ECON 3510: Poverty and Economic Development
Lecture 14: Corruption

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Corruption

- Banerjee et al. (2012): corruption as “the breaking of a rule by a bureaucrat (or an elected official) for private gain.”
  - Many forms: bribes, embezzlement, “stealing time” (on the payroll but never show up), nepotism, etc.
- A common view is that corruption is detrimental to economic development.
  - Efficiency losses: Corruption creates additional costs for economic activities.
  - Erosion of public trust in institutions: Low trust can make it hard for policies to be enforced.

Empirical Research on Corruption

- A challenge of empirical research on corruption is that corruption is hard to measure because it's often secretive.
- Scholars use a number of ways to measure corruption (Olken and Pande, 2012).
  1. Perceptions of corruption.
     - Typically from surveys.
  2. Direct measurements or proxies.
     - Olken and Barron (2009): survey truck drivers for bribes paid at checkpoints in Indonesia.
     - Cai et al. (2011): Chinese firms' entertainment and travel costs, which largely contain expenditures on bribing officials.
  3. Discrepancies in two measures of the same thing.
     - Olken (2007): official project costs and an independent engineers' estimate of costs.
  4. Market inference ("forensic economics"):
     - Fisman (2001): looks at stock price movements of firms connected to Indonesian President Suharto when he fell ill.
- In the spirit of the forensic approach, many empirical studies exploit quasi-experimental variation in anti-corruption polices to shed light on the impacts of corruption and the underlying mechanisms.

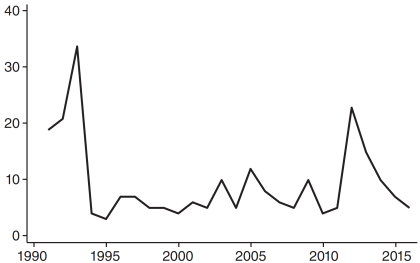
Fenizia and Saggio (2024)

"Organized Crime and Economic Growth: Evidence from Municipalities Infiltrated by the Mafia"

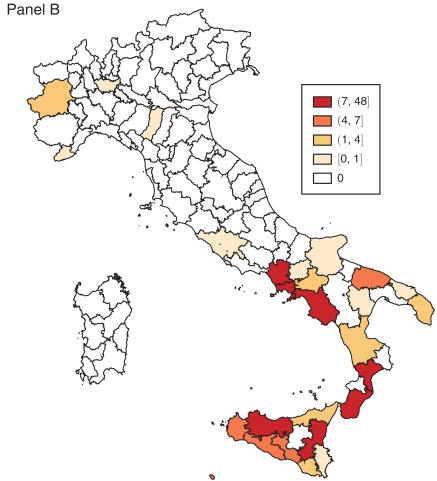
- In the 1980s, the Mafia infiltrated many local governments in Italy. Corruption was so rampant in those areas that the Mafia effectively dominated (if not monopolized) the local economies.
- In 1991, the Italian parliament introduced a policy of city council dismissals (CCDs).
- Under the law, if local governments appear to be under the influence of the Mafia, the central government can dismiss the city council and replace, and place external commissioners to run the city for 24–36 months before new elections.

Distribution of CCDs

Panel A. City council dismissals due to mafia infiltration, 1991–2016



Panel B



Data

- The authors study the impacts of 245 CCDs from 1991–2016 on local economic outcomes.
- They collect data from various sources:
  - Social security data (comprehensive information on employers and employees);
  - Real estate prices;
  - Local politicians;
  - Company ownership;
  - Public procurement;
  - Local government expenditures, revenues, and population.

