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Ne me quitte pas! School closures and the rise of far-right in France

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Nova SBE

13th October 2023

Motivation

Voting behaviour and political attitudes in Western democracies reveal spatial patterns that are rooted in geographic inequalities.

- ▶ In the US, large cities are Democratic strongholds while rural counties are a cornerstone for the Republicans.
- ▶ Political divergences between urban and rural places on the UK 2016 Brexit vote.
- ▶ In France votes on Marine Le Pen are concentrated in rural areas and on Emmanuel Macron in urban places. The Yellow Vests movement in 2018 has given rise to a number of issues with regard to territorial inequalities.

What is leading these places to embrace anti-elitist rhetoric and opposition to the establishment?

Motivation

School closures and consolidation is a policy advocated in several OECD countries (Abalde (2014)), despite its unpopularity.

Ambiguous effects on children:

- ▶ Mixed results: Liu, Zhang, Luo, Rozelle, and Loyalka (2010) in China.
- ▶ Positive effects: De Haan, Leuven, and Oosterbeek (2016) in Netherlands.
- ▶ Negative effects: Beuchert, Humlum, Nielsen, and Smith (2018) in Denmark and Berry and West (2010) in the US.

Principally in rural areas, the school is often at the center of the community's life, social gatherings and an employer.

A school closure reduces the accessibility of that service and generates additional using costs, e.g. transportation or congestion costs.



Source: France-3 Régions. Notes:
Protests relative to school closures.

"[Closer public services] is a requirement of fraternity, proximity, daily contact. Isolation, abandonment, indifference, lack of consideration come up in many words. The answer to this deep uneasiness probably consists in restoring the balance between the metropolis and the municipalities."

Former Prime-Minister Édouard Philippe
April 2019

This Paper

Research question: What is the effect of closing a school on far-right voting?

- ▶ Study the electoral results of Rassemblement National on first-round presidential elections (France).
- ▶ Focuses on school closures as a proxy for public service deprivation and tracks its effect between 1995 and 2022.

Preview of the results: Positive and growing effect on votes for the Rassemblement National.

Literature Review

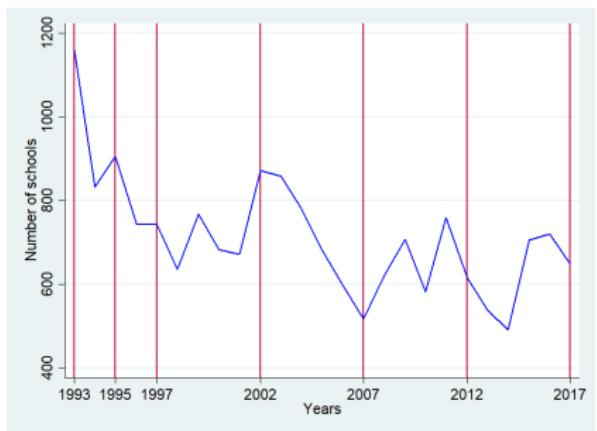
- ▶ Political economy of populism (see for reviews: Gidron and Bonikowski (2013), Mudde and Kaltwasser (2017), Guriev and Papaioannou (2020)).
 - ▶ Economic causes (e.g. Algan, Guriev, Papaioannou, and Passari (2017), Fetzer (2019), Funke, Schularick, and Trebesch (2016));
 - ▶ China-shock (e.g. Colantone and Stanig (2018), Malgouyres (2017));
 - ▶ Anti-immigration (e.g. Dustmann, Vasiljeva, and Piil Damm (2019), Edo, Giesing, Öztunc, and Poutvaara (2019), Tabellini (2020));
 - ▶ Public service deprivation in Italy (Cremaschi, Rettl, Cappelluti, and De Vries (2022)).
- ▶ Electoral and political returns to local allocations (e.g. Stratmann and Baur (2002), Cadot, Röller, and Stephan (2006) and Cinnirella and Schueler (2018)).

Institutional Context

"The opening of a class or school is the result of the exercise of shared powers between the State and the municipalities" (Circulaire no 2003-104 of 3-7-2003). The closure of a class or school is a decision made by the academic inspector, and the Council of State considers that a class or school can close without the agreement of a municipality.

Schools can close due to three reasons:

1. The demographic evolution.
2. Fusion and reach an optimal size.
3. State of the building.



Source: French Ministry of Education.

Notes: Red vertical lines represent presidential and legislative election years.

In 1995 there were 62888 schools in France, while in 2017 there were 51993.

All municipalities:

Average number of students in schools that closed: 65

Average number of students in schools that not closed: 121

Municipalities with one school:

Average number of students in schools that closed: 27

Average number of students in schools that not closed: 74

Source: French Ministry of Education 2009

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Localisation of school closures

Elections in France

Held under a two-round plurality voting rule.

Presidential Elections

The French Fifth Republic is a semi-presidential system. The President yields significant influence and authority, especially in the fields of national security and foreign policy; he also elects the Prime-Minister.

Legislative Elections

Parliamentary elections elect the representatives of the French National Assembly, the lower house of the Parliament. France is divided into 577 constituencies, each of which elects a Member of Parliament every five years.



"My friends, together we are going to break with the contempt of a small Parisian elite who believe themselves to be superior. And we are going to put rural France back in France period. If public services desert our campaigns to such an extent, it is because the UMP and the PS have decided so."

President of the Rassemblement National, Marine Le Pen
February 2012

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Rassemblement National vote share at Presidential elections 1st round

Data

► **Elections**

- ▶ First-round of the presidential elections that took place in 1995, 2002, 2007, 2012, 2017 and 2022 at the municipality level.
- ▶ First-round of the legislative elections that took place in 1993, 1997, 2002, 2007, 2012, 2017 and 2022 at the municipality level.
- ▶ Source: French Ministry of Interior.

► **Demographic controls**

- ▶ Census years of 1990, 1999, 2006, 2011 and 2016. Source: INSEE. Share of population by age group, degree, economic sector and vacant housing; density and population size.

► **Schools**

- ▶ Date of opening, closing and geographic coordinates of all schools is available at data.education.gouv.fr.

Data

- ▶ Exclude municipalities with school openings, or openings in neighbouring municipalities.
- ▶ Exclude municipalities treated between 1988 and 1995, 2017 and 2022.
- ▶ Restrict analysis to metropolitan France.
- ▶ Period of analysis: 1995-2022.
- ▶ Unit level of analysis: municipality.

Table: Descriptive statistics by closing and non-closing municipalities

	One school Closed	0 schools Not closed	Difference	Closed	2 to 4 schools Not closed	Difference
far-right vote share	20.58	20.08	-0.50*	20.19	20.17	-0.03
unemployment share	0.08	0.09	0.00	0.09	0.09	0.00*
agriculture sector share	0.42	0.54	0.13***	0.16	0.11	-0.05***
industry sector share	0.11	0.08	-0.03***	0.21	0.21	-0.00
civil construction share	0.10	0.08	-0.02***	0.10	0.10	0.00
tertiary sector share	0.37	0.30	-0.08***	0.53	0.59	0.05***
less than high school share	0.83	0.81	-0.02***	0.81	0.80	-0.01***
high school share	0.09	0.09	0.01***	0.09	0.10	0.00**
higher education share	0.08	0.09	0.01***	0.09	0.10	0.01***
babies (<5 years old)	0.06	0.06	-0.00	0.06	0.06	0.00*
children (5-9 years old)	0.06	0.06	-0.01***	0.07	0.07	0.00
young (10-24 years old)	0.19	0.16	-0.02***	0.19	0.19	0.00
adults (25-64 years old)	0.51	0.51	0.01***	0.51	0.51	-0.00
elderly (>64 years old)	0.19	0.21	0.02***	0.18	0.17	-0.00
population	245.21	140.46	-104.74***	1481.31	2080.95	599.63***
density	30.68	19.12	-11.56***	124.95	157.27	32.32**
rural	0.98	0.99	0.02***	0.74	0.61	-0.13***
vacant housing share	0.08	0.08	0.00	0.07	0.07	-0.00
Observations	1713	4487	6200	731	782	1513

Methodology

$$Y_{mt} = \alpha + \beta Closed_{mt} + \delta_m + \eta_t + \epsilon_{mt} \quad (1)$$

- ▶ Y_{mt} : Rassemblement National expressed votes.
- ▶ $Closed_{mt}$: treatment indicator, β estimated impact.
- ▶ δ_m : municipality fixed effects. η_t : election-year fixed effects.
- ▶ Matched difference-in-differences.
- ▶ Matching on 1995 characteristics: population structure by economic sector, age and education; population, density and rural status.
- ▶ Matching following Hainmueller (2012) that uses entropy balancing to re-weight observations to achieve balance.

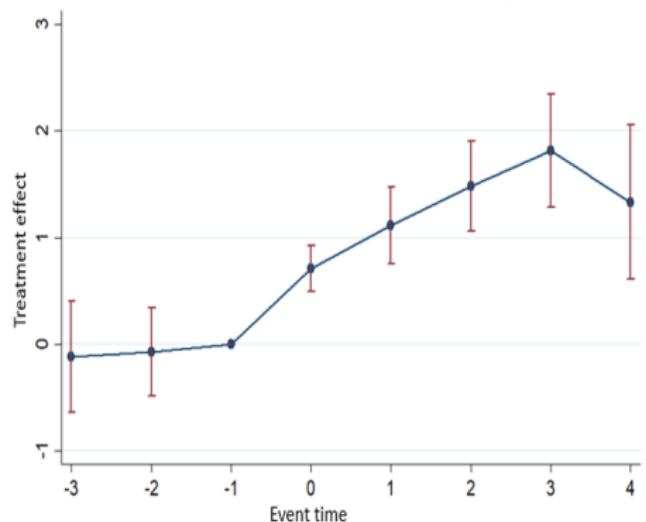
Methodology

Identifying assumption: In the absence of treatment, treated and control municipalities would have followed the same trends. Tested: trends before treatment.

