Plata y Plomo: How Higher Wages Expose Politicians to Criminal Violence

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Wages, Corruption, and Violence

Higher wages may curb corruption (Becker and Stigler, 1974):

- Attract more competent/honest people into the public sector.
  (Bond, 2008; Besley and McLaren, 1993)
- Increase losses from dismissal following a scandal.
  (Klitgaard, 1997; Rose-Ackerman, 1999; Van Rijckeghem and Weder, 2001)
- Reduce marginal value of bribes.
  (Chen and Liu, 2018; Di Tella and Schargrodsky, 2003)
- **Yet, no theoretical consensus + little empirical evidence.**

Plata y Plomo? Bringing Violence into Play

Criminal organizations often **use violence when bribes are ineffective**. (Dal Bó and Di Tella, 2003; Dal Bó et al., 2006; Castillo Quintana and Enríquez, 2024)

This poses new, pressing questions:

- What is the effect of higher wages on corruption when violence is a tool?
- Will higher wages lead criminal pressure groups to use violence when bribes become less effective?
- If yes, what is the relative role of selection and incentives?

This Study

Italy as a case study (2013-2020):

- RDD to identify **causal effect of higher wages** on procurement and criminal violence on municipal politicians.
- Higher wages **significantly reduce** propensity to favor criminal interests when allocating public resources.
- But also **significantly increase** violence on politicians.
- Wages seem to be **improving incentives**, not selection.

▸ Why Italy? ▸ Why Municipalities?

Contribution

Two main takeaways, illuminating effects of public servants' wages on their interactions with criminal groups:

1. **Higher Wages Can Curb Corruption** (Becker and Stigler, 1974; Mookherjee and Png, 1995; Klitgaard, 1997; Rose-Ackerman, 1999; Van Rijckeghem and Weder, 2001; Di Tella and Schargrodsky, 2003; Besley, 2004; Bond, 2008; Chen and Liu, 2018; D'Andrea, 2019)

2. **But Criminal Organizations React Strategically** (Daniele and Dipoppa, 2023; Tulli, 2024; Baraldi et al., 2024; Enríquez, 2022; Castillo Quintana and Enríquez, 2024)

Compensation of Italian Municipal Politicians

Population	Wage Mayor	Wage Cabinet	Fiche Council	Cabinet Size	Council Size	Electoral Rule	DSP Rules	Max Terms
Below 1,000	1,290	15%	18	4	12	single	No	3
1,000-3,000	1,450	20%	18	4	12	single	Yes	3
3,000-5,000	**2,170**	**20%**	**18**	**4**	**16**	**single**	**Yes**	2
5,000-10,000	**2,790**	**50%**	**18**	**4**	**16**	**single**	**Yes**	2
10,000-15,000	3,100	55%	22	6	20	single	Yes	2
15,000-30,000	3,100	55%	22	6	20	runoff	Yes	2
30,000-50,000	3,460	55%	36	6	30	runoff	Yes	2
50,000-100,000	4,130	75%	36	6	30	runoff	Yes	2
100,000-250,000	5,010	75%	36	10	40	runoff	Yes	2
250,000-500,000	5,780	75%	36	12	46	runoff	Yes	2
Above 500,000	7,800	75%	36	14-16	50-60	runoff	Yes	2

Notes: Figures for wages and presence fiches are in euros. Population is the number of residents as of the last available Census. The wage thresholds at 1,000 and 10,000 were introduced in 2000; all of the others date back to 1960. Source: Gagliarducci and Nannicini (2013), with edits.

1. Wages and Attacks on Politicians

Data about Attacks on Politicians

Digitized info on 3,051 attacks to local public officials between 2014 and 2020 recorded by the NGO *Avviso Pubblico*. ▸ What is it?

- Already used by published research. (Daniele and Dipoppa, 2017)
- Records the date, municipality, victim, and type of attack.
- Mentions when attacks are reported by the victim(s), allowing to test for non-classical measurement error.

▸ Targets ▸ Types ▸ Examples ▸ Map ▸ Attacks by Year ▸ Attacks by Policy Area

Empirical Strategy

RDD at the 5,000 inhabitants cutoff:

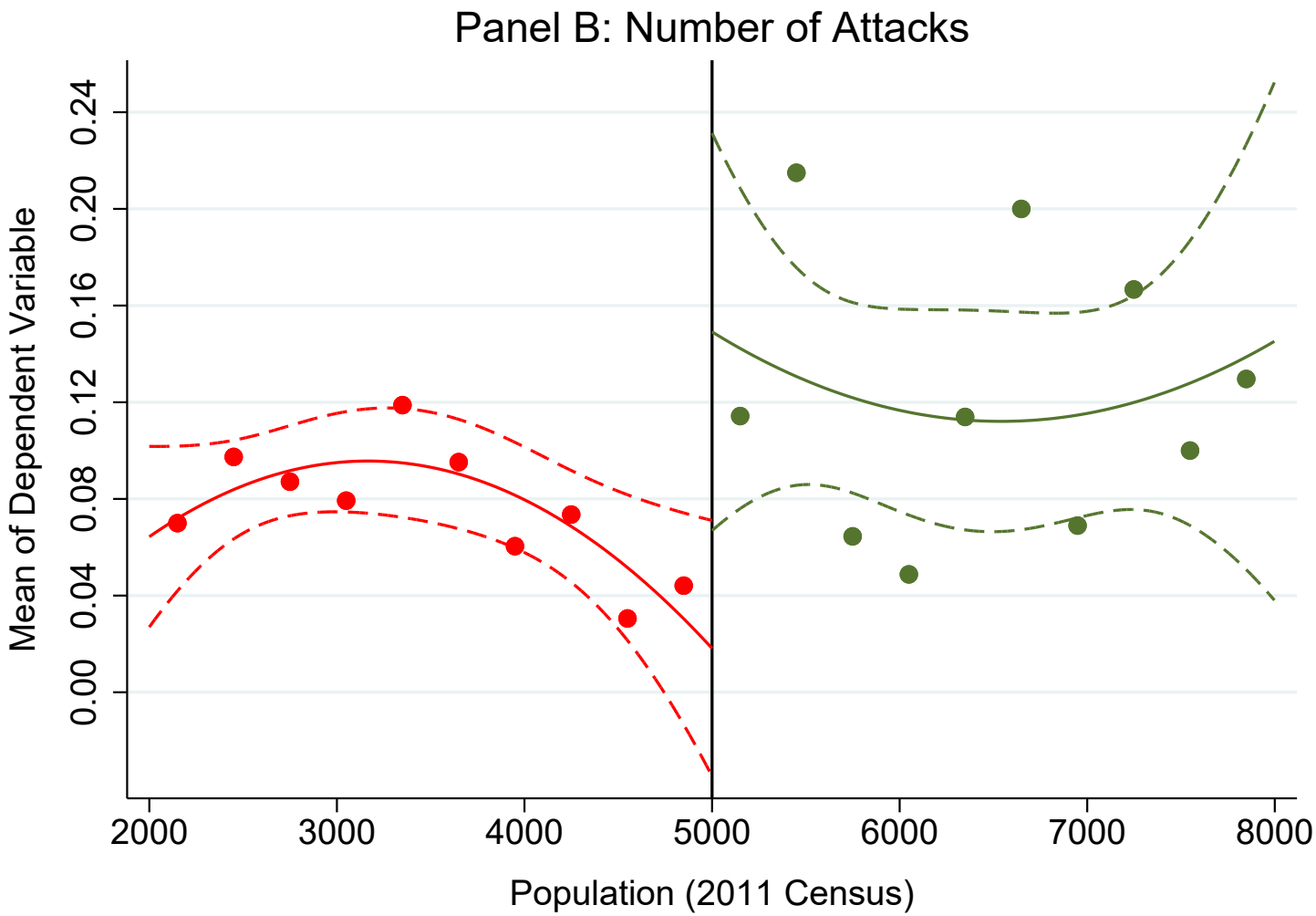
$$Y_i = \phi_p + \beta * \mathbf{1}[Population_{2011} \geq 5,000]_i + \gamma f(Population_{2011})_i + \\ + \lambda(\mathbf{1}[Population_{2011} \geq 5,000] \times Population_{2011})_i + \theta X_i' + \epsilon_i,$$

Local linear polynomial, data-driven bandwidth and robust, bias-corrected SEs (Calonico et al., 2014).

Validity checks:

1. Balance of covariates at cutoff. Go
2. Tests of no-sorting assumption. Go
3. Treatment status before 2011. Go

Higher Wages $\Longrightarrow$ More Attacks



Higher Wages $\Longrightarrow$ More Attacks

	(1)	(2)	(3)	(4)	(5)	(6)
	≥ 1 Attack	≥ 1 Attack	N. of Attacks	N. of Attacks	Attacks / 5k Inhab.	Attacks / 5k Inhab.
Population ≥ 5000	.075 (.029)	.063 (.028)	.147 (.055)	.125 (.054)	.152 (.058)	.126 (.056)
SD Depvar	.216	.224	.287	.287	.316	.315
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	1,357	1,395	1,331	1,271	1,192	1,142
Effective N	1,100	1,130	1,078	1,017	964	914
N Left	672	693	655	614	579	546
N Right	428	437	423	403	385	368

Notes: The standard deviation of the dependent variable is measured within the left half of the optimal bandwidth. Controls: Pre-2011 mafia presence, longitude, latitude, distance from the regional capital, log altitude, log slope, log surface, 2011 log pop. density, 2011 log n. foreign residents x 100 inhab., 2011 log n. non-profits x 100 inhab., 2011 % female, 2011 % illiterate, 2011 % high school diploma, 2011 unemployment rate, 2011 % employed in agriculture, 2011 average age, 2008 vote share for center-right coalition, 2008 general election turnout.

▸ Results Mayor/Cabinet ▸ Results Threats/Violent

Placebo and Robustness Tests

1. No effect on councilors. Go
2. No effect on non-elected officials. Go
3. No effect on non-criminal attacks. Go
4. Robustness to excluding attacks denounced by victim. Go
5. Robustness to quadratic polynomial. Go
6. Robustness to bandwidth choice. Go
7. Robustness to MLE. Go
8. Jackknife tests excluding one region at a time. Go
9. Placebo with irrelevant thresholds. Go

Heterogeneity Analyses

Following the theoretical framework by Castillo Quintana and Enríquez, 2024), test heterogeneity along two dimensions:

1. Regions of origin of mafia vs. rest of Italy ▸ Go

2. Heterogeneity by local media presence. ▸ Go

2. Wages and Procurement

Do Higher Wages Curb Corruption?

ANAC data on $>$ 500k contracts. **Focusing on contracts for public works**, check 3 behaviors linked to favoring mafia firms:

- Sorting contract values below critical thresholds to limit monitoring and competition/favor infiltration. ▸ Details

  (Tulli, 2024; Daniele and Dipoppa, 2023; Coviello et al., 2022)

- Inviting few firms in negotiated procedures.

  (Decarolis et al., 2021)

- Subcontracting by awardee.

  (Decarolis et al., 2021; Caneppele and Martocchia, 2014)

Higher Wages $\Longrightarrow$ Less Bunching of Contracts

	(1)	(2)	(3)	(4)	(5)	(6)
	All Contracts	All Contracts	Public Works	Public Works	Goods & Services	Goods & Services
Population $\geq$ 5000	-.026 (.011)	-.021 (.012)	-.057 (.019)	-.051 (.020)	-.011 (.014)	-.006 (.017)
SD Depvar	.104	.106	.153	.154	.146	.142
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	1,150	914	1,095	982	1,431	984
Effective N	926	707	861	763	1,157	763
N Left	556	403	510	441	714	441
N Right	370	304	351	322	443	322

Notes: The dependent variable is the sum of the following 3 differences: (1) share of contracts with value b/w 30 and 40k minus share of contracts with value b/w 40 and 50k, (2) share of contracts with value b/w 140 and 150k minus share of contracts with value b/w 150 and 160k, and (3) share of contracts with value b/w 190 and 200k minus share of contracts with value b/w 200 and 210k. The standard deviation of the dependent variable is measured within the left half of the optimal bandwidth.

