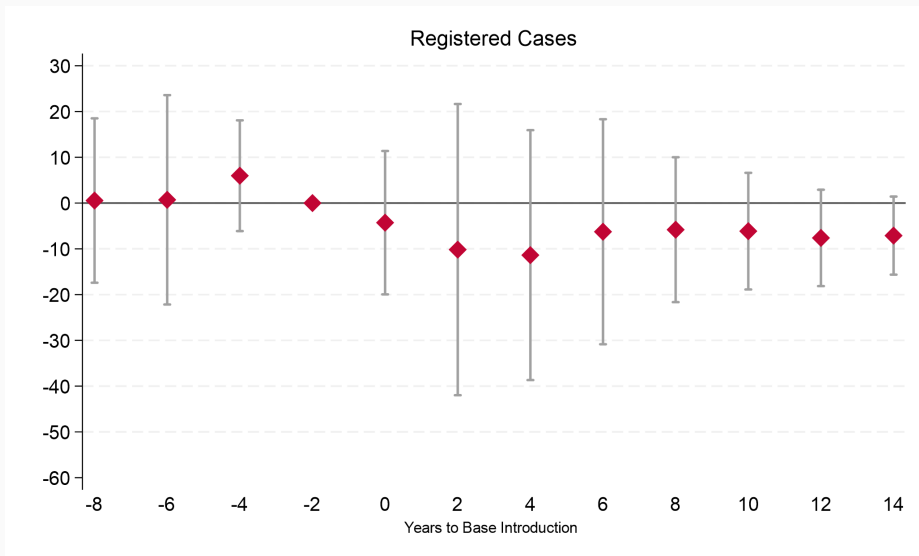
Registered Cases

Lines are 95% confidence intervals. Back to additional results Indicted

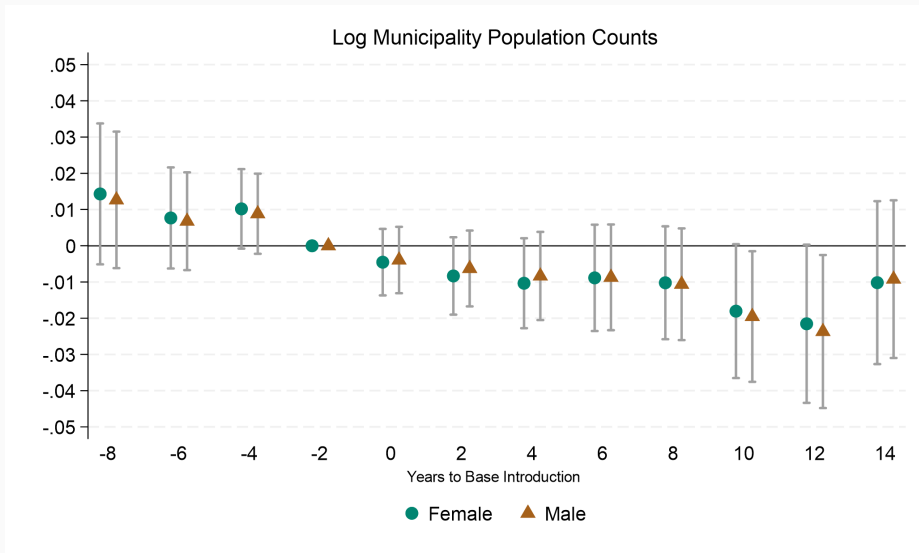# Continuous Treatment Effect on Indicted Cases of Child Support Disputes

Indicted Cases

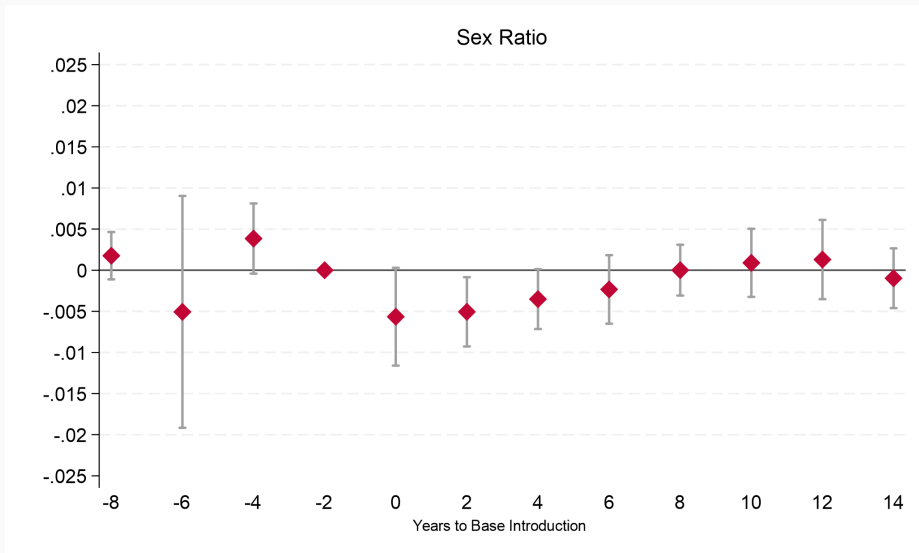Lines are 95% confidence intervals. Back to additional results

