Organized Crime Frontier: Research Directions and a Few Examples.

Chris Blattman

BREAD–IGC PhD Course on Political Economy · 3 November 2026

Organized crime: Most important least-studied economic problem?

Scale of the "workforce"

- $\sim$1 million gang members in the US *(Egley et al. 2014)*

Burden of violence

- 458K homicides globally in 2021. Among homicides with a known context, 22% were organized-crime/gang-related (50% in the Americas) *(UNODC 2023, uneven country coverage)*

Where organized criminal groups exist, they're often the greatest threat to security and democracy

1. Cities with factionalized urban criminal gangs (Chicago, LA, Johannesburg, Nairobi, Cali)
2. Cities/prison systems with large crime syndicates and cartels (Italian and US mafias, Brazilian prisons, Yakuza)
3. Cities where powerful criminal structures challenge state authority (Rio, Medellin, San Salvador, northern Mexico)
4. Warlords/rebels focused on resource extraction (Nigeria, Eastern Congo)
5. Political insurgencies funded by illicit trades (South American guerrillas, Burmese insurgents, Islamic State)
6. Narco-states (Venezuela, Guinea-Bissau, some Mexican states and Afghan provinces)

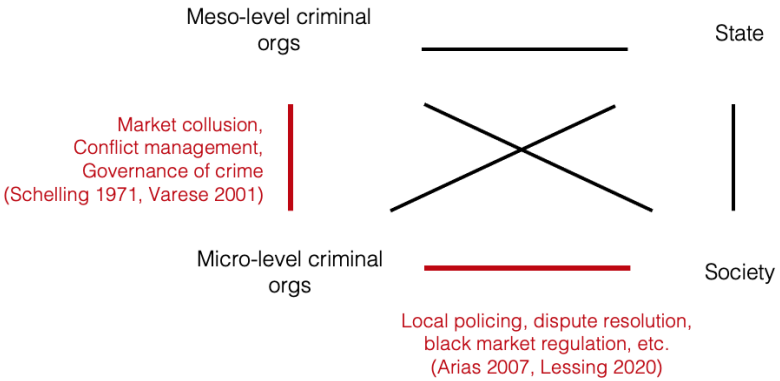
Wide range of research questions

Beginning to be explored by economists such as Pinotti, Sviatschi, Montero, Blattman, Tobón, ...

- **Origins** — why arise in some places & not others?
- **Revenues** — what markets do they enter? How does that shape behavior?
- **Civilian governance** — why provide security and other public goods?
- **Industrial organization & organizational economics** — why such wide variation? How to recruit and solve incentive-compatibility constraints?
- **Economic & political costs** — on electoral competition, corruption, state strength, economic development
- **Interventions** — what works against recruitment, violence, drugs, extortion?

A large literature on criminal governance

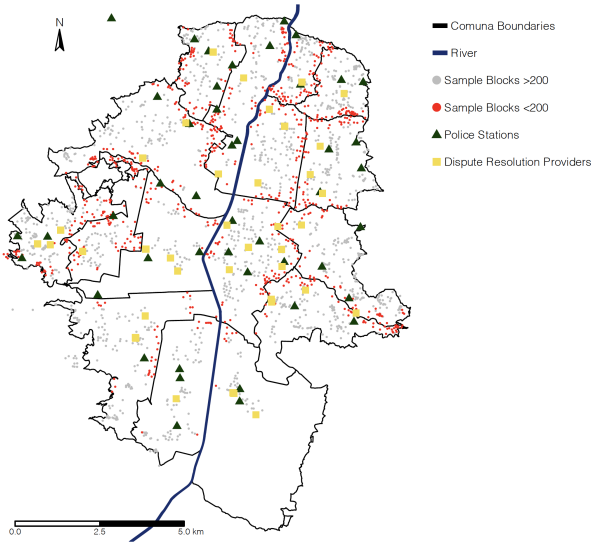
Two main dimensions: Criminal rule over other criminals and criminal rule over civilians



Until recently, mainly qualitative and comparative literatures.

e.g. Gang Rule

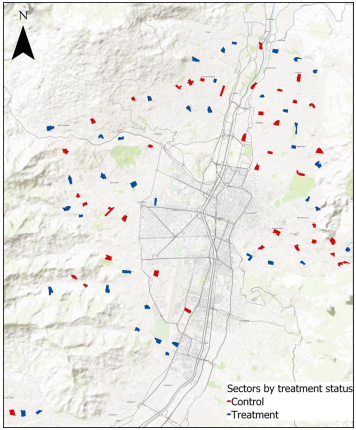
Natural experiment: Reorganization of state service boundaries in 1987



e.g. State Building in the City

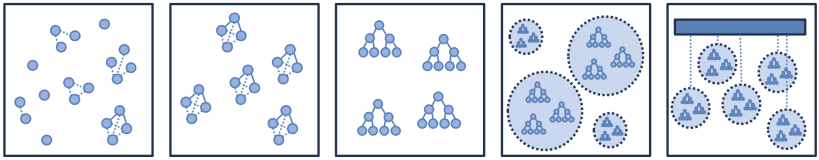
Community-level experiment: Scaling an intensive-governance program in Medellín





Macro approach: Industrial Organization and Organizational Economics of Crime

Stylized depiction of systems of organized crime



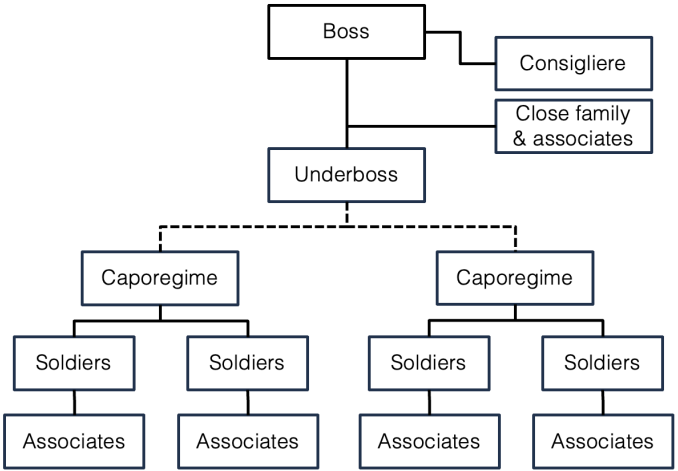
Atomized	Freelance cliques	Fragmented firms	Confederations	Cartel institutions
Individual entrepreneurs & small, temporary, disorganized groups Low violence	Social & economic Illicit activities freelance Low collusion, high violence	Hierarchical, profit-seeking Proceeds of illicit activities go to firm Low collusion, high violence	Manage local conflict & collusion Limited vertical integration Violence between confederations	Coordinating devices to manage citywide conflict & collusion Emerge slowly, often through conflict + state tolerance
e.g. Bogotá, New York in 2000s	e.g. Cali, Black gangs in Chicago 1970s and 2000s	e.g. Chicago Latin gangs 2000s, Monterrey	e.g. El Salvador, Rio de Janeiro, Chicago 1980–90s, Medellín 2009–12	e.g. US Cosa Nostra, Medellín 2000–09 & 2012–, São Paulo

Stylized facts about urban organized crime

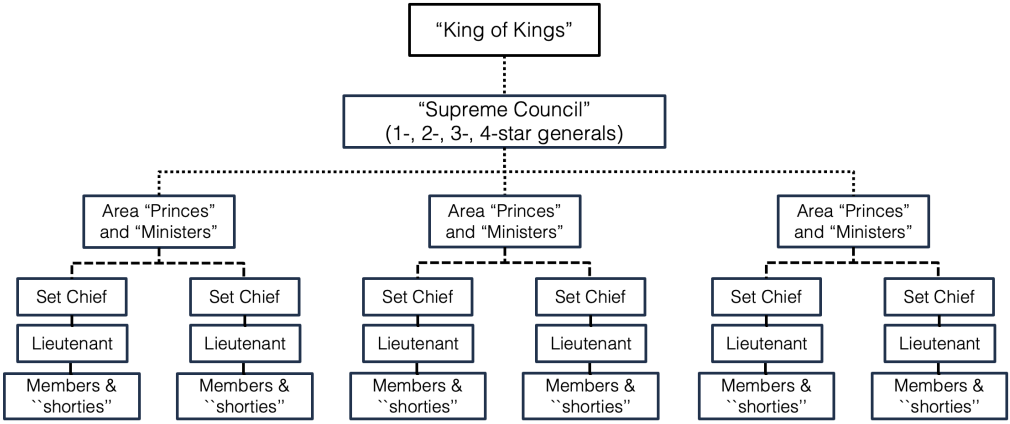
- Most criminal organizations small, labor-intensive & well-paid
  - Employees typically well compensated, especially when firm's rents are high
- Larger criminal organizations tend to be confederations or networks of small semi-autonomous cells
  - e.g. Cosa Nostra mafia families, Chicago "nations", Salvadoran "maras"
  - Commonly mistaken for large, vertically-integrated orgs
- On occasion, confederations form coalitions & governing boards to mitigate inter-group fighting and sustain price collusion
  - But strong criminal institutions slow to evolve & hard to sustain

Structure of a 75-man Cosa Nostra family in a mid-western city

Sole Italian mafia family in city (typical), but rather than a 75-man firm, a confederation of smaller organizations that transact on price/tribute with the boss (Anderson 1979)



Almighty Vice Lord Nation (Chicago 1980s–90s)

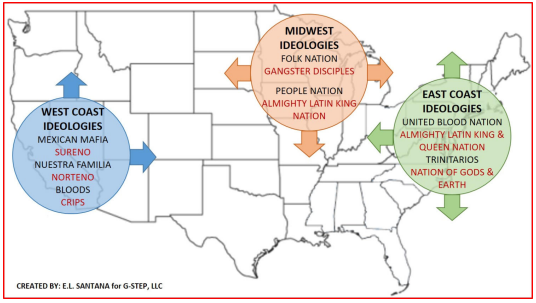


Forces shaping firm boundaries and collusion

- **State enforcement limits scale.** More workers mean more potential informants. Fixed capital increases risk.
- **No state enforcement of property rights or contracts.** Leaders face a revolution constraint, ratting, and coups.
- **Violence makes punishment costly.** Firms can use coercion and violence to compete.
- **Collusion offers monopolistic rents.** No antitrust restrictions, creating incentives for confederations and governing councils.
- **The state has conflicting interests.** It dislikes drug sales, extortion, and warfare, but monopolistic rents risk economic and political capture.