▸ Results at 40k ▸ Results at 150k ▸ Results at 200k

Higher Wages $\Longrightarrow$ More Firms Invited

	(1)	(2)	(3)	(4)	(5)	(6)
	All Contracts	All Contracts	Public Works	Public Works	Goods & Services	Goods & Services
Population $\geq$ 5000	.153 (.086)	.164 (.088)	.226 (.093)	.206 (.097)	.093 (.107)	.080 (.124)
SD Depvar	.830	.832	.826	.831	.930	.965
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	1,130	1,085	1,055	1,001	1,679	1,247
Effective N	825	774	723	676	856	633
N Left	492	455	419	387	511	370
N Right	333	319	304	289	345	263

Notes: The dependent variable is the log average number of firms invited to bid in the negotiated procurement procedures of municipality i between 2013 and 2020. The standard deviation of the dependent variable is measured within the left half of the optimal bandwidth.

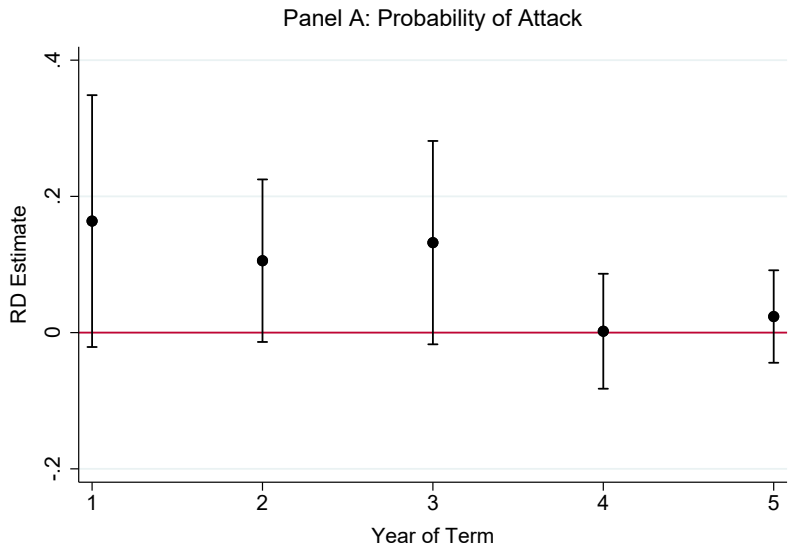
Higher Wages $\Longrightarrow$ Less Subcontracting

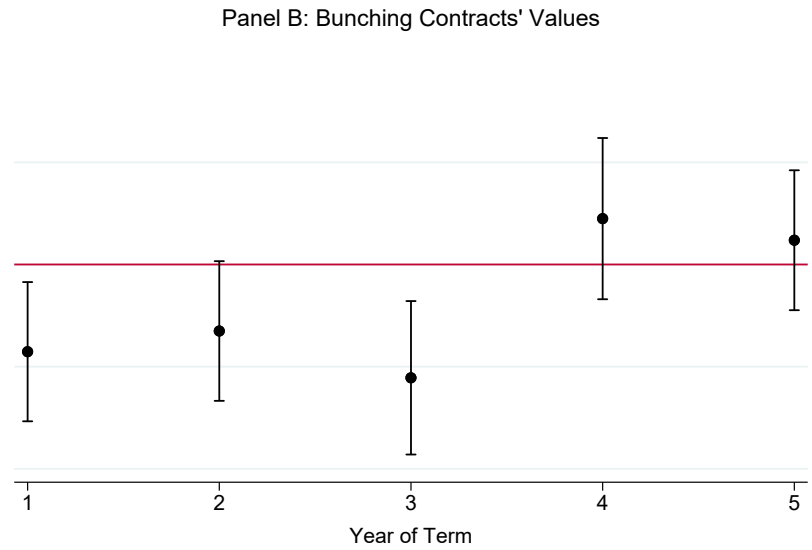
	(1)	(2)	(3)	(4)	(5)	(6)
	All Contracts	All Contracts	Public Works	Public Works	Other Contracts	Other Contracts
Population $\geq$ 5000	-.023 (.012)	-.045 (.012)	-.044 (.015)	-.042 (.016)	-.008 (.006)	-.008 (.007)
SD Depvar	.117	.119	.171	.174	.067	.075
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	1,454	1,250	1,275	1,383	1,370	1,019
Effective N	1,154	978	988	1,070	971	705
N Left	714	593	600	659	591	412
N Right	442	385	388	411	380	293

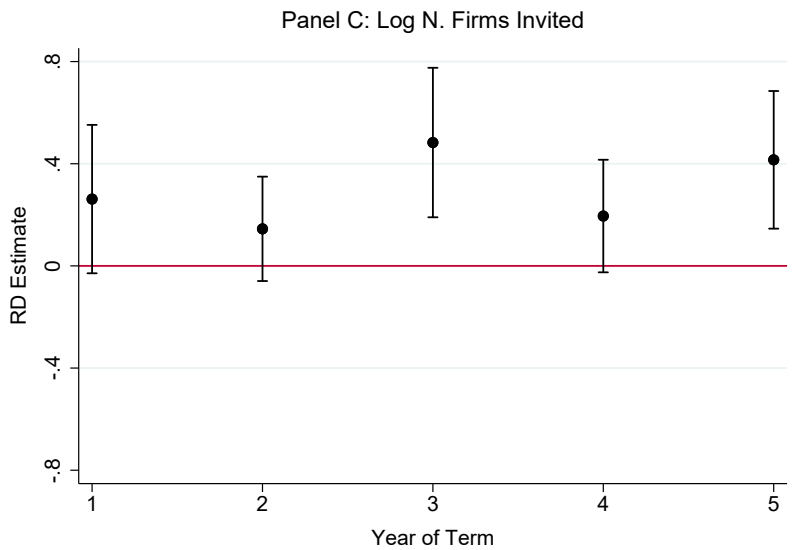
Notes: The dependent variable is the share of contracts awarded by municipality i between 2013 and 2020 that were subsequently subcontracted. The standard deviation of the dependent variable is measured within the left half of the optimal bandwidth.

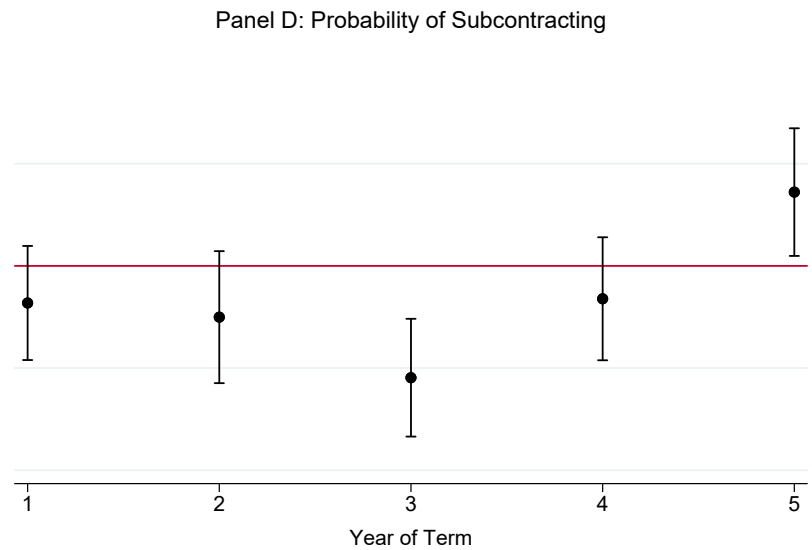
▸ Is This Really about Wages? ▸ Placebo: Wages and Procurement Before 2011

Timing of the Effects









3. Selection or Incentives?

No Changes in Mayoral Characteristics (1)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Mayor Age	Mayor Female	Mayor Local	Mayor Educ.	Mayor College	Mayor Skilled	Mayor Tech	Mayor Incumb.
Population $\geq$ 5000	-.019 (.114)	-.149 (.122)	.093 (.098)	.053 (.092)	-.011 (.108)	-.176 (.121)	-.142 (.095)	.001 (.073)
EY FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Prov. FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	No	No	No	No	No	No	No
Polynomial	1st	1st	1st	1st	1st	1st	1st	1st
Bandwidth	1,361	1,336	1,723	1,782	1,573	1,365	2,485	1,228
Effective N	2,269	2,220	2,929	2,920	2,523	2,125	4,315	2,048
N Left	1,389	1,350	1,856	1,865	1,569	1,306	2,922	1,235
N Right	880	870	1,073	1,055	954	819	1,393	813

Notes: All dependent variables are standardized, to enhance the comparability of effects' magnitudes. *Education* is measured as log years of schooling. High-skilled jobs are lawyers, professors, physicians, and entrepreneurs. Tech skilled is referred to expertise relevant to procurement and procurement regulation, and includes architects, economists, entrepreneurs, engineers, lawyers, and judges.

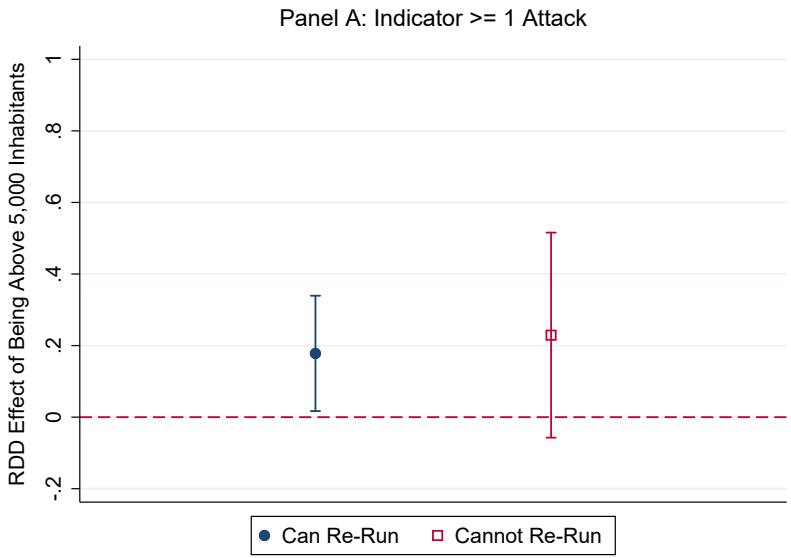
No Changes in Mayoral Characteristics (2)

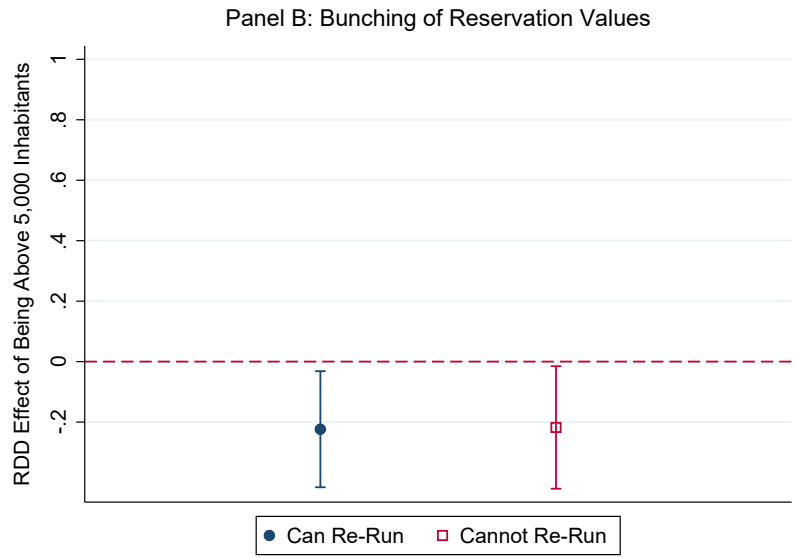
	(1) National Party	(2) Far Left	(3) Left	(4) Indep.	(5) Right	(6) Far Right	(7) Aligned Central	(8) Aligned Region
Population $\geq$ 5000	-.091 (.099)	-.014 (.012)	.072 (.088)	.091 (.099)	-.240 (.098)	-.382 (.131)	-.009 (.083)	-.082 (.090)
SD Depvar	.327	.001	.236	.327	.247	.237	.255	.287
EY FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Prov. FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	No	No	No	No	No	No	No
Polynomial	1st	1st	1st	1st	1st	1st	1st	1st
Bandwidth	1,777	1,293	1,498	1,777	1,966	1,709	1,947	2,150
Effective N	2,489	1,790	2,059	2,489	2,794	2,394	2,774	3,116
N Left	1,581	1,084	1,270	1,581	1,786	1,511	1,771	2,021
N Right	908	706	789	908	1,008	883	1,003	1,095

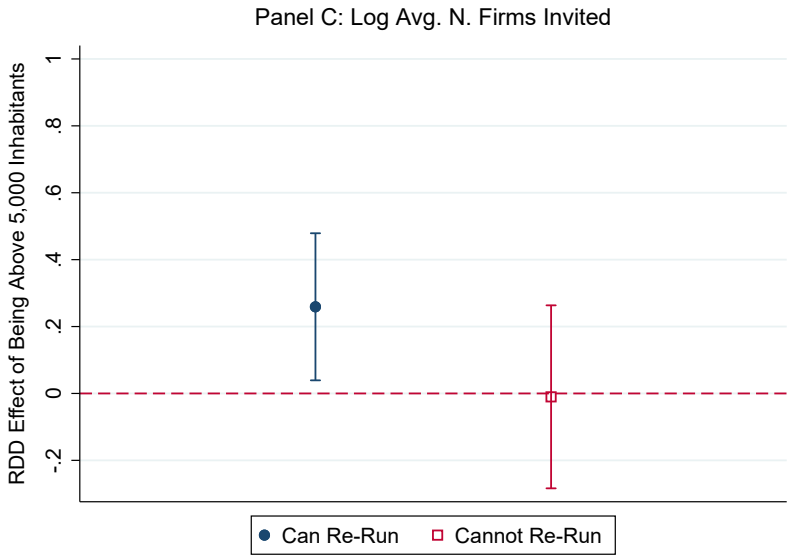
Notes: All dependent variables are standardized, to enhance the comparability of effects' magnitudes. *Aligned Central* and *Aligned Region* are indicators for the mayor being supported by at least one party within the coalition supporting the Prime Minister or the President of the Regional Executive.

