

# Building Bridges to Peace

## A Quantitative Evaluation of Power-Sharing Agreements

---

Hannes Mueller (IAE (CSIC) and BSE)

and

Christopher Rauh (University of Cambridge)

20 April 2023

77th Economic Policy Meeting

# Overview

---

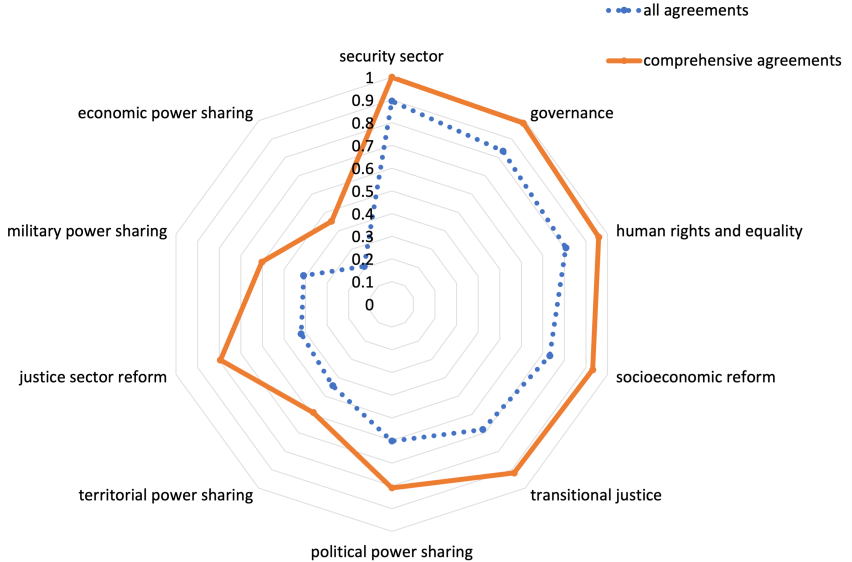
# Quantitative Study of Power-Sharing

- Default instrument of peacemaking are peace agreements.
- Focus here is on agreements with power sharing elements.
- Quantitative study of power sharing agreements and peacekeeping missions:
  - Effect on internal political violence?
  - Bridge to broader changes (institutions, economy)?

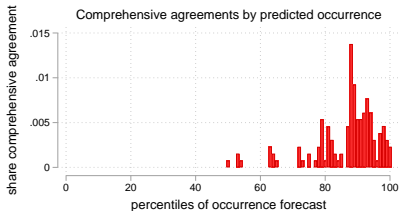
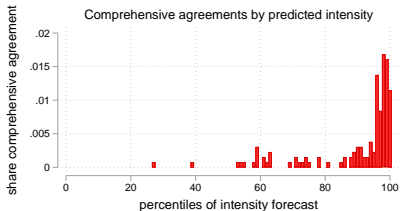
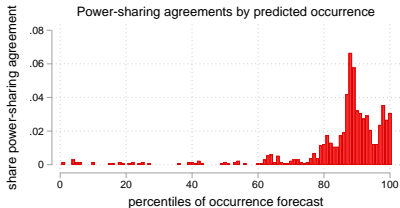
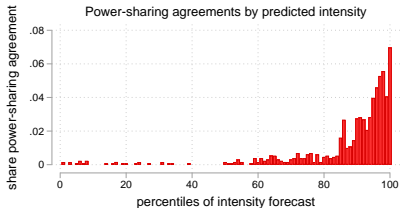
# Power-Sharing in the Data

- Data allows for a quantitative evaluation:
  - UCDP/GED quantifies internal political violence since 1989.
  - PA-X codes 440 power-sharing agreements in the period 1989-2020.
  - We add UN peacekeeping troop presence and budgets 1989-2020.
  - Our website <https://conflictforecast.org> provides armed conflict risk estimates.
- Methodology uses forecasts for causal identification strategy.