USA: Mainly failed efforts to create "inter-national" criminal institutions in and across cities

- Chicago nations mainly compete violently
- Modest, short-lived efforts to establish governing councils, collusion, and peace
  - e.g. 1992 Cabrini Green truce and peace talks
  - "Spanish Growth & Development" among latino gangs
- Chicago (and other cities) did evolve competing alliances (e.g. "People" and "Folks" that may have reduced some inter-nation conflict)

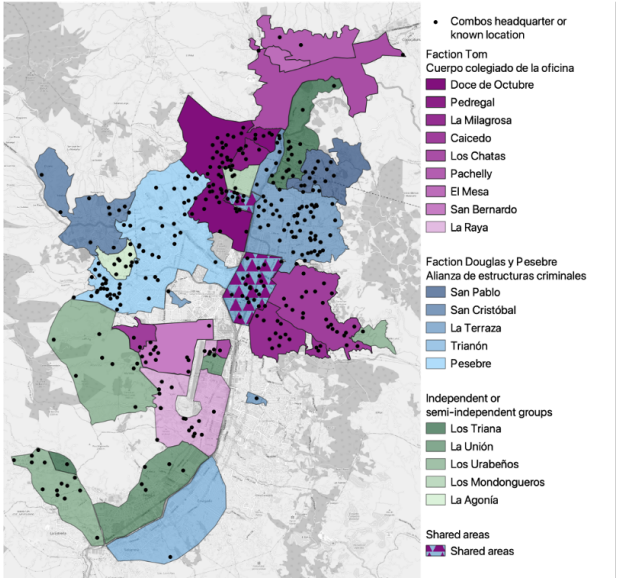


Medellín, Colombia: Most combos organized in hierarchical confederation—Both political alliances & supplier relationships

- Most combos have a long-term relationship with one of ∼18 *razones*
- A razón supplies:
  - Wholesale drugs and service contracts
  - Physical capital
  - Organizational capital
- Also provides "criminal governance" with other combos and confederations
  - Price collusion
  - Conflict management

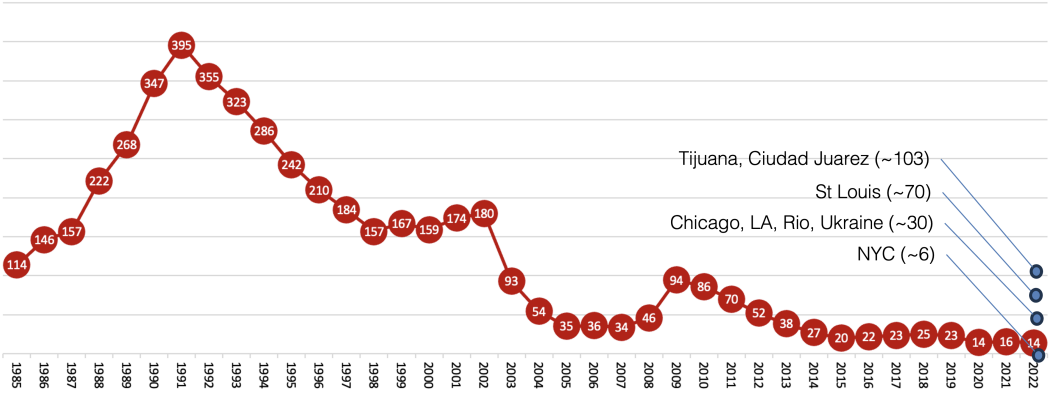


Organized into two major factions, akin to systems of “hegemonic alliances”



Hierarchies and criminal institutions have (at times) been pacifying

Evolution of the homicide rate 1985–2022 (per 100,000 people)



Fragmentation and criminal firm boundaries

- Standard theories of the firm (e.g., Coasean make-or-buy logic) are not first-order
  - Instead, firm boundaries are shaped by state regulatory/enforcement risks that threaten firm survival
  - Horizontal and vertical integration are especially costly
- Result is a fragmented market equilibrium
- Nonetheless, firms face three coordination problems
  (i) **Market collusion** to avoid price cutting
  (ii) **Conflict management** over turf and clients
  (iii) The creation of **club goods**, e.g. corrupt police and officials, legal defense, favorable prison treatment, wholesale supply

Collusion and Cartel Formation: Criminal Firms Are Different

- Traditional repeated-game solutions struggle in a decentralized environment (e.g. Bertrand competition with N symmetric firms)
  - Punishments are costly to punishers
  - Even observed shocks can be destabilizing
  - Firms potentially impatient
- Accentuated if defection hurts only one or a subset of firms (free rider problem)
- Creates a role for third-party criminal institutions
  - **Facilitating devices** — communication, public bulletins of punishers, reputational sanctions
  - **Delegated enforcement** — monitoring, punishing defections, stabilizing prices

Ongoing work

Two complementary ways to build collusion in a fragmented criminal market:

1. **Repeated-game collusion with public-good enforcement.** Punishing a defector is itself collective action — who pays the cost? Threshold-m punishment, public bulletins, and reputational sanctions emerge as coordination devices.

2. **Repeated-game collusion under asymmetric information.** Who actually defected? Imperfect monitoring of rival firms creates noisy enforcement; collusion sustains under specific signal structures and review-strategy equilibria.

Micro Approach

- Recruitment
- Business lines
- Internal organization of the criminal firm

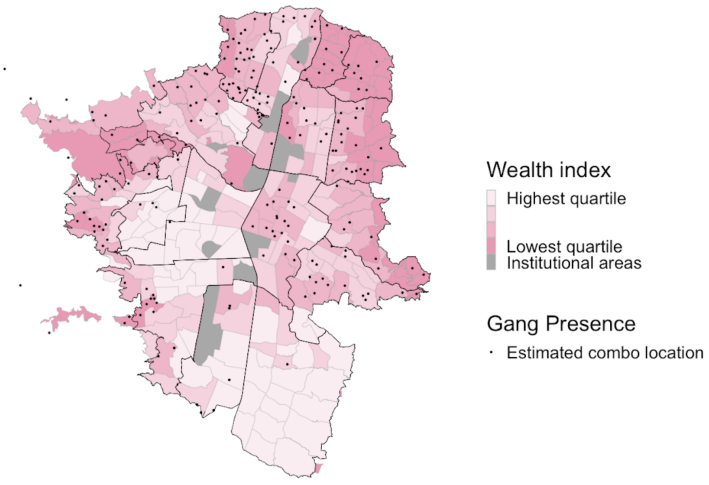
Multiple Directions

Theoretical, empirical, and experimental frontiers: how criminal firms organize, and how they respond to interventions

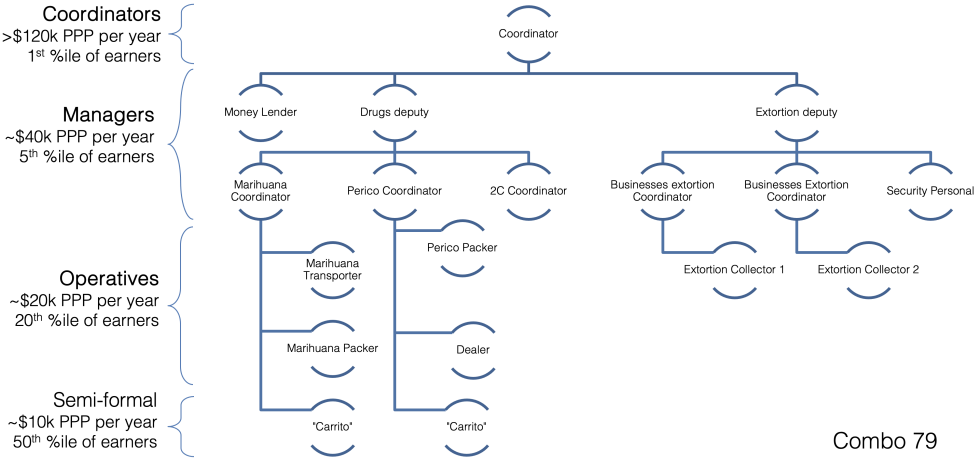
- **Drivers of labor demand and supply**
- **Measures that shape, grow, or diminish major rents**
  - Extortion
  - Retail drugs
  - Entry to consumer markets
  - Illicit mining
- **Internal organization and incentives** — delegation, monitoring, compensation, and discipline

Medellín: Virtually every low- and middle-income neighborhood has a "combo"

- ∼400 in metro area
- Existed for decades, with well-defined borders
- Hierarchical firms, mainly selling retail drugs & protection
- ∼12,000 members with 500–1000 new recruits per year

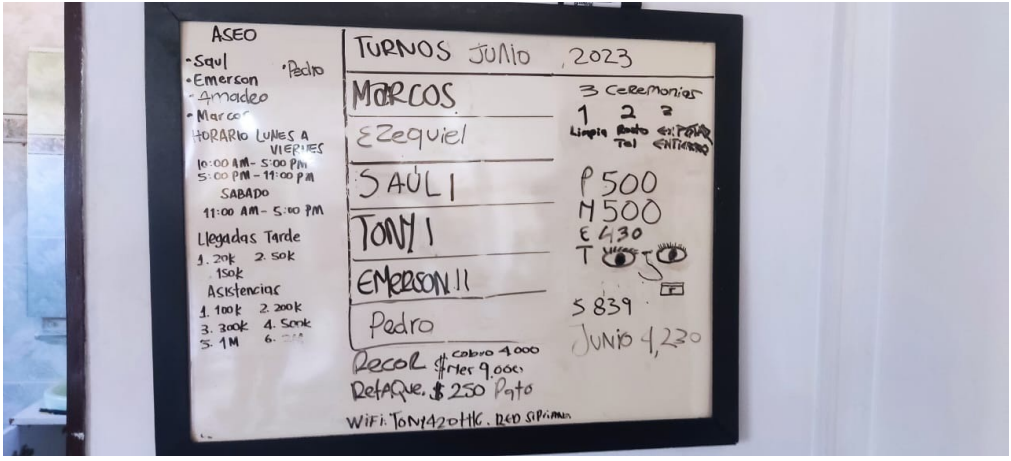


Hierarchical organizations with 15–50 salaried employees



Combo 79

Management and agency problems in drug-selling



We know remarkably little about occupational choice among adolescents (criminal or otherwise)

- Sociological studies mainly emphasize pre-existing social and behavioral risk factors
- How do ex-ante beliefs shape sorting into legal vs. criminal careers?
- What information asymmetries, misperceptions, and biases do they possess?
- Forces/decisions that lead to school dropout or early criminal involvement likely to be sticky (Sviatschi 2022)

Survey adolescents shortly before common decision point for school dropout and gang entry

- Identify roughly 100 Medellin public schools with highest levels of gang neighborhood presence
- Attempt to interview population of boys in grade 7, 2022–24 cohorts
  - Main challenge: Returning parental consent
- About 10,000 surveyed boys



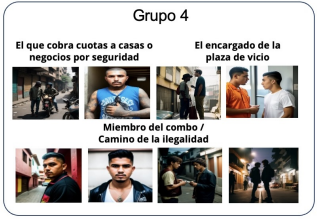
Survey focuses on subjective expectations about 4 careers