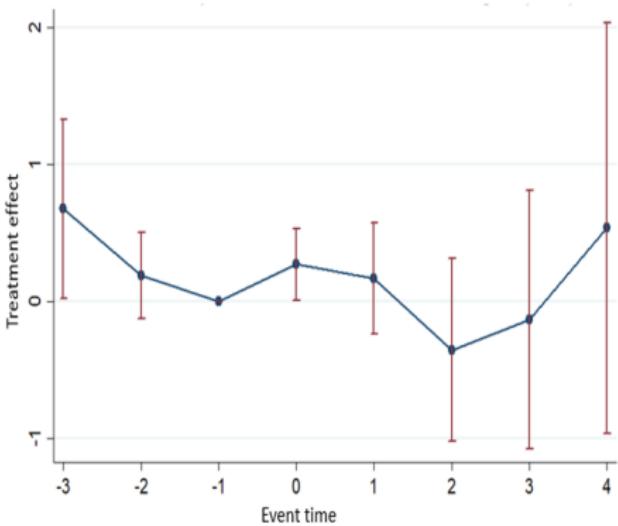
New DID: When already-treated units act as controls, changes in their treatment effects over time get subtracted. Negative weighting arises when treatment effects vary over time, biasing difference-in-differences estimates. Estimations present in this paper use the De Chaisemartin and d'Haultfoeuille (2020) estimator.

Results - Presidential Elections

Effect of losing only school



Effect of losing one of the schools

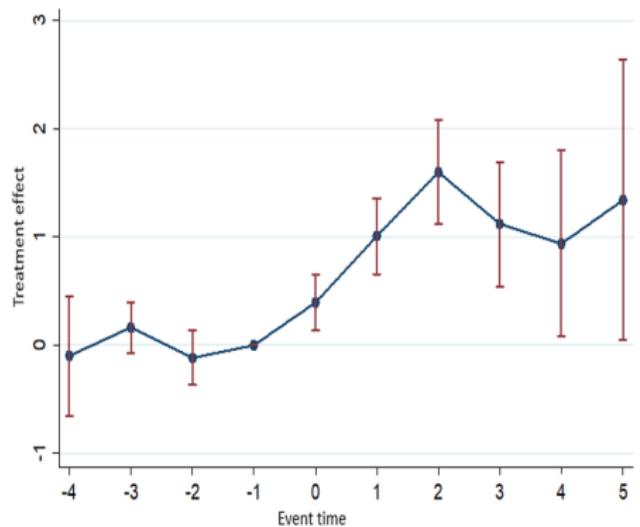


Treatment group: municipality with one school. Control group: municipality without school.

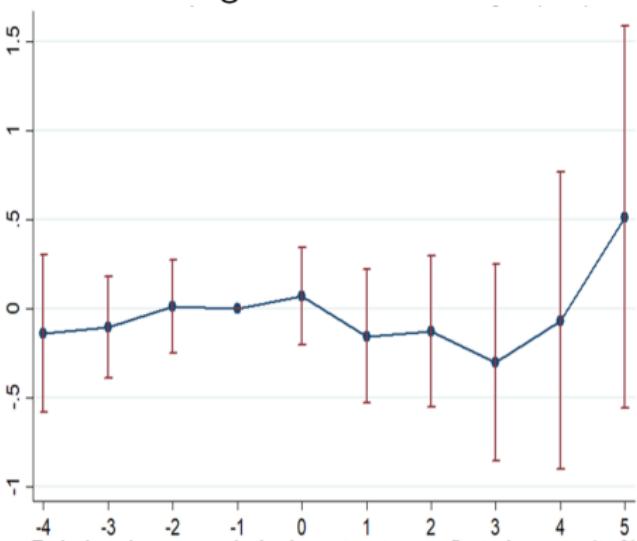
Treatment and control group: municipalities with 2 to 4 schools.

Results - Legislative Elections

Effect of losing only school



Effect of losing one of the schools



Treatment group: municipality with one school. Control group: municipality without school.

Treatment and control group: municipalities with 2 to 4 schools.

Robustness Checks - Presidential Elections

Treatment and control group: municipalities with one school M1S

Callaway and Sant'Anna (2021) estimator Santanna

Sun and Abraham (2021) estimator Sun

Far-right FR

Exclude neighbouring municipalities ENM

Old difference-in-differences OldDID

Without matching Nomatch

Region-year fixed effects reyear

Far-left FL

Abstention Abs

Open a school open

Treatment selection TreatSelc

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Heterogeneous effects - Presidential Elections

Type of party hp

Age structure age

Other characteristics other

Type of school type

Parties

Table: Effect of closing a school on turnout and other political parties voting at presidential elections

	Abstention	Far-left	Left	Liberal	Right
Closed	0.147 (0.133)	-0.200* (0.105)	-0.488** (0.194)	0.385** (0.152)	-0.448** (0.178)
Observations	37187	37187	37187	37187	37187

Treated municipalities only have one school in 1995 and control municipalities never have a school. Matched difference-in-differences with staggered adoption. Matching is performed using entropy balancing. Estimations obtained using the estimator of De Chaisemartin and d'Haultfoeuille (2020). Standard errors clustered at the municipality level in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

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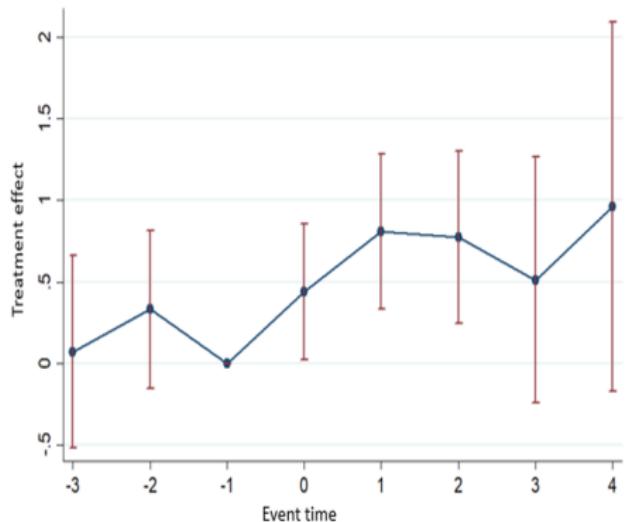
Compositional Changes

Out-migration Outmig

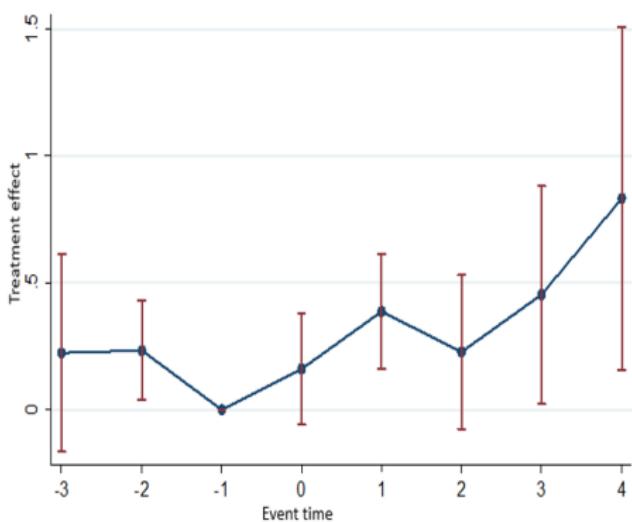
Labour market changes Labour

Spillover Effects

Municipalities without school



Municipalities with one school



Treatment group: municipalities where a neighbouring municipality closed a school (no school closure in own municipality).

Control group: municipalities without school closure, neighbouring municipality included.

Conclusion

We causally show that closing the only school of the municipality has a persistent and positive effect on far-right and Rassemblement National voting.

- ▶ In the 1st election after closing, votes on the RN grow 0.71 percentage points.
- ▶ Maximum effect three elections after: 1.82 percentage points.
- ▶ Four elections after/27 years later, municipalities with school closures vote 1.33 percentage points more on the RN.

No effect seems to exist in municipalities with more than one school, showing that citizens are concerned with the accessibility to the public service.

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Thank you!