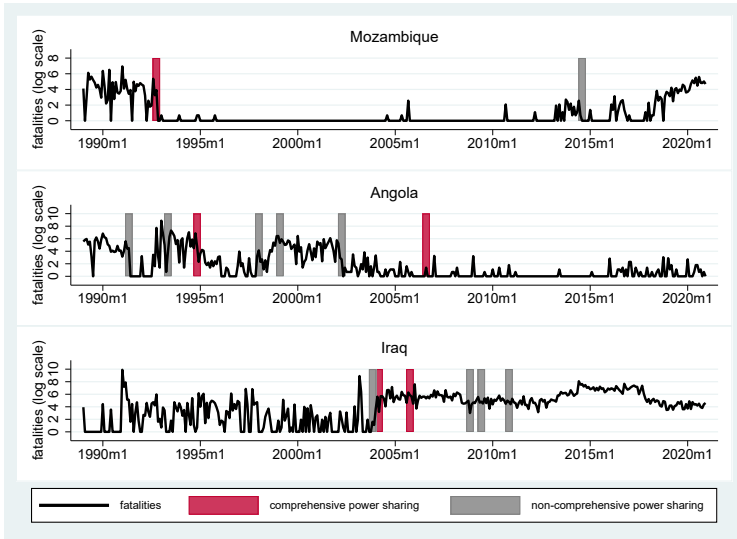
# PA-X: All and Comprehensive Agreements



# Identification Problem: Selection into High Risk



# Case Studies



- Identification problem: agreements are signed *because* there is a future risk of violence.



- Identification problem: agreements are signed *because* there is a future risk of violence.
- Our method:

- Identification problem: agreements are signed *because* there is a future risk of violence.
- Our method:
  - call the adoption date 0

- Identification problem: agreements are signed *because* there is a future risk of violence.
- Our method:
  - call the adoption date 0
  - define treatment windows, e.g. 12 months before and after 0

- Identification problem: agreements are signed *because* there is a future risk of violence.
- Our method:
  - call the adoption date 0
  - define treatment windows, e.g. 12 months before and after 0
  - draw random control windows of the same size (placebo 0)

- Identification problem: agreements are signed *because* there is a future risk of violence.
- Our method:
  - call the adoption date 0
  - define treatment windows, e.g. 12 months before and after 0
  - draw random control windows of the same size (placebo 0)
  - match control through the violence forecast in the 3 months before adoption.

- Identification problem: agreements are signed *because* there is a future risk of violence.
- Our method:
  - call the adoption date 0
  - define treatment windows, e.g. 12 months before and after 0
  - draw random control windows of the same size (placebo 0)
  - match control through the violence forecast in the 3 months before adoption.
- Use DiD method from Callaway and Sant'Anna (2021)

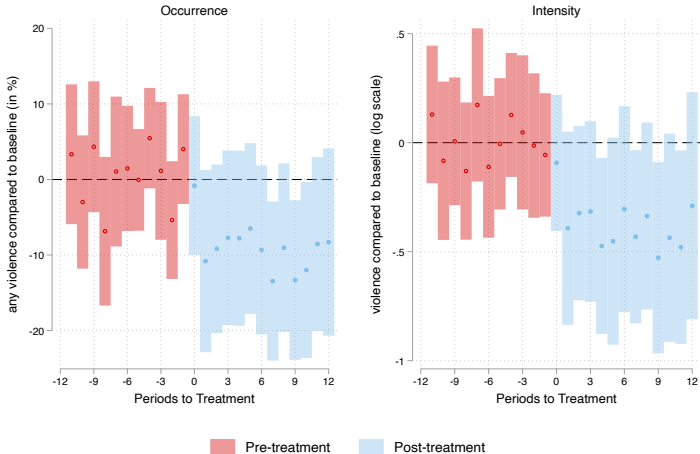
- We go beyond existing work in three important dimensions:
  - We use more cases including more recent data.
  - We study monthly violence dynamics around agreements and peacekeeping missions.
  - Methodology of matching on forecast is new