Boys allocate 10 friends and then 10 “clones” themselves at 25 years old



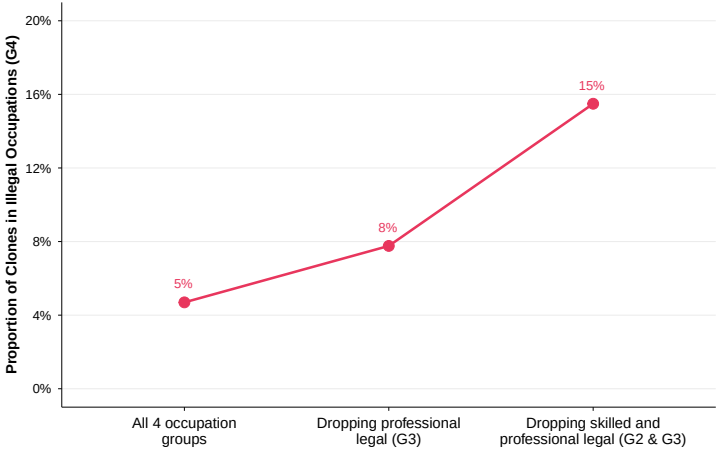






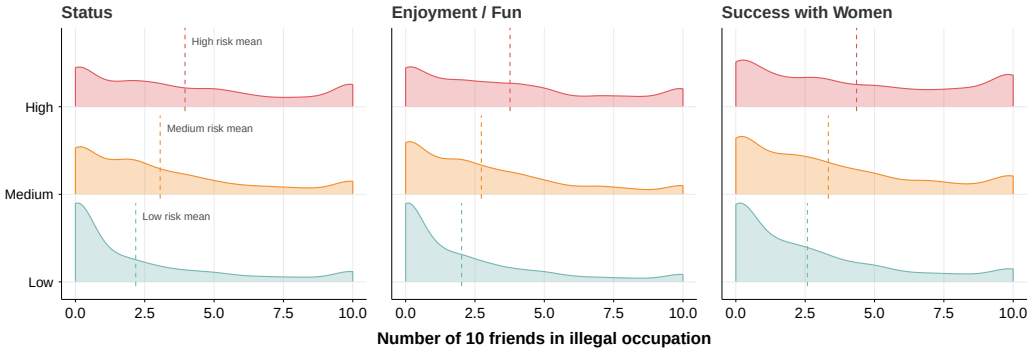


Self-reported recruitment risk rises with constraints on career choices



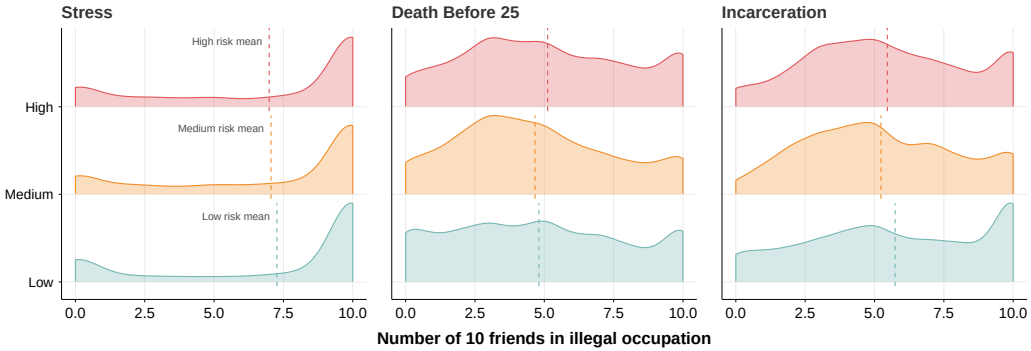
Perceived non-pecuniary rewards of criminal careers, by risk level

Low=[0,2); Medium=[2,3); High=[3,10] clones in G4



Perceived non-pecuniary costs of criminal careers, by risk level

Low=[0,2); Medium=[2,3); High=[3,10] clones in G4



Structural model of occupation choice

Pupil i's expected utility for career path j

$$E(U_{ij}) = \lambda\Big[\sum_{t=1}^{t^*} \delta_i^t Log(E(S_{ij}))\Big] + \theta\Big[\sum_{t=t^*}^{T} \delta_i^t Log(E(Y_{itj}))\Big] + \sum_{k=1}^{4}\sum_{t=t^*}^{T} \sigma_k\Big[\delta_i^t Log(E(N_{ij}^k))\Big] + \epsilon_{ij}$$

Subjective expectations:

- S = Utility/disutility of schooling
- Y = Earnings
- N^k = Non-pecuniary benefits and costs of type $k, k \in \{1, 2, 3, 4\}$
- δ Time preferences

Estimated preference parameters

We estimate similar pecuniary and non-pecuniary elasticities

Effect of a 1% change, on percentage change in career choice probability

	Income	Status	Fun	Success	Stress	Effort
Low Skill Legal (G1)	0.097	0.065	0.140	0.081	−0.019	0.000
Skilled Legal (G2)	0.061	0.048	0.110	0.058	−0.010	−0.042
Professional Legal (G3)	0.030	0.030	0.073	0.038	−0.003	−0.062
Illegal (G4)	0.126	0.045	0.091	0.055	−0.047	0.000

Fitted to boys' stated career allocations (clones), not observed entry. March 2026 estimates, under revision.

Wide range of research questions

Mostly not addressed

- **Origins** — why does organized crime arise in some places & not others? Why different forms?
- **Revenues** — what determines criminal markets, and how does that shape behavior?
- **Civilian governance** — why do some criminal organizations provide security and other public goods?
- **Industrial organization & organizational economics** — why such wide variation? How to recruit and solve incentive-compatibility constraints?
- **Durable impacts** — on electoral competition, state strength, economic development
- **Interventions** — what works against recruitment, violence, drugs, extortion?

Ways for graduate students to go deeper

A few of the structures we're building

- **Network for Research on Organized Crime (NROC)** — intellectual network of economists, political scientists, and criminologists, with convening and research exchange in development
- **Urban Impact Labs** — field-research infrastructure in Medellín, Bogotá, and beyond, with municipal-government and security-agency partnerships
- **Graduate-student support** — research funding through IPA Peace & Recovery and Crime, Violence & Citizen Security initiatives
- **Mentorship Network (in development)** — cross-advisor mentoring led by Mica Sviatschi and Chris Blattman, for students without a senior OC advisor at home

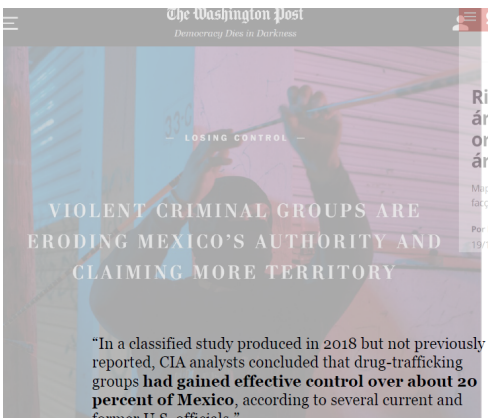
Organized Crime: Causes, Consequences and Potential Policies

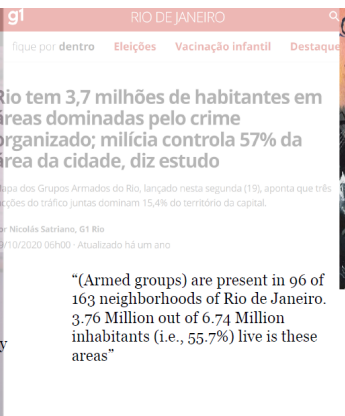
Maria Micaela Sviatschi

Princeton University, NBER

November 3, 2026

Across the development world, it is common for armed groups to take control over the state territory







- Mexico: 20% of their territory is under the control of drug-trafficking groups (CIA, 2018)
- Rio de Janeiro: 56% of the city is under the control of criminal organizations (UFF, 2020)
- El Salvador: in 2015, over 50% of municipalities had gang presence

Organized Crime across the world

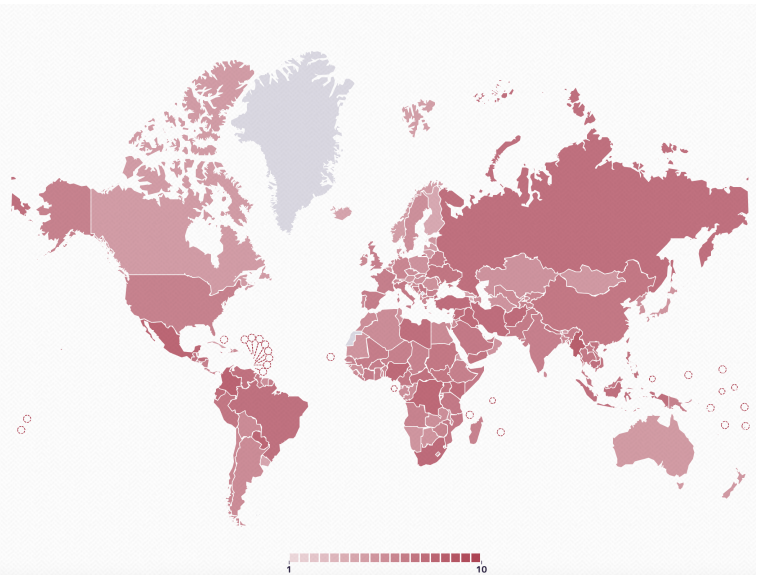


Figure. The Organized Crime index, 2023

- Crime is spread all over the wold, but mainly concentrated in the global south with violent consequences.

CRIME ACROSS THE WORLD

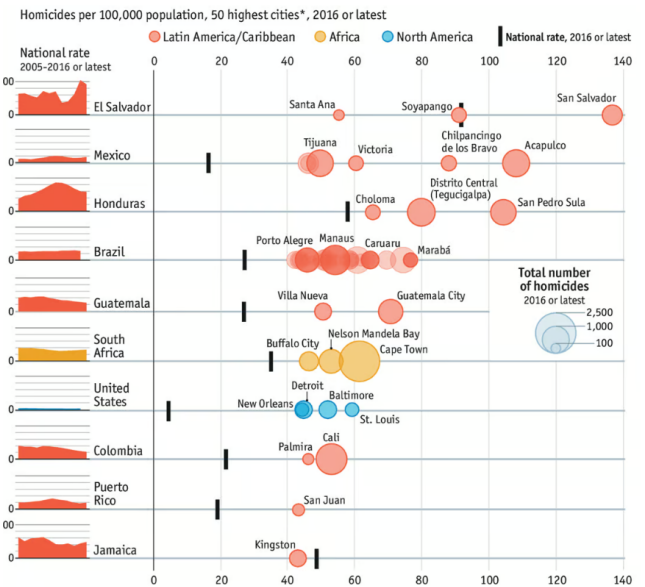
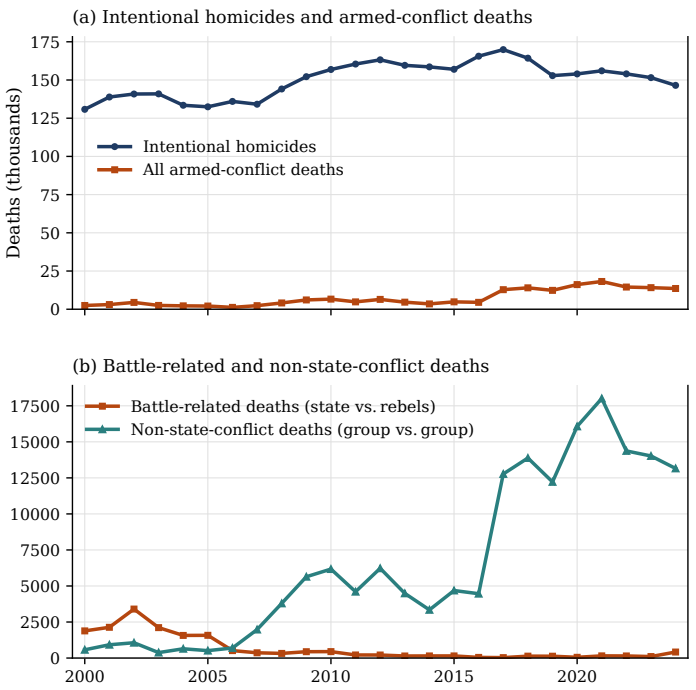


Figure. Top violent cities in 2016 (by homicide rate)

- While only 8% of the world population live in Latin America and the Caribbean, more than 30% of the world homicides occur there (Igarapé Institute, 2018)
- In fact, 43 out of the 50 cities with the highest homicide rates are in Latin America and the Caribbean

In the Americas, Crime Kills Far More than War

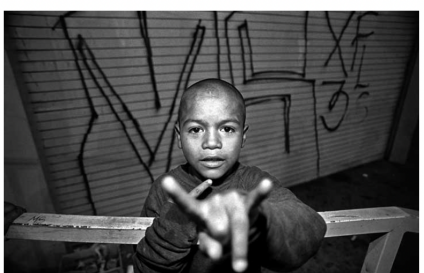
- Organized crime and gangs account for about a fifth of the world's homicides with recorded context (about half in the Americas).
- In the Americas, homicides have exceeded armed-conflict deaths at least eightfold every year since 2000.
- Deaths in state vs. rebel fighting collapsed, while deaths in fighting **between non-state groups** rose sharply (e.g., Mexico's cartel wars, Brazil's factional wars).
- In 2024, the Americas held about 35% of the world's homicide victims.