Research Design

- *Basic idea:* conducting a diff-in-diff to compare CCD municipalities to control municipalities.
- The parallel trends assumption is not very plausible. An average CCD municipality, due to the past Mafia infiltration, could have very different economic dynamics than an average control municipality.
- To increase the credibility of the diff-in-diff, the authors use the **propensity score matching (PSM)** approach to select comparable controls for CCD municipalities.
- Procedures:
  1. Group CCD municipalities by region r and the CCD year t^*.
  2. For each (r, t^*) group, let candidate control municipalities be control municipalities that are *not* in region r.
     - Why? Avoid spatial spillover effects.
  3. For each (r, t^*) group and candidate controls, run a Probit regression of CCD on a set of covariates.
     - Covariates: one-year-lagged average log earnings; **one- and two-year-lagged log employment**; 1991 population; and one-year-lagged local industry shares.
  4. Nearest matching: Every CCD municipality is matched with a control municipality that has the closest propensity score.
- In the end, 211 (out of 245) CCD municipalities have matches.

Balance Tests

TABLE 1—MUNICIPALITY CHARACTERISTICS IN THE YEAR BEFORE THE CCD

	Matched sample (1)	T (2)	C (3)	$T - C$ (4)	p (5)
Population in 1991	15263.83	15522.71	15004.95	517.76	0.84
Number of establishments	260.97	229.60	292.34	−62.74	0.15
Number of firms	250.80	220.93	280.67	−59.73	0.15
Number of sole proprietorships	132.51	113.11	151.91	−38.80	0.16
Number of employees	2348.95	1572.30	3125.61	−1553.30	0.00
Avg. daily wage	72.74	73.21	72.28	0.93	0.51
Avg. daily wage: prev. not empl.	63.56	64.07	63.04	1.03	0.47
Avg. daily wage: prev. empl.	74.10	74.06	74.14	−0.08	0.95
Municipal wage bill (M of)	41.21	20.16	62.26	−42.10	0.00
Share new entrants	0.14	0.15	0.13	0.02	0.21
Share prev. not empl.	0.26	0.28	0.25	0.03	0.39
Share prev. not empl. <30 y.o.	0.15	0.16	0.14	0.02	0.29
Share firm entries	0.14	0.14	0.13	0.02	0.08
Share firm exists	0.10	0.10	0.10	0.00	0.64
Turnout	0.78	0.77	0.79	−0.02	0.08
Observations	422	211	211		

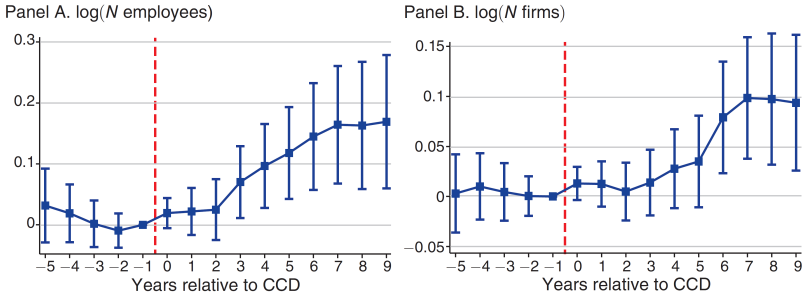
Specification

- The authors estimate an event study model using the matched sample:

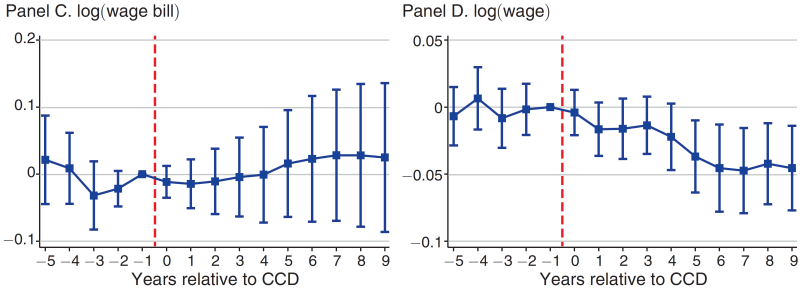
$$y_{mt} = \alpha_m + \lambda_{r(m),t} + \sum_{k=a}^{b} \tilde{\theta}^k \mathbf{1}\{t = t_m^* + k\} + \sum_{k=a}^{b} \theta^k \mathbf{1}\{t = t_m^* + k\} \times CCD_m + u_{mt},$$

  - α_m: municipality fixed effect.
  - $\lambda_{r(m),t}$: region by year fixed effect.
  - $\mathbf{1}\{t = t_m^* + k\}$: dummies of years relative to m's (or its match's) CCD year.
  - CCD_m: = 1 if m experienced a CCD.
  - Standard errors are clustered at municipality level.