## **Difference-in-difference findings**

---

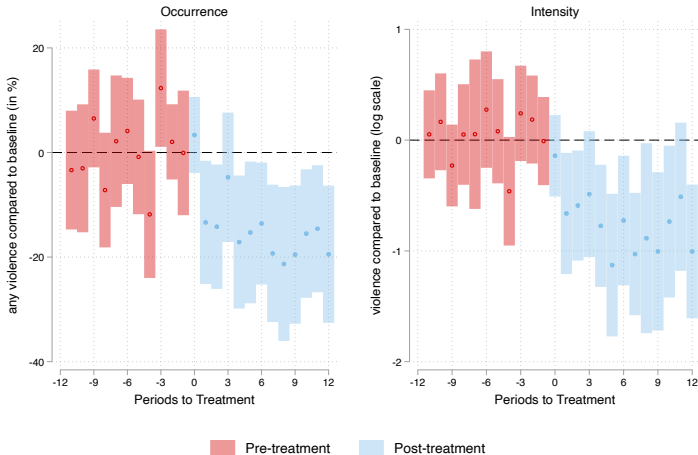


# DiD Main Result: All Agreements



12 months window, matched on intensity forecast

# DiD: Comprehensive Agreements



12 months window, matched on intensity forecast

**Table 1: The ATT of power-sharing agreements on violence occurrence and intensity**

*Panel A: All power-sharing agreements*

	(1)	(2)	(3)	(4)	(5)	(6)
	6 months window		12 months window		18 months window	
	any	intensity	any	intensity	any	intensity
ATT power sharing	-2.089 (2.920)	-0.143 (0.122)	-8.583* (4.862)	-0.338* (0.188)	-12.250* (6.528)	-0.428* (0.251)
N	231824	231824	361057	361057	459141	459141
treated	135	135	71	71	47	47

*Panel B: Comprehensive power-sharing agreements*

	(1)	(2)	(3)	(4)	(5)	(6)
	6 months window		12 months window		18 months window	
	any	intensity	any	intensity	any	intensity
ATT power sharing	-6.881* (3.979)	-0.406** (0.200)	-14.327*** (4.857)	-0.744*** (0.257)	-13.980*** (5.094)	-0.887*** (0.273)
N	57239	57239	100397	100397	137764	137764
treated	59	59	47	47	44	44

Robust standard errors, clustered at the country level, in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Any violence is equal to 100 if there is any fatality according to UCDP in that month and zero otherwise. Violence intensity are log(fatalities +1). All regressions restrict the sample to a window around the adoption of power-sharing agreements for treated countries and control for month fixed effects. The control group is a random sample of countries without power-sharing agreements but with the same distribution of predicted conflict intensity before adoption.

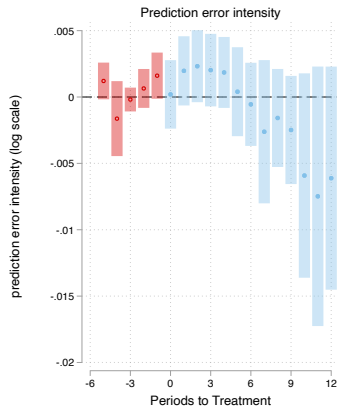
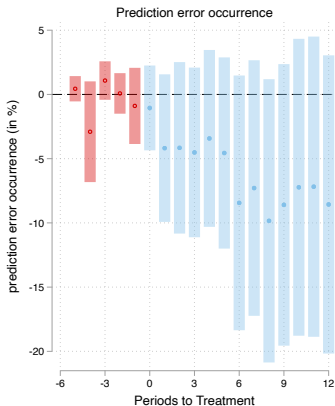
## DiD with Forecast Errors

---

## Exploiting the Forecast

- forecasts capture conflict dynamics using machine learning
- full model also uses the information contained in millions of news articles
- forecast is 12 months into the future, pseudo out-of-sample
- idea: look at forecast errors to understand treatment effect
  - shift the definition of treatment so that time 0 is agreement enters forecast horizon
  - given the information available at time 0 to 12, was the forecast too optimistic or too pessimistic
  - How does this evolve as the adoption date approaches?