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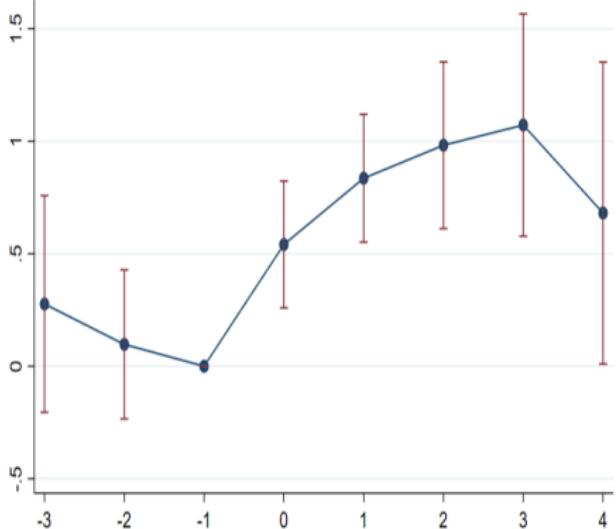
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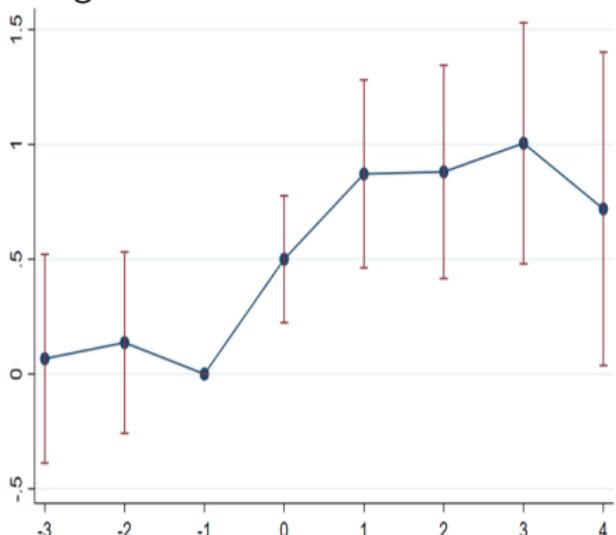
Control group: municipalities with 1 or 0 schools

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Rassemblement National



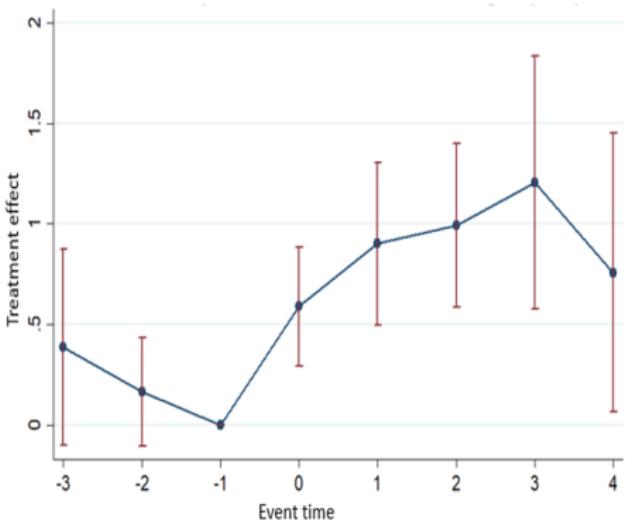
Far-right



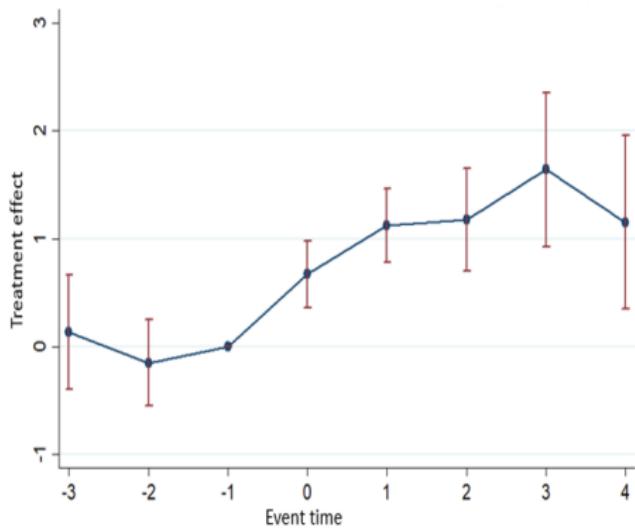
Treatment and control group: municipalities with one school

M1S

Municipalities with one school



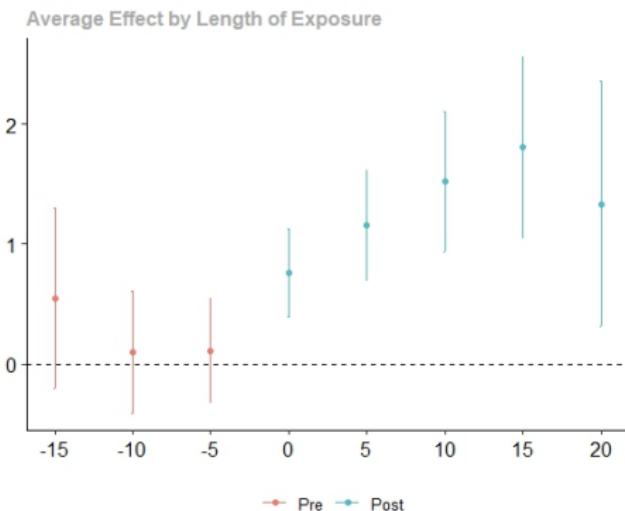
Restricting to municipalities with one school from 3-11 years old



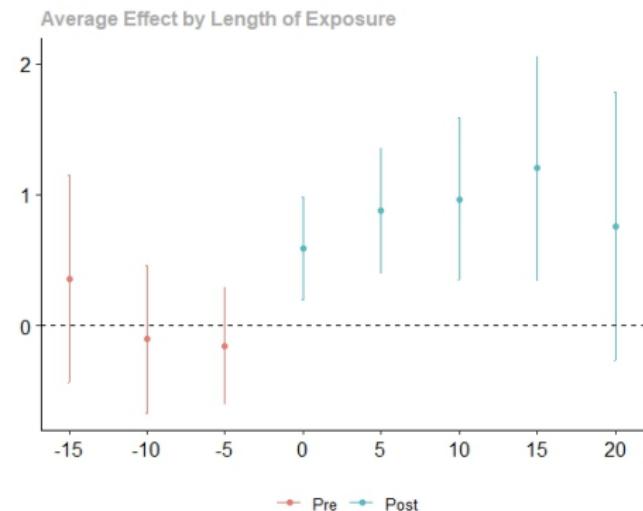
Callaway and Sant'Anna (2021) estimator

Santanna

Control group: municipalities with 0 schools

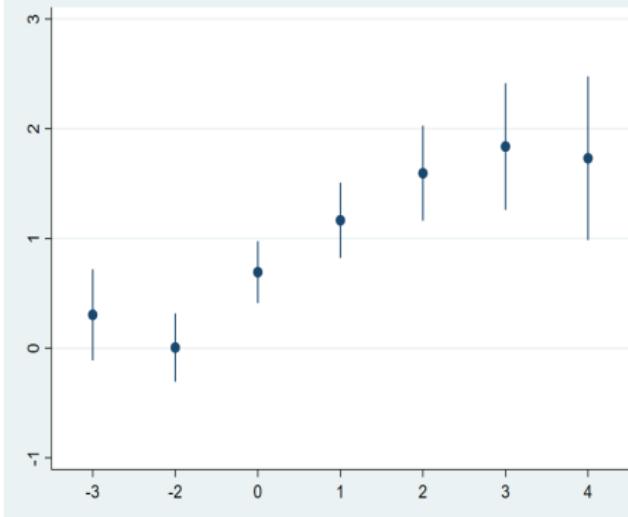


Control group: municipalities with 1 school



Sun and Abraham (2021) estimator

Control group: municipalities with 0 schools



Control group: municipalities with 1 school

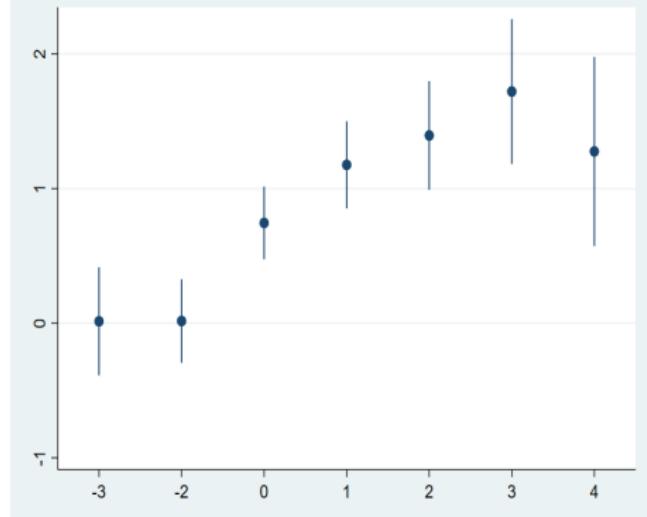
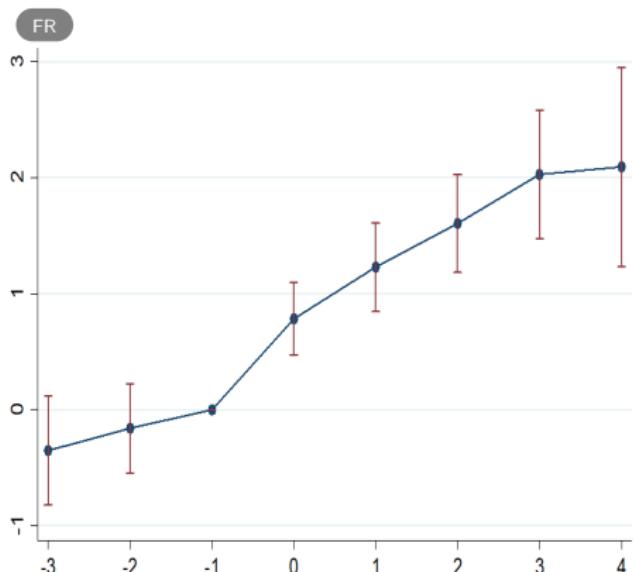


