Place-Based Policies: Opportunity for Deprived Schools or Zone-and-Shame Effect?

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Outline

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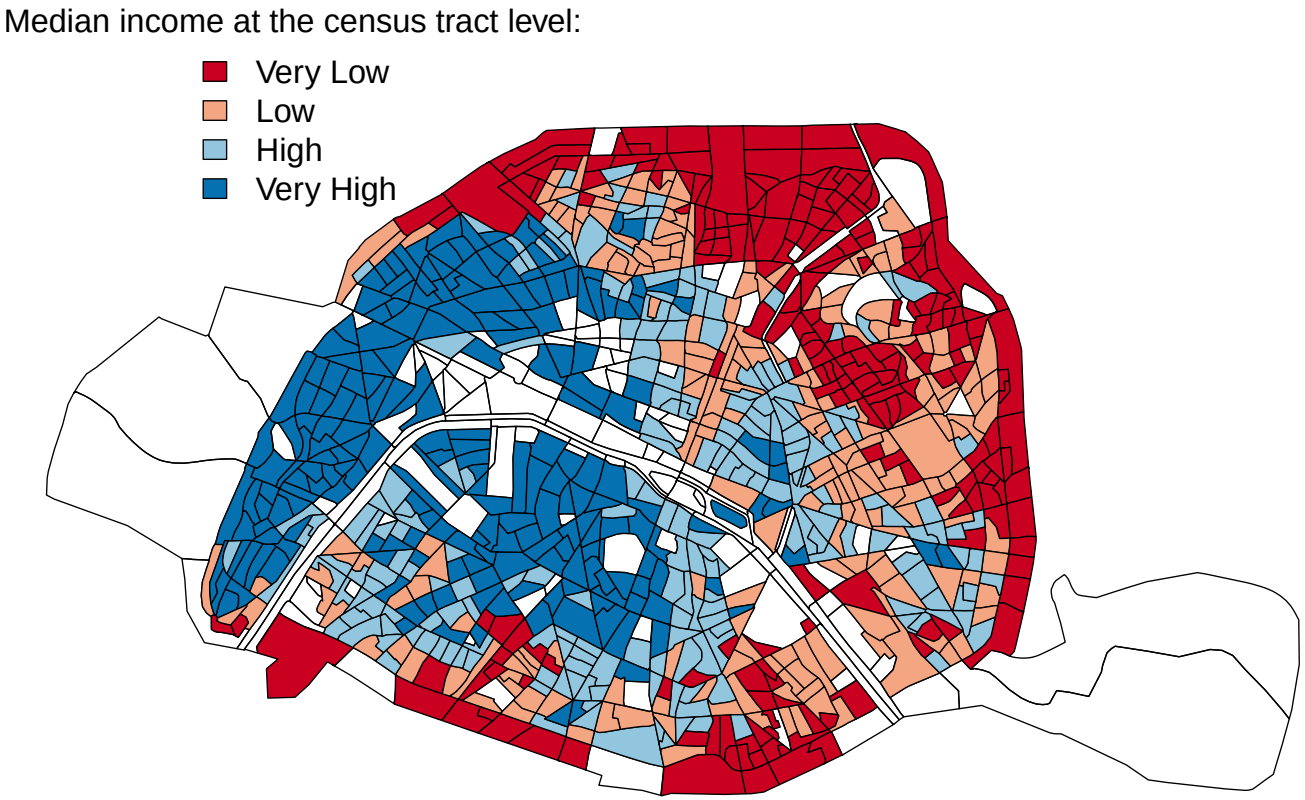
Conclusion

MOTIVATION

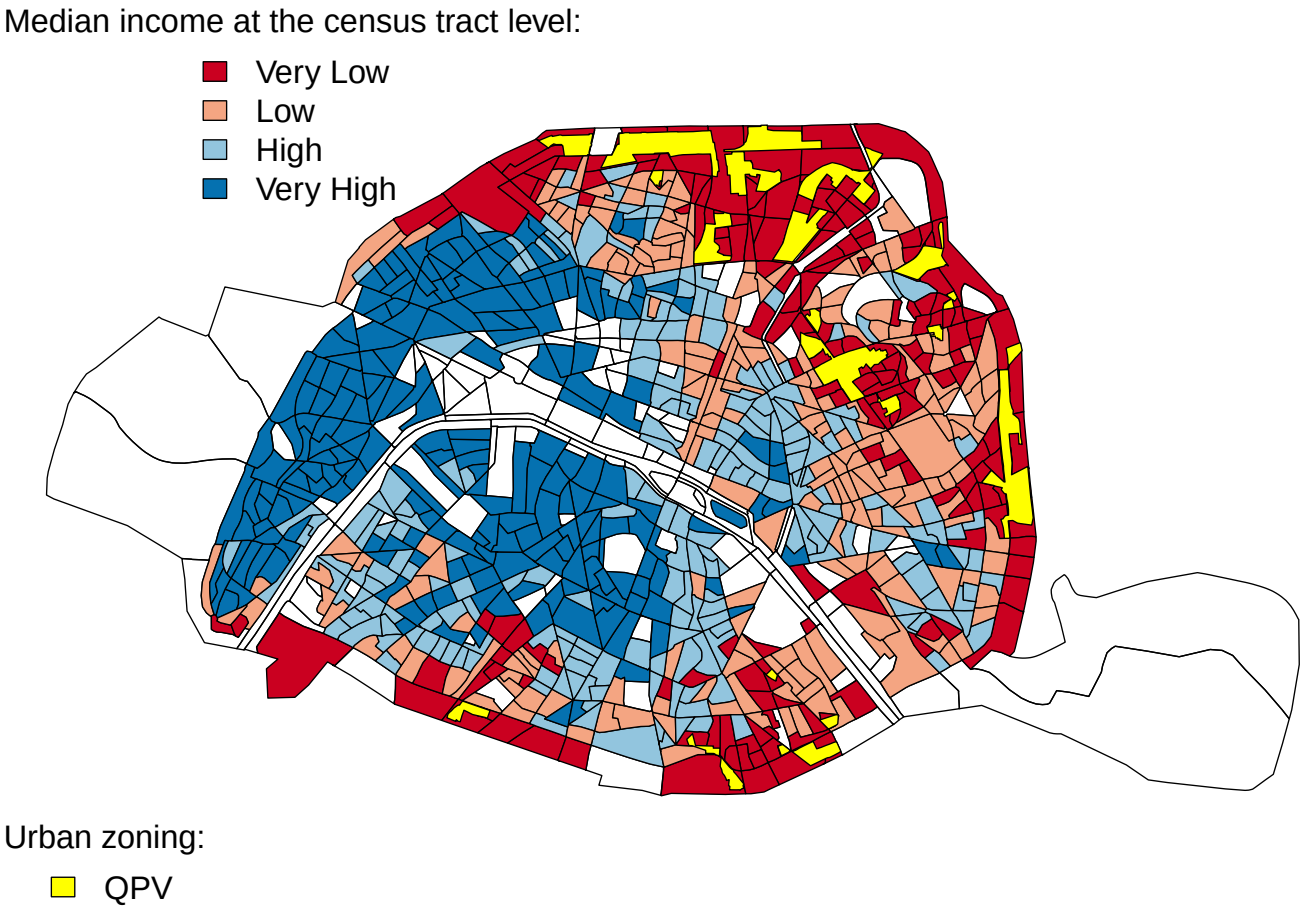
Large income disparities across neighborhoods within cities



Source: Fichier localisé social et fiscal (Filosofi) 2015, Insee

MOTIVATION

Place-based policies targeted at deprived areas



Source: Fichier localisé social et fiscal (Filosofi) 2015, Insee and French Ministry of Urban Affairs

STIGMA ASSOCIATED TO "PRIORITY" NEIGHBORHOODS

- In France, "priority" neighborhoods suffer from negative image
  - public opinion (Guisse & Müller, 2019)
  - media (Magat, Rémila & Sala, 2018; ONPV, 2022)

RESEARCH QUESTION

$\Rightarrow$ How do place-based policies shape the residents' views on local amenities, notably schools?

\+ Extra-resources
- $\nearrow$ increase local schools' attractiveness
- $\nearrow$ improve pupils' achievement

\- Adverse reputation/stigma effects
- $\searrow$ decrease local schools' attractiveness
- $\nearrow$ exacerbate sorting/segregation

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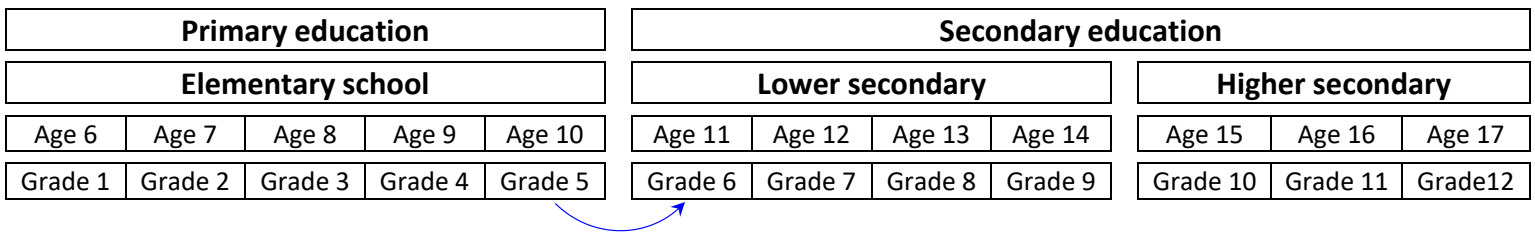
⇒ What is the "net" impact of place-based policies on school enrollment in lower secondary education in France?

RESEARCH QUESTION

Why lower secondary education?

- In France, middle school choice is key for educational paths later on



- School assignment: Catchment-area system with two outside options
  - Another public school (derogation rules)
  - A private school (affordable)

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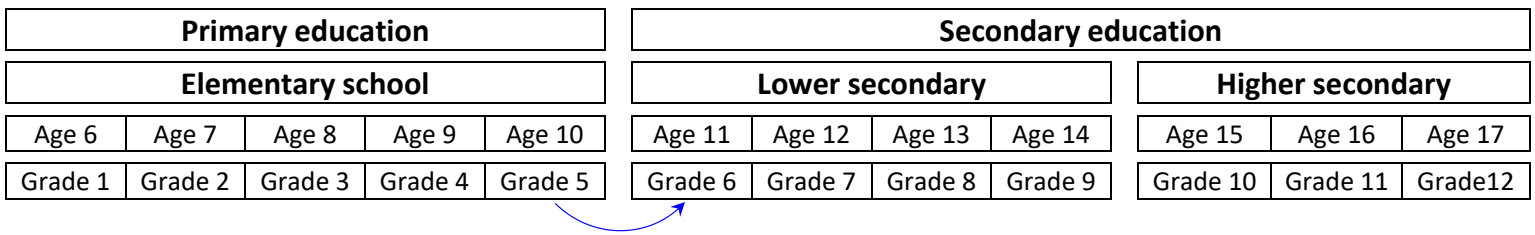

- School assignment: Catchment-area system with two outside options
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⇒ Middle school enrollment reveals families' preference for places

⇒ Enrollment at the catchment-area school as a measure of attractiveness

IDENTIFICATION STRATEGY

- Difference-in-differences framework using quasi-natural experiment
  - 2014 French reform re-delineated policy zoning based on a non-manipulable poverty threshold
  - Neighborhoods with a median income below (above) the poverty cut-off qualified (disqualified) by the reform
  - Some schools unexpectedly "entered" ("exited") the policy scheme

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$\Rightarrow$ We compare school outcomes before and after the reform, in neighborhoods lying on both sides of the eligibility threshold

MAIN RESULTS

- Drop in school enrollment in first-time labeled neighborhoods compared to never-treated counterfactual neighborhoods
  - Low-SES pupils shift to public middle schools outside policy zoning
  - High-SES pupils opt for private middle schools
- No increase in school enrollment in disqualified neighborhoods compared to still-treated counterfactual neighborhoods

LITERATURE

- Extensive literature on Place-Based Policies
  - Job creation (Ham et al., 2011; Busso et al., 2013; Criscuolo et al., 2019)
  - Heterogeneous effects (Briant et al., 2015; Austin et al., 2018)
  - Short-lived effects (Gobillon et al., 2012; Givord et al., 2018)
  - Negative spillovers (Givord et al., 2013; Mayer et al., 2017; Einiö & Overman, 2020)
  - Real estate capitalization (Ehrlich & Seidel, 2018; Kitchens & Wallace, 2022)
  - Stigmatization (Petit et al. 2020; Koster & van Ommeren, 2022; Aaronson et al., 2021, 2022; Domínguez et al., 2022; Andersson et al., 2023