Source: UNODC homicide estimates; UCDP Georeferenced Event Dataset (v25.1).

Understanding the life cycle of organized crime

- How do they surge? How does a person become part of a criminal organization?
- What are the consequences for society beyond violence?
- Potential ways to break the cycle?


Part I

ORGANIZED CRIME: CAUSES, CONSEQUENCES AND POTENTIAL SOLUTIONS

Causes: Why does organized crime arise in some places and not others?

The Economic Origins of Organized Crime

Why do criminal organizations emerge in some places but not others?

1. **Weak institutions create markets for protection**
   - When the state cannot reliably enforce property rights and contracts, private protection becomes valuable.
   - Gambetta (1993); Bandiera (2003).

2. **Economic opportunities increase the returns to organized violence**
   - Valuable, vulnerable assets create opportunities for protection and extortion.
   - Citrus production: Dimico et al. (2017).
   - Mineral resources: Buonanno et al. (2015).

3. **Political conflict creates demand for coercion**
   - Elites may rely on criminal organizations to defend their economic and political interests.
   - Acemoglu, De Feo and De Luca (2017).

From Mafia Origins to Gang Recruitment

These explanations focus on the **demand for organized violence**. But who supplies the labor needed to sustain criminal organizations?

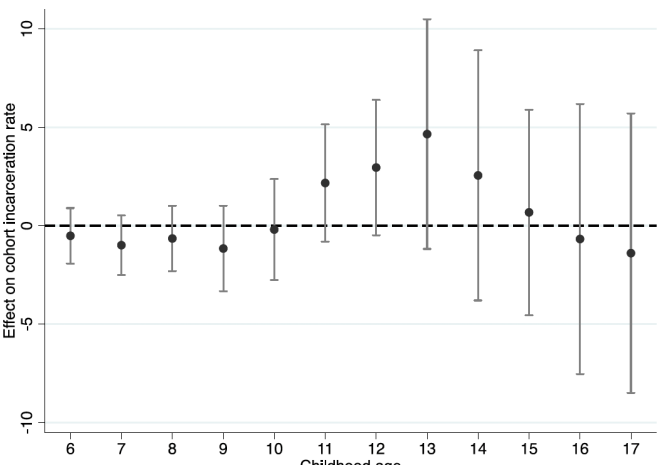
Causes: From the Demand for Organized Violence to the Supply of Criminal Labor

ECONOMIC INCENTIVES AND EARLY EXPOSURE

SVIATSCHI, 2022. ECONOMETRICA

- The allure of high profits from criminal activities can lead children onto a path of crime.
- Exploiting administrative data on incarceration, schools records, and coca production in Peru:
- I find that higher coca leaf prices in Peru caused an increase in child labor in coca farming, leading to higher adult incarceration rates for drug trafficking and violent crimes.
- Also, children more exposed to the price rise had higher school dropout rates.
- Why? Criminal life often pushes children 11-14 to drop out of school to "specialize" in criminal activities.

Organized crime feeds on children and adolescents, who have a greater potential to join and learn criminal skills



Coca Prices During Childhood and Criminal Behavior

Coca prices during childhood and subsequent criminal behavior.

	(1) All	(2) Drugs	(3) Violent	(4) Sexual	(5) Family	(6) Other
			Panel A: All prisons			
$PriceShockAge11to14_{d,c}$	3.607	2.127	1.304	−0.107	0.046	0.237
	(0.917)	(0.732)	(0.384)	(0.212)	(0.088)	(0.356)
Observations	23,853	23,853	23,853	23,853	23,853	23,853
Dep. var. mean	4.565	0.616	2.269	0.401	0.089	1.190
			Panel B: Women			
$PriceShockAge11to14_{d,c}$	0.436	0.355	0.057	0.001	−0.000	0.024
	(0.135)	(0.150)	(0.037)	(0.001)	(0.000)	(0.063)
Observations	23,853	23,853	23,853	23,853	23,853	23,853
Dep. var. mean	1.528	0.623	0.324	0.009	0.001	0.571
			Panel C: Legal Coca			
$PriceShockAge11to14_{d,c}$	4.091	2.542	1.379	−0.305	0.030	0.445
	(1.046)	(0.862)	(0.405)	(0.189)	(0.105)	(0.342)
$PriceShockAge11to14_{d,c} \times Legal$	−3.749	−2.654	−0.965	0.994	0.049	−1.173
	(1.675)	(1.014)	(1.485)	(0.683)	(0.149)	(1.346)
Observations	23,853	23,853	23,853	23,853	23,853	23,853
Dep. var. mean	4.565	0.616	2.269	0.401	0.089	1.190
District of birth FE	✓	✓	✓	✓	✓	✓
Year of birth FE	✓	✓	✓	✓	✓	✓

When Trade Shocks Trigger Violence: The Case of Mexico

Dell, Feigenberg, and Teshima, 2019. AER: Insights

Context:

- Chinese exports to the U.S. increased dramatically in the 2000s, reducing Mexican manufacturing employment.
- Simultaneously, drug-related violence surged, making Mexico one of the most violent countries globally.
- Existing research has not extensively linked trade-induced labor market shifts to organized crime.

Research Question:

- Does trade-induced job loss lead to increased drug-related violence?
- How do local labor market conditions affect drug trafficking and cartel conflicts?

Trade Shocks, Criminal Networks, and Violence

Data and Empirical Strategy:

- Instrumental variables approach using predicted Chinese trade shocks.
- Employment data from INEGI, drug-related homicide records, and drug seizure reports (1998-2013).
- Municipality-level variation in trade exposure.

Main Findings:

- Job losses due to Chinese trade competition increase drug-related homicides.
- Effects are strongest in municipalities with an initial presence of drug trafficking organizations (DTOs).
- Cocaine seizures increase following manufacturing job loss, suggesting expanded trafficking activity.

Mechanism?

Trade Shocks, Criminal Networks, and Violence

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Mechanism?

- Job loss lowers the opportunity cost of criminal employment, making drug trafficking more attractive.
- DTOs compete violently to control newly lucrative trafficking routes.

Main novelty of the paper: testing opportunity cost channel in urban settings

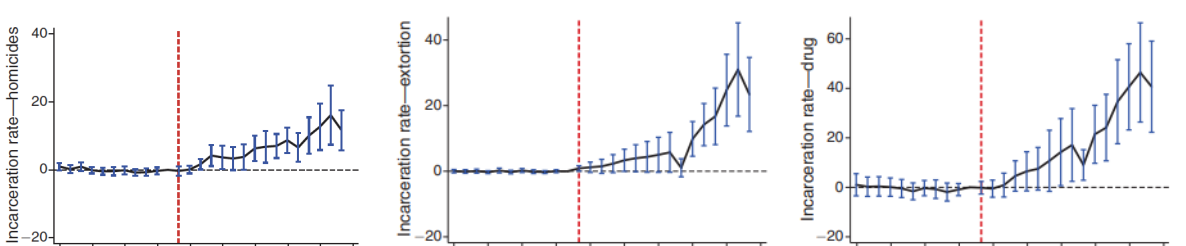
Other evidence on general crime in Medellin, Colombia and Brazil

- Providing unemployment benefits for a 3-to-5-month period can fully counteract any increase in criminal activity that might occur immediately after a person is laid off (Brito et al 2022)
- Research on formal employment and organized crime in Colombia indicates that a reduction in formal employment corresponded with an increase in arrests for crimes linked to organized criminal enterprises, supporting an occupational choice model of crime where individuals weigh legitimate work against criminal activity

CRIMINAL NETWORKS

SVIATSCHI, 2022. AER

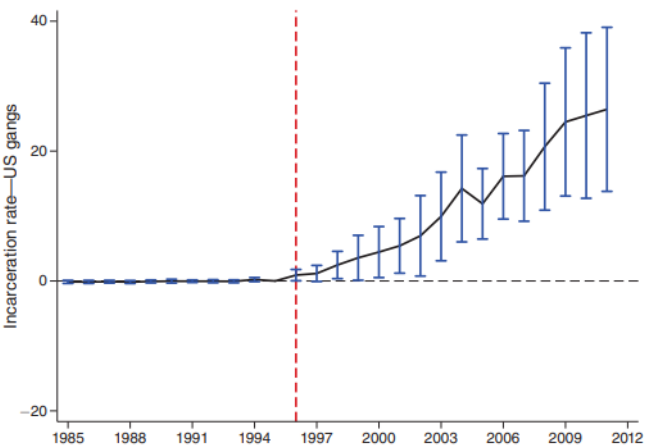
- Movement of criminal leaders can bring crime to new areas and lead to the recruitment of children outside the existing criminal network
- Exploit a shock of deportation policy in 1996 that moved criminal leaders (who grew up in the US) to El Salvador
- The deportations of gang members from USA to El Salvador in 1996 led to an increase in homicide rates and gang activity, as well as an increase in gang recruitment in the municipalities where those gang leaders were born



CRIMINAL NETWORKS

SVIATSCHI, 2022. AER

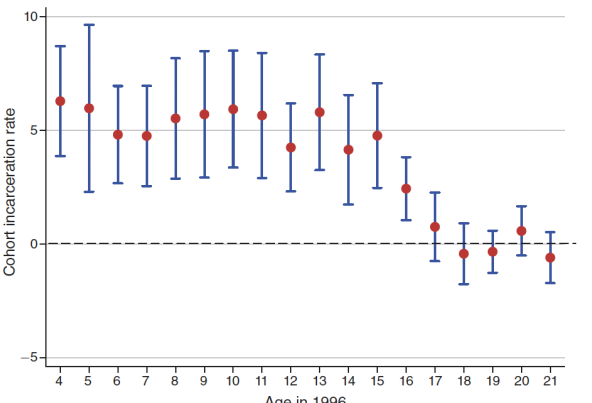
- Gang leaders expanded quickly by recruiting young individuals from their local neighborhood
- According to the PNC, by 1997, at least 20 thousand people had joined gangs with US origin



CRIMINAL NETWORKS

SVIATSCHI, 2022. AER

- Early exposure is, again, determinant.
- Children seem to be particularly affected by these criminal networks.
- To recruit vulnerable children, criminal organizations employ diverse strategies, including direct coercion and an increased social status and acceptance.