Table: Descriptive statistics by closing and non-closing municipalities

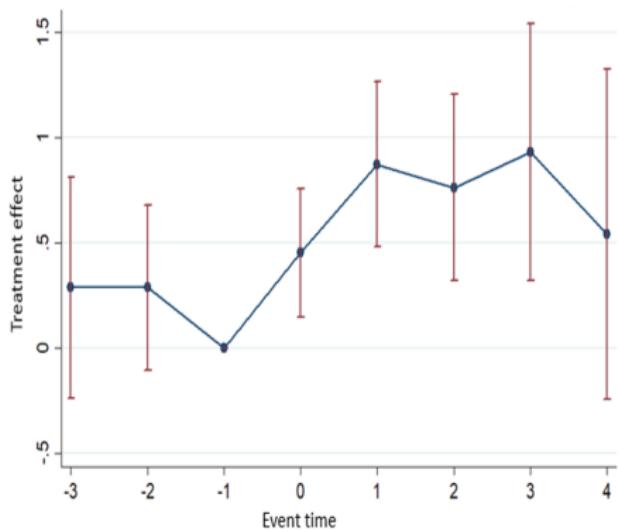
	One school			2 to 4 schools		
	Closed	Not closed	Difference	Closed	Not closed	Difference
far-right vote share	20.58	19.49	-1.09***	19.89	19.33	-0.56*
unemployment share	0.08	0.09	0.00**	0.09	0.09	0.00*
agriculture sector share	0.42	0.35	-0.06***	0.18	0.17	-0.00
industry sector share	0.11	0.13	0.01**	0.21	0.19	-0.01
civil construction sector share	0.10	0.11	0.01***	0.10	0.10	0.00
tertiary sector share	0.37	0.41	0.04***	0.52	0.54	0.01
less than high school share	0.83	0.82	-0.02***	0.82	0.81	-0.01*
high school share	0.09	0.09	0.01***	0.09	0.10	0.00
higher education share	0.08	0.09	0.01***	0.09	0.09	0.01**
babies (<5 years old)	0.06	0.06	0.00*	0.06	0.06	0.00
children (5-9 years old)	0.06	0.06	-0.00	0.06	0.06	-0.00
young (10-24 years old)	0.19	0.18	-0.01***	0.19	0.18	-0.00
adults (25-64 years old)	0.51	0.51	0.01***	0.51	0.51	-0.00
elderly (>64 years old)	0.19	0.19	0.00	0.18	0.19	0.00
population	245.21	468.90	223.70***	1437.69	1664.28	226.59***
density	30.68	45.34	14.66***	118.46	125.31	6.85
rural	0.98	0.95	-0.03***	0.75	0.69	-0.05**
vacant housing share	0.08	0.08	-0.00***	0.07	0.07	-0.00
Observations	1713	7648	9361	901	1413	2314

Source: INSEE - French censuses (1990, 1999).

Far-right

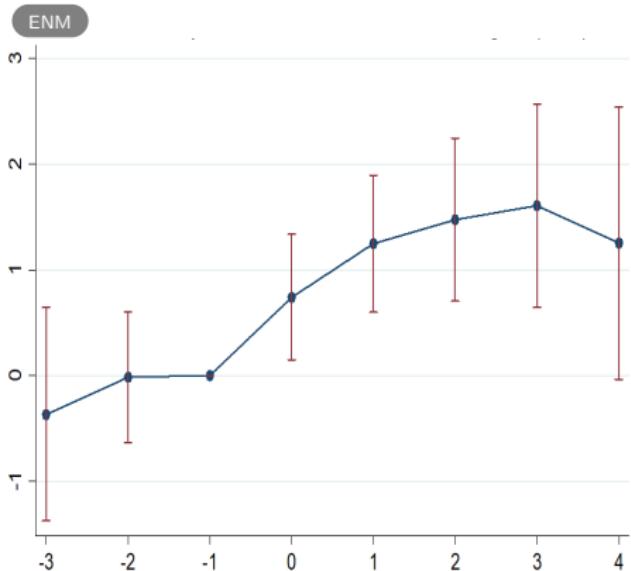


Treatment group: municipality with one school. Control group: municipality without school.

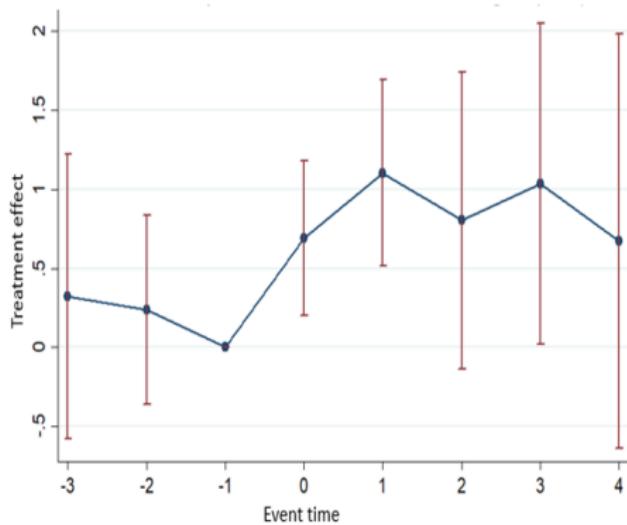


Treatment and control group:
municipalities with one school.

Exclude neighbouring municipalities



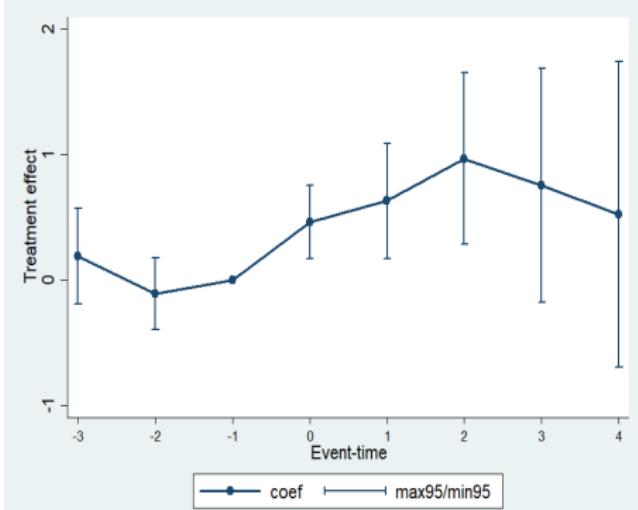
Treatment group: municipality with one school. Control group: municipality without school.



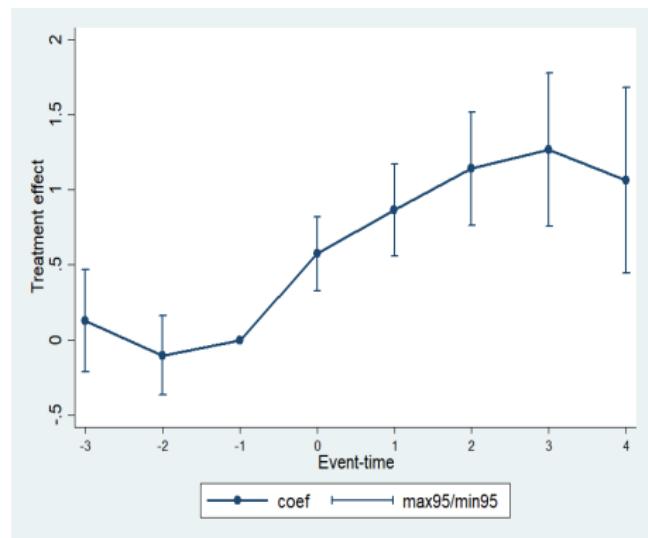
Treatment and control group:
municipalities with one school.

Old Difference-in-Difference

OldDID

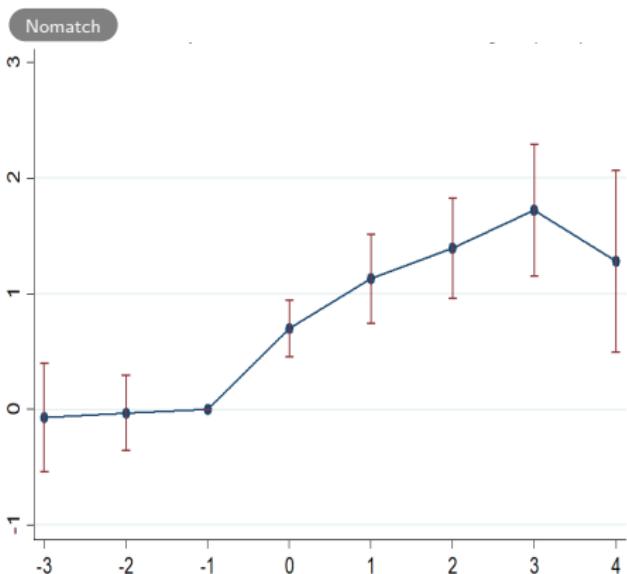


Treatment group: municipality with one school. Control group: municipality without school.

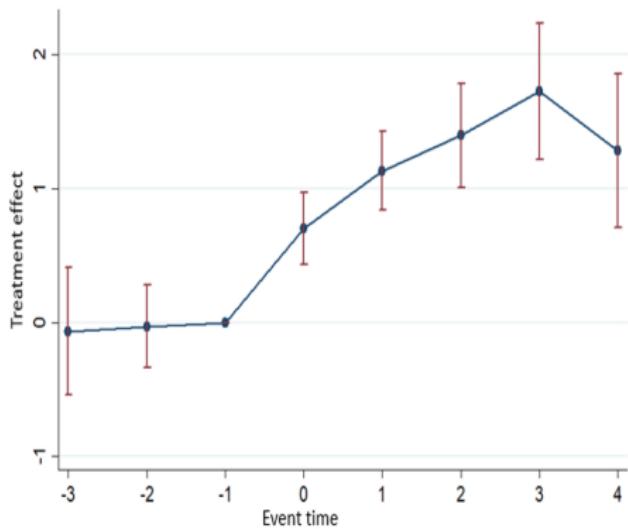


Treatment and control group:
municipalities with one school.

No Matching



Treatment group: municipality with one school. Control group: municipality without school.