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  - Stigmatization (Petit et al. 2020; Koster & van Ommeren, 2022; Aaronson et al., 2021, 2022; Domínguez et al., 2022; Andersson et al., 2023
- But few and only indirect evidence on effects on residents, in particular education outcomes
  - "Moving to a better neighborhood" effects (Gould et al., 2004, 2011; Äslund et al., 2011; Chetty et al., 2016, 2018, 2020; Chyn, 2018; Guyon, 2022)
  - School-resources effects (Card &Payne, 2002; Papke, 2005; Jackson et al., 2015, 2021; Lafortune et al., 2018; Schmick & Shertzer, 2019; Jackson and Mackevicius, 2021 vs Bénabou et al. 2009; Feigenberg et al., 2019; Davezies & Garrouste, 2020; Benhenda & Grenet, 2020)
  - Sorting effects (Beffy & Davezies, 2013; Davezies & Garrouste, 2020)

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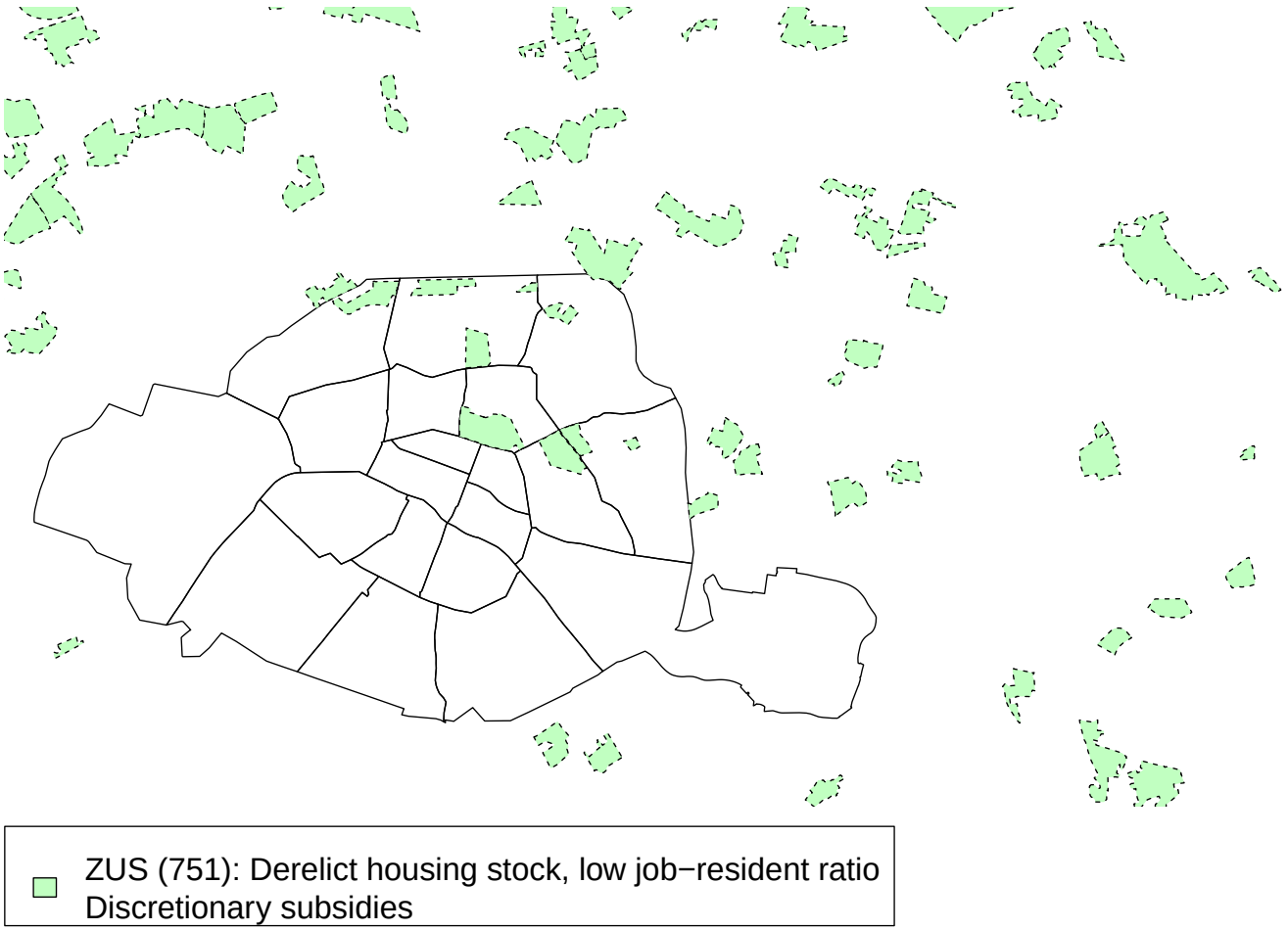
FRENCH PLACE-BASED POLICIES

- Multi-dimensional State-City actions to improve
  - Social cohesion (public subsidies to non-for-profit organizations)
  - Living conditions of residents (construction/rehabilitation of social housing)
  - Labour market participation (tax breaks & positive discrimination)
  - Education (outside schools: child tutoring, support for parents, etc.)

MULTIPLE-TIER ZONING SYSTEM (1996-2014)



Source: ANCT-CGET, Mairie de Paris

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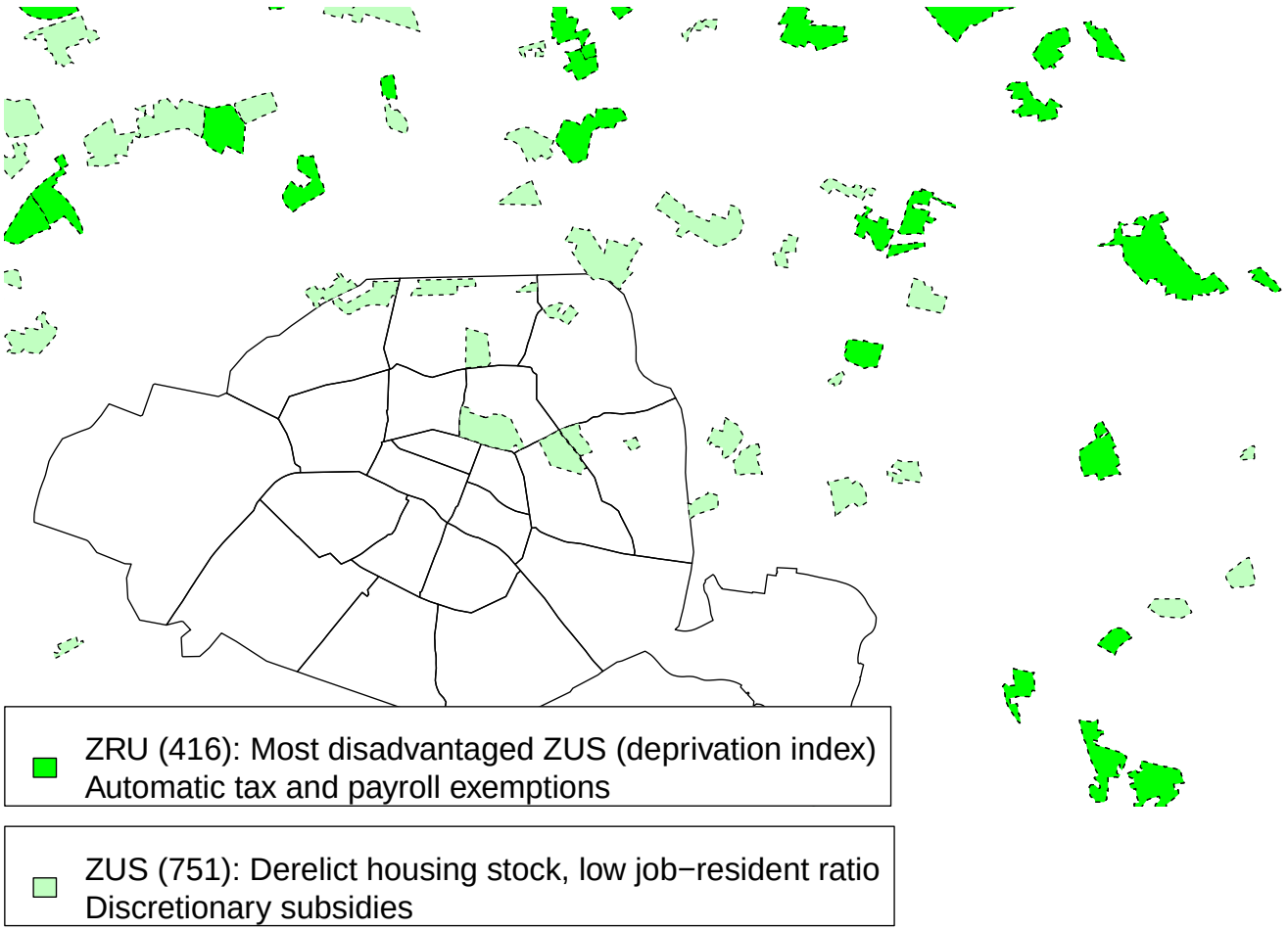

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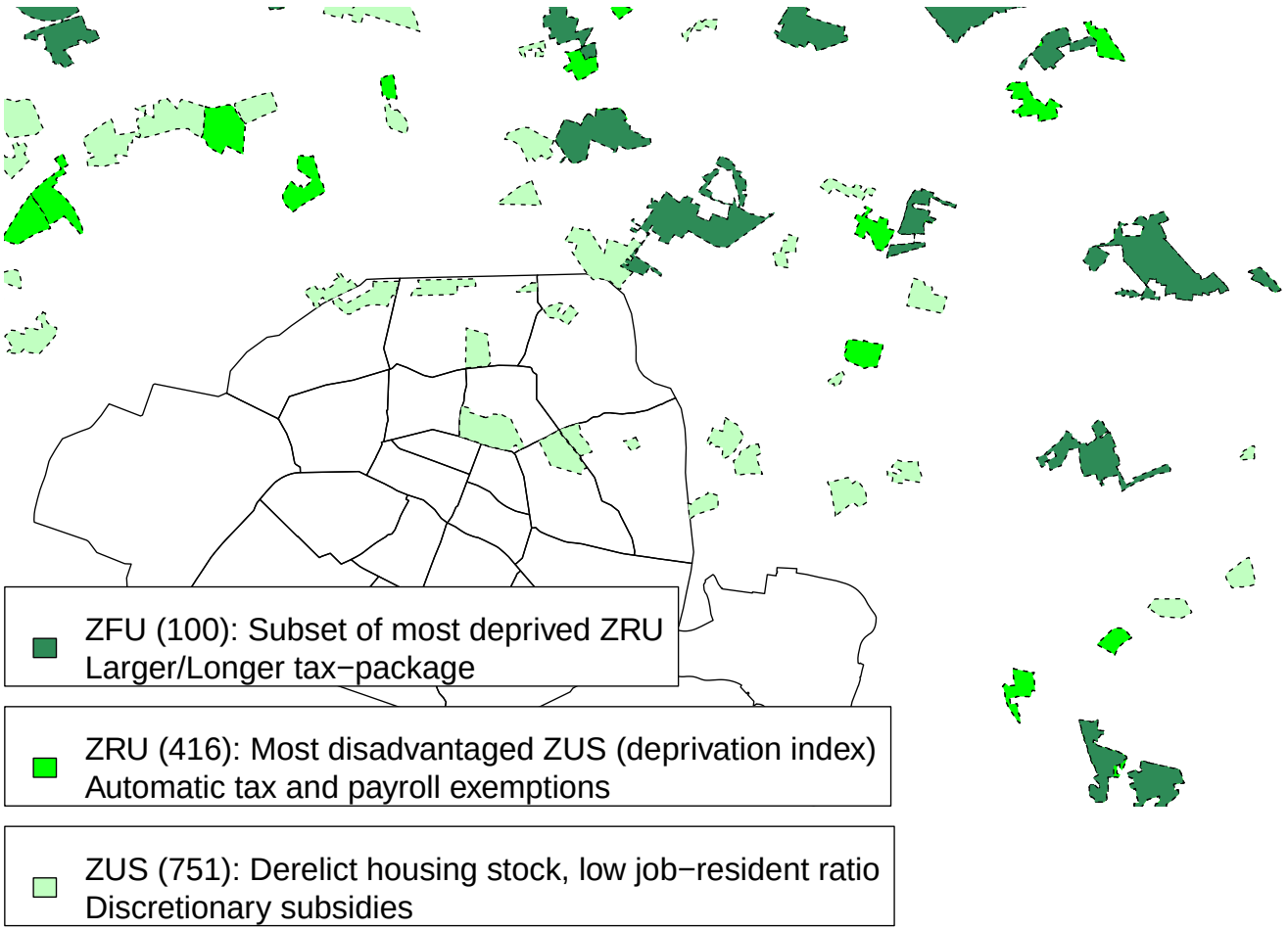

