

Rebel Governance and Development: The Long Term Effects of Guerrillas in El Salvador

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June 6, 2023

ABCDE World Bank Conference, Growth and Resilience

Non-state armed actors are a main developmental challenge

- ▶ Extensive evidence on the economic costs generated by armed actors (Blattman and Miguel, [2010](#))
- ▶ An unexplored channel through which armed actors may affect long-term development is by way of their **governance** during civil conflicts
 - ▶ Non-state actors are able to impose their institutions and provide public goods (Arjona, Kasfir, and Mampilly, [2015](#); Arjona, [2016](#); Stewart, [2018](#); Breslawski, [2021](#); Grasse, Sexton, and Wright, [2021](#); Sánchez De La Sierra, [2020](#))
- ▶ Little is known about the implications of rebel governance on development and whether the effects persist once these actors relinquish control

This paper

Exploit data on territorial presence of non-state armed actor (FMLN) in El Salvador 1985-1992 to provide causal evidence on:

1. The long-term consequences of rebel governance on various development outcomes, decades after the end of the territorial control.
2. Mechanisms that can explain the persistence

Background: Guerrillas in El Salvador



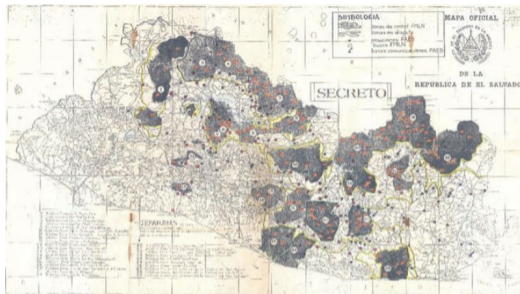
- ▶ **20th-century:** High inequality and labor-repressive models of agricultural production
 - ▶ Powerful economic and political elites
- ▶ **1950s:** Strikes for better working conditions; high repression and indiscriminate violence (state and elites)
- ▶ **1970s:** Assassinations of rural leaders, students, and teachers; creation of urban atomized left-wing groups with Marxist-Leninist agendas
 - ▶ growth of insurgent ranks

Salvadoran Civil War: FMLN



- ▶ **The Civil War:** Two-sided conflict between the military-led government and the FMLN
- ▶ **1980:** The Farabundo Martí National Liberation Front (FMLN) was created as an umbrella organization for the major guerrilla groups
- ▶ **1981:** FMLN first offensive failed but consolidated them as a major faction against the state. Change of strategy from urban guerrilla to rural guerrilla

Guerrilla-controlled areas in El Salvador during 1980s



Note: Map used during the peace talks to end the Civil War, approved by the UN in 1991. Castañeda (2016)

- ▶ “Liberated zones:” key aspect of irregular war to mobilize people and put their own institutions
- ▶ By 1984 FMLN has control of areas in 70 municipalities and controlled 80% of the military strategic territory.
- ▶ **1985-1992:** Strong and consolidated territorial control until the peace accords.

Governance in FMLN-controlled areas

- ▶ Eliminated the state local and judicial authorities (Álvarez, 2010) → No provision of public goods by the state
 - ▶ Disruption in norms of compliance
- ▶ Self-governance through participatory institutions (Binford, 1997; Pearce, 1986)
 - ▶ Public goods provision
 - ▶ Peasant participation and legitimacy
 - ▶ Autonomy
- ▶ Subsistence agriculture (Wood, 2003)



Governance in FMLN-controlled areas

- ▶ Due to these initiatives, the guerrilla-controlled areas witnessed the emergence of civil society initiatives to organize peasants and handle pressing development issues (Binford, 1997; Pearce, 1986; Wood, 2008)
- ▶ Changes in norms
 - ▶ Self-reliance
 - ▶ Pro-social behavior and local cooperation
 - ▶ Distrust of the state and outsiders



Governance in FMLN-controlled areas

- ▶ *“the project of structural change in control areas was always present. (...). Starting in 1982-1983, these places become controlled territories, the institutions disappear, and the popular powers emerge (...).” (Religious leader, March 25, 2022). ”*
- ▶ *“the locals had a right to be on their own land, the right to harvest, to not be treated as armed population,(...), that is, we [the guerrilla] made a clear distinction between guerrilla members and civilian population. We wanted to rescue organizational forms of what today we call the Civil Society” (FMLN military commander, January 28, 2022).*



End of Rebel Governance

- ▶ Peace Agreements signed in 1992 after two-year peace talks sponsored by the UN: the Salvadoran State regained control of former rebel areas
- ▶ First transition to democracy:
 - ▶ Old agriculture elites not part of the negotiation (many left the country in the 1970s, political learning by elites)
 - ▶ Due to the peace agreement, the guerrillas converted to the main opposition political party.
- ▶ Land tenure respected in controlled areas
- ▶ Stipulated to raise international funds to increase investments in education and infrastructure.
- ▶ Demobilization of guerrilla members and movement to the urban centers.