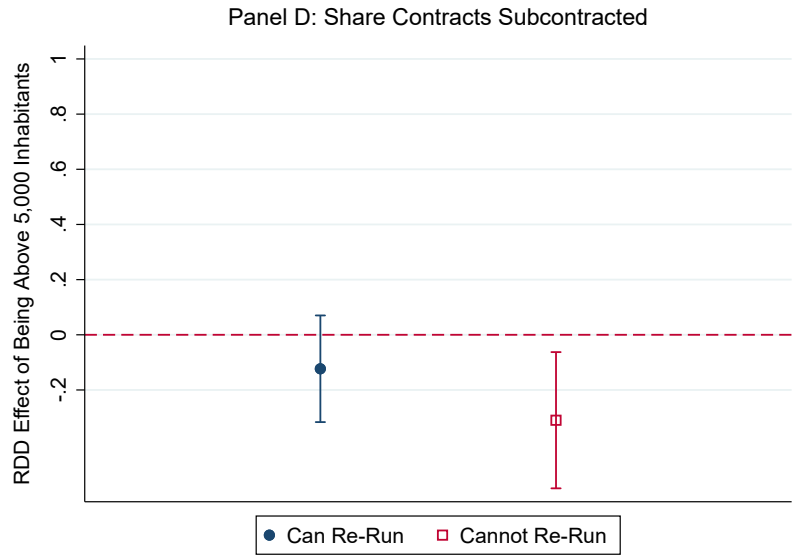
▸ Right-Wing Victories RDDs

Limited Role for Electoral Incentives









Executives Do Change Behavior Post Census

	(1)	(2)	(3)	(4)	(5)	(6)
	Bunching Contracts	Bunching Contracts	Invite Firms	Invite Firms	Subcontr. Works	Subcontr. Works
Population	.029	-.051	-.069	.246	.004	-.023
$\geq$ 5000	(.015)	(.020)	(.114)	(.141)	(.035)	(.029)
Period	**Pre**	**Post**	**Pre**	**Post**	**Pre**	**Post**
SD Depvar	.312	.307	1.09	1.10	.327	.327
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	No	No	No	No	No
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	1,185	960	1,878	985	1,438	1,441
Effective N	3,188	2,608	1,499	1,189	1,933	2,391
N Left	1,904	1,542	934	684	1,187	1479
N Right	1,284	1,066	565	505	746	912

Notes: Observations are at the municipality-year level, and the dependent variables refer only to contracts for public works. Observations included are only municipality-years with the same mayor in office as the one that was in charge in 2011. The standard deviation of the dependent variables is measured within the left half of the optimal bandwidth.

Taking Stock

Three main takeaways:

- Criminal groups use violence to counteract institutions that curb political corruption.
- Raising wages is a cost-effective policy to curb corruption, but in certain contexts it may threaten the safety of public officials.
- Attempts at improving transparency must also strengthen the State to shield public officials from criminal influence.

Additional Slides (Appendix)

Why Italy?

- **Relevance** | It has long been plagued by organized crime, with important consequences on its social, political, and economic development. (Pinotti, 2015; Transcrime, 2013)

- **Measurement** | Systematic records of attacks and intimidations to public officials are available, as well as very detailed data on public procurement contracts.

- **Identification** | Administrative rules determine a sharp increase in the remuneration of the mayor and aldermen for municipalities with $>$ 5000 inhabitants.

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Italian Municipalities

Three features are worth noting:

- Main policy areas of competence are social welfare, local police (not responsible for anti-mafia operations), public transportation, and basic services.
- They handle a sizable portion of procurement procedures and public subsidies in the Italian economy.
- Municipal politicians are the main target of both corruption attempts (ANAC, 2019) and violent attacks by organized crime (Avviso Pubblico, 2021).

Back

What is *Avviso Pubblico*?

- An NGO, founded in 1996, aimed at improving lawfulness and transparency in public administration.
- Among other initiatives, it has hundreds of staff members daily checking offline and online newspapers for news on attacks to public administrators.
- While not coming from a governmental source, its reports have been used to inform policymaking in recent years.

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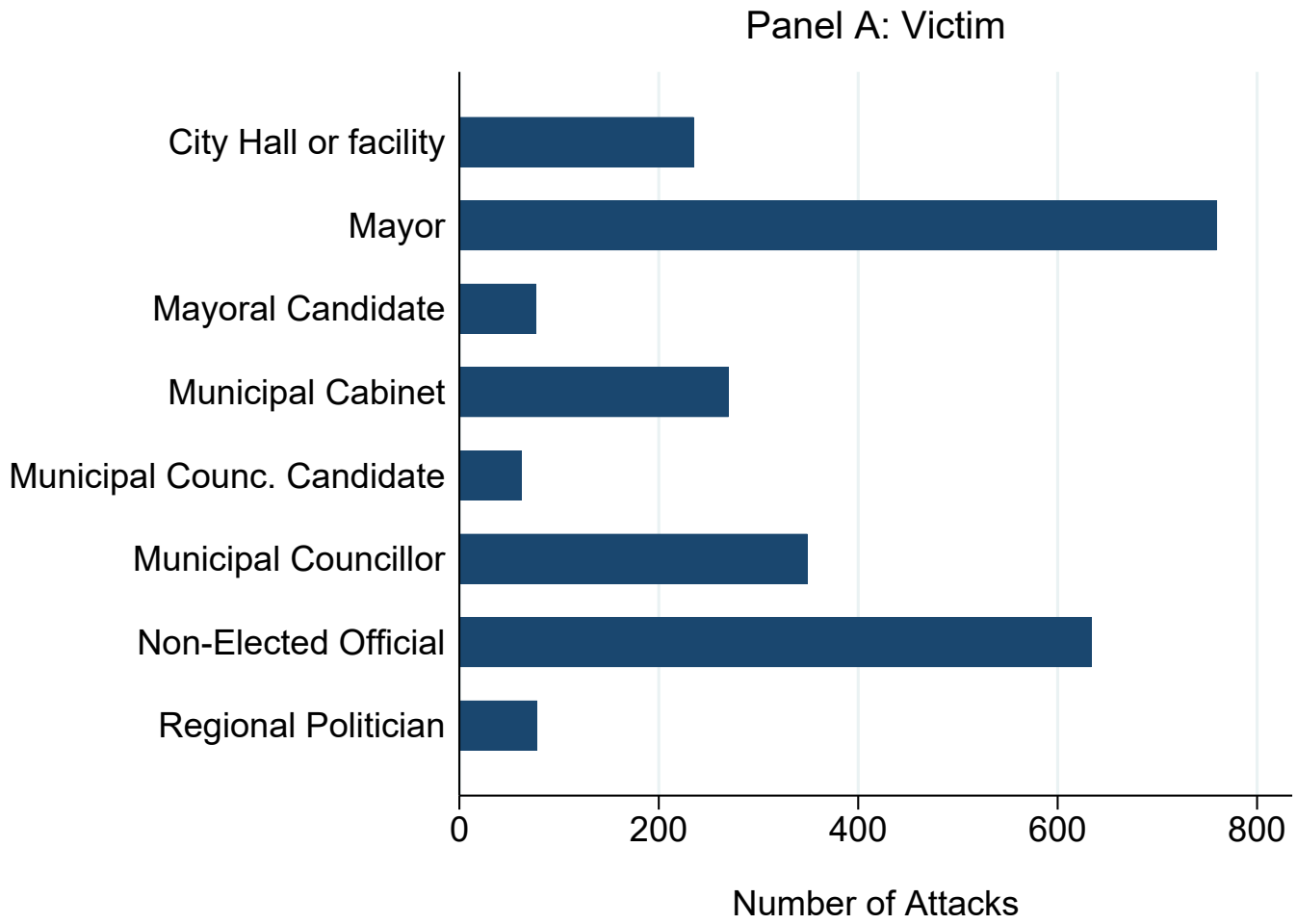
Mostly Targeting Municipal Officials



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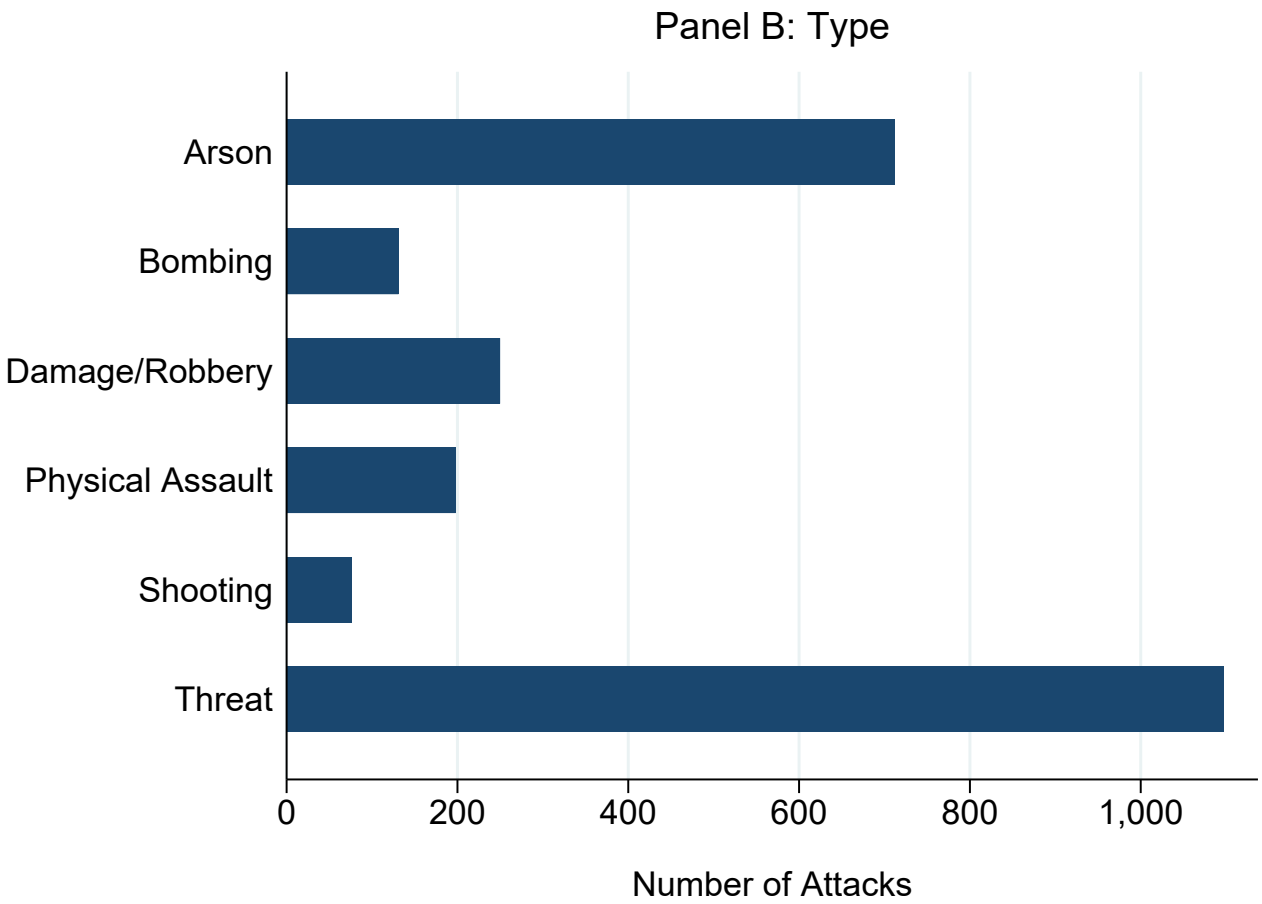
Mix of Violence and Intimidation



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Examples of Reports

23 APRIL 2015 – CAPACI (Palermo) – *A threatening letter was sent to the mailbox of Vicemayor Roberto Tarallo. The letter says "You are going to die" and "You will end up like the mayor of Partinico". Mr. Tarallo, when denouncing the episode to the authorities, hypothesized that the threat might refer to the issue of waste management in the municipality.*

19 DECEMBER 2016 – CROSIA (Cosenza) *Threat to the Public Works Aldermen, Mr. Saverio Capristo. His car, parked in front of his house, was set on fire during the night.*

Note: Original reports in Italian, translation by the authors.