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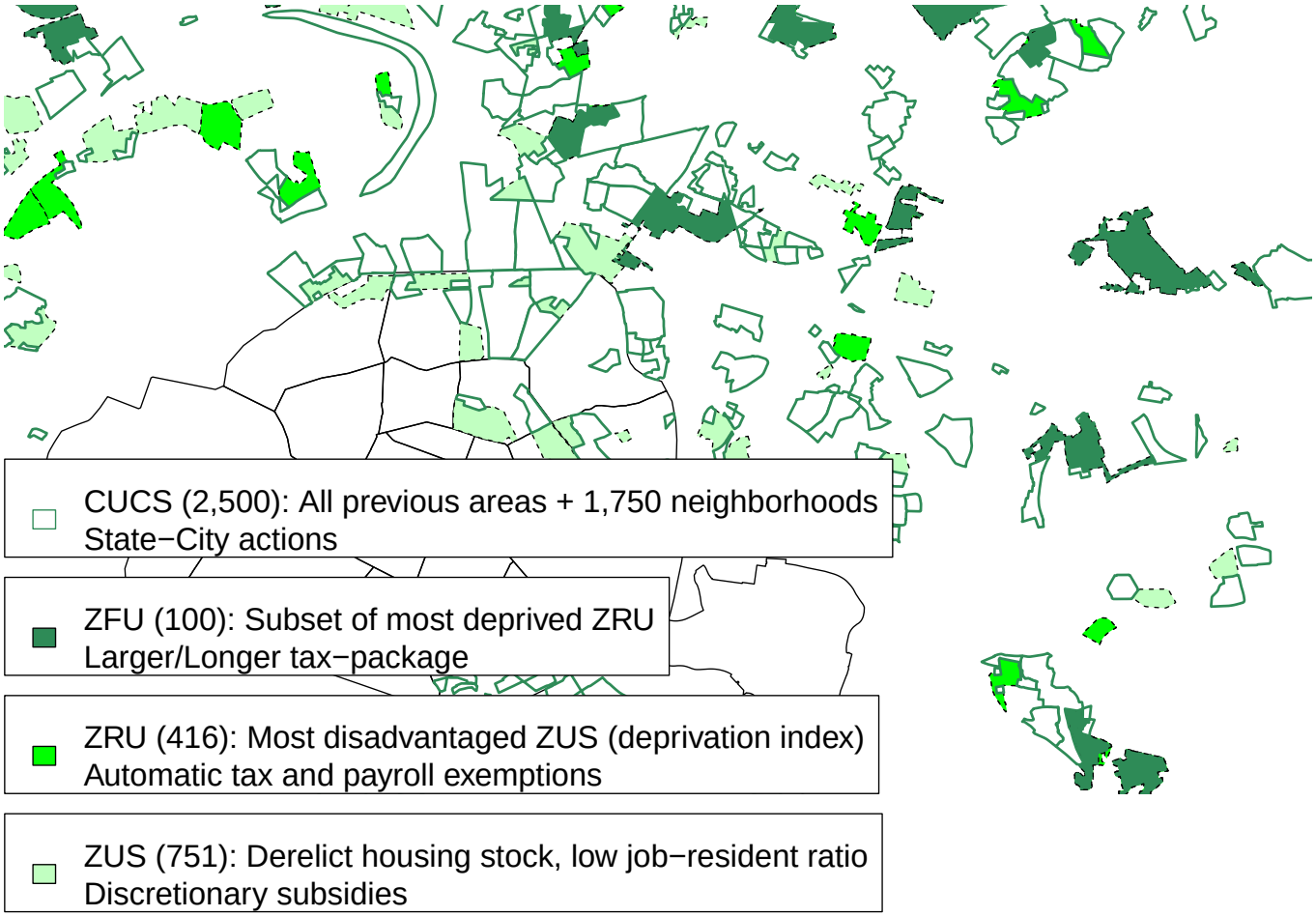


Source: ANCT-CGET, Mairie de Paris

OBJECTIVES OF THE 2014 REFORM

- Unique zoning system (QPV)

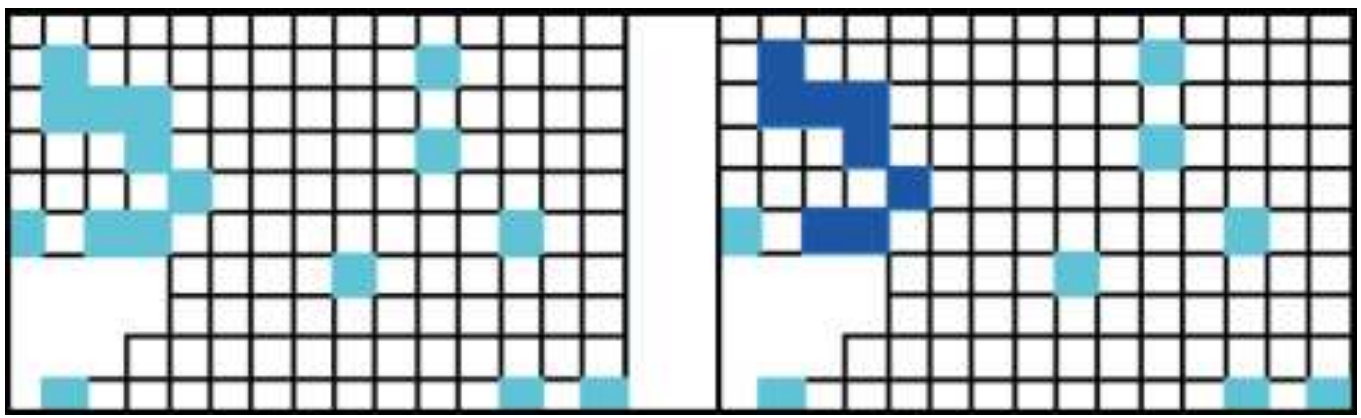
  $\Rightarrow$ transparent eligibility criterion based on the median income of residents

- Improve cost-effectiveness

  $\Rightarrow$ public subsidies targeted at a smaller number of disadvantaged areas

NEW ELIGIBILITY RULE

- Square grid of the whole French territory (200 x 200 meters)
- Eligible zones: Adjacent squares with a median income below a poverty threshold (60% of non manipulable reference income)



Source: Quantin and Salat (2018)

PBP AFTER 2014

- Very progressive phasing-out of the former program
- As before, State-City contracts to improve
  - Social cohesion
  - Living conditions of residents
  - Labour market participation
  - Education

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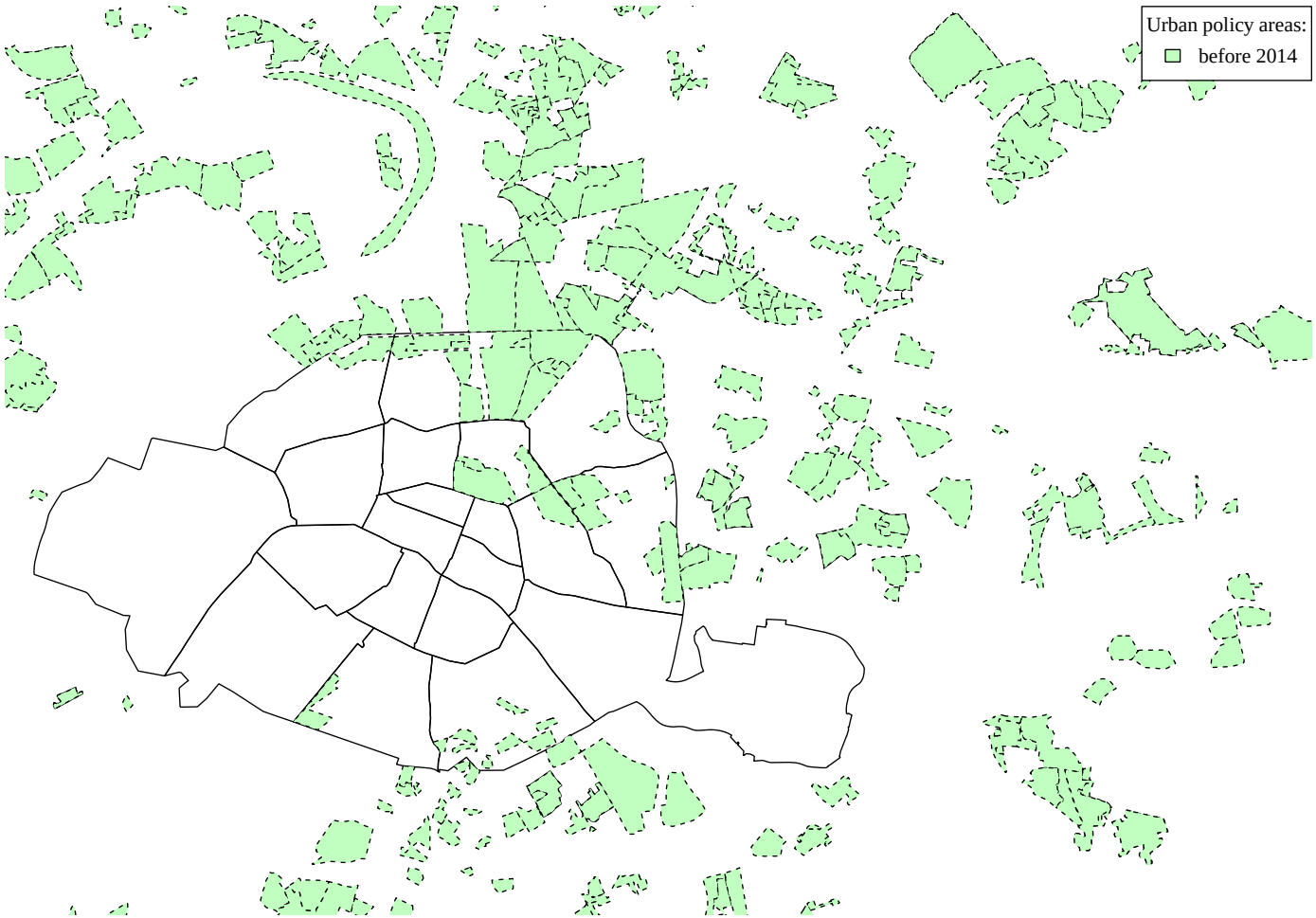
- Very progressive phasing-out of the former program
- As before, State-City contracts to improve
  - Social cohesion
  - Living conditions of residents
  - Labour market participation
  - Education
- Citizens' councils
- Internet tools providing precise information on zoning delineation Example

$\Rightarrow$ Information shock, beyond policy change Google trends

BEFORE THE REFORM IN PARIS



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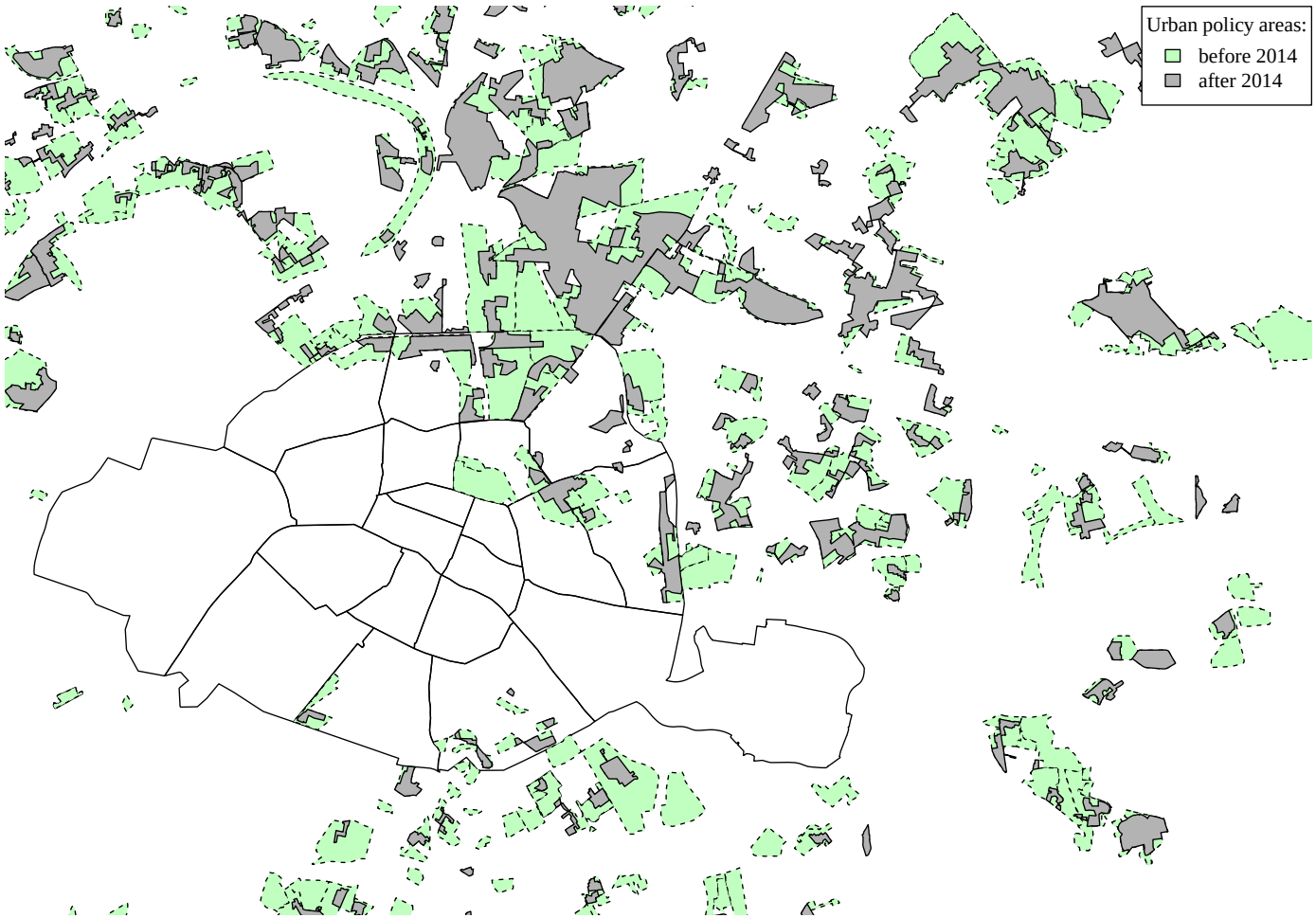
AFTER THE REFORM IN PARIS