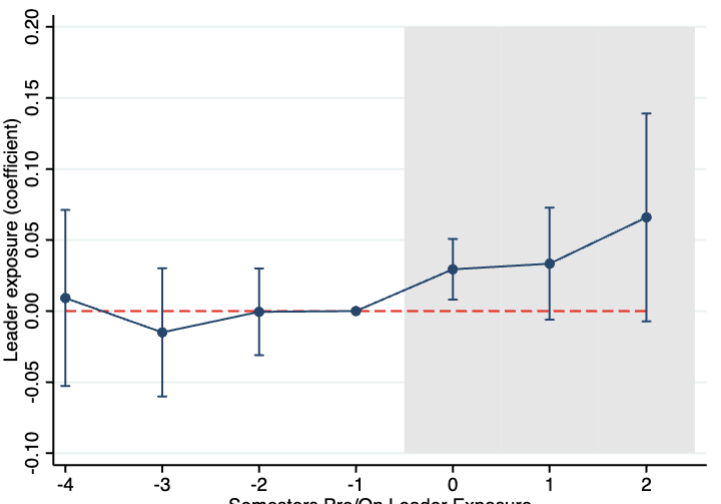


Salvadoran children exposed during childhood to gang leaders coming from the US are more likely to be associated with these gangs as adults

THE ROLE OF PRISONS

MATOS, SCHMIDT-PADILLA, AND SVIATSCHI, WORK IN PROGRESS

- Prisons can foster criminal skill development and network building among inmates, leading to a rise in future criminal activities.
- Exploiting a gangs' leaders transfer in El Salvador in 2012, we find that inmates exposed to their arrival were more likely to commit crimes related to gangs.



Research Question and Gaps

What drives adolescent gang recruitment and associated violence?
We can model recruitment as a choice shaped by:

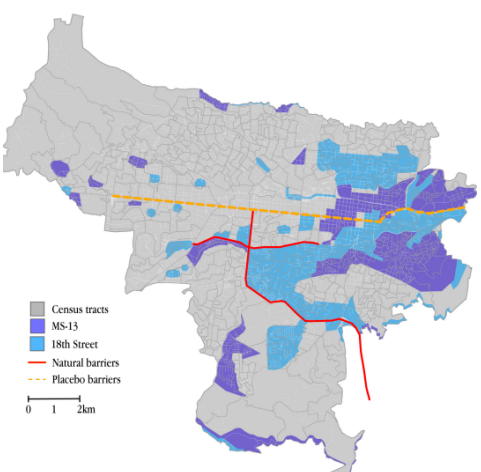
- Economic incentives
- Expectations about future labor market returns? (Chris'ongoing work in Medellin)
- Present bias?
- Identity/status motives?
- Peer effects/ Social norms?
- Automatic (hot-state) behavior?

Consequences

Economic Development

Melnikov, Schmidt-Padilla and Sviatschi, 2023. Econometrica

- Beyond its direct consequences on homicides and other criminal activities, crime can hinder development through their territorial control in El Salvador
- **Spatial regression discontinuity design** that uses the boundaries of gang-controlled areas in San Salvador, the capital of El Salvador.
  - Boundaries do *not* coincide with former economic or crime.
  - Most coincide with natural boundaries such as main roads and boulevards that were present in 1996.



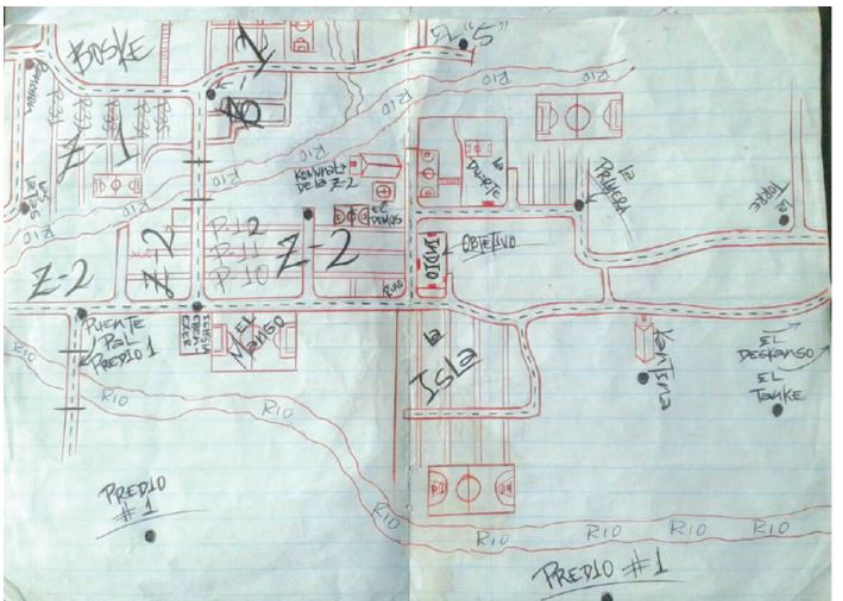
Gangs in El Salvador: the enforcement and importance of boundaries

Melnikov, Schmidt-Padilla and Sviatschi, 2023. Econometrica

- Gangs exert near total control of their territories.
- To prevent police informants and members of rival gangs from entering their territory, at the checkpoints the gangs check the place of residence on individuals' ID cards (EDH, 2015).
- To enter, ones need to obtain permission from the gang and sometimes even to pay a fee to walk in their territory.
- Most of their revenue comes from extorting local businesses in gang controlled areas as well as nearby areas.
- Their territory allows them to keep their finances, hide from police and rivals, and extort nearby areas.

Inside gang territory

GANGS PRECISELY MAP OUT THEIR TERRITORIES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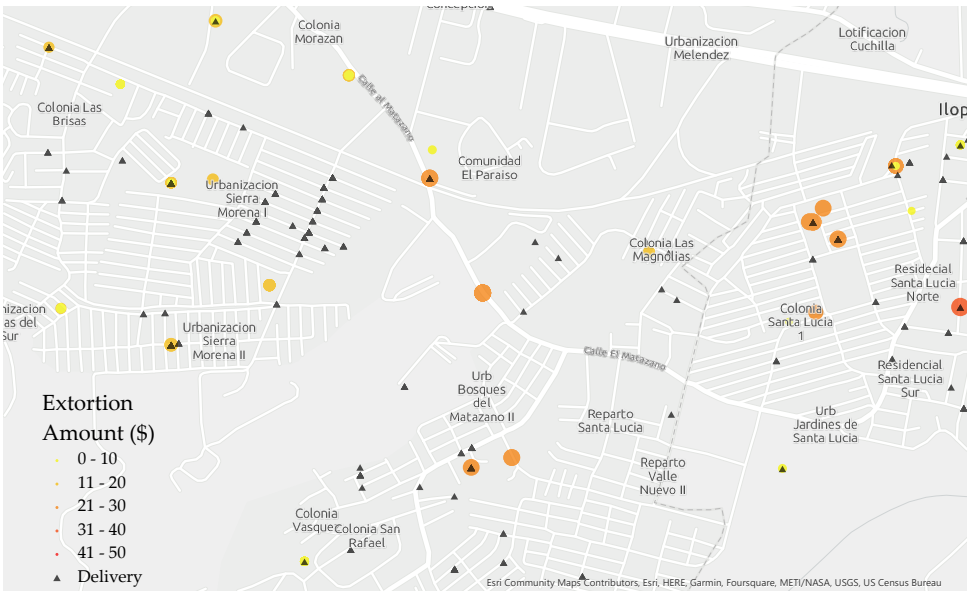
GANGS' ILLICIT ECONOMIES REVOLVE AROUND EXTORTION

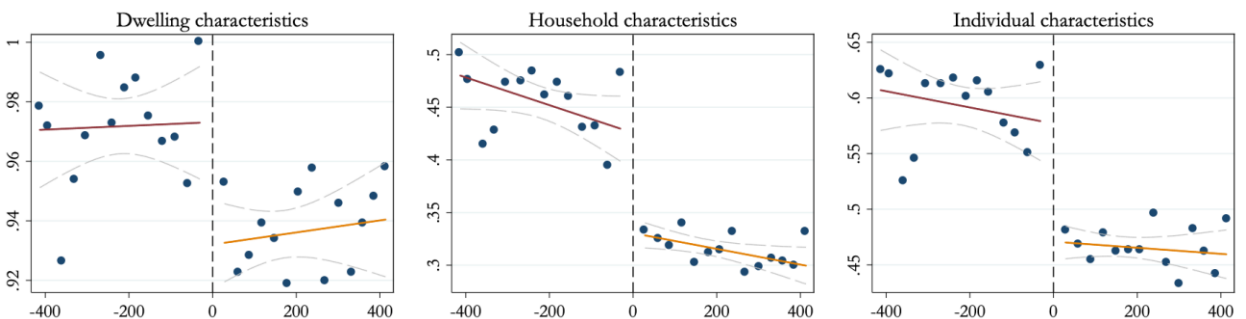


Source: Brown, Montero, Schmidt-Padilla and Sviatschi, 2023

Economic Development

Melnikov, Schmidt-Padilla and Sviatschi, 2023. Econometrica

We exploit administrative data from the economic census in 2007 that is at the census block level



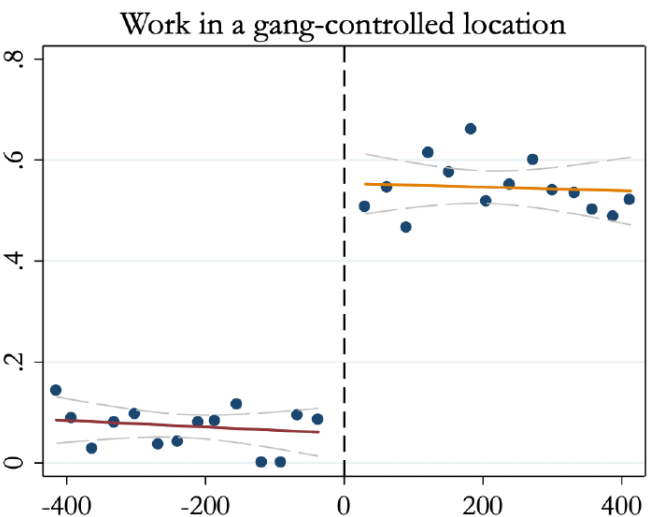
- We find that individuals in gang-controlled neighborhoods have less material well-being, income, and education than individuals living only 50 meters away but outside of gang territory.
- None of these differences existed before the arrival of gang leaders in 1996
- Why is this the case? we collect 2400 household surveys on labor mobility, public goods, criminal governance