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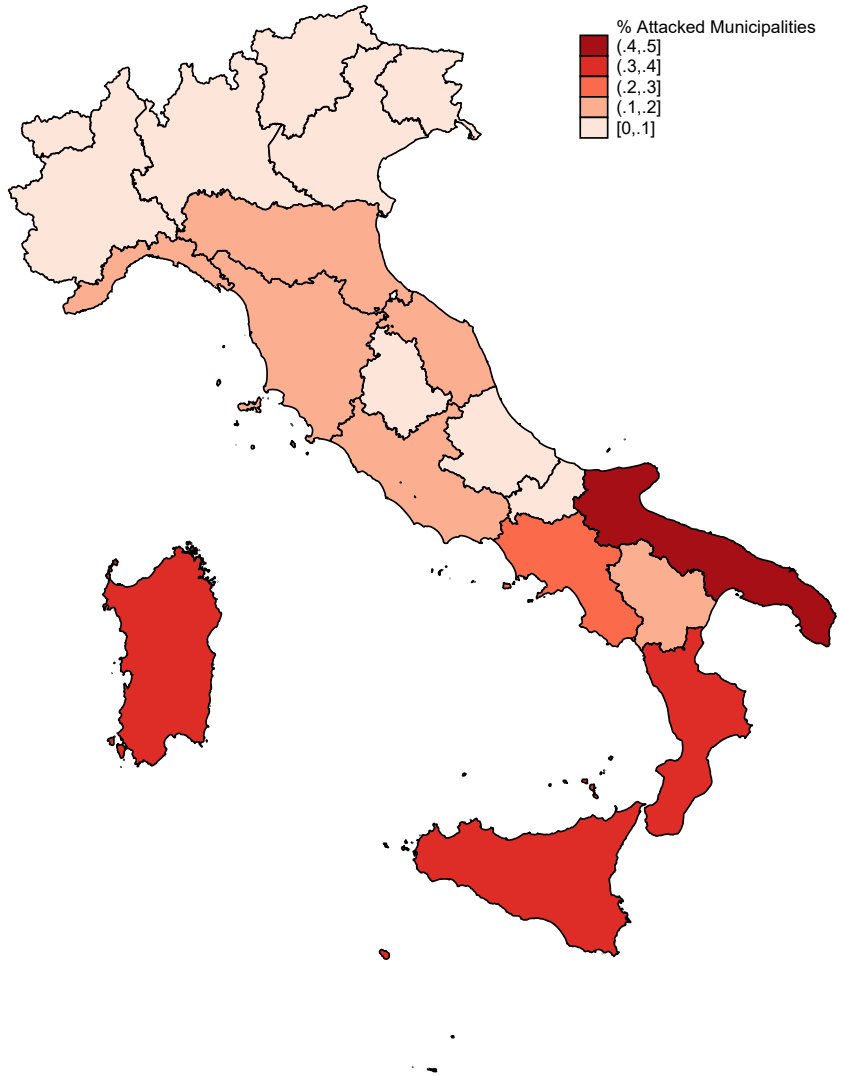
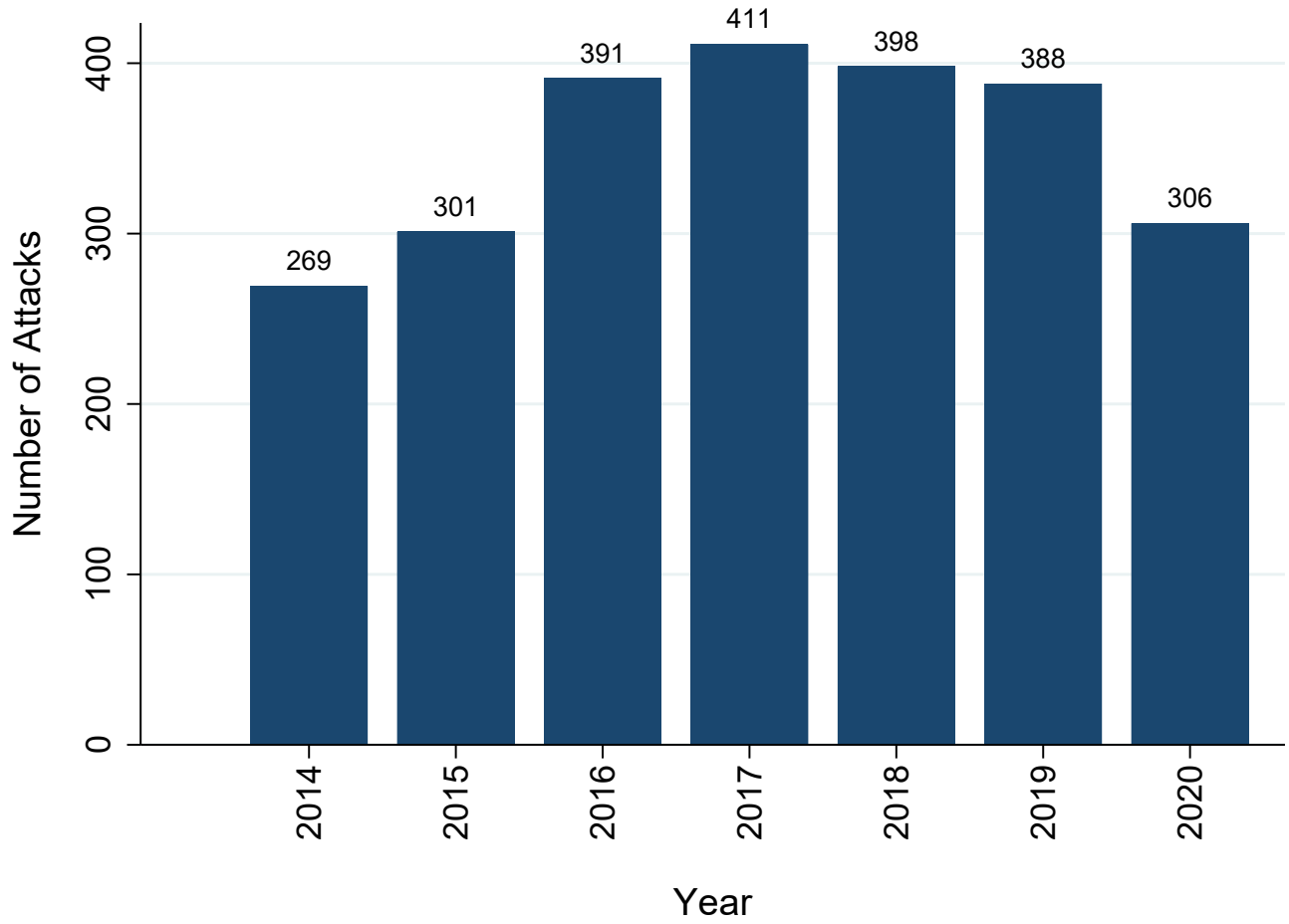
Attacks are Geographically Widespread



Attacks by Year, 2014-2020



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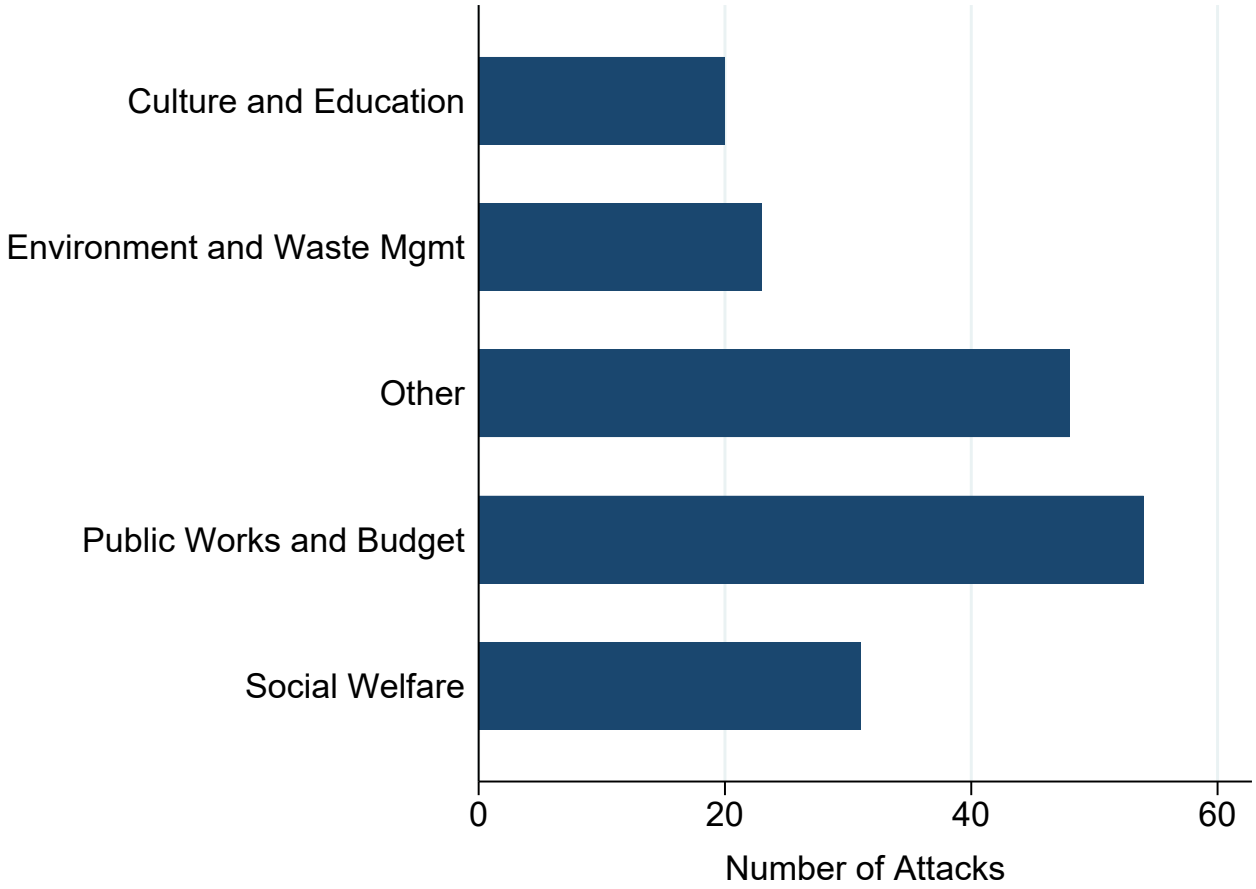
Attacks on Aldermen, by Policy Area