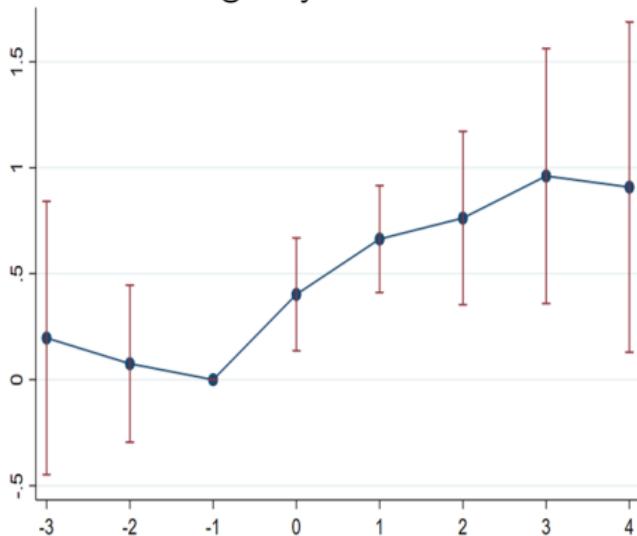


Treatment and control group:
municipalities with one school.

Region-year fixed effects

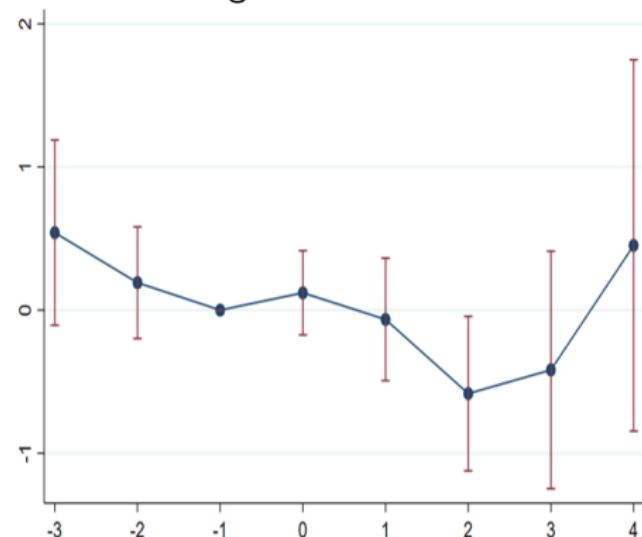
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Effect of losing only school



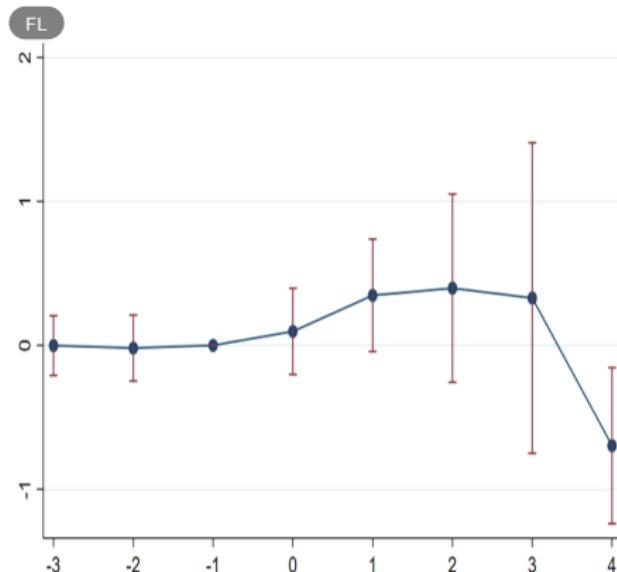
Treatment group: municipality with one school. Control group: municipality without school.

Effect of losing one of the schools

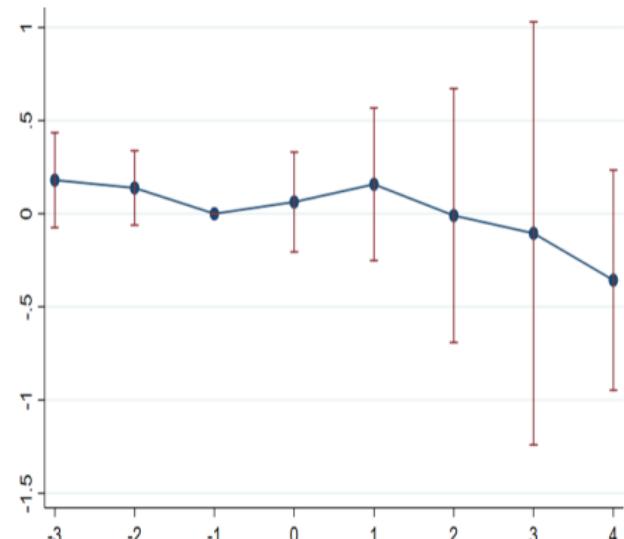


Treatment and control group:
municipalities with 2 to 4 schools.

Far-left

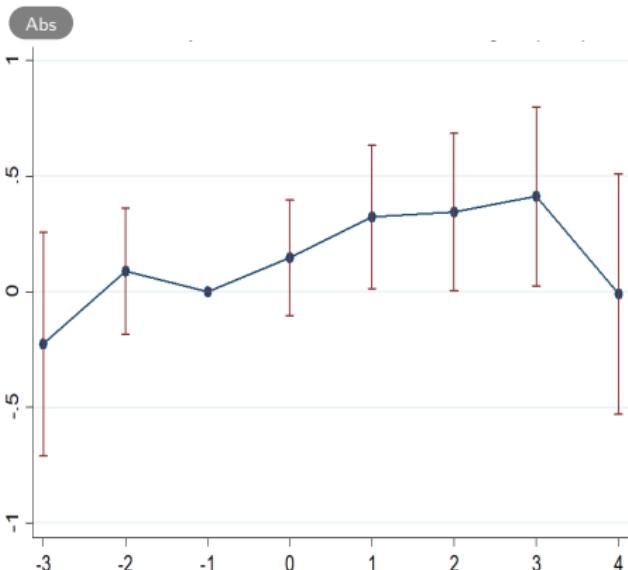


Treatment group: municipality with one school. Control group: municipality without school.

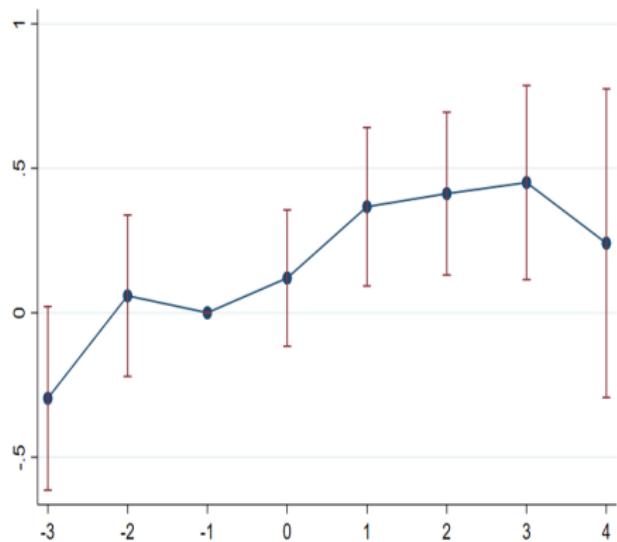


Treatment group: municipality with one school. Control group: municipality with 1 or 0 schools.

Abstention

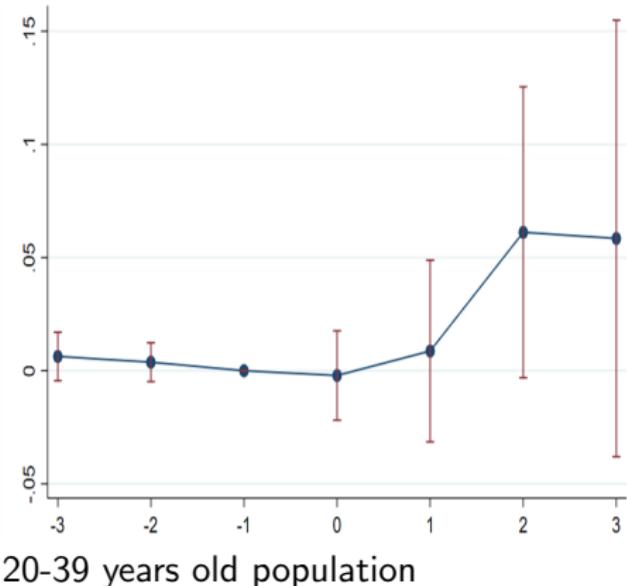
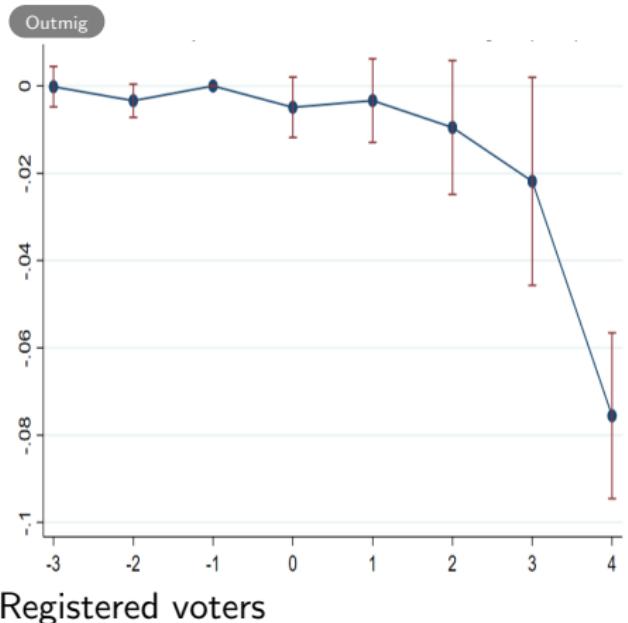


Treatment group: municipality with one school. Control group: municipality without school.