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DATA PRESENTATION

- Pupil data (French Ministry of Education)
- School data (French Ministry of Education)
- Neighborhood data (INSEE & French Ministry of Urban Affairs)

DATA PRESENTATION

- Pupil data (French Ministry of Education)
  - Repeated cohorts of all pupils entering middle school (7.5 Mn pupils)
  - Before (2010-2013) vs After (2014-2019) the reform
  - Observed in t (middle school) and $t-1$ (primary school)
  - Parents' Socio-Economic Status (Very-High, High, Medium, Low SES)
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- School data (French Ministry of Education)
  - All middle schools over 2010-2019: exact location (6,800 schools)
  - Private vs Public, Compensatory/priority education schemes (Yes vs No)
- Neighborhood data (INSEE & French Ministry of Urban Affairs)

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  - All middle schools over 2010-2019: exact location (6,800 schools)
  - Private vs Public, Compensatory/priority education schemes (Yes vs No)

- Neighborhood data (INSEE & French Ministry of Urban Affairs)
  - Reference income for all Urban Units in France (poverty cut-off)
  - Square-grid income at the census tract level (confidentiality issues)
  - Precise boundaries of urban policy zoning

	Freq.	%
Gender		
Girl	3,673,594	49
Boy	3,799,984	51
Socioeconomic status		
Very High SES	1,748,272	23
High SES	955,174	13
Medium SES	2,006,649	27
Low SES	2,459,399	33
Unknown SES	304,084	4
Citizenship		
French	7,165,558	96
Other	308,020	4
Age		
7-10	213,575	3
11-12	7,248,610	97
13-17	11,393	0
Middle School Choice		
Catchment-Area School	4,069,682	54
Other Public School	1,762,704	24
Private School	1,641,192	22
Catchment-area school		
In policy zoning	2,291,369	30.7
Entering policy zoning	29,374	0.4
Exiting policy zoning	1,941,826	26.0
Exiting policy zoning ($0.6<I_R<0.7$)	686,137	71.2
In entry-counterfactual areas	355,104	4.8
In exit-counterfactual areas	320,169	4.3
Total	7,473,578	100

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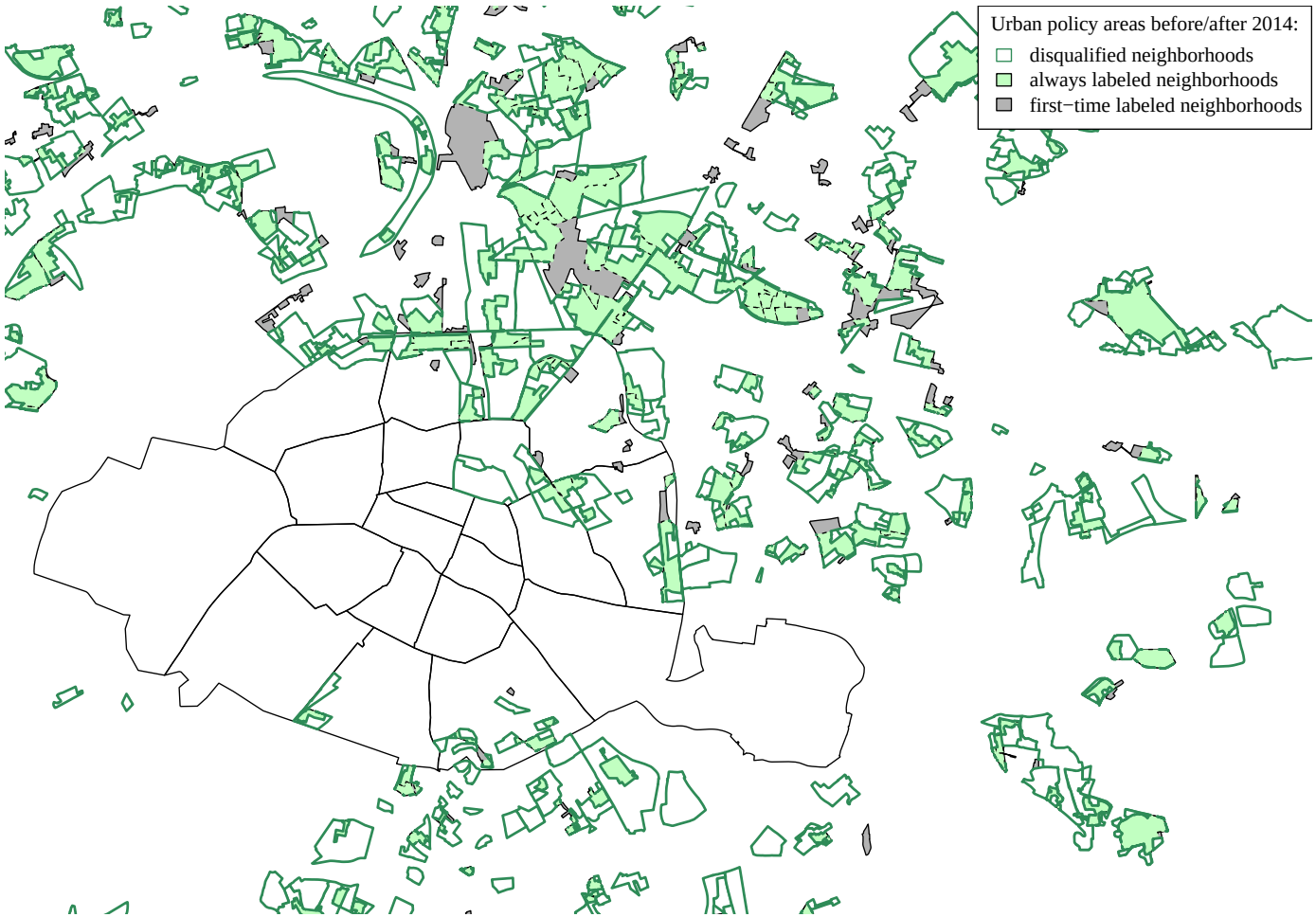
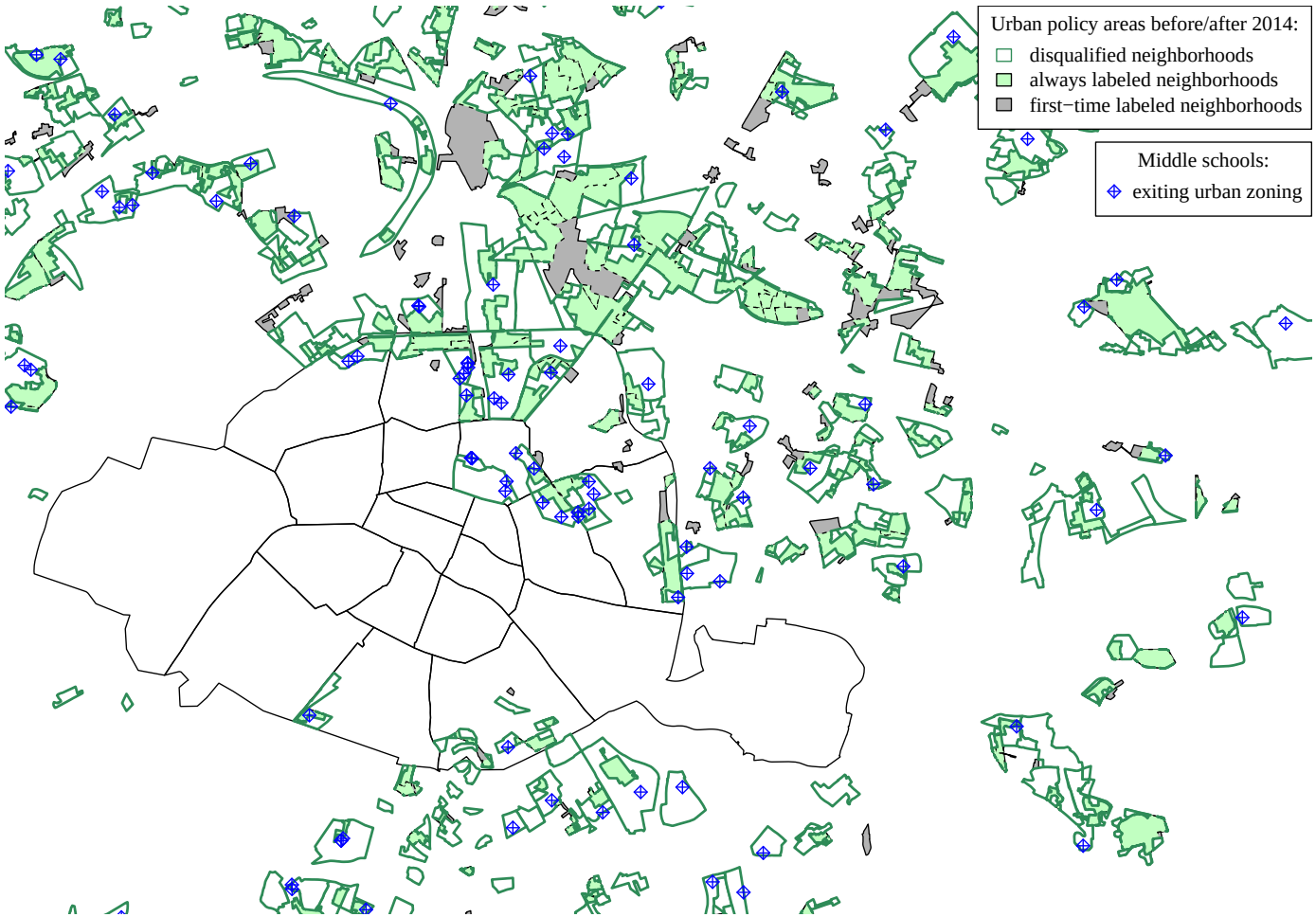
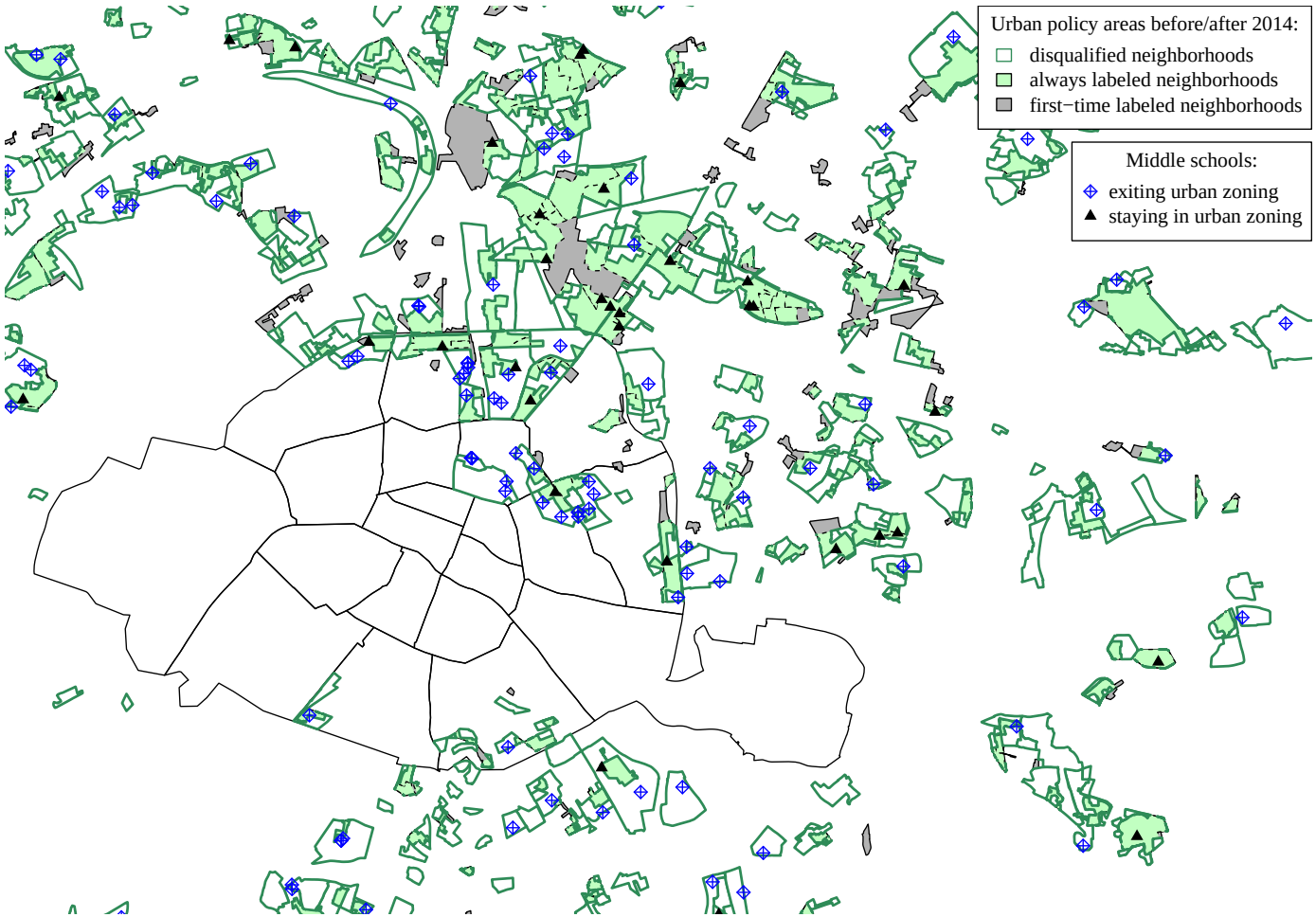
RESHUFFLING OF SCHOOLS AFTER 2014