No Change in Female and Male Population Levels

Log Municipality Population Counts

Years to Base Introduction

● Female ▲ Male

Lines are 95% confidence intervals. Back to mechanisms

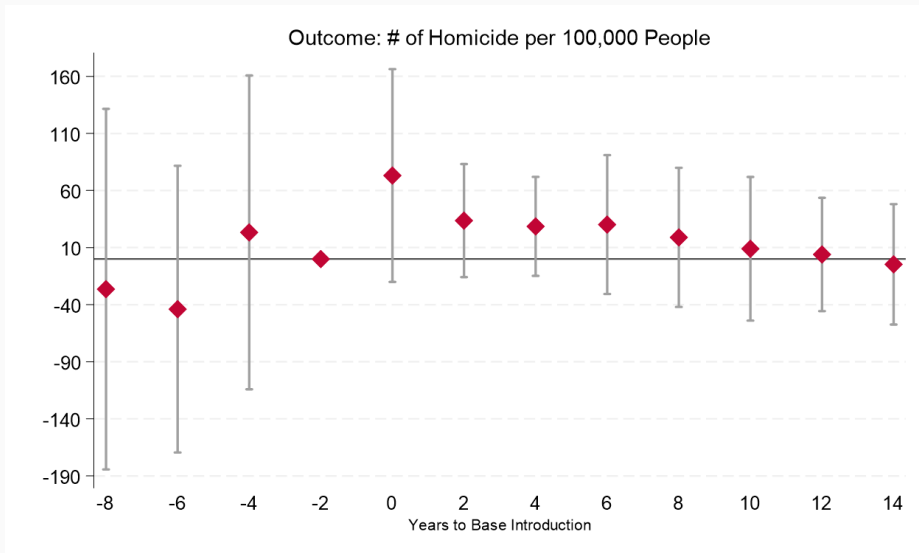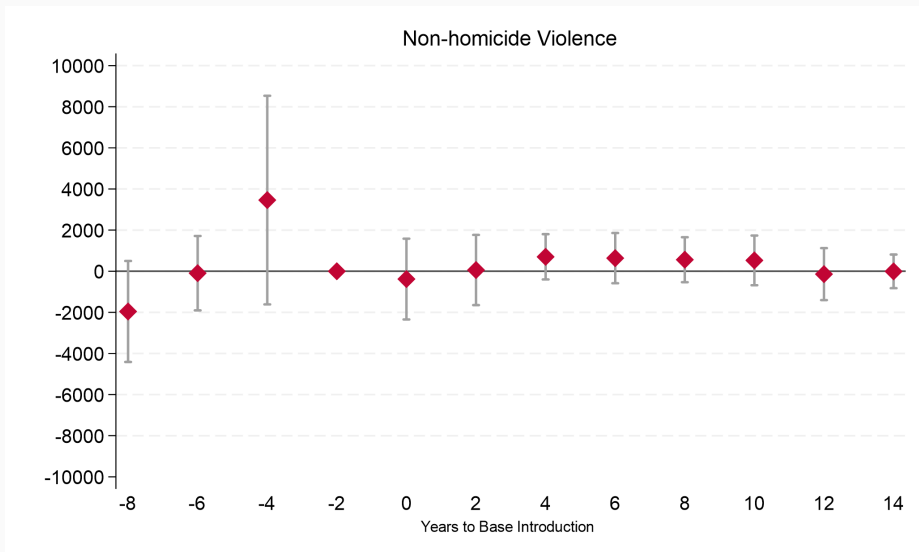# No Change in Female-to-Male Ratio

Sex Ratio

Years to Base Introduction

Lines are 95% confidence intervals. Back to mechanisms

No Change in Homicide Rates

Lines are 95% confidence intervals. Back to mechanisms

No Change in Non-homicide Violence Rates

Lines are 95% confidence intervals. Non-homicide violence includes intimidation, terrorism, kid-napping, forced displacement. Back to mechanisms

Table 4: Spillover Effects on Sexual Violence (dCdH)

Outcome: Number of Cases per 100,000 Inhabitants

	Registered	Indicted
	(1)	(2)
Panel A: 25 km Buffer		
Has treated neighbor	12.16*	15.90
	(6.95)	(11.46)
Obs.	1,224	1,224
Panel B: 50 km Buffer		
Has treated neighbor	19.74	8.44
	(13.07)	(5.61)
Obs.	996	996
Panel C: 75 km Buffer		
Has treated neighbor	25.34*	8.70
	(14.78)	(7.16)
Obs.	966	966
Control mean	22.44	14.31

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Robust standard errors in parentheses clustered at the municipality level. The de Chaisemartin and D'Haultfœuille estimator calcuates the *average total effect*, which is the weighted sum of the effects of all periods. This analysis sample includes 153 unique municipalities and excludes 959 never-treated municipalities.