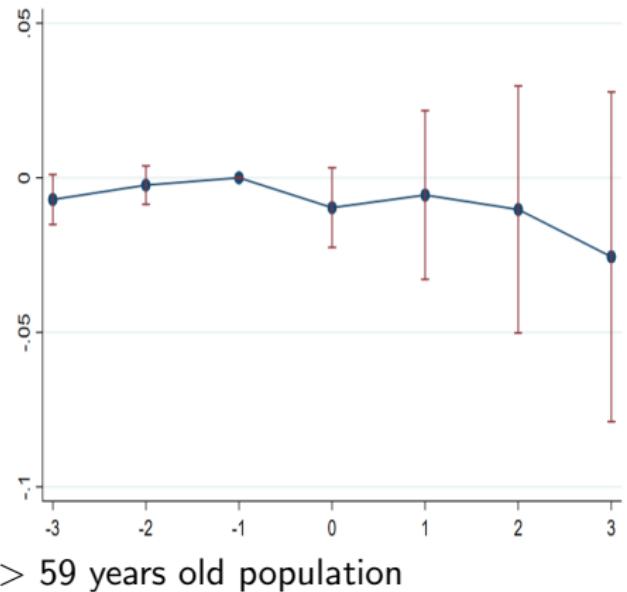
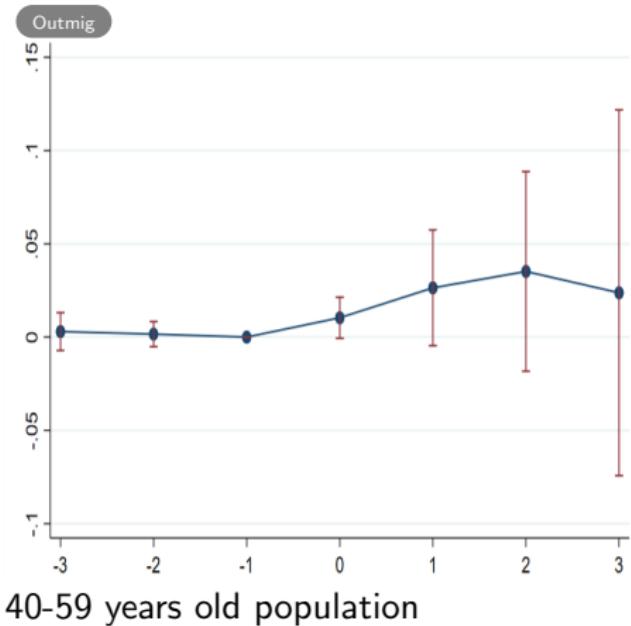


Treatment and control group:
municipalities with one or zero schools.

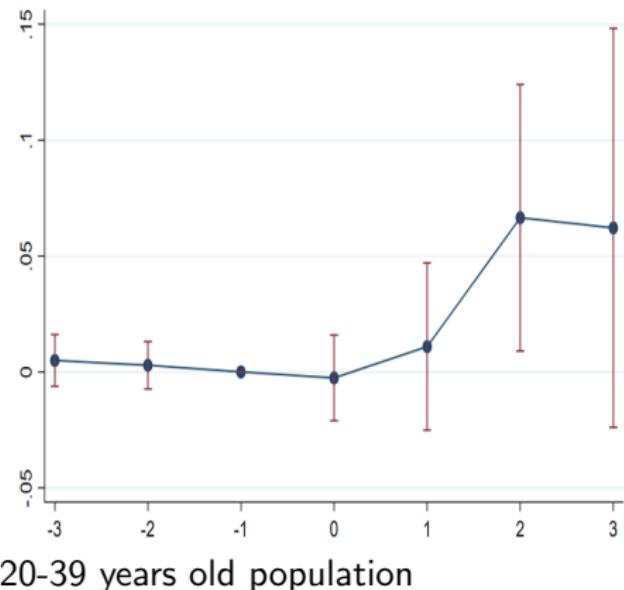
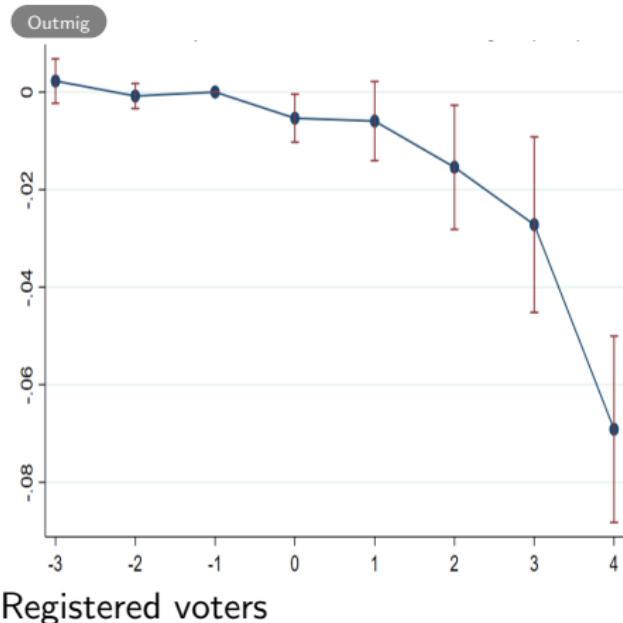
Compositional changes: out-migration. Control group:
municipalities without school



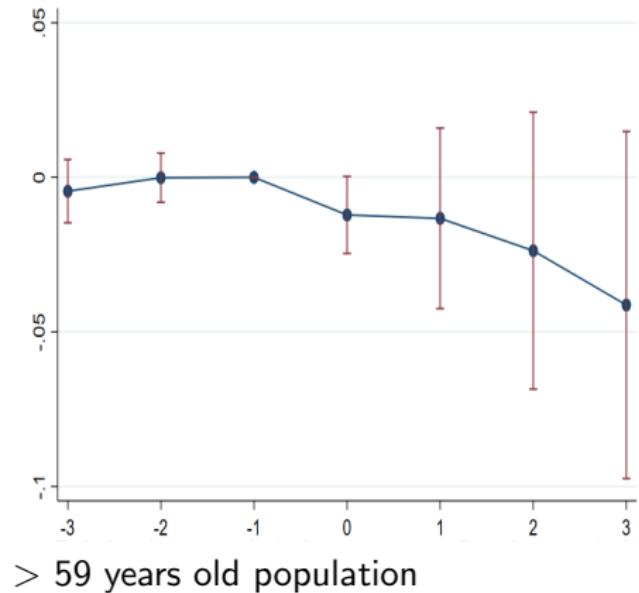
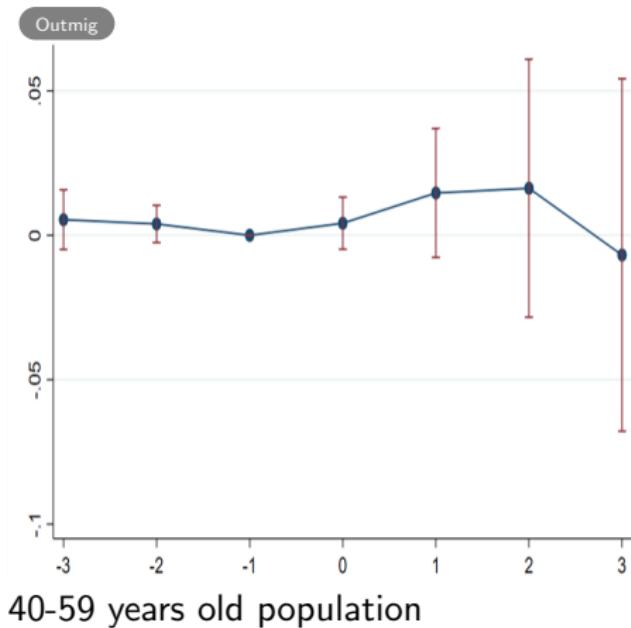
Compositional changes: out-migration. Control group:
municipalities without school



Compositional changes: out-migration. Control group: municipalities with 1 or 0 schools

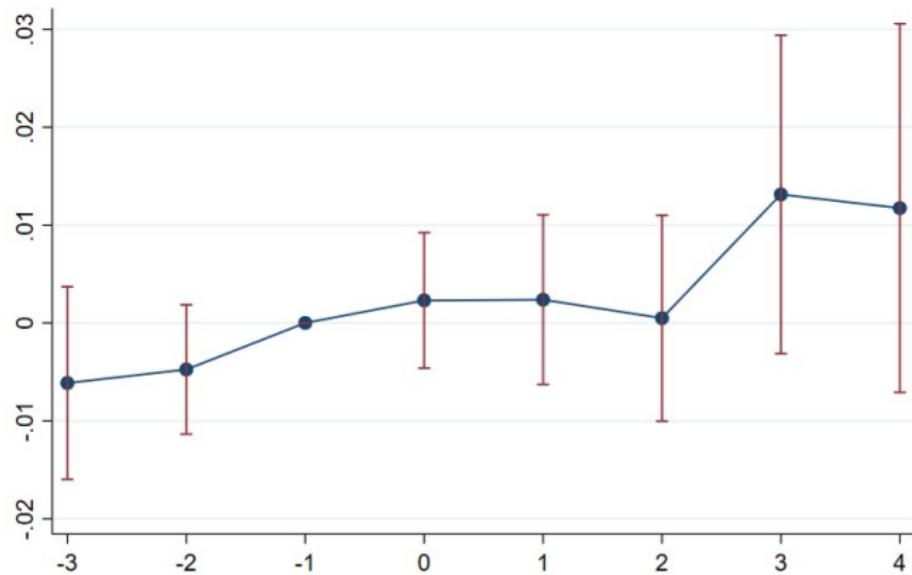


Compositional changes: out-migration. Control group: municipalities with 1 or 0 schools