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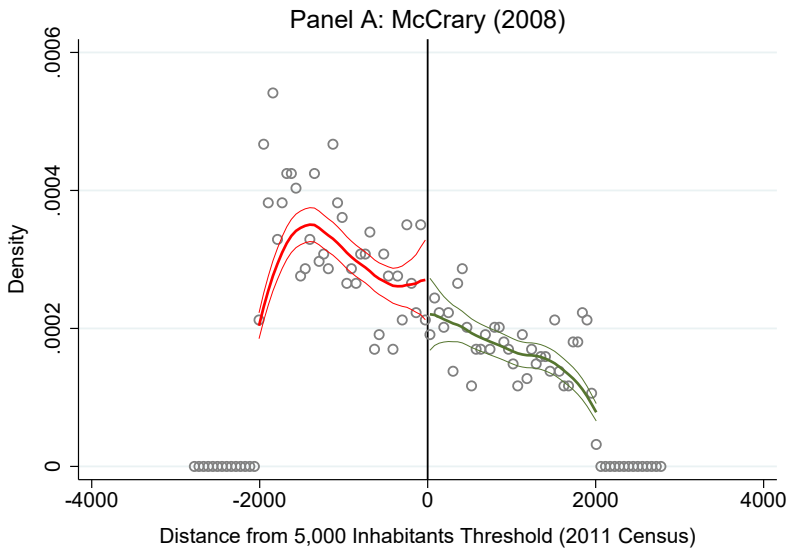
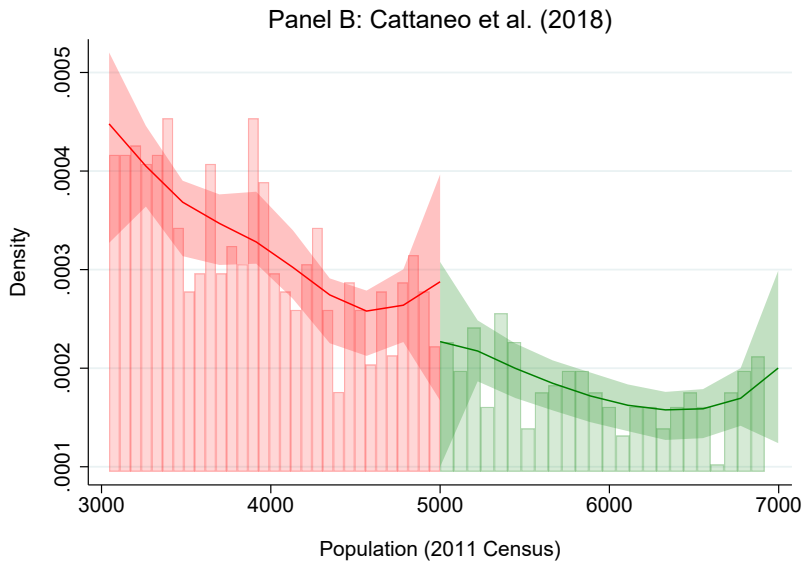
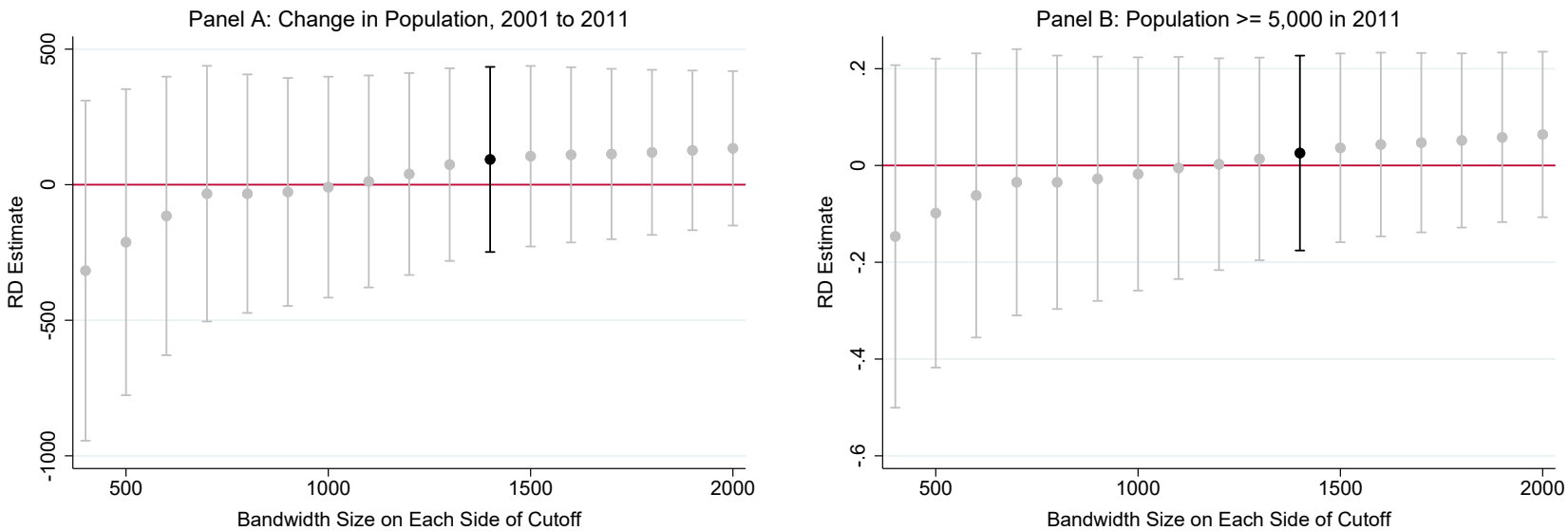
No Evidence of Sorting





Left: McCrary (2008). Right: Cattaneo et al. (2016). Back

Are Municipalities First Treated in 2011?



Note: The coefficients in bold are those referred to a bandwidth of 1,400 inhabitants, i.e., the closest round number to the one selected by the algorithm in the baseline RDD regression having attacks as dependent variable.

▸ Back

Balance of Covariates at Cutoff

Dependent Variable	$\hat{\beta}$	(SE)	Dependent Variable	$\hat{\beta}$	(SE)
Mafia Presence (pre-2011)	-.013	(.056)	% Illiterate	.005	(.005)
Mafia Victims (pre-2011)	-.033	(.154)	% Female	.001	(.002)
Mafia Seizures (pre-2011)	.009	(.056)	% Unemployed	.164	(.140)
Mafia Infiltrated (pre-2011)	-.000	(.006)	% Agriculture	.029	(.018)
Log Surface	-.032	(.190)	% Industry	-.023	(.024)
Population in 2011	168	(125)	Average Age	-.402	(.459)
2011 Population $\geq$ 5,000	.069	(.087)	Turnout 2008	-.014	(.012)
Log Longitude	.074	(.050)	% Center-Right 2008	-.012	(.026)
Log Latitude	-.021	(.015)	% Center-Left 2008	-.005	(.020)
Log Kms to Region Capital	-.006	(.127)	Log Tot. Procurement	-.047	(.133)
Log Elevation	.078	(.223)	Log Tot. Procurement PW	-.428	(.256)
Log Slope	.055	(.294)	Log Avg. Procurement	.034	(.155)
Log Population Density	.057	(.203)	Log Avg. Procurement PW	.043	(.122)
Log Foreigners x 100 Inhab.	-.217	(.110)	Log Spending in Police	.697	(.674)
Log NGOs x 1,000 Inhab.	-.030	(.074)	Municipal Union Member	-.098	(.086)
% High School	-.009	(.006)	Municipal Union Head	-.047	(.038)
Avg. Clearance Rate	.018	(.024)	Has Police Station	.008	(.014)
Has Local Media	.021	(.067)	Has Local Newspaper	-.017	(.054)
Has Local Radio	-.004	(.045)	Media x 1,000 Inhab.	-.015	(.017)
Newspapers x 1,000 Inhab.	-.009	(.013)	Radios x 1,000 Inhab.	.005	(.011)

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Results: Mayors

	(1)	(2)	(3)	(4)	(5)	(6)
	≥ 1 Attack	≥ 1 Attack	N. of Attacks	N. of Attacks	Attacks / 5k Inhab.	Attacks / 5k Inhab.
Population ≥ 5000	.065 (.027)	.053 (.028)	.131 (.046)	.113 (.046)	.129 (.048)	.106 (.047)
SD Depvar	.177	.171	.199	.200	.229	.245
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	1,263	1,218	1,209	1,150	1,127	983
Effective N	1,024	980	980	923	910	770
N Left	619	589	591	551	542	442
N Right	405	391	389	372	368	328

Notes: The standard deviation of the dependent variable is measured within the left half of the optimal bandwidth.

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Results: Cabinet

	(1)	(2)	(3)	(4)	(5)	(6)
	≥ 1 Attack	≥ 1 Attack	N. of Attacks	N. of Attacks	Attacks / 5k Inhab.	Attacks / 5k Inhab.
Population ≥ 5000	.020 (.018)	.018 (.019)	.025 (.019)	.020 (.019)	.024 (.019)	.020 (.019)
SD Depvar	.122	.132	.146	.154	.173	.184
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	1,336	1,168	1,228	1,119	1,259	1,131
Effective N	1,082	936	998	895	1,020	903
N Left	658	560	602	532	616	538
N Right	424	376	396	363	404	365

Notes: The standard deviation of the dependent variable is measured within the left half of the optimal bandwidth.

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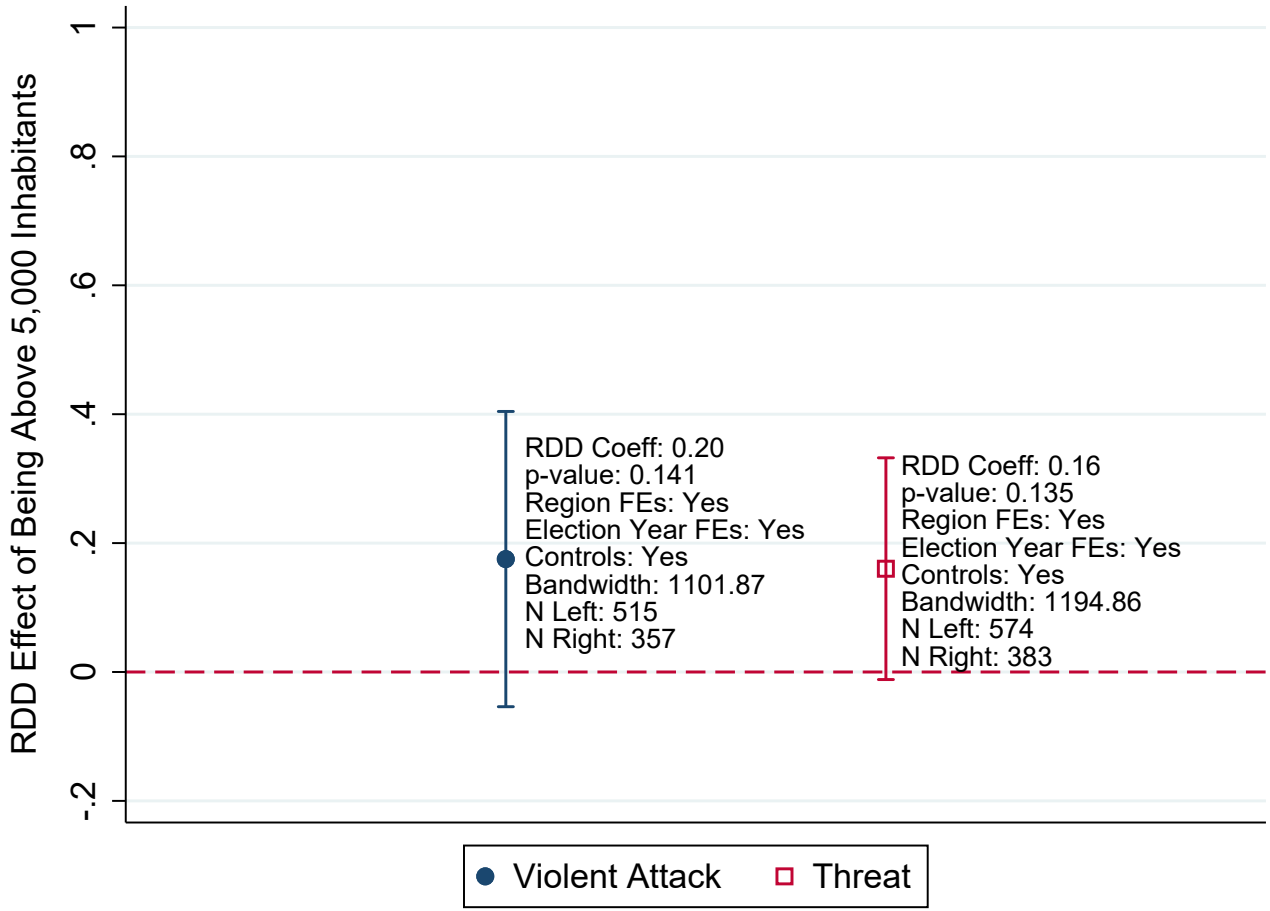
Effect on Attacks and Threats



Notes: Outcomes are standardized for comparability

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Is This Really About Wages?