# DiD with Errors: All Agreements

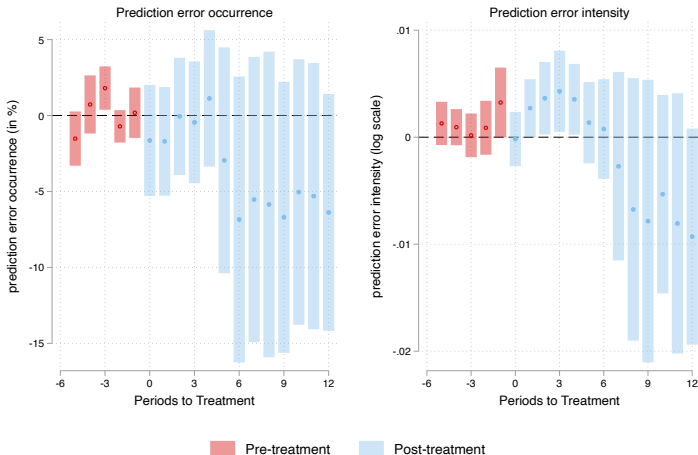


Pre-treatment

Post-treatment

control is now random match

# DiD with Errors: Comprehensive Agreements



control is now random match

# Summary of Main Findings

## Standard difference-in-difference

1. stronger effect with longer time windows
2. comprehensive agreements:
  - 7 to 14 percentage points reduction in occurrence
  - 34 to 59 percent reduction in intensity
3. results are only weakly statistically significant for all agreements but stronger effects towards end of window

## Forecast errors difference-in-difference

1. forecast that is becoming too pessimistic as treatment approaches
2. power sharing agreements are positive surprises to our forecasting system



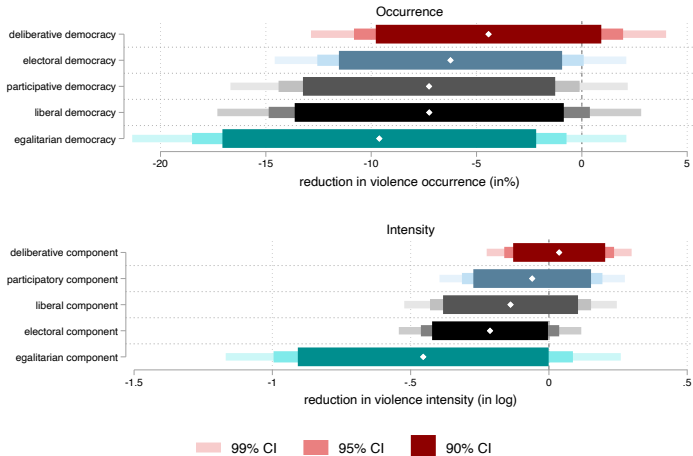
Our results are robust to:

- different matching methods
- no window/case selection
- peacekeeping controls

# **Building Bridges to Peace**

---

# V-Dem and Violence

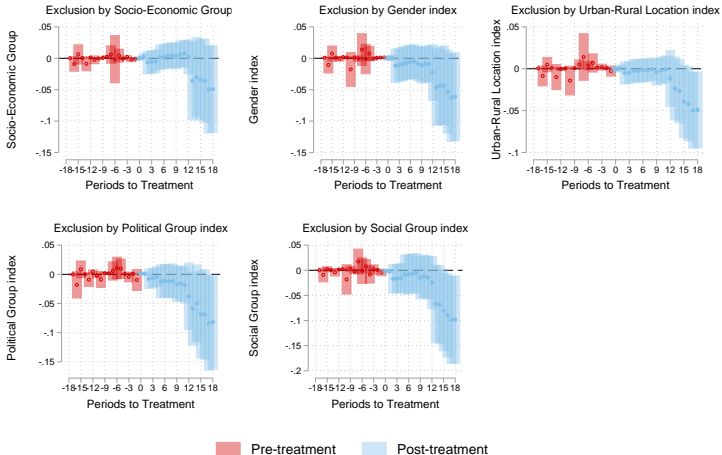


Twoway fixed effects regressions

Drilling into these results we find:

- Strong reductions in violence with
  - less exclusion by socio-economic group
  - less exclusion by gender
  - less exclusion by urban-rural location
  - impartial public administration
  - access to justice, predictable justice
- Change in relationship between elite and population?

# Building bridges



matched on conflict risk

## Discussion

---

## Some Interpretation

Francois et al (2015), Cheng et al. (2018): large-scale violence will only stabilize *when the distribution of benefits in a society, supported by its institutions (e.g., political positions, business opportunities) is consistent with the distribution of power in society, and the economic and political outcomes of these institutions are sustainable over time*

Our results suggest: most stable and peaceful bargain results seem to be those that manage to combine a solution for the horizontal elite bargain with institutional changes that address the vertical dimension.

Mechanisms: non-excludable public good services in Besley and Persson (2011) or importance of building trust in Rohner et al (2013).