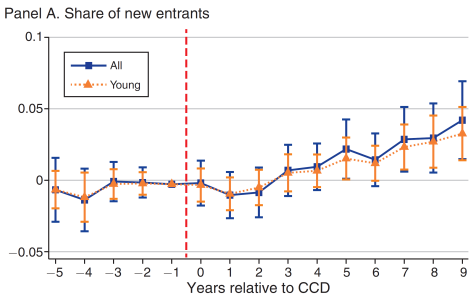
Effects on Employment and Firms

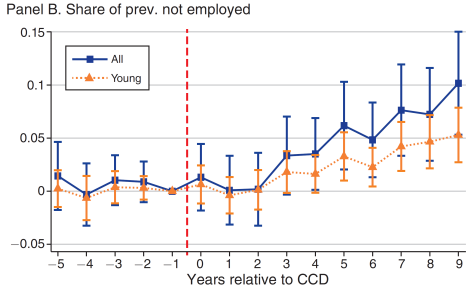


Effects on Wages



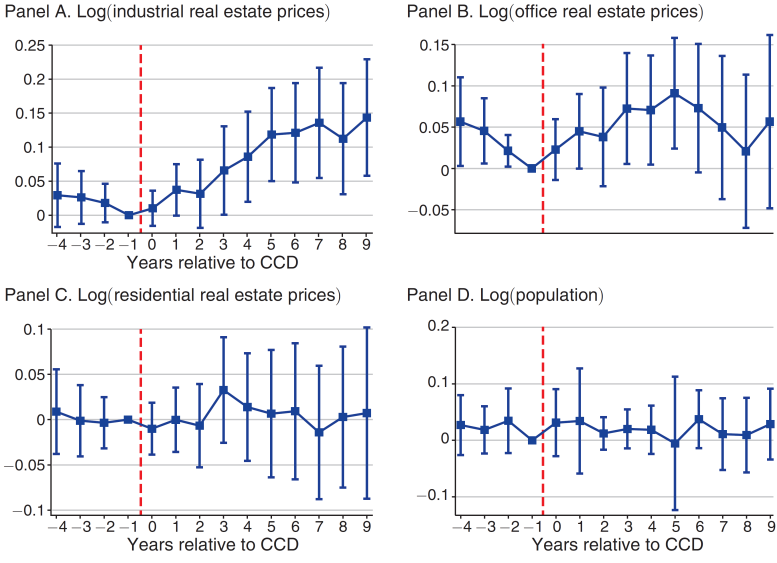
Labor Market Entry





- CCDs in particular increased entry of new workers in low-paying jobs.

Real Estate Prices



Mechanisms

- Thus far, we see that CCDs boosted economic development in terms, employment, firm creation, and real estate demand.

- The authors discuss two sets of mechanisms for these effects.
  - **Mafia-unrelated:** CCDs may simply represent power redistribution between the central government and local governments, which results in increased transfer payments or new investments.
  - **Mafia-related:** CCDs reduce the Mafia's control over local economy and politics.