Effect of closing a school on women's employment

Labour



Effect of opening a school

open

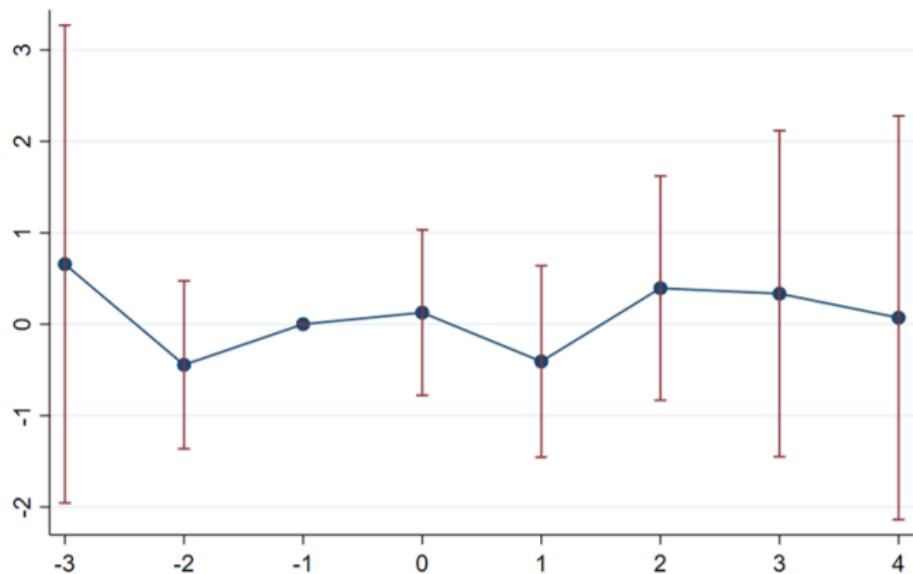


Figure: Treatment and control groups: municipalities with 0 to 1 school.

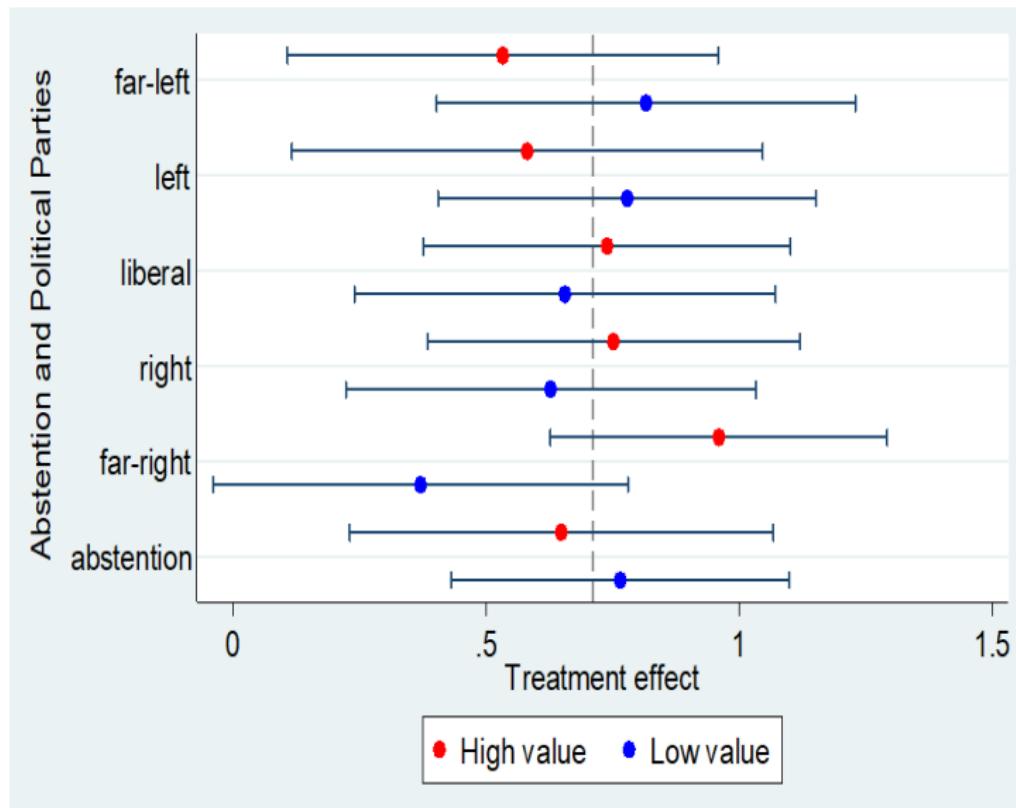
Regression discontinuity designs testing selection treatment

TreatSelc

	Municipal	Departmental	Local election type
Aligned	-0.044 (0.064)	-0.001 (0.003)	0.013 (0.010)
Observations left	1783	22007	6044
Observations right	1850	24932	3177
Polyn.	1	1	1
Bandwith	15.833	10.236	450.046

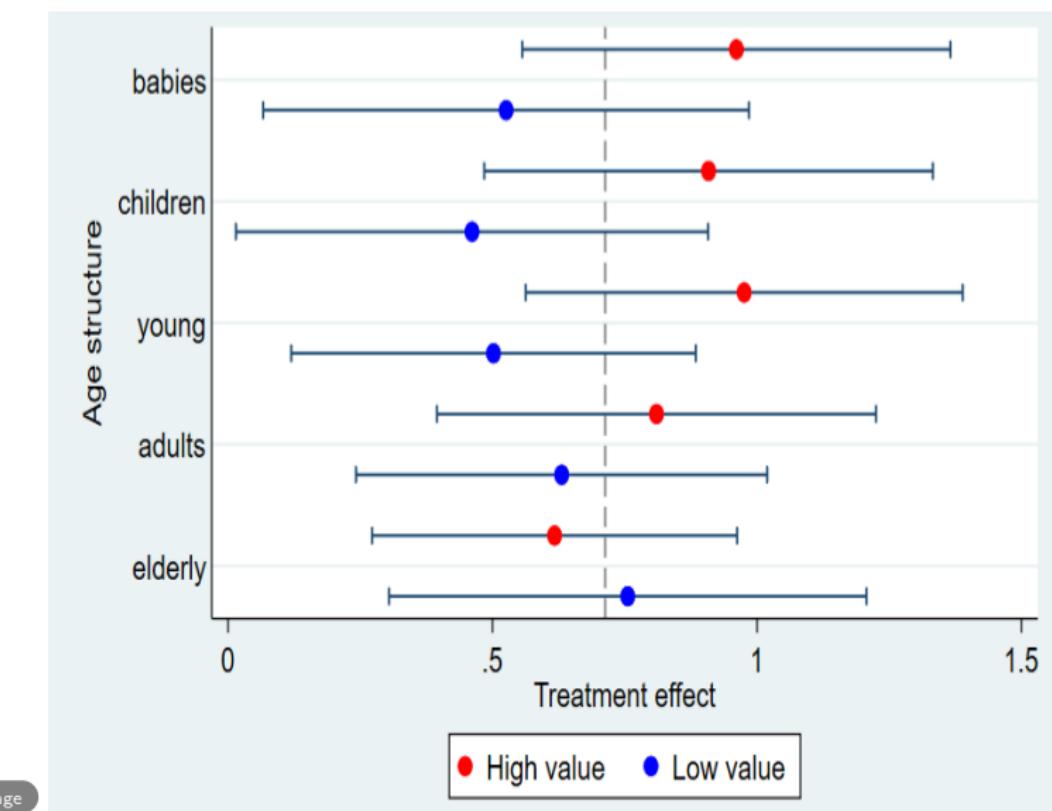
Col(1) shows results for a regression discontinuity design, testing the null hypothesis: electing a mayor aligned with the government impacts the probability of closing a school. Col(2) shows the results for a regression discontinuity design, testing the null hypothesis: electing a department councillor aligned with the government impacts the probability of closing a school. Col(3) shows the results for a regression discontinuity design, testing the null hypothesis: having local elections under a proportional list system (versus plurinomial system with panachage) impacts the probability of closing a school.