Mobility Restrictions

Melnikov, Schmidt-Padilla and Sviatschi, 2023. Econometrica

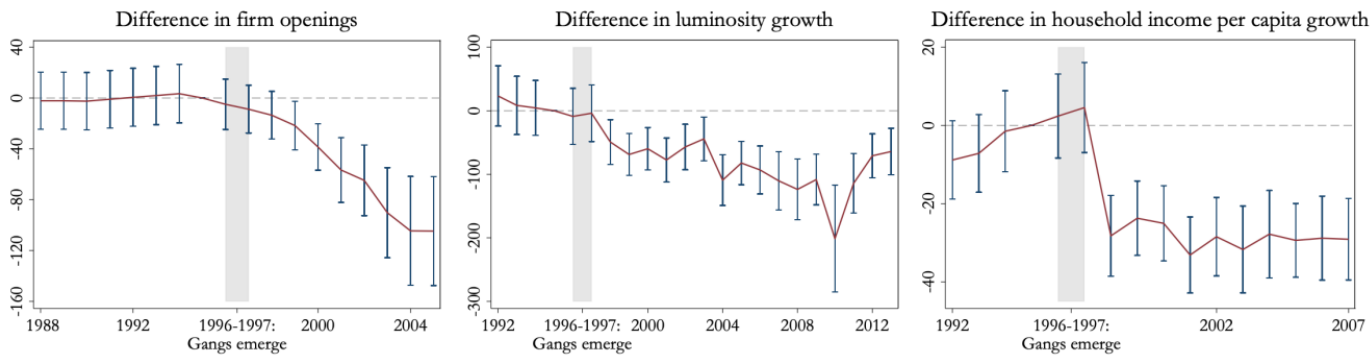
- Living in an area controlled by criminal organizations can prevent people from making optimal decisions.
- We find that people in controlled areas by gangs in El Salvador have more restrictions in their mobility, which narrows their labor options.

other restrictions



Extortion and Economic activity

Melnikov, Schmidt-Padilla and Sviatschi, 2023. Econometrica



- At a more aggregate level, the effects are even larger, and we find that firms are less likely to open in municipalities affected by gangs
- As employment opportunities improve in places without gang activity, it becomes increasingly important to be able to commute to work in those areas.
  - Residents of non-gang neighborhoods close to the boundaries were able to take advantage of these new labor-market opportunities by commuting to parts of the city, whereas individuals living in gang areas were prevented

Criminal Actors and Support for Hardline Security Policies

Abril, Pineda, and Tobon, work in progress

- Growing support for hardline security policies often relying on illegal actions
- Exposure to homicides from organized crime in Medellin significantly increases endorsement for extrajudicial solutions to crime and violence

"In order to apprehend criminals, what is your position on authorities acting outside the law?"

	Control mean	Close homicide occurred within 15 days prior to the survey		Obs.
		Coeff.	S.E.	
	(1)	(2)	(3)	(4)
Panel A. Main specification				
Exposure to homicide	0.087	0.024**	0.010	15,932
Panel B. Alternative specifications				
7 days survey window	0.088	0.016*	0.010	15,932
21 days survey window	0.087	0.013**	0.006	15,932
Homicide occurred within 450 meters	0.088	0.016**	0.008	15,932
Homicide occurred within 400 meters	0.087	0.020**	0.009	15,932
Including double-lasso control variables	0.087	0.016**	0.007	15,932
Using probit	0.087	0.106***	0.043	15,932

How can we prevent the expansion of organized crime and violence?

Traditional Measures

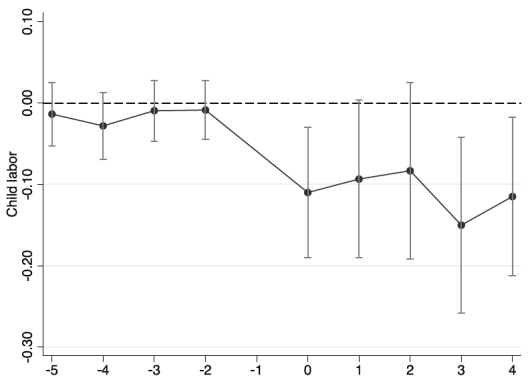
- Policing measures, like crackdowns, can be very costly.
- Additionally, crackdowns can have unintended effects such as violence, false positives, harming trust in institutions; as well as spillover effects.
- Without preventing vulnerable young children from entering criminal organizations, crime can be perpetuated.

What alternative/complementary options do we have?

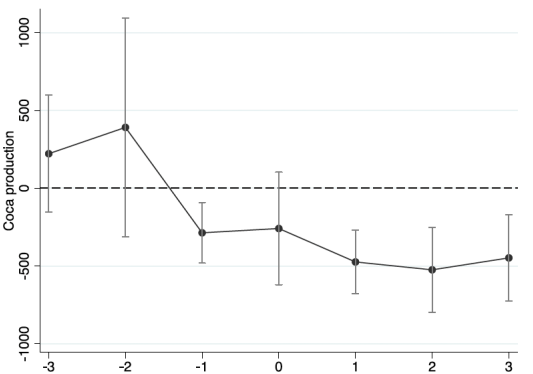
1. Shifting children's economic incentives ?
2. Prevent recruitment to reduce the labor available from criminal organizations, and thus affect their illicit business?
3. Increasing social capital in communities can potentially reduce the involvement of children and the entrance of criminal organizations?
4. Targetting violent behavior through CBTs?
5. Truces to reduce violence?
6. Increasing state presence?

SHIFTING ECONOMIC INCENTIVES

SVIATSCHI, 2022. ECONOMETRICA



Child labor



Coca production

- In Peru, I evaluate the roll-out of a conditional cash transfer program that encourages schooling.
- I find that children beneficiaries of the program were less exposed to illegal industries.

Policies that increase the chances of children to stay in school can reduce criminal exposure in certain contexts

Would this work in other contexts?

Preventing gang recruitment

Castro, Coy, Schmidt-Padilla, and Sviatschi, Work in Progress

- In areas where groups have high territorial control, educational centers and their surroundings become attractive sites for recruiting young people.
- This mainly occurs during school entry and exit times, when students are more exposed on their way home.
- Considering this, the government of El Salvador developed the *Safe Schools (Escuelas Seguras)* program in 2015, which involved the preventive use of police force to reduce recruitment.

safe schools

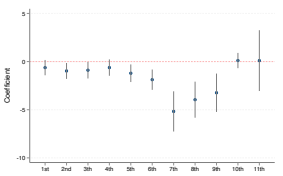




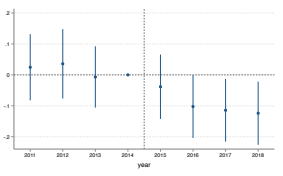


Potential Solutions: Preventing gang recruitment

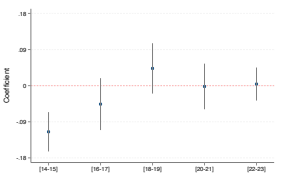
Castro, Coy, Schmidt-Padilla, and Sviatschi, Work in Progress



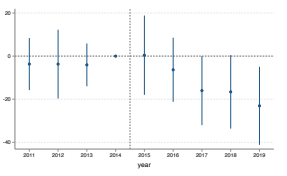
Dropout



Recruitment



Young captures



Extorsion

- Schools beneficiaries had fewer dropouts in comparison with those that did not get into the program, especially in cohorts more vulnerable to starting a criminal life.
- Also, we find there was less recruitment around schools and fewer arrests of affected cohorts when they became adults.
- Thanks to the decline in labor joining these organizations, gang business is affected. We find a decline in extortion and homicides.
- We do not find evidence that this policy increased police violence police violence

Preventive police can work if it is targeted towards one illicit behavior (recruitment) and in areas where gangs cannot substitute recruitment across space

Additional insights

- Social capital can prevent children outside the criminal network from getting involved (Sviatschi et al., 2022).
- Psychological interventions (plus cash transfers) can attenuate criminal behavior in high-risk adults (Blattman et al., 2017, 2023) cbt and cash

Can After-School Programs Reduce Violence? Evidence from El Salvador

Dinarte and Egana-delSol,2019. JEEA

Context:

- El Salvador has one of the highest youth homicide rates in the world.
- 13% reduction in its education enrollment rate, with approximately 18% of students reporting they dropped out of school due to delinquency.
- Early exposure to violence increases risks of criminal behavior in adulthood.
- This study evaluates a CBT-inspired ASP aimed at improving impulse control, conflict management, and academic outcomes in a highly violent setting.

Research Question:

- Can a behavioral and neurophysiological intervention in ASPs reduce violence and improve academic outcomes?
- What are the spillover effects on untreated students?

Program, Findings, and Mechanism

Data and Empirical Strategy:

- Randomized controlled trial (RCT) in five violent Salvadoran schools in 2016.
- 1,056 students aged 10–16 randomly assigned to ASP participation.
- Neurophysiological data collected through EEG scans.

Main Findings:

- ASP participation reduced absenteeism by 23% and misbehavior by 17%.
- Treated students improved grades by 0.11–0.13 standard deviations.
- Spillover effects: untreated classmates also showed academic and behavioral improvements.

Mechanism:

- Improved emotional regulation (measured via EEG) reduces impulsive reactions to conflict.
- Safer school environments increase engagement in learning.

A lot of individual level interventions, but what about strategic gang behavior would they target other students? what about general equilibrium effects?

Measures to be Cautious: Truces, Gangs & Extortion

Brown, Montero, Schmidt-Padilla and Sviatschi, 2025. REStud

Context:

- Organized crime and associated extortion is a common aspect of life in many countries
  - Extortion is the main revenue source for gangs in El Salvador
  - Over 70% of firms face extortion (Martínez et al., 2016)
- Governments have attempted many strategies to limit the negative consequences of gang violence and extortion
- A particularly common and controversial policy is for governments to broker a truce between gangs in order to reduce competition
  - Examples include truces in El Salvador, Honduras, Haiti, South Africa, Trinidad and Tobago, Japan, and Jamaica

$\Rightarrow$ Little is known about the effect of gang competition on extortion

Challenge: Measuring Extortion

Challenge:

- Gang extortion is difficult to measure systematically: it is difficult to observe and is rarely reported to the police.
- In El Salvador, surveys suggest that only 15% of victims of extortion by gangs ever report an incident to the police (FUSADES, 2016).

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Research Questions:

- How do gangs determine extortion rates?

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Research Questions:

- How do gangs determine extortion rates?
- How does gang competition matter for extortion?
- What are the downstream effects of extortion on consumer prices and well-being?

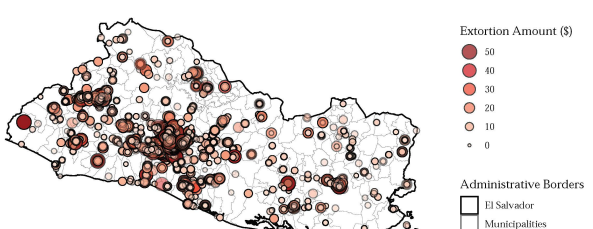
Data and Empirical Strategy

Data:

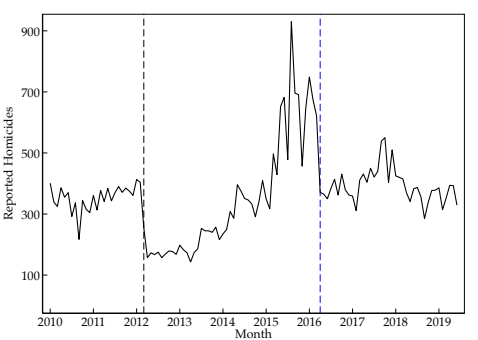
- Unique extortion payment data and sales data for all goods delivered between 2012 and 2019 by a leading wholesale distributor.