Three other provisions changed at 5,000 during the sample period:

1. Joint procurement of certain goods and services.
2. More experienced auditors. (Vannutelli, 2022)
3. Gender quotas for municipal council.

Yet:

- Municipalities below 5,000 do not procure less. Go
- Results on attacks not driven by municipal unions. Go
- Attacks already higher before entry of new auditors. Go
- No effects for attacks on councilors. Go

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Balance of Covariates at Cutoff

Dependent Variable	$\hat{\beta}$	(SE)	Dependent Variable	$\hat{\beta}$	(SE)
Mafia Presence (pre-2011)	-.013	(.056)	% Illiterate	.005	(.005)
Mafia Victims (pre-2011)	-.033	(.154)	% Female	.001	(.002)
Mafia Seizures (pre-2011)	.009	(.056)	% Unemployed	.164	(.140)
Mafia Infiltrated (pre-2011)	-.000	(.006)	% Agriculture	.029	(.018)
Log Surface	-.032	(.190)	% Industry	-.023	(.024)
Population in 2011	168	(125)	Average Age	-.402	(.459)
2011 Population $\geq$ 5,000	.069	(.087)	Turnout 2008	-.014	(.012)
Log Longitude	.074	(.050)	% Center-Right 2008	-.012	(.026)
Log Latitude	-.021	(.015)	% Center-Left 2008	-.005	(.020)
Log Kms to Region Capital	-.006	(.127)	Log Tot. Procurement	-.047	(.133)
Log Elevation	.078	(.223)	Log Tot. Procurement PW	-.428	(.256)
Log Slope	.055	(.294)	Log Avg. Procurement	.034	(.155)
Log Population Density	.057	(.203)	Log Avg. Procurement PW	.043	(.122)
Log Foreigners x 100 Inhab.	-.217	(.110)	Log Spending in Police	.697	(.674)
Log NGOs x 1,000 Inhab.	-.030	(.074)	Municipal Union Member	-.098	(.086)
% High School	-.009	(.006)	Municipal Union Head	-.047	(.038)
Avg. Clearance Rate	.018	(.024)	Has Police Station	.008	(.014)
Has Local Media	.021	(.067)	Has Local Newspaper	-.017	(.054)
Has Local Radio	-.004	(.045)	Media x 1,000 Inhab.	-.015	(.017)
Newspapers x 1,000 Inhab.	-.009	(.013)	Radios x 1,000 Inhab.	.005	(.011)

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Placebo: No Effect on Councilors

	(1)	(2)	(3)	(4)	(5)	(6)
	≥ 1 Attack	≥ 1 Attack	N. of Attacks	N. of Attacks	Attacks / 5k Inhab.	Attacks / 5k Inhab.
Population ≥ 5000	.007 (.012)	.000 (.011)	.006 (.012)	-.001 (.012)	.007 (.012)	-.014 (.012)
SD Depvar	.124	.114	.130	.112	.261	.138
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	1,396	1,369	1,527	1,284	1,558	1,031
Effective N	1,143	1,101	1,241	1,026	1,274	810
N Left	702	674	762	620	784	469
N Right	441	427	479	406	490	341

Notes: The standard deviation of the dependent variable is measured within the left half of the optimal bandwidth.

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Placebo: No Effect on Councilors

	(1)	(2)	(3)	(4)	(5)	(6)
	≥ 1 Attack	≥ 1 Attack	N. of Attacks	N. of Attacks	Attacks / 5k Inhab.	Attacks / 5k Inhab.
Population ≥ 5000	.007 (.012)	.000 (.011)	.006 (.012)	-.001 (.012)	.007 (.012)	-.014 (.012)
SD Depvar	.124	.114	.130	.112	.261	.138
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	1,396	1,369	1,527	1,284	1,558	1,031
Effective N	1,143	1,101	1,241	1,026	1,274	810
N Left	702	674	762	620	784	469
N Right	441	427	479	406	490	341

Notes: The standard deviation of the dependent variable is measured within the left half of the optimal bandwidth.

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Placebo: No Effect on Non-Elected Officials

	(1)	(2)	(3)	(4)	(5)	(6)
	≥ 1 Attack	≥ 1 Attack	N. of Attacks	N. of Attacks	Attacks / 5k Inhab.	Attacks / 5k Inhab.
Population ≥ 5000	-.027 (.023)	-.033 (.026)	-.018 (.028)	-.031 (.033)	-.030 (.030)	-.037 (.034)
SD Depvar	.246	.246	.301	.310	.372	.376
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	1,646	1,347	1,499	1,170	1,310	1,094
Effective N	1,354	1,080	1,218	938	1,062	862
N Left	849	657	752	561	645	508
N Right	505	423	466	377	417	354

Notes: Non-elected officials are policemen and clerks of the municipal bureaucracy. The standard deviation of the dependent variable is measured within the left half of the optimal bandwidth.

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Placebo: No Effect for Non-Criminal Attacks

	(1)	(2)	(3)	(4)	(5)	(6)
	≥ 1 Attack	≥ 1 Attack	N. of Attacks	N. of Attacks	Attacks / 5k Inhab.	Attacks / 5k Inhab.
Population ≥ 5000	-.007 (.015)	.014 (.019)	.011 (.023)	.050 (.030)	.020 (.029)	.033 (.027)
SD Depvar	.141	.157	.167	.196	.201	.198
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	1,924	1,138	1,949	1,082	1,249	1,290
Effective N	1,634	912	1,657	854	1,014	1032
N Left	1,042	545	1,059	501	612	625
N Right	592	367	598	353	402	407

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Robustness to Quadratic Polynomial

	(1)	(2)	(3)	(4)	(5)	(6)
	≥ 1 Attack	≥ 1 Attack	N. of Attacks	N. of Attacks	Attacks / 5k Inhab.	Attacks / 5k Inhab.
Population ≥ 5000	.079 (.045)	.063 (.045)	.160 (.076)	.132 (.073)	.145 (.071)	.117 (.070)
SD Depvar	.233	.232	.337	.337	.457	.451
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	2nd	2nd	2nd	2nd	2nd	2nd
Bandwidth	1,754	1,660	1,737	1,715	1,881	1,712
Effective N	1,457	1,352	1,438	1,403	1,588	1,396
N Left	925	847	909	885	1,014	880
N Right	532	505	529	518	574	516

Notes: The standard deviation of the dependent variable is measured within the left half of the optimal bandwidth.

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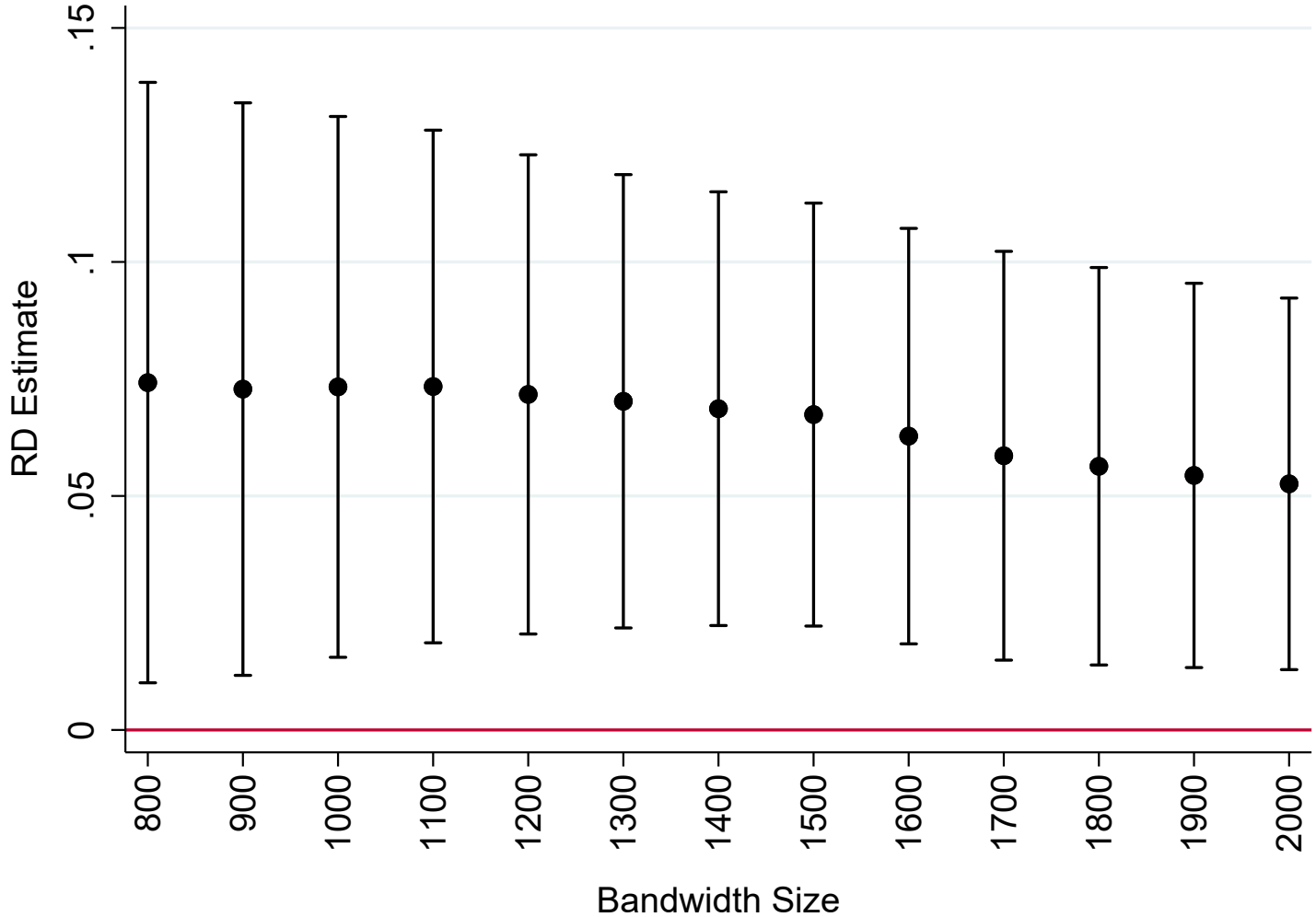
Robustness to Bandwidth Choice



Robustness to MLE

	(1)	(2)
	Poisson	Negative Binomial
Population $\geq$ 5000	.757 (.276)	.772 (.289)
SD Depvar	.285	.285
Election FEs	Yes	Yes
Province FEs	Yes	Yes
Controls	No	No
Bandwidth	1,372	1,372
Effective N	1,117	1,117
N Left	684	684
N Right	433	433

Notes: In all models, the dependent variable is the count of the number of criminal attacks against members of the municipal executive of municipality i between 2014 and 2020. The standard deviation of the dependent variable is measured within the left half of the optimal bandwidth. Controlled specifications for Poisson and Negative Binomial estimators are not shown because of failures of the algorithm in converging.

