Building Bridges to Peace

A Quantitative Evaluation of Power-Sharing Agreements

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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.
  - 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

- Security sector
- Governance
- Human rights and equality
- Socioeconomic reform
- Transitional justice
- Political power sharing
- Territorial power sharing
- Justice sector reform
- Military power sharing
- Economic power sharing
Identification Problem: Selection into High Risk

Power-sharing agreements by predicted intensity

Power-sharing agreements by predicted occurrence

Comprehensive agreements by predicted intensity

Comprehensive agreements by predicted occurrence
Case Studies

Mozambique

Angola

Iraq

fatalities (log scale)

0 2 4 6 8

1990m1 1995m1 2000m1 2005m1 2010m1 2015m1 2020m1

fatalities (log scale)

0 2 4 6 8 10

1990m1 1995m1 2000m1 2005m1 2010m1 2015m1 2020m1

fatalities (log scale)

0 2 4 6 8 10

1990m1 1995m1 2000m1 2005m1 2010m1 2015m1 2020m1

fatalities
comprehensive power sharing
non-comprehensive power sharing
Identification problem: agreements are signed because there is a future risk of violence.
Methodology

- Identification problem: agreements are signed because there is a future risk of violence.
- Our method:
  
  1. Call the adoption date 0
  2. Define treatment windows, e.g. 12 months before and after 0
  3. Draw random control windows of the same size (placebo 0)
  4. Match control through the violence forecast in the 3 months before adoption.
  5. Use DiD method from Callaway and Sant’Anna (2021)
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Contribution

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**

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<td>any</td>
<td>intensity</td>
<td>any</td>
<td>intensity</td>
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<tr>
<td>ATT power sharing</td>
<td>-2.089</td>
<td>-0.143</td>
<td>-8.583*</td>
<td>-0.338*</td>
<td>-12.250*</td>
<td>-0.428*</td>
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<td></td>
<td>(2.920)</td>
<td>(0.122)</td>
<td>(4.862)</td>
<td>(0.188)</td>
<td>(6.528)</td>
<td>(0.251)</td>
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<tr>
<td>N treated</td>
<td>231824</td>
<td>231824</td>
<td>361057</td>
<td>361057</td>
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<td>135</td>
<td>135</td>
<td>71</td>
<td>71</td>
<td>47</td>
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**Panel B: Comprehensive power-sharing agreements**

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<tr>
<td>ATT power sharing</td>
<td>-6.881*</td>
<td>-0.406**</td>
<td>-14.327***</td>
<td>-0.744***</td>
<td>-13.980***</td>
<td>-0.887***</td>
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<td>(3.979)</td>
<td>(0.200)</td>
<td>(4.857)</td>
<td>(0.257)</td>
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<td>(0.273)</td>
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<tr>
<td>N treated</td>
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<td>57239</td>
<td>100397</td>
<td>100397</td>
<td>137764</td>
<td>137764</td>
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<tr>
<td>treated</td>
<td>59</td>
<td>59</td>
<td>47</td>
<td>47</td>
<td>44</td>
<td>44</td>
</tr>
</tbody>
</table>

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
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

![Graph showing prediction error occurrence and intensity over periods to treatment.]

- Prediction error occurrence (in %)
  - Pre-treatment
  - Post-treatment

- Prediction error intensity (log scale)
  - Pre-treatment
  - Post-treatment

control is now random match
DiD with Errors: Comprehensive Agreements

prediction error occurrence (in %)
-15 -10 -5 0 5

Periods to Treatment
-6 -3 0 3 6 9 12

prediction error intensity (log scale)
-0.02 -0.01 0 0.01

Periods to Treatment
-6 -3 0 3 6 9 12

Pre-treatment
Post-treatment

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
Robustness

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
V-Dem and Violence

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.