Empirical Strategy:

- Exploit the 2016 non-aggression pact between the two main gangs of El Salvador.



Geography of extortion



Homicides and gang collusion

Notes: (a) Location and amounts of all extortion payments recorded by the distributor's security team, March 2012–March 2019. (b) Reported homicides; vertical lines show the gang truce (March 2012) and non-aggression pact (April 2016).

Main Findings: Gang Collusion Increases Extortion

How do gangs determine extortion rates?

- Simple theoretical framework highlights the role of competition in the market for extortion.
- Empirical evidence consistent with price discrimination by gangs.

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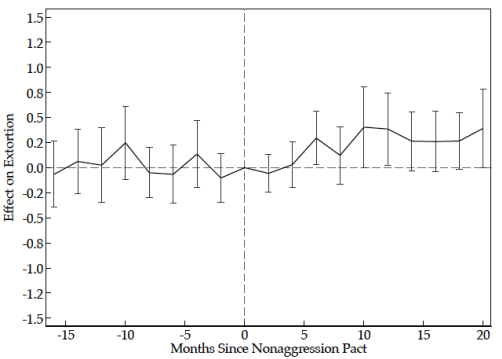
How does gang competition matter for extortion?

- Model implies that collusion between gangs increases extortion.
- The non-aggression pact increased extortion by approximately 20% in areas with previous gang competition.



Notes: Effect of the pact on extortion by months since the non-aggression pact (April 2016).

Main Findings: Downstream Effects on Prices and Health

What are the downstream effects of extortion on consumer prices and well-being?

Prices:

- Substantial pass-through of extortion to retailers: distributor margins rose 12% for retailers closest to extortion payments, mostly for staple goods.
- Retail prices of pharmaceutical drugs rose by 7.6%.

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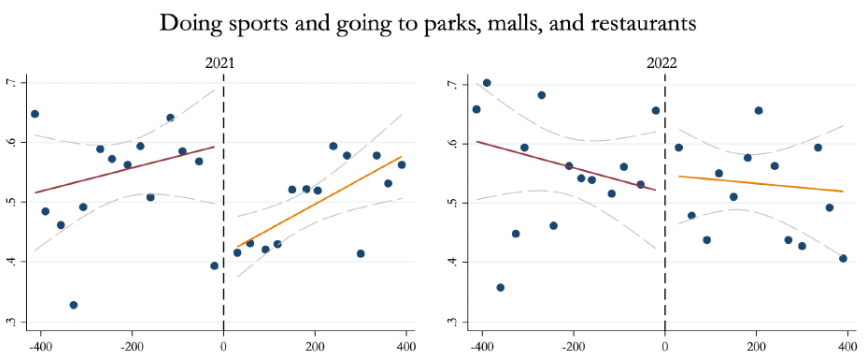
- Hospital visits for chronic conditions (e.g., diabetes) rose by about 9%.

Although truces reduce violence in the short term, higher extortion can also affect households wellbeing. truces and homicides

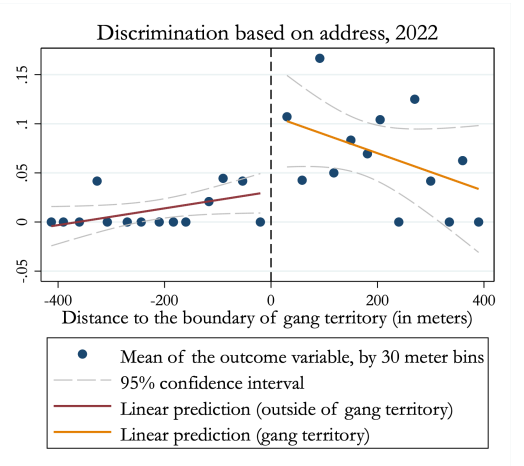
MEASURES TO BE CAUTIOUS: CRACKDOWNS

- In 2022, government crackdown recovered the neighborhoods in El Salvador
- Restrictions to mobility disappeared as gangs no longer control the neighborhoods *"Now finally after decades of gang control, we are able to visit members of our same community that live just two blocks away"*



- Crackdowns may seem appealing as they offer a way to address the harmful effects of crime and pave the way for recovery.
- However, these measures can undermine the legitimacy of institutions (e.g., more police violence).

EVEN WHEN GANGS DO NOT CONTROL THE NEIGHBORHOODS, THERE COULD STILL BE NEGATIVE ECONOMIC CONSEQUENCES...



- After a major government crackdown in former gang territories, residents now report increased discrimination in the job market due to their addresses

Why Can Crackdowns Backfire?

1. Crackdowns can increase violent competition

- **Dell (2015), Mexico:** RD exploiting close mayoral elections.
- PAN victories increased drug-related homicides by 27–33 per 100,000 annually.
- Weakening incumbent cartels can trigger competition over trafficking territories.

2. Enforcement can displace criminal activity

- **Pereira, Pucci, and Soares (2024), Brazil:** Air interdiction shifted trafficking to Amazonian rivers.
- Increased violence in newly exposed municipalities.

3. Effects depend on criminal organization

- **Magaloni et al. (2020):** Policing outcomes vary with criminal governance regimes.
- **Blattman (2024):** Policies must account for fragmentation, illicit rents, and organizational structure.

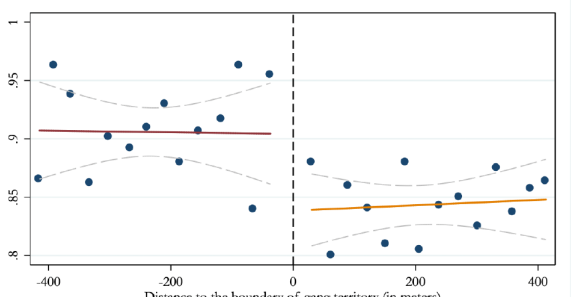
Takeaway: Criminal organizations respond strategically to enforcement. Policies can displace crime or intensify competition rather than eliminate it.

DISCUSSION

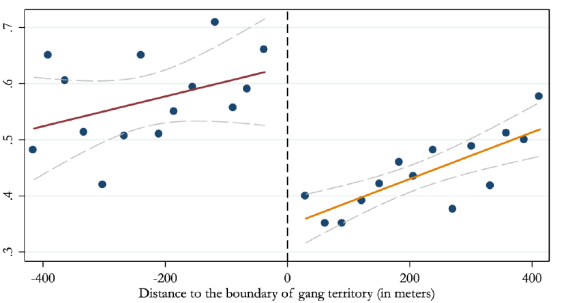
- Criminal organization can affect development through many **different channels beyond violence, such as restriction to mobility, deterioration of human capital, and extortion**.
  - Moreover, in many cases, governments may face a **trade-off between lower violence by reducing gang competition versus larger entrenchment of gangs** in their country by increasing their business profits.
- **Interventions must match the local criminal structure and state capacity.**
- **Organized crime exploits children and adolescents in developing urban areas**, who have a greater potential to acquire criminal capital.

Critical role of reducing child recruitment to generate long-term reductions in organized crime profits and activities

MOBILITY: BEACH AND SANTA ANA DEPARTMENT



Visited beach ever (share)



Visited SA department ever (share)

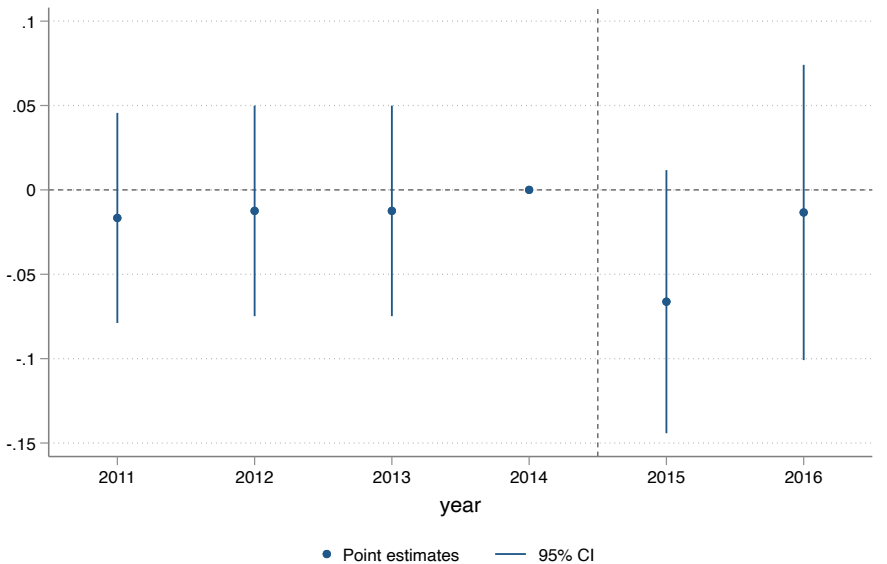
back

Safe Schools Program

- In 2015, El Salvador had the highest murder rate in the world with 103 murders per 100,000 people (Gagne 2016)
- The average age of entry to gangs was 15 years old (Cruz et al., 2017), but gangs could recruit children as young as 7 years old (ILO, 2018)
- Schools in controlled territories by gangs were a primary ground for **recruitment**
- In response, the Ministry of Justice and Public Security, along with UNDP, created a **preventive-oriented** intervention to make schools safer
- The intervention consisted of i) increasing the **patrolling** in the schools surroundings (in critical hours) to prevent students from being exposed to gangs members ii) provide 2 talks conducted by police officers to explain the program and strengthen their relationship with the students.
- A committee, comprised of experts, used a selection process that considered a crime index, as well as the committee's own criteria, to choose the schools that would be included in the program.

back

EFFECT OF SAFE SCHOOLS ON POLICE VIOLENCE



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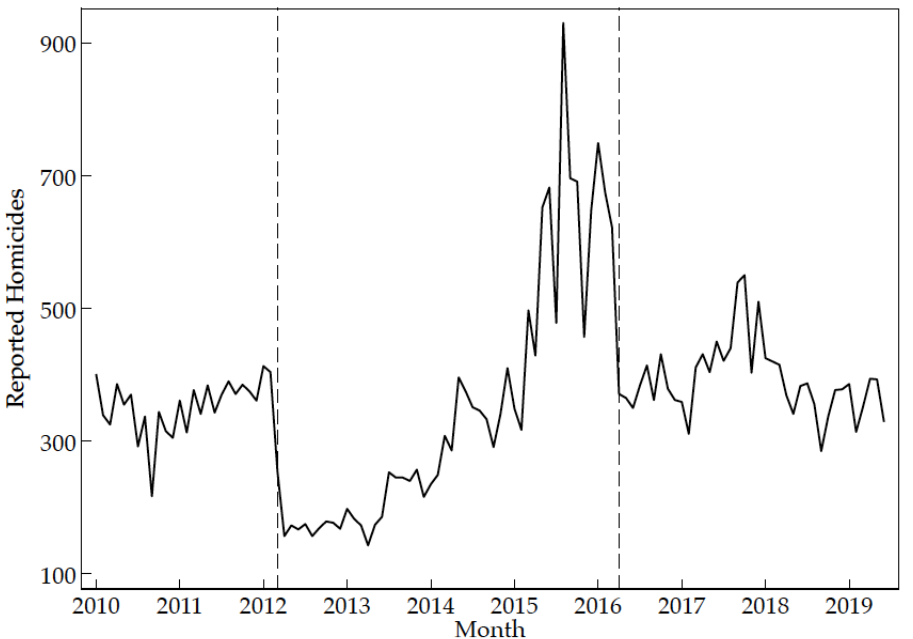
TRUCES AND HOMICIDES



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POLICE TRAINING INTERVENTION

DUBE ET AL., 2023. WORKING PAPER

- Officers often face situations that are cognitively demanding, leading them to make poor decisions such as excessive use of force and unnecessary arrests.
- To address this situation, the training program consisted of a "Thinking Tactic Model" that helps Chicago police officers consider more alternatives in the face of stressful situations.
- In particular, the program has 5 steps:
  1. Learn to recognize which aspects of a situation could trigger negative emotions (stress, anger, etc.)
  2. Develop techniques to regulate these type of emotions (e.g., breathing exercises).
  3. Consider multiple alternative interpretations for a situation.
  4. Learn to think through more than one way of responding to the situation.
  5. Officers are instructed to think through the consequences of each possible response.