Data

1. Population and household information

- ▶ 2007 population census: Geo-coded census tracts, on average: 131 households, 473 individuals, and 1.6 Km^2 .
- ▶ Multipurpose household survey (2006-2011)
- ▶ Latin American Public Opinion Project (2004-2016)

2. Geospatial information for El Salvador

- ▶ Nightlight luminosity (US National Oceanic and Atmospheric Administration)
- ▶ Elevation (Shuttle Radar Topography Mission of NASA)
- ▶ Surface water bodies (MERIT Hydro dataset)

3. 2022 household survey

- ▶ Geo-coded information: 4,809 individuals; 2,345 living in guerrilla areas and 2,464 in non-controlled territories.
- ▶ Sociodemographic characteristics, community engagement, state-individual interactions, economic activity and land-sale preference, social desirability

Empirical Analysis

Spatial regression discontinuity design that uses the boundaries of guerrilla-controlled areas between 1985-1992.

- ▶ Territory controlled during the war was recognized by the Salvadoran state and the guerrilla during the peace talks
- ▶ They do *not* coincide with state presence, economic conditions, or political boundaries [Map](#)
- ▶ Defined using geographic features that are related to war such as altitude

Main Outcomes (Approx. up to 20 years later): Wealth index, years of education, and night light density

Mechanisms: norms, public goods, productivity, violence, elections

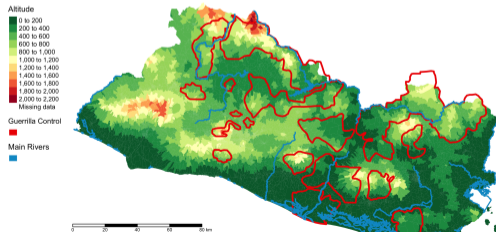
Identification strategy: Spatial RDD

- ▶ **Specification:** $y_i = \beta_1 T_i + \beta_2 f(d_i) + \beta_3 T_i \times f(d_i) + \sum_{b=1}^{400} \delta_i^b + \varepsilon_i$
 - ▶ i : census tract level (geo-coded)
 - ▶ δ_i : evenly spaced boundary fixed effects (each 4 kms)
 - ▶ y : night light density (2013), years of education, and wealth in (2007)

- ▶ **Comparison:** areas inside the boundaries (with guerrilla control: treated areas) and areas outside the boundaries (with state and army control: control areas) within optimal bandwidth ($\approx 2\text{km}$)

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Spatial RDD: Baseline characteristics before rebel governance

- ▶ **Identification assumption:** All relevant factors at the time the guerrilla boundaries were defined vary smoothly at the boundaries.
 - ▶ State Capacity
 - ▶ Socio-Demographics
 - ▶ Norms and land concentration
 - ▶ Violence
 - ▶ Geographic characteristics

Results

1. What are the long-term consequences of the rebel governance on various development outcomes?

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 - ▶ Individuals inside rebel's territory (1985-1992) have **worse education and wealth** and live in territories that are **less developed** *15-20 years after the end of the war*, than individuals living only 2km away in areas that were not controlled by the armed group.
 - ▶ 0.3 less years of education
 - ▶ 18 p.p lower nightlight luminosity (\approx 4 p.p lower GDP)
 - ▶ 0.12 SD decrease in wealth index

Impacts of rebel governance on main outcomes

Table: Effect of Guerrilla Territorial Control on Night Light Luminosity, Human Capital, and Wealth

	Night Light Luminosity (2013) (1)	Years of Education (2007) (2)	Wealth Index (2007) (3)
Guerrilla control	-0.186*** (0.0247)	-0.279** (0.109)	-0.121*** (0.0355)
Observations	3,652	3,637	3,630
Bandwidth (Km)	2.266	2.266	2.266
Dependent mean	3.536	6.573	-0.0160