1. Mafia-Unrelated Mechanisms: Local Government Revenue

Table G.5: Effects of CCDs on Municipality Revenue

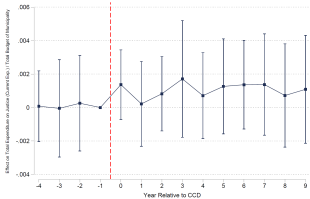
	(1) Log Total Revenue	(2) Taxes/ Tot. Rev.	(3) Transfers/ Tot. Rev.	(4) Loans/ Tot. Rev.	(5) Other Rev./ Tot. Rev.
On Impact	-0.0404	0.0169	0.0222	-0.0067	-0.0301
	(0.0420)	(0.0133)	(0.0113)	(0.0142)	(0.0183)
Short Run	-0.0533	0.0174	0.0048	-0.0362	0.0187
	(0.0615)	(0.0217)	(0.0149)	(0.0207)	(0.0270)
Long Run	0.0259	-0.0163	-0.0211	0.0335	0.0059
	(0.0738)	(0.0241)	(0.0224)	(0.0326)	(0.0348)
Mean	15.906	0.277	0.261	0.093	0.371
N	4,457	4,457	4,457	4,457	4,457
Muni FE	Yes	Yes	Yes	Yes	Yes
Reg-Year FE	Yes	Yes	Yes	Yes	Yes

Notes: Matched municipality sample, Ministry of the Interior data (1998–2015). Treated municipalities are matched to out-of-region potential control municipalities. This table reports the estimated θ^k coefficients from (1). We define "on impact" as $k = 0$, "short run" as $k = 3$, and "long run" as $k = 9$. "Mean" is the mean of the dependent variable. Standard errors are reported in parentheses and are clustered at the municipality level. Regression results are weighted by the logarithm of the number of firms in the year before the CCD.

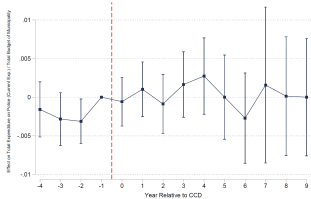
1. Mafia-Unrelated Mechanisms: Local Government Expenditures