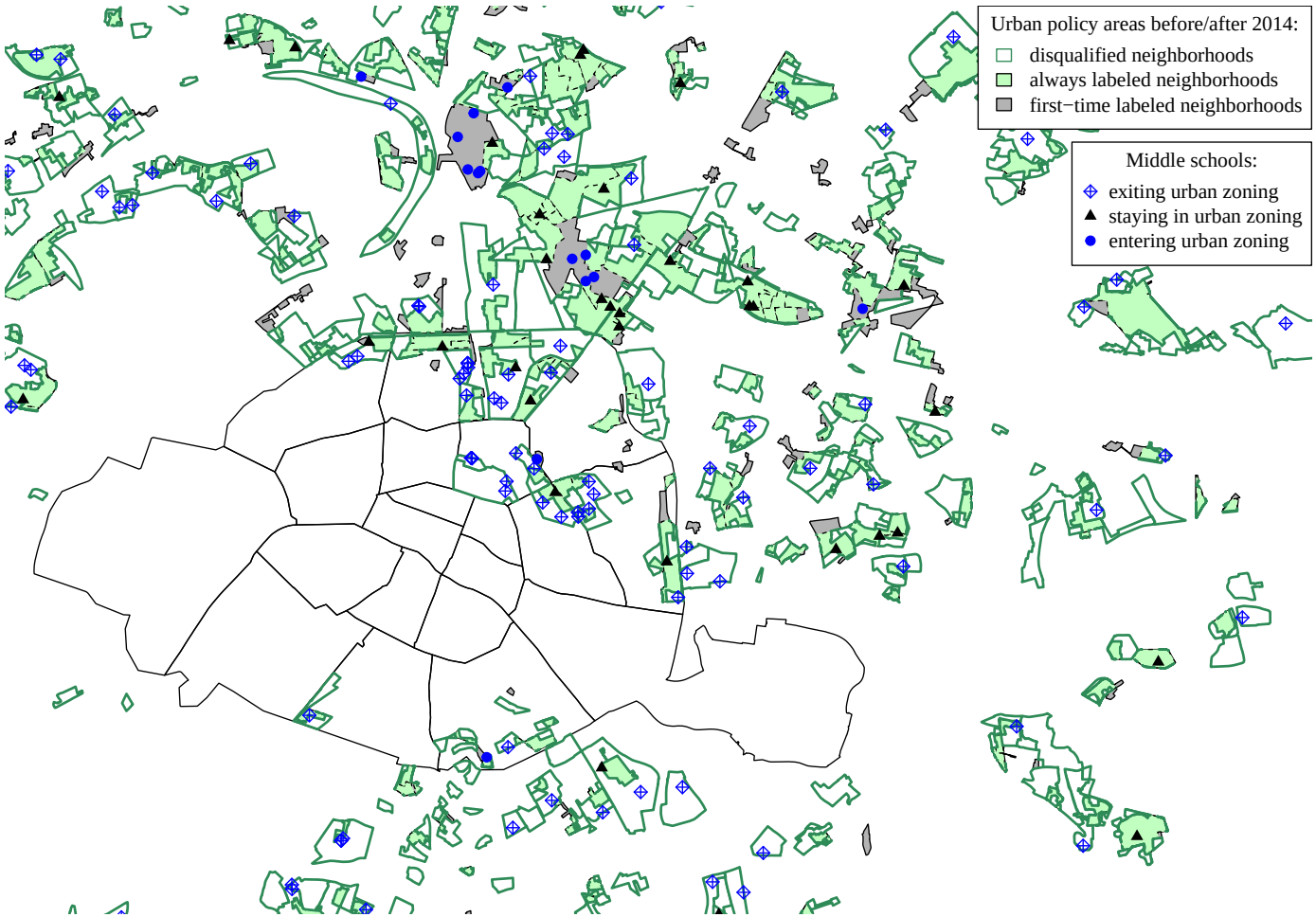
MIDDLE SCHOOLS AFTER 2014 (EXIT)



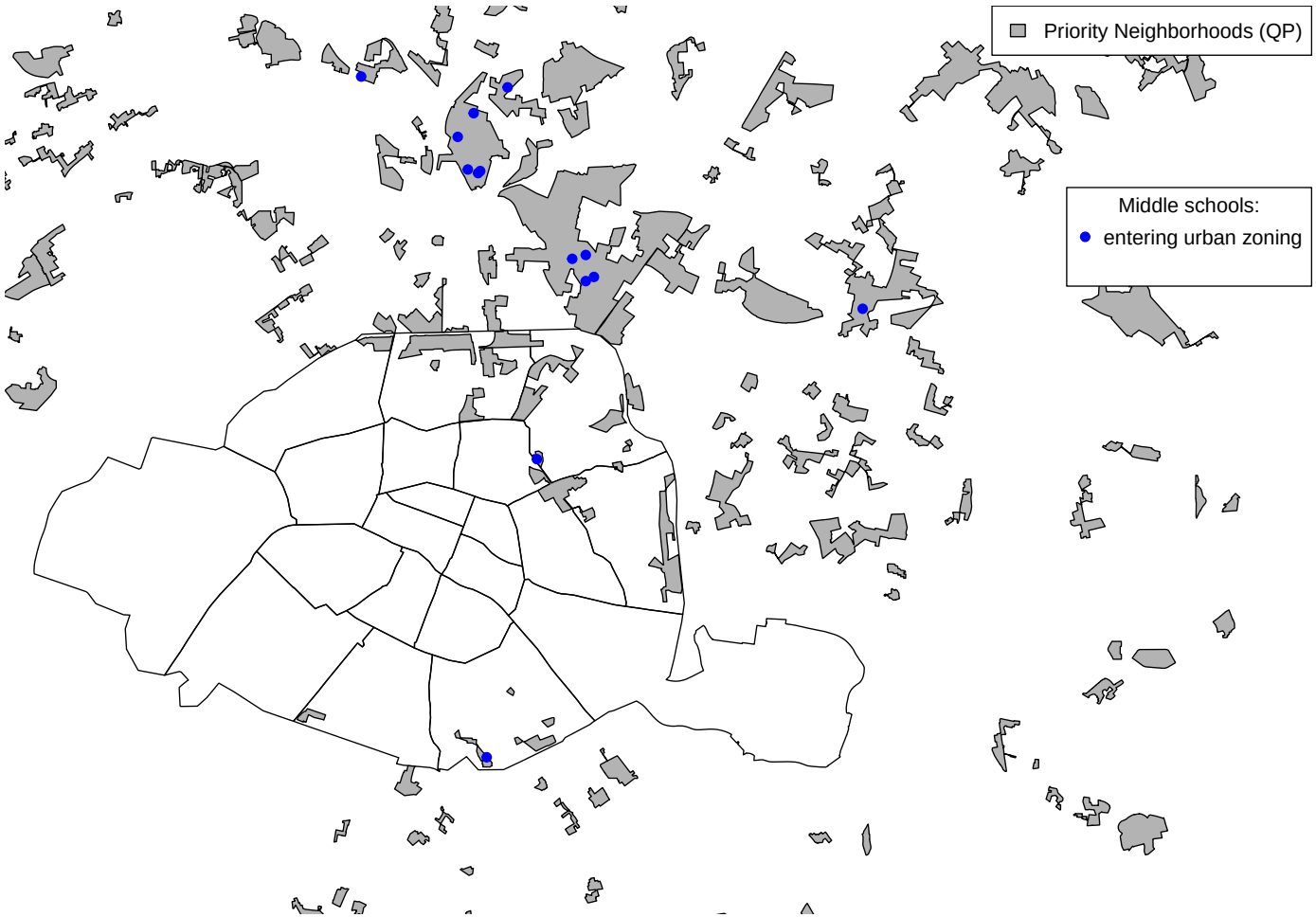
MIDDLE SCHOOLS AFTER 2014 (EXIT/STAY)



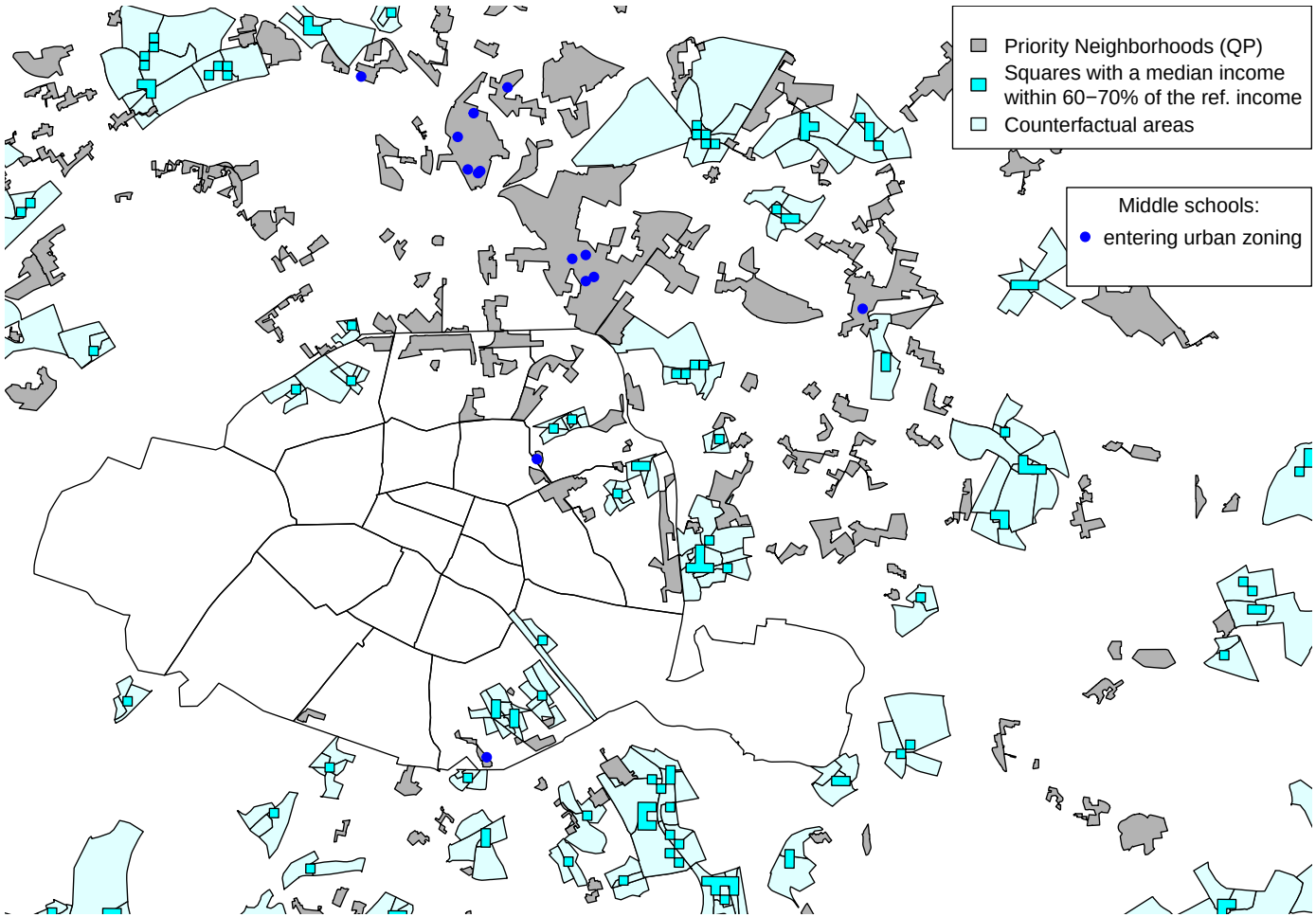
MIDDLE SCHOOLS AFTER 2014 (EXIT/STAY/ENTRY)