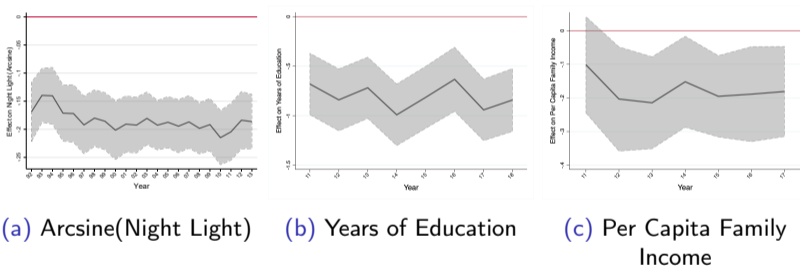
Log and Levels

Plots

The effects have a high persistence

- ▶ The effects are persistent year by year even though guerrillas no longer have control of the territory

Figure: Effect of Guerrilla Control on Main Outcomes



The divergence in economic outcomes between the areas persists over 20 years despite the absence of rebel control and increased public investment

Robustness Checks

We perform a number of robustness checks:

- ▶ Keeping only individuals who have lived all their life in the location
- ▶ Different bandwidths
- ▶ Exclude observations near the boundary of guerrilla territory. BW 5 Km; DH 600m
- ▶ Exclude observations near the boundary of guerrilla territory. BW 9 Km; DH 2 km
- ▶ Exclude observations near the boundary of guerrilla territory. BW 19.75 Km; 4 km
- ▶ Conley standard errors
- ▶ Latitude-Longitude Specification
- ▶ OLS Specification
- ▶ Controls for share of tract in guerrilla territory
- ▶ Controls for altitude
- ▶ Placebo test with pairs of neighbours with significant altitude difference

Mechanisms

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The presence of the guerrilla left profound economic changes in their wake. Why?

- ▶ Transformation of social actors and local authority may have decreased trust towards the state and outsiders and increased interpersonal trust
 - ▶ Outcomes: attitudes today towards the state, community in-trust

Impacts of rebel governance on attitudes and norms today

	<i>Inverse Covariance Index (ICW)</i>				
	Political Participation (2004-2016) (1)	Engagement with Politicians (2004-2016) (2)	Non-Democratic Engagement (2004-2016) (3)	Trust in Institutions (2004-2016) (4)	Distrust in Members of the Community (Share) (2004-2016) (5)
Guerrilla control	0.153 (0.190)	-0.518** (0.259)	-0.132 (0.253)	-0.626** (0.269)	-0.161** (0.0704)
Observations	242	248	172	241	268
Bandwidth (Km)	2.266	2.266	2.266	2.266	2.266

Note: The table reports the inverse covariance weighted average index as dependent variables. The information was obtained from the Latin American Public Opinion Project survey.

Electoral Results

Simple Sum

Reported Crime

Placebo: Differences in Nightlights

Placebo: Differences in Wealth

Impacts of rebel governance on trust towards in- and out-groups

Table: Effects of Guerrilla Control on Trust Towards In- and Out-groups: Dictator Game

	Donation to Family Inside the Community (0 - 1 Scale) (1)	Donation to Family Outside the Community (0 - 1 Scale) (2)	Donation to Yourself (0 - 1 Scale) (3)
Guerrilla control	0.0528** (0.0224)	-0.0256* (0.0152)	-0.0276 (0.0267)
Observations	4,749	4,749	4,749
Bandwidth (Km)	2.266	2.266	2.266
Dependent mean	0.313	0.138	0.547

Alternative Explanations

We rule out a number of alternative explanations:

- ▶ Violent Borders and Dispute Zones
- ▶ Violence
- ▶ Selective Migration
- ▶ Social Ties
- ▶ Crop Suitability
- ▶ Isolation from Large Markets
- ▶ Urban Development Around Cities
- ▶ Land Ownership / Property Rights
- ▶ Forced recruitment
- ▶ Counter-insurgency strategies / Spillovers
- ▶ Post-conflict investment in guerrilla areas

Discussion

- ▶ Individuals living today under guerrilla controlled territories in the 1980s have **worse education, wealth, and income** than individuals living only 2 kilometers outside.
- ▶ Rebel governance seems to have played a key role in the formation of norms and attitudes leading to reliance on communities networks and disengagement with the state and outsiders during the territorial control that persists today

The creation of temporary self-governing institutions by non-state actors as an alternative to the state can have detrimental effects on development through persistent changes in social norms.

Policy Implications

These results could apply to many contexts, where non-state actors have territorial control today:

- ▶ The presence of these actors could lead to changes in trust in the state that could persist over long periods
 - ▶ Even if social capital and the state are complements, first the state needs to regain trust to be able to see the positive effects
- ▶ Moreover public investments may be insufficient if there is no engagement with the state and outsiders
- ▶ If the state is absent for a long period of time it may be hard to gain back trust even when the state gains control of those territories

Thank you!

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