Heterogeneous Effects



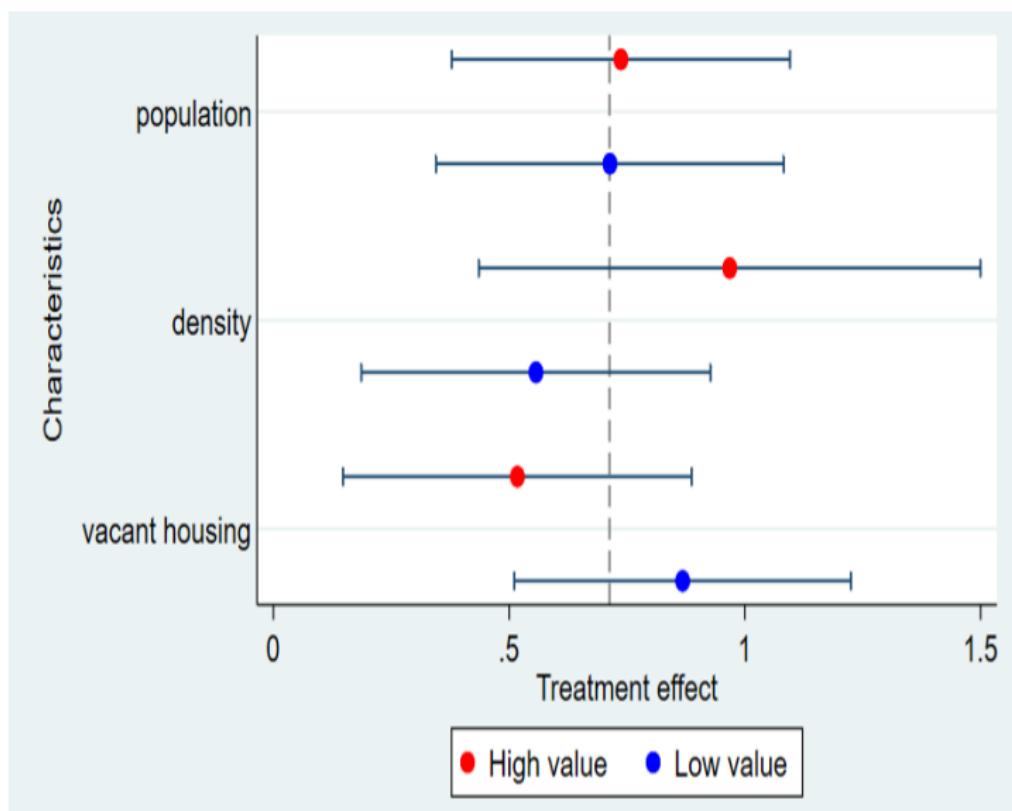
hp

Heterogeneous Effects



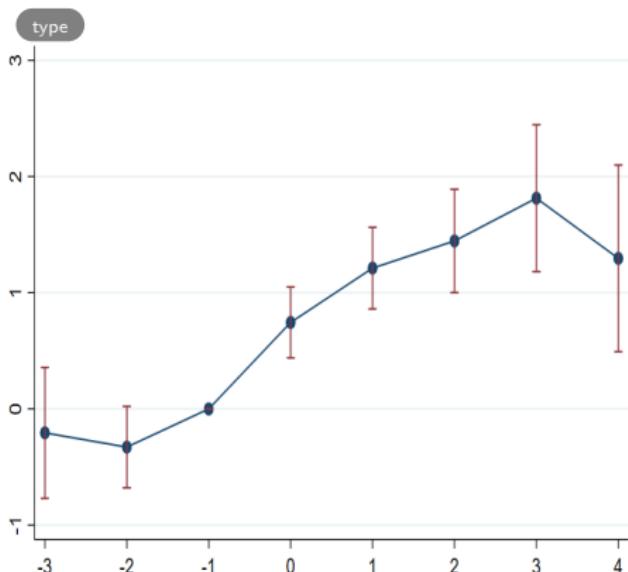
age

Heterogeneous Effects

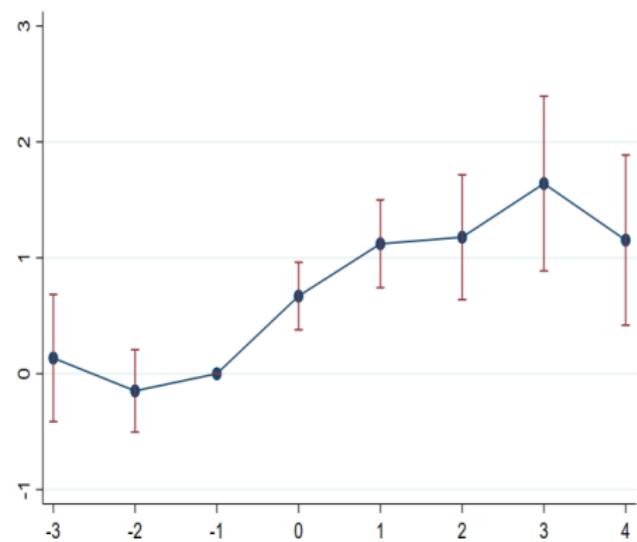


other

Heterogeneous effects - Primary (both levels)

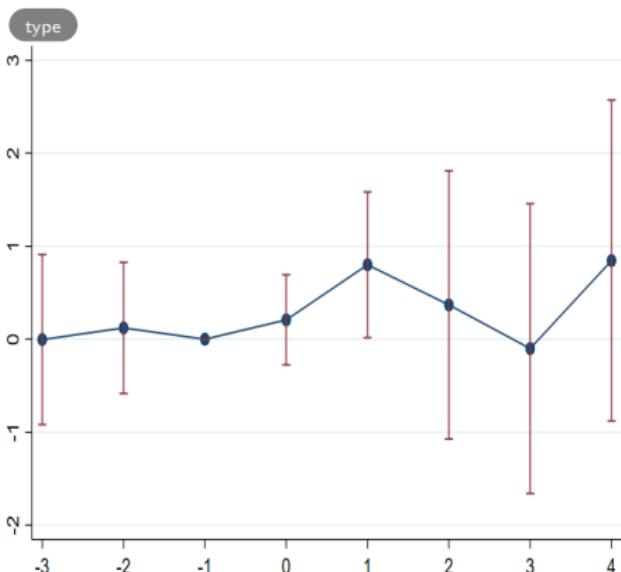


Treatment group: municipality with one school. Control group: municipality without school.

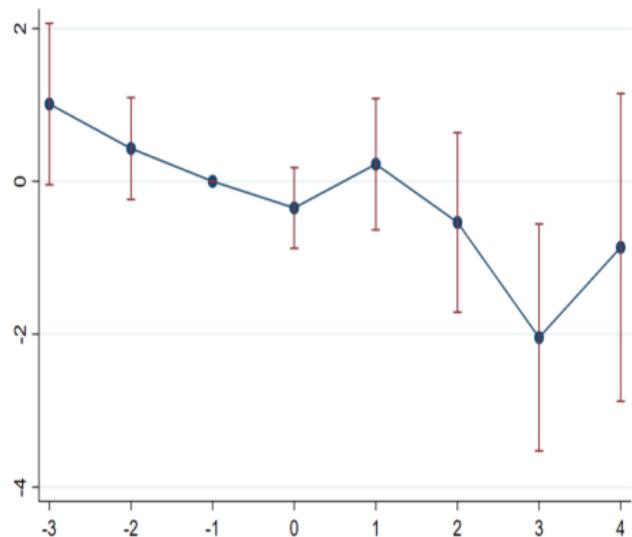


Treatment and control group: municipalities with one kindergarten.

Heterogeneous effects - Elementary

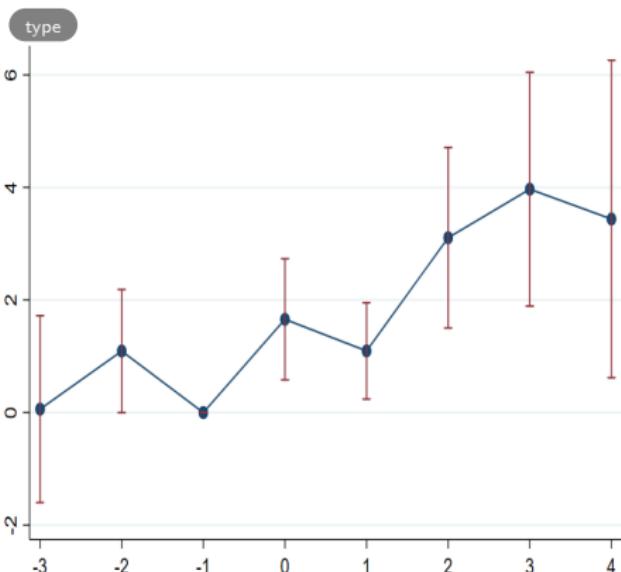


Treatment group: municipality with one school. Control group: municipality without school.

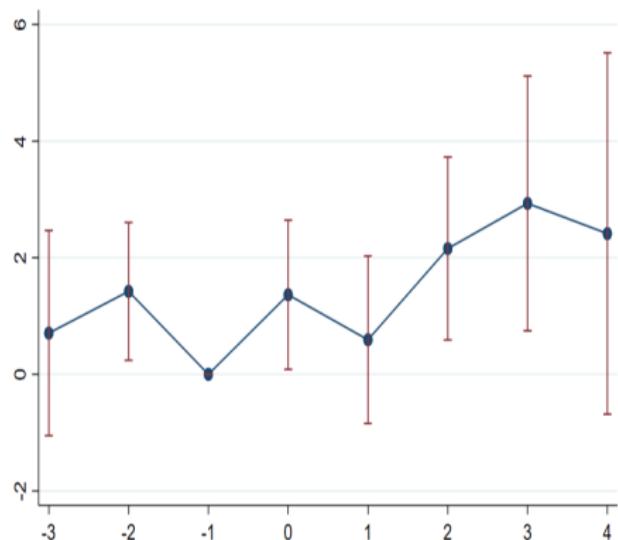


Treatment and control group:
municipalities with one kindergarten.

Heterogeneous effects - Kindergarten



Treatment group: municipality with one school. Control group: municipality without school.



Treatment and control group:
municipalities with one kindergarten.

Other Political Parties

Parties

Table: Effect of closing a school on turnout and other political parties voting at presidential elections

	Abstention	Far-left	Left	Liberal	Right
Closed	0.120 (0.121)	-0.075 (0.130)	-0.055 (0.151)	0.043 (0.176)	-0.361* (0.209)
Observations	83075	83075	83075	83075	83075

Treated municipalities only have one school in 1995 and control municipalities are municipalities with one or never have a school. Matched difference-in-differences with staggered adoption. Matching is performed using entropy balancing. Estimations obtained using the estimator of De Chaisemartin and d'Haultfoeuille (2020). Standard errors clustered at the municipality level in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.