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AUTOMATIC RESPONSES INTERVENTION

HELLER ET AL., 2017. QJE

- Disadvantaged youth are at elevated risk of drop-out school and getting involved in criminal activities.
- Heller et al., 2017 use 3 RCTs to tackle the behavioral factors that contribute to these outcomes:
- The first and second RCTs evaluates the program "Becoming a Man" (BAM).
  1. The program targeted very disadvantaged neighborhoods of Chicago.
  2. It was delivered during school days and in groups (to control costs).
  3. It included key elements of CBT such as skills building, role-playing, and experiential and introspective activities.
  4. They targeted outcomes such as “keep cool when you are angry” as well as on things like setting goals, interpersonal problem solving, and paying attention to one’s feelings.
- The third RCT was carried out in a Juvenile Temporary Detention Center and included also elements of CBT (except those including physical activities or immersive expiriences).

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CBT + CASH TRANSFERS INTERVENTION

BLATTMAN ET AL., 2017, 2023. AER

- Common approaches for men engaged in criminal activities involved policing or job creation.
- In Liberia, Blattman et al., 2017 recruited criminally engaged men and randomized CBT, and also $200.
    1. The therapy aimed to foster self-regulation, patience, and a noncriminal identity and lifestyle.
    2. In particular, therapist tries to help the patient become aware of automatic negative thoughts, shifting them into positive ones, and putting that in practice in daily life.
    3. Cash was given to winners of a lottery after the end of therapy.

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PROSECUTION: SENTENCES LENGTH AND REOFFENDING

ROSE AND SHEM-TOV, 2021, JPE

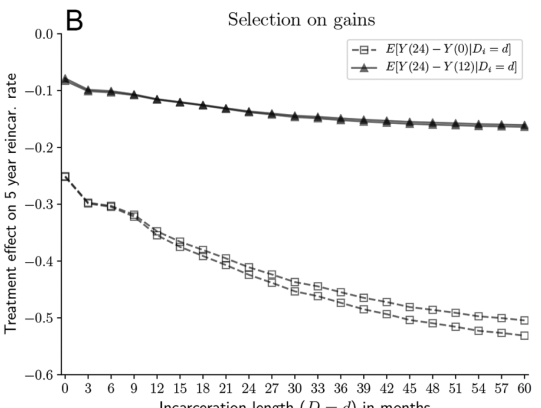
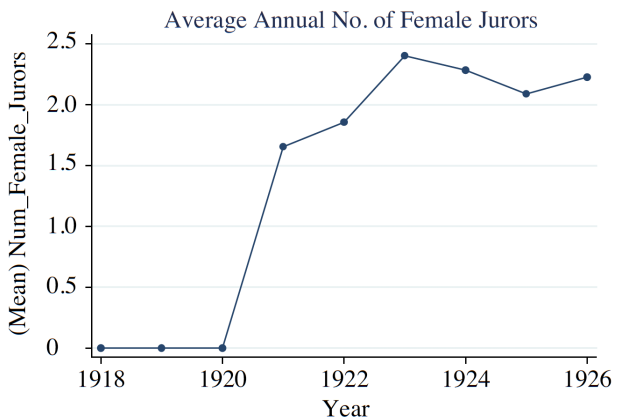


Figure. Diminishing effects of sentence length on recidivism

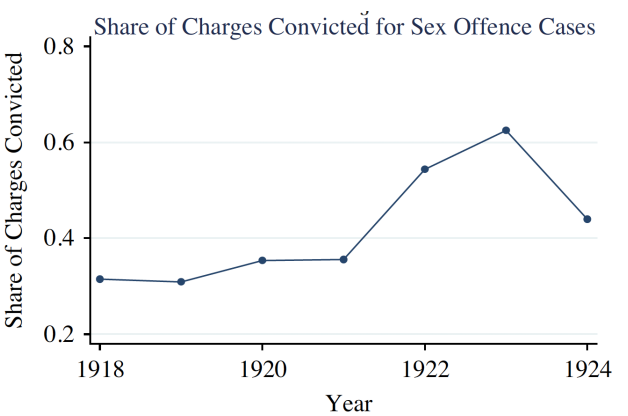
- Sentences length effect on recidivism is ambiguous, since incarceration can be rehabilitative or damaging (e.g., quality of prisons)
- Although incarceration reduces recidivism, these effects are diminishing with sentence length and more concentrated in high-risk recidivism individuals.
- Consequently, society could benefit from a better allocation of sentences; for example, reducing incarceration through shorter sentences and focusing on high-risk individuals.

PROSECUTION: JURY CHARACTERISTICS

ANWAR, BAYER AND HJALMARSSON, 2017, ECONOMIC JOURNAL



Inclusion women as jury



Conviction rate of sex offenses

- Sentences could be influenced by jury characteristics (e.g., age, political views, gender, beliefs, etc.)
- For example, Anwar and coauthors find that the 1921 Act that made women eligible to serve on English jury impacted conviction rates on particularly female salient cases (such as sex offenses).

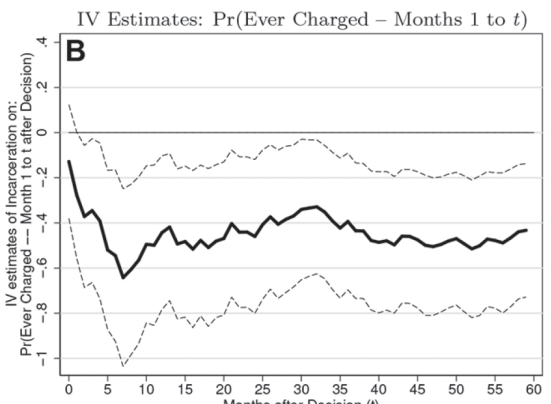
Prosecution: The role of pretrial detention

Dobbie, Goldin and Yang, 2018 AER

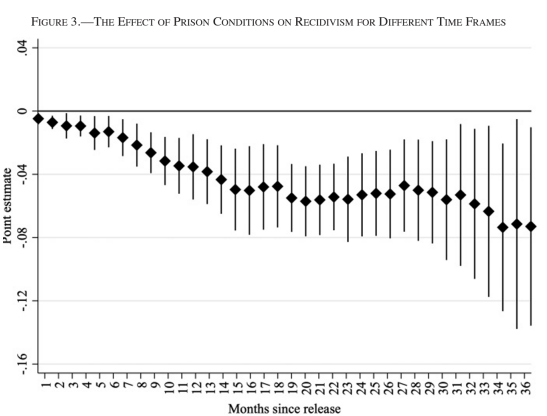
- In USA, over 20 % of jail inmates are awaiting trial (in Chile more than 30%). What are the effects of pretrial detention on defendant outcomes?
- Authors find that pretrial detention increases the probability of conviction by lowering the bargaining power of defendants and, consequently, increasing the likelihood of guilty pleas
- However, it does not have any effect on future crime and negatively affects formal labor participation in the future due to the increased conviction rate

PROSECUTION: QUALITY OF PRISONS

TOBÓN, 2022, RESTAT; AND BHULLER, ET. AL., 2020, JPE



Recidivism across non-employed individuals



Recidivism of inmates assigned to better prisons

- One key element to reduce recidivism is to provide good prisons.
- In Norway, Bhuler and coauthors (2020) find that imprisonment discourages further criminal behavior, particularly in vulnerable individuals that benefited from employment programs in jail.
- Also, Tobón (2022) finds that the assignment of Colombian inmates to newer, less crowded, and higher service prisons, reduced redicivism.

GANG TERRITORY



source: j. orellana, 2014

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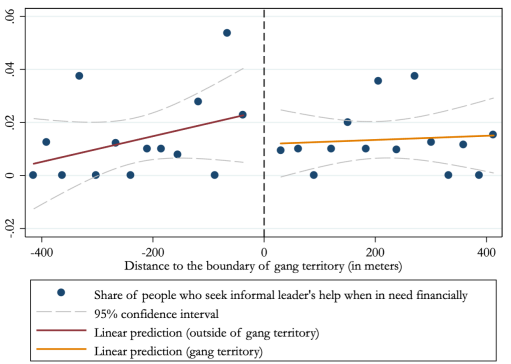
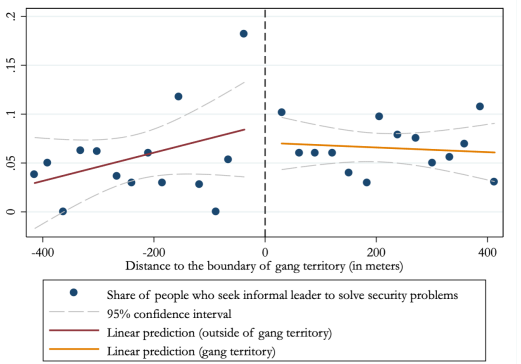
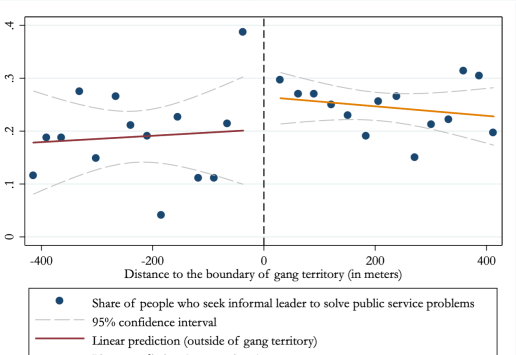
MECHANISMS: THE "PUBLIC GOODS" OF GANGS







Why gangs do not provide any public good themselves in El Salvador?

- Gangs may not provide since the state can still provide these services.
- Salvadoran gangs also have limited financial resources (Martínez et al., 2016), making it difficult for them to compete for hearts and minds.
- However, in settings where the government is not present (e.g., in rural areas) and criminal organizations have the resources to provide services to the public (e.g., drug cartels), territorial control by nonstate actors may result in more public goods provision.
- Previous evidence in Medellin shows that as gangs diversify the range of activities, they will have more incentives to govern providing some pubic goods themselves, especially when those services help to protect their illicit businesses (e.g., Magaloni et al., 2020b, Blattman et al., 2022).

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