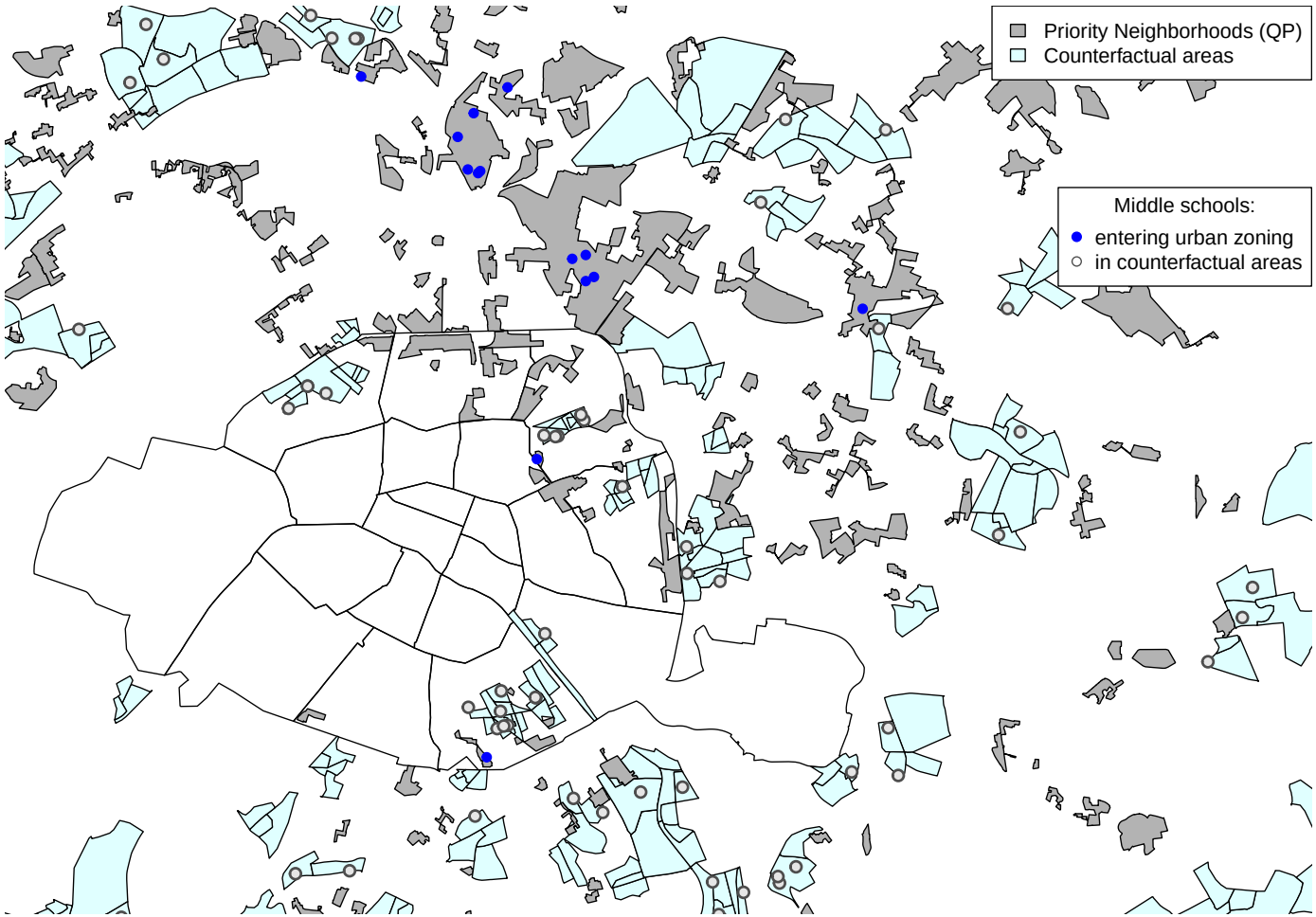
MIDDLE SCHOOLS "ENTERING" THE NEW ZONING



COUNTERFACTUAL AREAS FOR ENTRANT NEIGHBORHOODS



CONTROL AND TREATED (ENTRANT) SCHOOLS



EMPIRICAL FRAMEWORK

For schools in neighborhoods never zoned before 2014:

$$Y_{idt} = \sum_{k=2010}^{2019} \beta_{1k} T_d^{entry} \times \mathbb{1}_{t=k} + X_{it}\sigma_1 + Z_{dt}\lambda_1 + \mu_d + \mu_t + \epsilon_{idt}$$

$Y_{idt} = 1$ if pupil i from cohort t assigned by default to CA-school d is enrolled at school d (or another public school or a private school)

$T_d^{entry} = 1$ if CA-school d "enters" policy zoning

X_{it}: Family/Pupils' characteristics

Z_{dt}: CA-school time-varying characteristics

μ_d / μ_t: CA-school / year fixed effects

$\Rightarrow$ Counterfactual schools in neighborhoods with a median income just above (60-70%) the reference income

EMPIRICAL FRAMEWORK

For schools in neighborhoods already zoned before 2014:

$$Y_{idt} = \sum_{k=2010}^{2019} \beta_{2k} T_d^{exit} \times \mathbb{1}_{t=k} + X_{it}\sigma_2 + Z_{dt}\lambda_2 + \mu_d + \mu_t + \varepsilon_{idt},$$

$Y_{idt} = 1$ if pupil i from cohort t assigned by default to CA-school d is enrolled at school d (or another public school or a private school)

$T_d^{exit} = 1$ if CA-school d "exits" policy zoning

X_{it}: Family/Pupils' characteristics

Z_{dt}: CA-school time-varying characteristics

μ_d / μ_t: CA-school / year fixed effects

$\Rightarrow$ Counterfactual schools in neighborhoods with a median income just below (50-60%) the reference income

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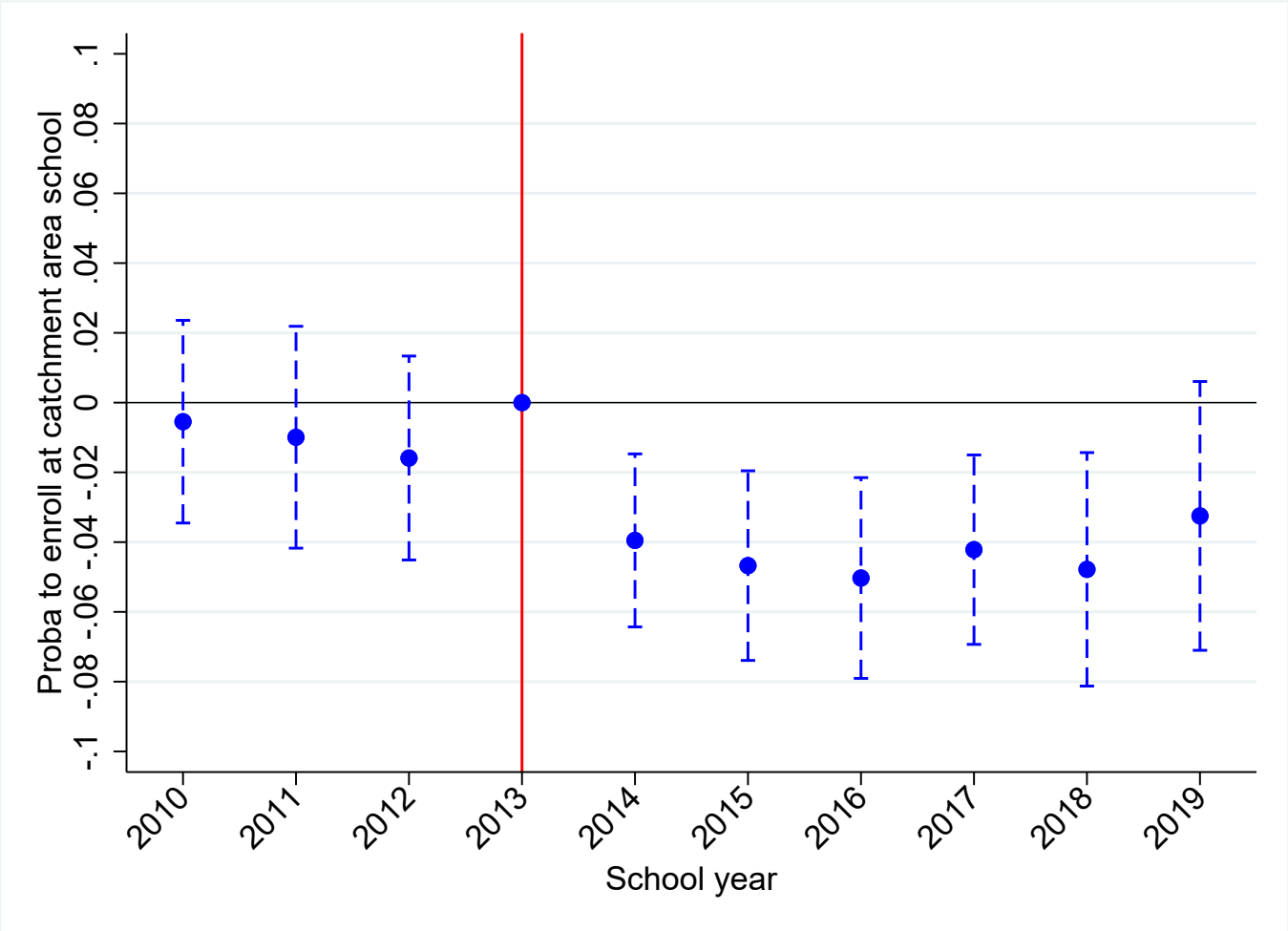
EVENT STUDY - ENTRY

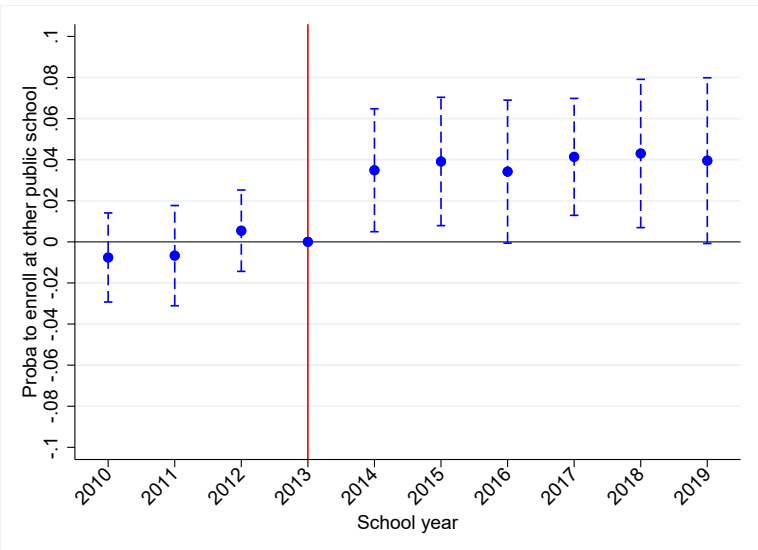
Relative probability to choose the Catchment-Area school



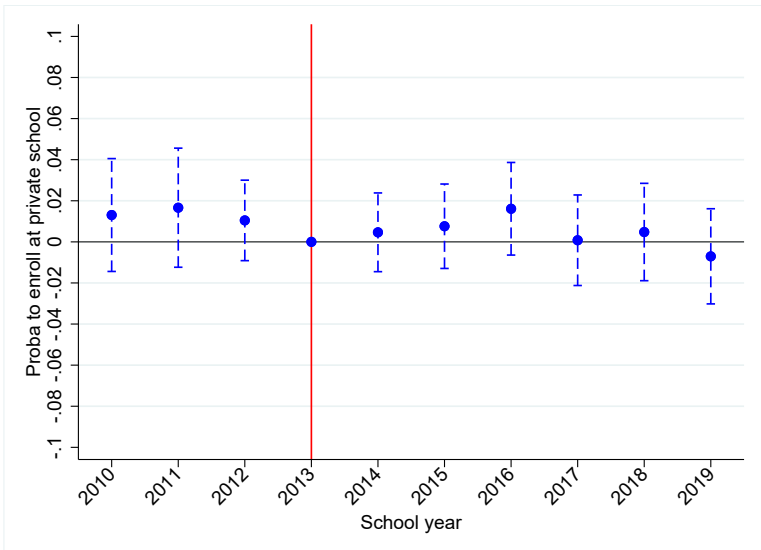
EVENT STUDY - ENTRY

Relative probability to choose:

(a) Another public school

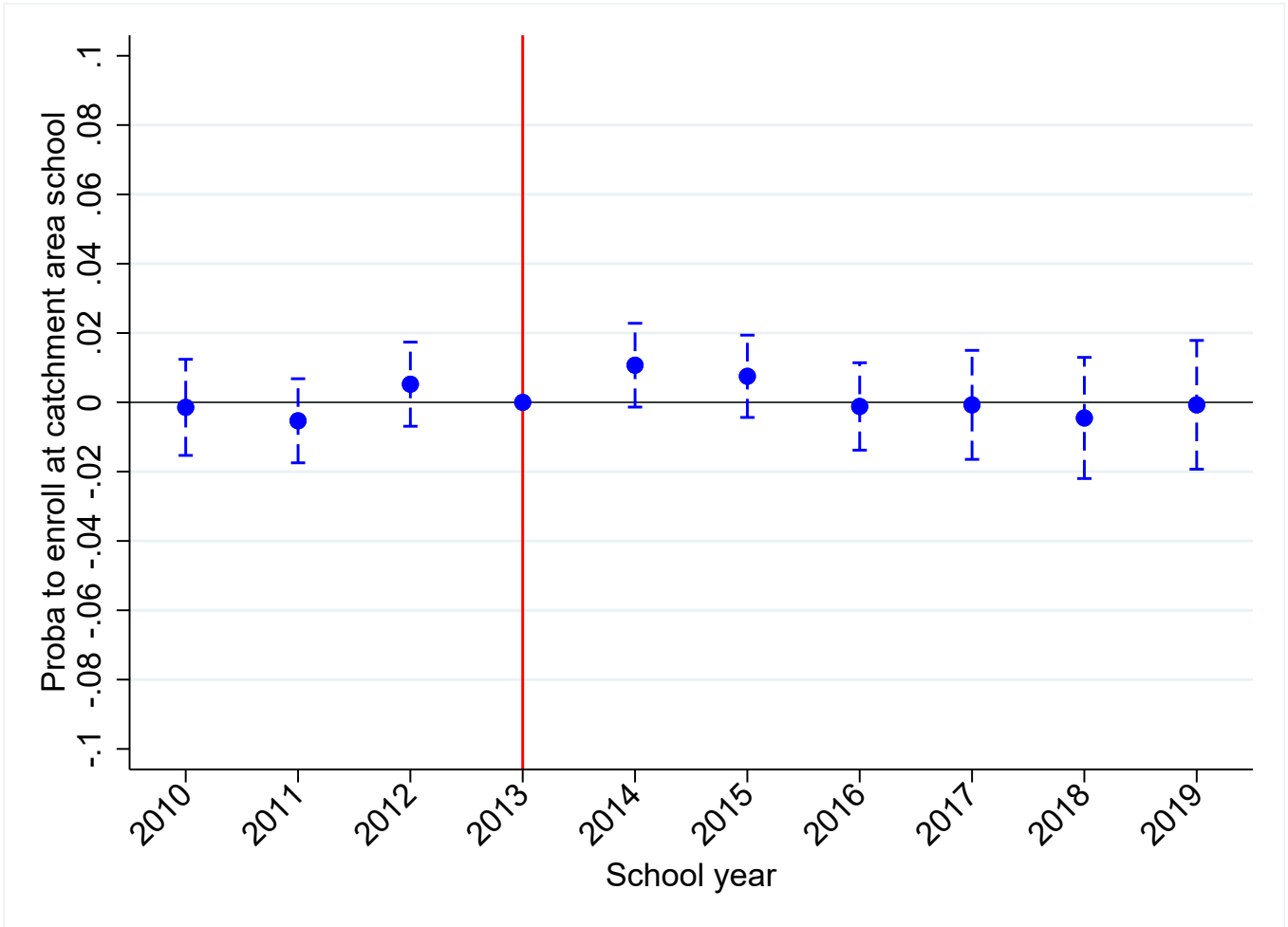


(b) A private school



See main table

EVENT STUDY - EXIT



See table

HETEROGENEITY ANALYSIS

- When the catchment-area school enters zoning
  - Low-SES families shift more often to another public school
  - and less often to a private school than high-SES families See results

- Teachers or equivalent react less than others See results

- 8th graders, already enrolled for two years, do not react See results

$\Rightarrow$ Key mechanism: informational frictions

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ROBUSTNESS CHECKS

[✓] Sorting across schools not neighborhoods See results

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[✓] Narrower definition of urban policy treatment See results

- Most inhabitants do not know CUCS
- Treated = only ZUS/ZRU/ZFU

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[✓] Public school assignment and catchment areas construction See results

- Catchment area school = closest to former primary school
- Alternative definition: place of residence

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[✓] Multinomial analysis See results

- Outcomes not independent
- Multinomial logit

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  - Exacerbating social segregation at school
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  - $\Rightarrow$ About 150 sixth graders per catchment area on average in France
  - $\Rightarrow$ 4 pp drop $\approx$ 6 pupils per school "entering" policy zoning

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$\Rightarrow$ Targeting pupils directly rather than schools/neighborhoods?

Thank you!

Comments and suggestions would be very welcome!

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Appendix

FRENCH PLACE-BASED URBAN POLICY AROUND 2014

back

<table>
<tr><td></td><td></td><td colspan="2">2004 2014</td><td>2020</td><td>→</td></tr>
<tr><td rowspan="3">Tier-4: CUCS
Tier-1: ZUS</td><td rowspan="2"></td><td colspan="3">Housing and living conditions
National Urban Renewal Programme</td></tr>
<tr><td colspan="2">Education
Prog. de Réussite Educative (PRE)
(to the end of the State-City contract)</td><td></td></tr>
<tr><td>Tier-2: ZRU</td><td colspan="3">Enterprise zones and employment:
Payroll tax exemptions
Corporate tax exemptions (up to 5 years after installation)</td></tr>
<tr><td>Tier-2: ZFU</td><td colspan="3">Enterprise zones and employment:
Larger payroll tax exemptions
Larger corporate tax exemptions (up to 14 years after installation)
Larger property tax exemptions</td></tr>
<tr><td rowspan="4">QPV</td><td rowspan="4"></td><td colspan="2" rowspan="4"></td><td>Citizen participation:
Citizens' council</td><td></td></tr>
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</table>

INTERNET INFORMATION ON THE PBP ZONING SYSTEMS

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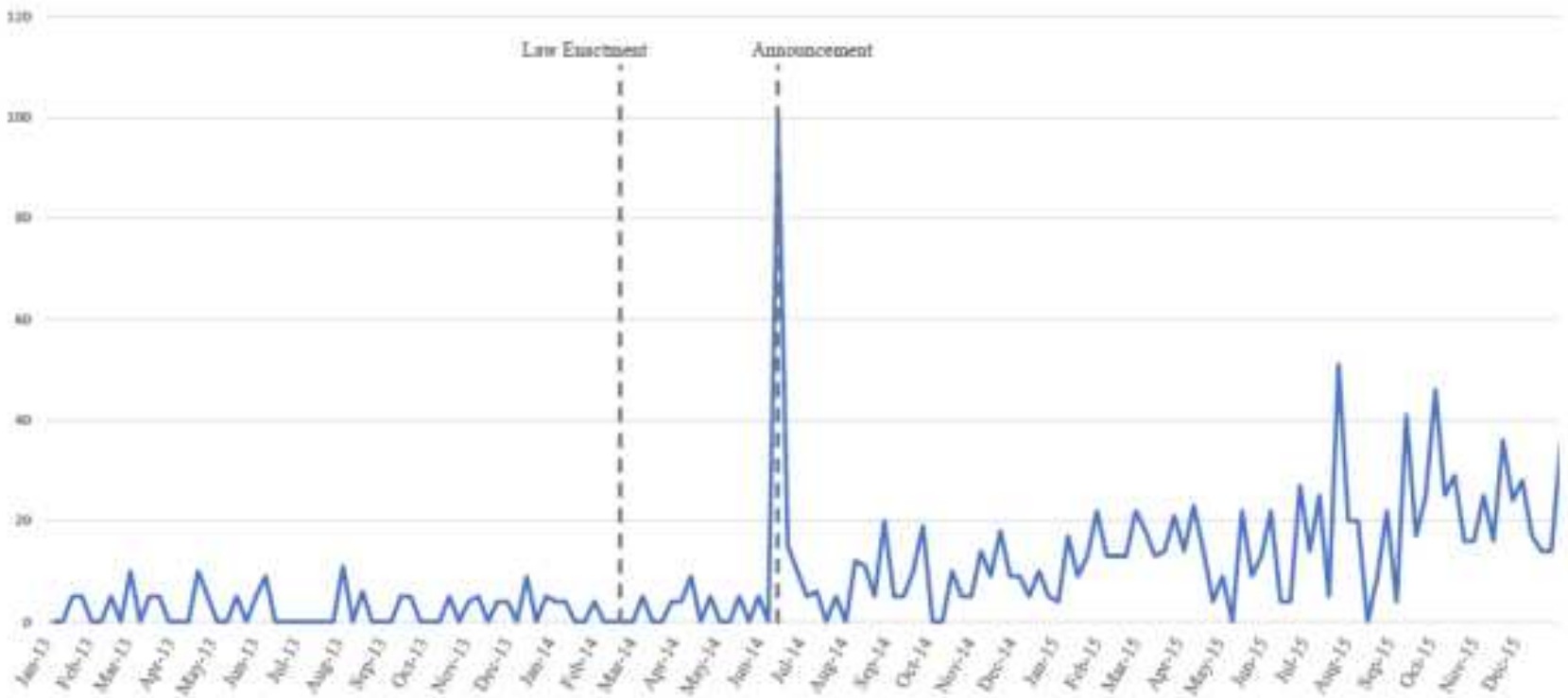
Source: French Ministry of Urban Affairs.

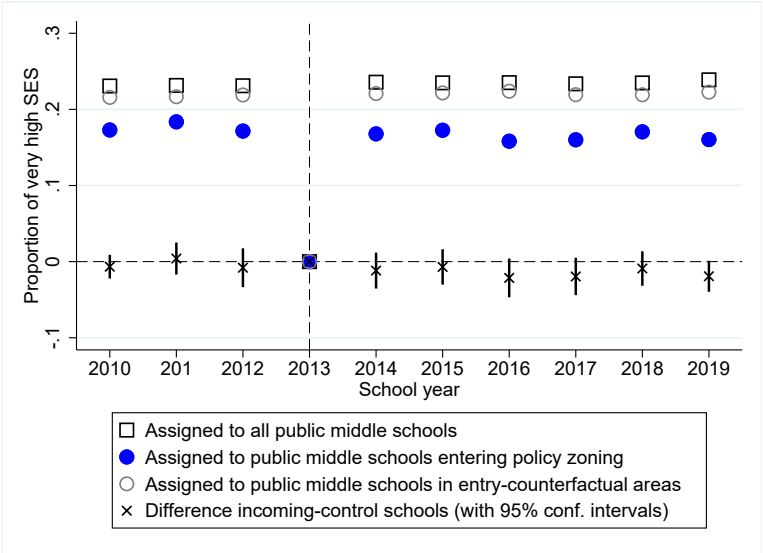
GOOGLE QUERIES FOR "PRIORITY" NEIGHBORHOODS (*QP*)

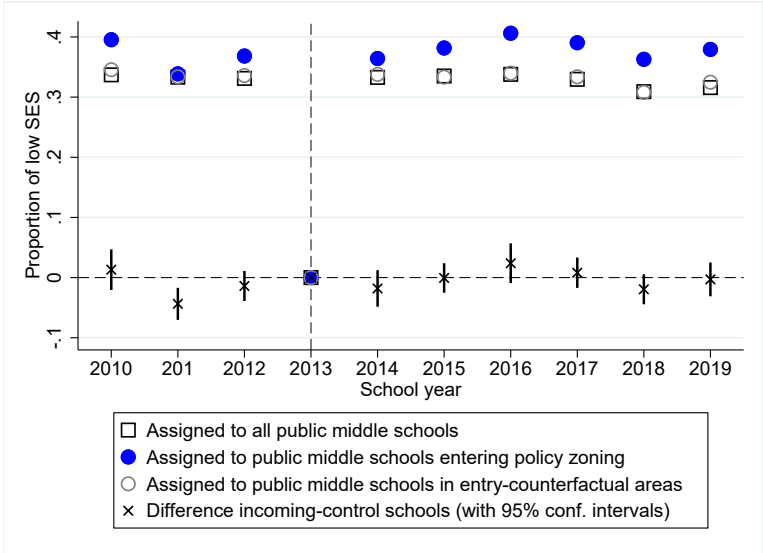
back



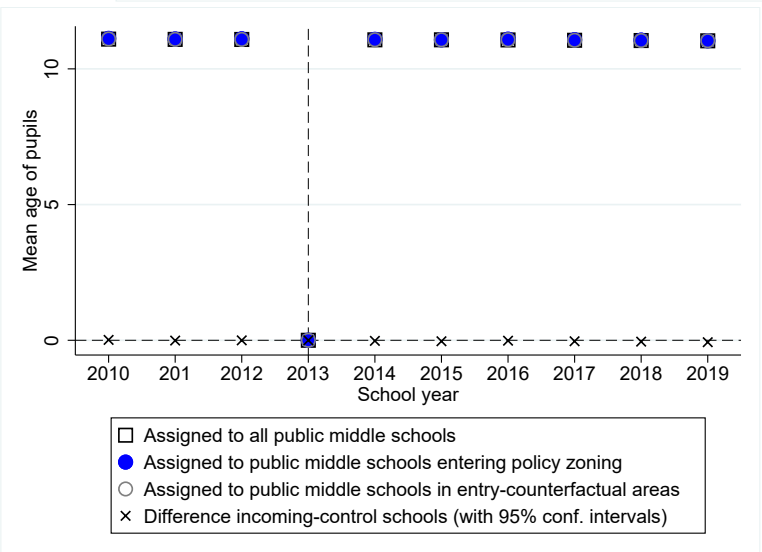
Source: Google.