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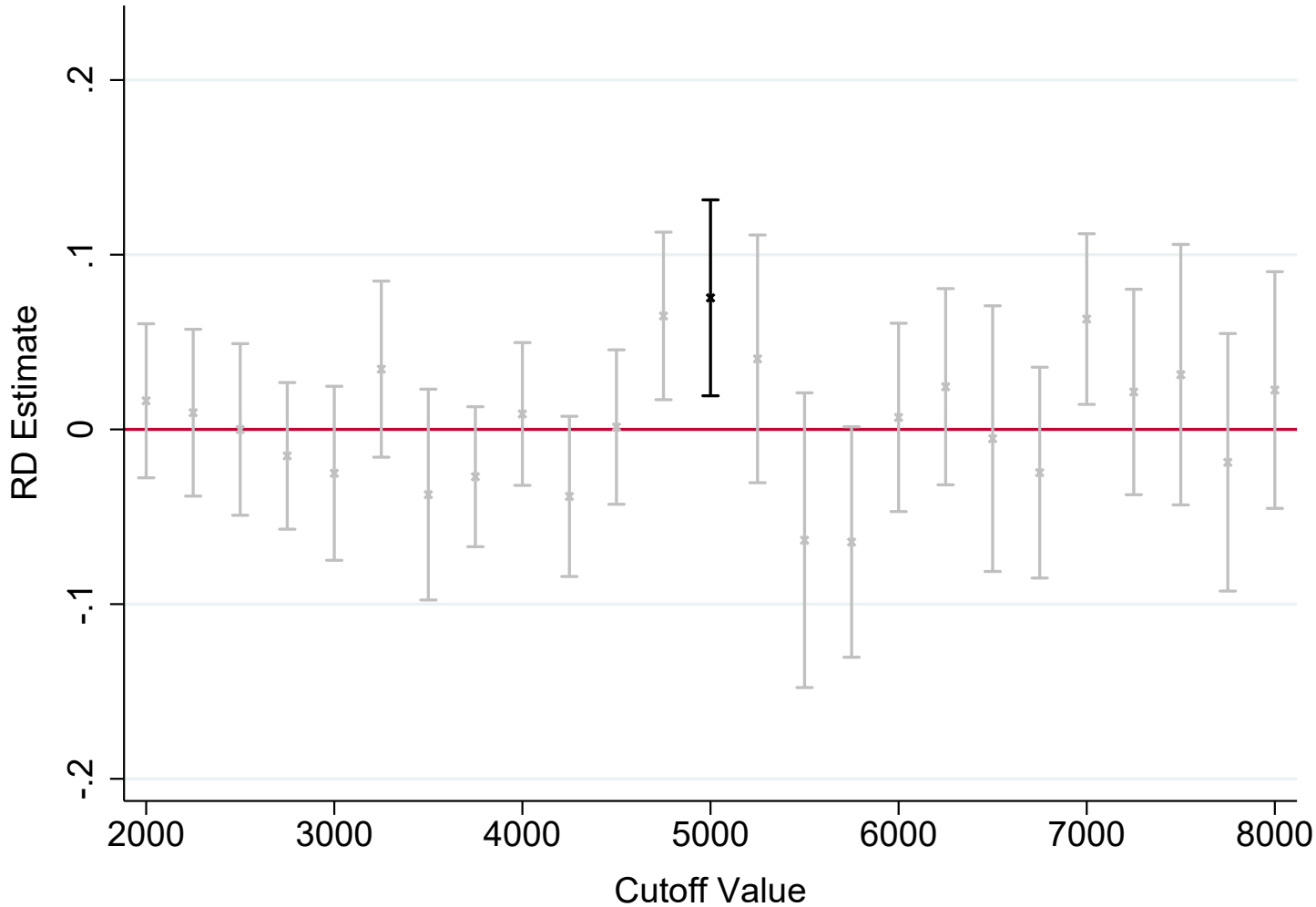
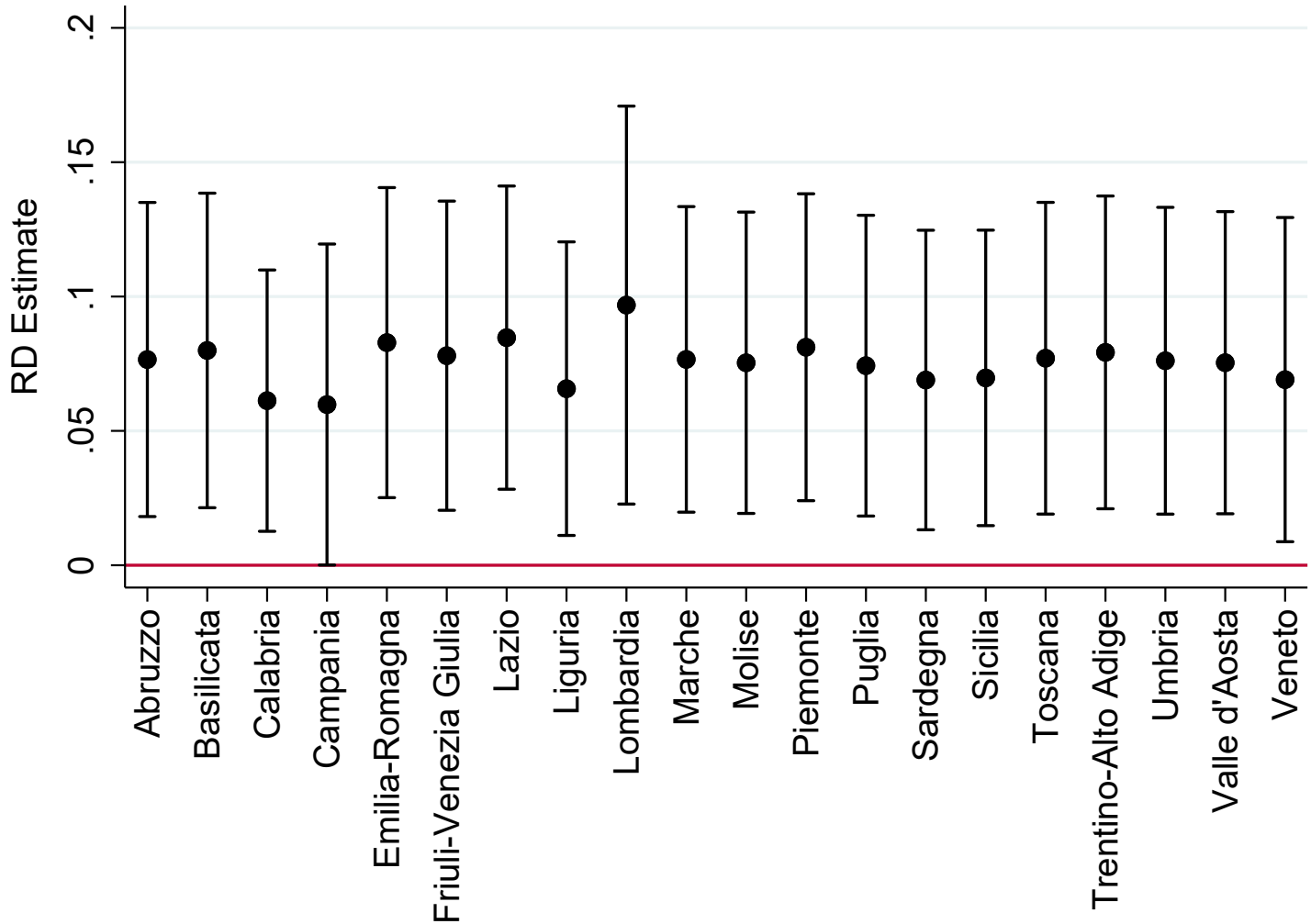
Placebo with Irrelevant Cutoffs



Not Driven by Any Single Region



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Only Attacks Not Denounced

	(1)	(2)	(3)	(4)	(5)	(6)
	≥ 1 Attack	≥ 1 Attack	N. of Attacks	N. of Attacks	Attacks / 5k Inhab.	Attacks / 5k Inhab.
Population ≥ 5000	.059 (.026)	.071 (.028)	.102 (.042)	.104 (.045)	.113 (.046)	.105 (.047)
SD Depvar	.225	.212	.317	.274	.339	.332
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	1,786	1,474	1,558	1,353	1,337	1,252
Effective N	1,481	1,189	1,273	1,085	1,086	1,004
N Left	940	733	783	661	660	605
N Right	541	456	490	424	426	399

Notes: Attacks that, according to *Avviso Pubblico*'s reports, where denounced by the victim(s) are excluded from the count. The standard deviation of the dependent variable is measured within the left half of the optimal bandwidth.

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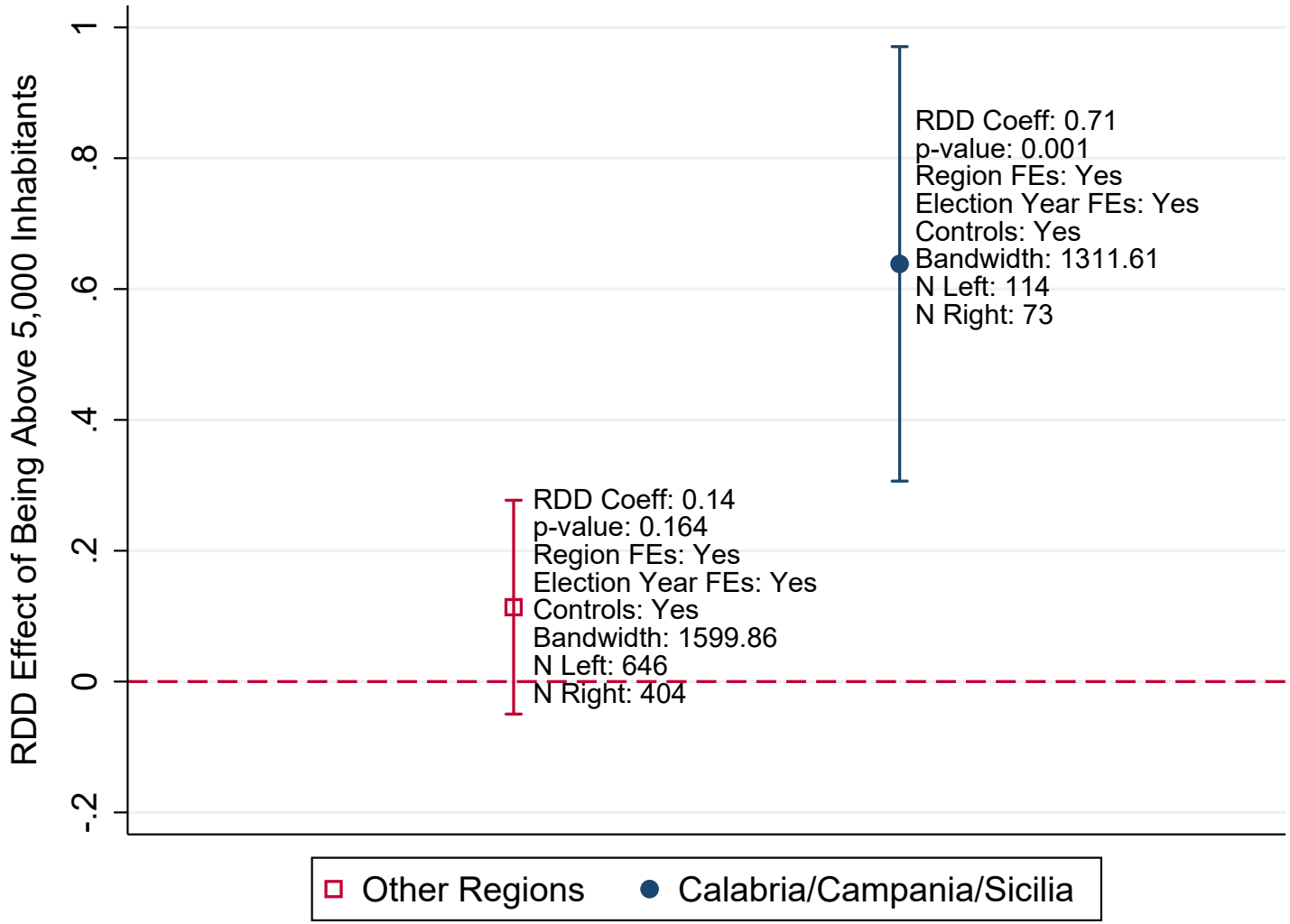
Effect Driven by Traditional Mafia Regions