Figure G.2: Effects of CCDs on Expenditures

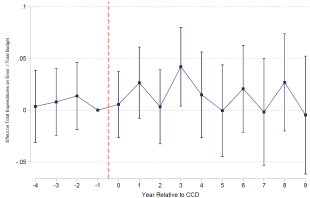
(a) Justice System



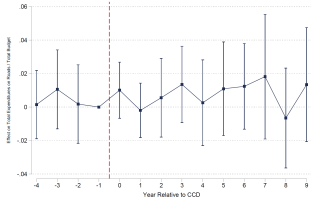
(b) Police



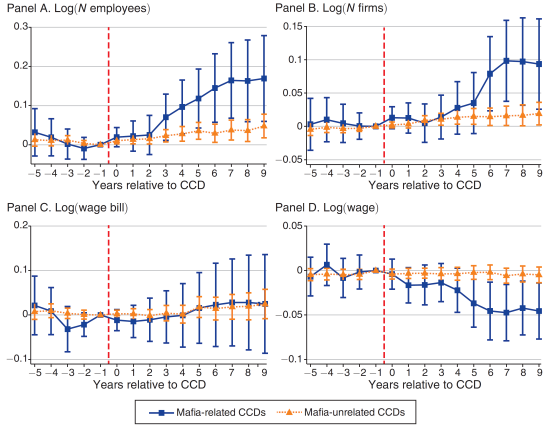
(c) Sanitation/Garbage Collection



(d) Roads and Infrastructure

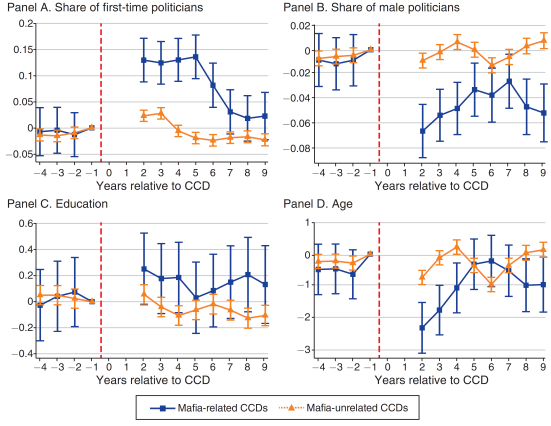


1. Mafia-Unrelated Mechanisms: Recentralization of Power



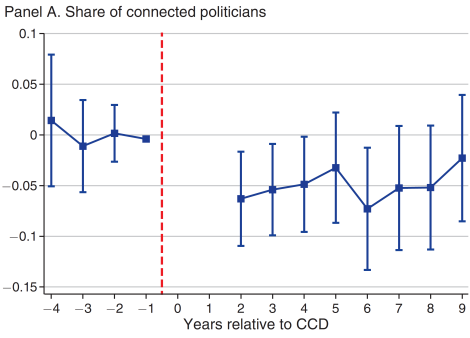
- CCDs for reasons other than the Mafia influence (e.g., mayoral resignation, failure to pass budgets, social disorder, etc.) do not have similar economic effects.

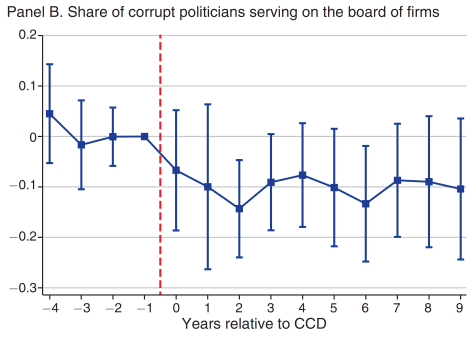
2. Mafia-Related Mechanisms: Political Turnovers



- Mafia-related CCDs brought more new, female, educated, and young politicians.
- CCDs weakened incumbency advantage.

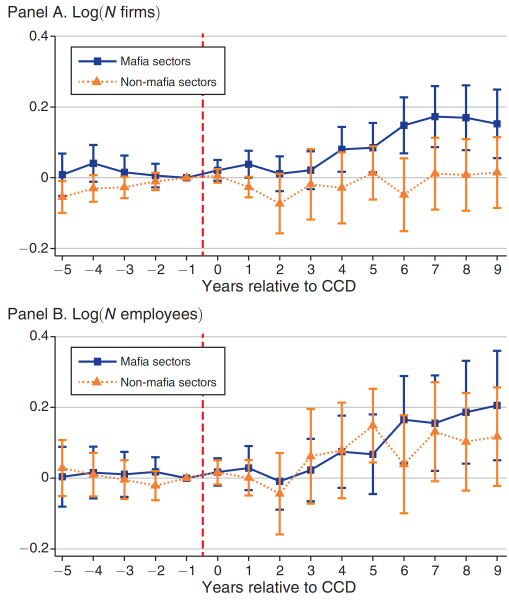
2. Mafia-Related Mechanisms: Political Connections



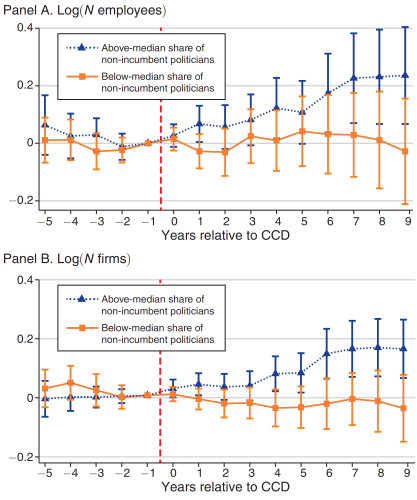


- Connected politicians: those who serve on the executive boards of private firms.
- Corrupt politicians: mayors or vice mayors who held office at the time of CCDs (thus possibly connected to the Mafia).

2. Mafia-Related Mechanisms: Sectoral Heterogeneity



Does the Political Change Matter?



- Two kinds of CCD municipalities:
  - *Above media*n share of nonincumbents elected in the first post-CCD elections;
  - *Below median* share of nonincumbents elected in the first post-CCD elections.
- Economic effects are driven by CCDs that led to significant political change.
- *Econometric note:* Here, the regressions are conditioned on a variable endogenous to the treatment. In general, this could produce estimation bias.

References I

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