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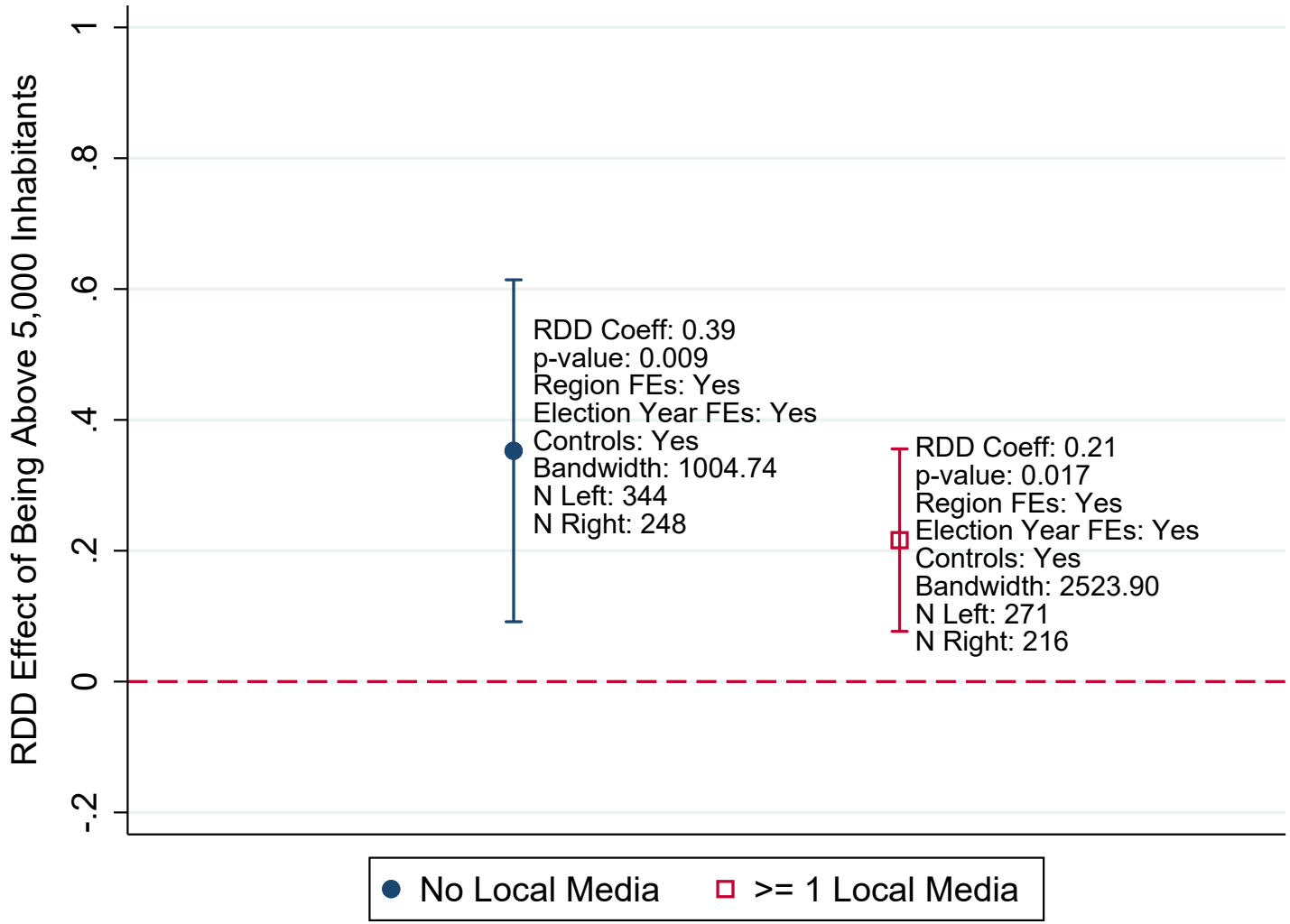
Effect Stronger in Absence of Local Media



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Contract Values and Corruption

Initial bidding values are decided by a pool of experts appointed by the municipal executive. Three important thresholds to look at:

- **40,000 Euros**: Below this value ANAC does not monitor, contracts can be directly assigned w/o competition.
- **150,000 Euros**: Below this value no preemptive screenings on interested firms to check for mafia connections.
- **200,000 Euros**: Below this value at least 3 firms must be invited to bid (min is 5 above).

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Results at 40k Threshold

	(1)	(2)	(3)	(4)	(5)	(6)
	All Contracts	All Contracts	Public Works	Public Works	Goods & Services	Goods & Services
Population $\geq$ 5000	-.005 (.010)	-.005 (.011)	-.044 (.016)	-.043 (.018)	.018 (.010)	.019 (.012)
SD Depvar	.087	.087	.142	.143	.099	.095
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	1,036	947	1,069	983	1,541	1,042
Effective N	815	737	842	761	1,240	810
N Left	423	495	440	763	471	
N Right	340	314	347	321	477	339

Notes: The dependent variable is the difference between the share of contracts with value b/w 30 and 40k euros and the share of contracts b/w 40 and 50k euros. The standard deviation of the dependent variable is measured within the left half of the optimal bandwidth.

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Results at 150k Threshold

	(1)	(2)	(3)	(4)	(5)	(6)
	All Contracts	All Contracts	Public Works	Public Works	Goods & Services	Goods & Services
Population $\geq$ 5000	-.011 (.005)	-.012 (.007)	-.003 (.008)	.002 (.008)	-.022 (.010)	-.025 (.009)
SD Depvar	.053	.050	.071	.071	.072	.071
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	1,998	1,143	1,122	1,005	1,103	1,081
Effective N	1,687	905	893	778	872	843
N Left	1,090	543	532	450	518	496
N Right	597	362	361	328	354	347

Notes: The dependent variable is the difference between the share of contracts with value b/w 140 and 150k euros and the share of contracts b/w 150 and 160k euros. The standard deviation of the dependent variable is measured within the left half of the optimal bandwidth.

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Results at 200k Threshold

	(1)	(2)	(3)	(4)	(5)	(6)
	All Contracts	All Contracts	Public Works	Public Works	Goods & Services	Goods & Services
Population $\geq$ 5000	-.007 (.004)	-.008 (.004)	-.010 (.005)	-.010 (.005)	-.003 (.007)	-.003 (.007)
SD Depvar	.040	.041	.036	.036	.072	.073
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	1,361	1,440	1,037	919	1,196	1,116
Effective N	1,095	1,149	816	710	957	875
N Left	672	709	476	405	577	521
N Right	423	440	340	305	380	354

Notes: The dependent variable is the difference between the share of contracts with value b/w 190 and 200k euros and the share of contracts b/w 200 and 210k euros. The standard deviation of the dependent variable is measured within the left half of the optimal bandwidth.

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Placebo: Wages and Procurement Before 2011

	(1)	(2)	(3)	(4)	(5)	(6)
	Bunching Values	Bunching Values	Invited Firms	Invited Firms	Subcontr. Works	Subcontr. Works
Population $\geq$ 5000	.009 (.016)	.018 (.019)	-.168 (.144)	-.143 (.147)	.050 (.041)	.067 (.042)
SD Depvar	.124	.126	1.02	1.01	.320	.320
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	1,375	822	1,886	1,829	1,360	1,358
Effective N	1,107	639	715	679	848	835
N Left	679	363	459	436	521	512
N Right	428	276	256	243	327	323

Notes: All the dependent variables are based on contracts for public works. The standard deviation of the dependent variable is measured within the left half of the optimal bandwidth.

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Effect on Attacks Not Driven by Unions

	(1)	(2)	(3)	(4)	(5)	(6)
	≥ 1 Attack	≥ 1 Attack	N. of Attacks	N. of Attacks	Attacks / Attacks	Attacks / Attacks
Population ≥ 5000	.102 (.032)	.093 (.032)	.196 (.060)	.178 (.056)	.208 (.063)	.197 (.056)
SD Depvar	.223	.221	.329	.340	.349	.349
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	1,445	1,520	1,561	1,635	1,314	1,314
Effective N	742	777	805	840	673	668
N Left	447	470	486	518	403	401
N Right	295	307	319	322	270	267

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Attacks Higher Prior to New Auditors' Nomination

	(1)	(2)	(3)	(4)	(5)	(6)
	≥ 1 Attack	≥ 1 Attack	N. of Attacks	N. of Attacks	Attacks / 5k Inhab.	Attacks / 5k Inhab.
Population ≥ 5000	.013 (.010)	.018 (.010)	.022 (.012)	.019 (.011)	.022 (.011)	.021 (.010)
SD Depvar	.067	.063	.122	.064	.180	.069
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	1,988	1,227	1,828	1,203	1,584	1,369
Effective N	1,404	836	1,269	814	1073	928
N Left	896	499	801	486	659	563
N Right	508	337	468	328	414	365

Notes: For each municipality, the dependent variable only includes attacks perpetrated before the nomination of the first post-reform cohort of municipal auditors.

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Right-Wing Mayors Do More Bunching of Contracts

	(1)	(2)	(3)	(4)	(5)	(6)
	All Contracts	All Contracts	Public Works	Public Works	Other Contracts	Other Contracts
Right-Wing Mayor	.015 (.019)	.013 (.019)	.064 (.027)	.059 (.025)	.002 (.024)	-.000 (.025)
SD Depvar	.173	.170	.221	.222	.191	.190
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	18.90	16.93	17.78	19.79	14.81	14.01
Effective N	1,668	1,498	1,586	1,704	1,361	1,277
N Left	957	855	909	975	778	722
N Right	711	643	677	729	583	555

Notes: The running variable is the difference in vote share between the best ranked candidate supported by at least one right-wing party and the best-ranked candidate not supported by any right-wing party in the previous municipal election. The dependent variable is the sum of the following 3 differences: (1) share of contracts with value b/w 30 and 40k minus share of contracts with value b/w 40 and 50k, (2) share of contracts with value b/w 140 and 150k minus share of contracts with value b/w 150 and 160k, and (3) share of contracts with value b/w 190 and 200k minus share of contracts with value b/w 200 and 210k. The standard deviation of the dependent variable is measured within the left half of the optimal bandwidth.

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But Do Not Invite Fewer Firms

	(1)	(2)	(3)	(4)	(5)	(6)
	All Contracts	All Contracts	Public Works	Public Works	Other Contracts	Other Contracts
Right-Wing Mayor	-.104	-.119	-.088	-.146	.087	.112
	(.124)	(.130)	(.125)	(.131)	(.149)	(.150)
SD Depvar	.931	.936	.944	.929	1.03	1.04
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	10.99	9.32	12.67	10.34	15.01	13.39
Effective N	922	779	961	794	816	739
N Left	514	432	546	440	470	425
N Right	408	347	415	354	346	314

Notes: The running variable is the difference in vote share between the best ranked candidate supported by at least one right-wing party and the best-ranked candidate not supported by any right-wing party in the previous municipal election. The dependent variable is the log number of firms invited to the negotiated procurement procedures of municipality i between 2013 and 2020. The standard deviation of the dependent variable is measured within the left half of the optimal bandwidth.

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And Do Not Subcontract More

	(1)	(2)	(3)	(4)	(5)	(6)
	All Contracts	All Contracts	Public Works	Public Works	Other Contracts	Other Contracts
Right-Wing Mayor	-.014	-.015	-.019	-.014	.000	-.003
	(.021)	(.022)	(.030)	(.030)	(.008)	(.008)
SD Depvar	.173	.174	.259	.26	.042	.040
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	16.18	14.46	17.38	16.21	15.27	12.75
Effective N	1,514	1,376	1,486	1,390	1,206	1,029
N Left	1,514	1,376	1,486	1,390	1,206	1,029
N Right	647	592	641	598	513	444

Notes: The running variable is the difference in vote share between the best ranked candidate supported by at least one right-wing party and the best-ranked candidate not supported by any right-wing party in the previous municipal election. The dependent variable is the share of contracts awarded by municipality i between 2013 and 2020 that were subsequently subcontracted. The standard deviation of the dependent variable is measured within the left half of the optimal bandwidth.

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In Fact, They Are Not Attacked Less!

	(1)	(2)	(3)	(4)	(5)	(6)
	≥ 1 Attack	≥ 1 Attack	N. of Attacks	N. of Attacks	Attacks / 5k Inhab.	Attacks / 5k Inhab.
Right-Wing Mayor	.043	.040	.053	.050	.017	.018
	(.025)	(.026)	(.038)	(.035)	(.013)	(.013)
SD Depvar	.239	.240	.402	.386	.102	.103
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Polynomial	1st	1st	1st	1st	1st	1st
Bandwidth	14.71	14.30	11.47	13.66	14.07	12.83
Effective N	1,624	1,552	1,286	1,486	1,548	1,415
N Left	918	872	712	832	870	791
N Right	706	680	574	654	678	624

Notes: The standard deviation of the dependent variable is measured within the left half of the optimal bandwidth.

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