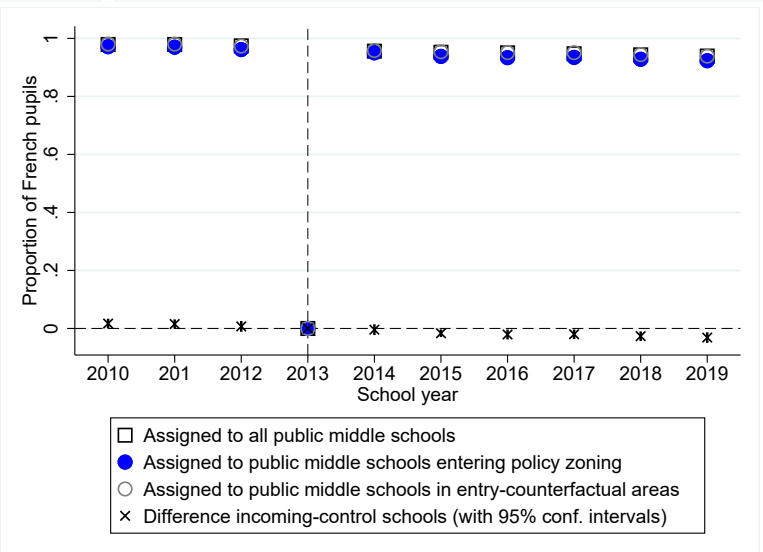
INCOMING VS. ENTRY-COUNTERFACTUAL SCHOOLS



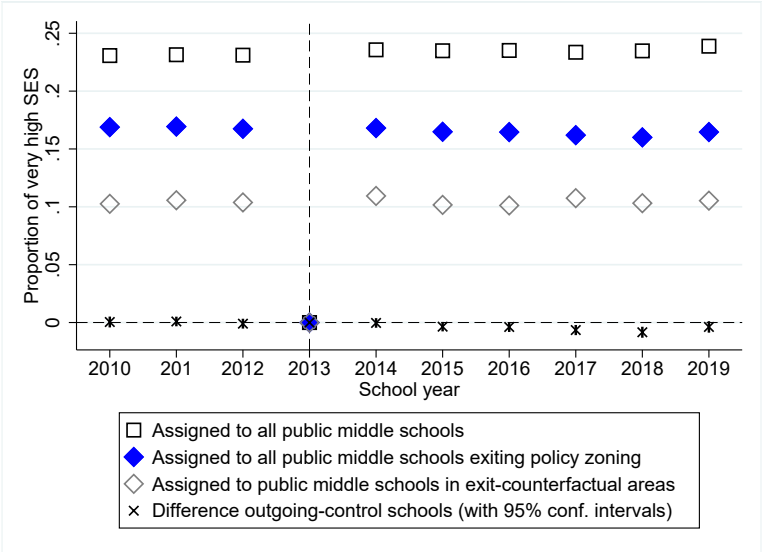


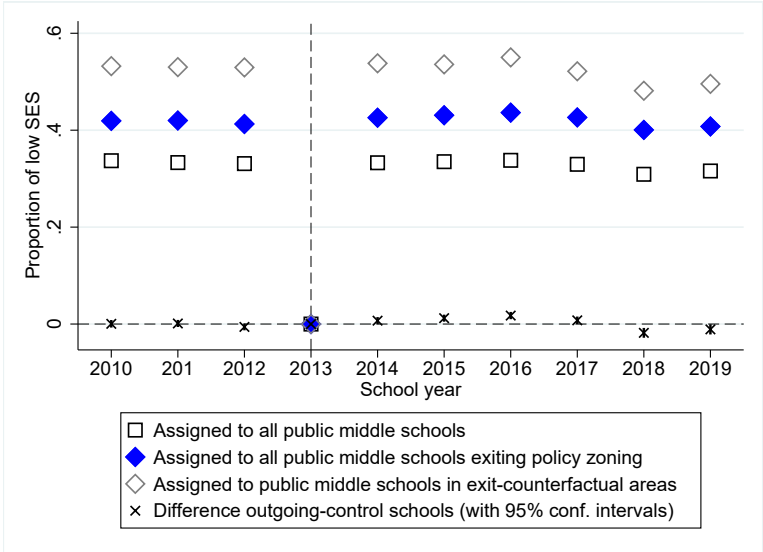
back



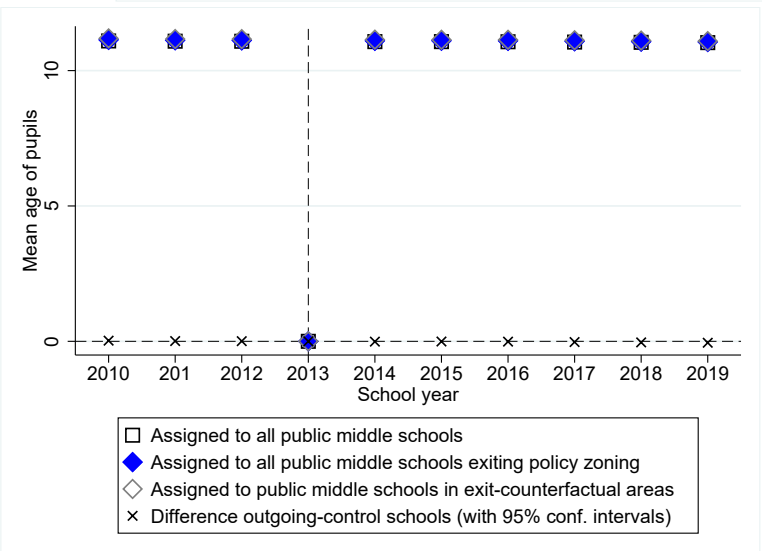


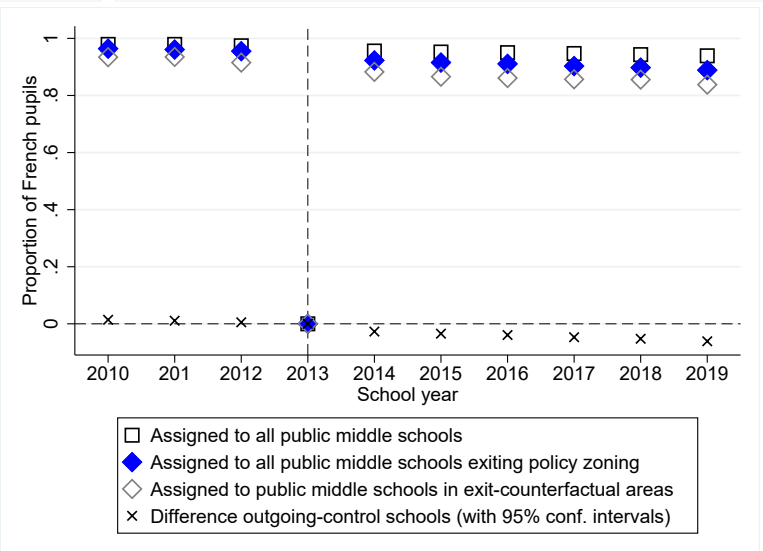
OUTGOING VS. EXIT-COUNTERFACTUAL SCHOOLS





back





"Entry" into policy zoning and pupils' enrollment

back

	Probability to enroll at:		
	CA School	Other Public School	Private School
T^{entry}	-0.035**	0.041***	-0.006
	(0.015)	(0.015)	(0.008)
SES (ref.=Medium)			
Very High SES	-0.069***	-0.017***	0.086***
	(0.007)	(0.006)	(0.007)
High SES	-0.016***	-0.009**	0.025***
	(0.006)	(0.004)	(0.006)
Low SES	0.096***	0.023***	-0.120***
	(0.006)	(0.005)	(0.006)
Unknown SES	0.082***	0.041***	-0.123***
	(0.017)	(0.013)	(0.010)
Male	-0.011***	0.006***	0.005**
	(0.002)	(0.002)	(0.002)
French	-0.068***	-0.014	0.083***
	(0.010)	(0.010)	(0.009)
Age	0.011***	0.028***	-0.039***
	(0.004)	(0.003)	(0.004)
CA School in comp. educ. prog.	0.009	-0.005	-0.004
	(0.013)	(0.011)	(0.012)
No. of Private Schools within 5km	0.061***	-0.075***	0.014**
	(0.013)	(0.013)	(0.007)
R^2	0.166	0.123	0.187
No. obs	384,478	384,478	384,478
No. clusters	235	235	235
Year FE	✓	✓	✓
School FE	✓	✓	✓

***p<0.01, **p<0.05, *p<0.10. Standard errors clustered at the school level.

"Exit" from policy zoning and pupils' enrollment back

	Probability to enroll at:		
	CA School	Other Public School	Private School
$T^{exit-treatment2014}$	0.004	-0.003	-0.001
	(0.007)	(0.007)	(0.005)
SES (ref.=Medium)			
Very high SES	-0.119***	-0.016**	0.136***
	(0.007)	(0.007)	(0.008)
High SES	-0.038***	0.004	0.034***
	(0.005)	(0.004)	(0.004)
Low SES	0.115***	0.001	-0.116***
	(0.005)	(0.005)	(0.005)
Unknown	0.080***	0.035***	-0.115***
	(0.010)	(0.009)	(0.007)
Male pupil	-0.011***	0.009***	0.001
	(0.002)	(0.001)	(0.002)
French pupil	-0.081***	0.011	0.070***
	(0.007)	(0.007)	(0.006)
Pupil's age	0.025***	0.033***	-0.058***
	(0.003)	(0.003)	(0.003)
Catchment area school in comp. educ. prog.	0.005	0.003	-0.008
	(0.010)	(0.009)	(0.007)
No. of private schools within 5km	0.025***	-0.014*	-0.011***
	(0.007)	(0.007)	(0.004)
R^2	0.172	0.106	0.237
No. obs	636,095	636,095	636,095
No. clusters	408	408	408
Year FE	✓	✓	✓
School FE	✓	✓	✓

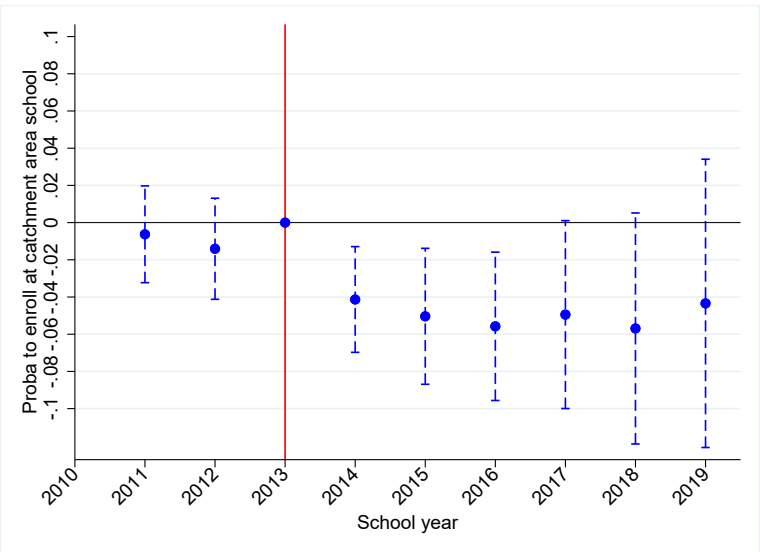
***p<0.01, **p<0.05, *p<0.10. Standard errors clustered at the school level.

EVENT STUDY - ENTRY - WITH TIME TRENDS

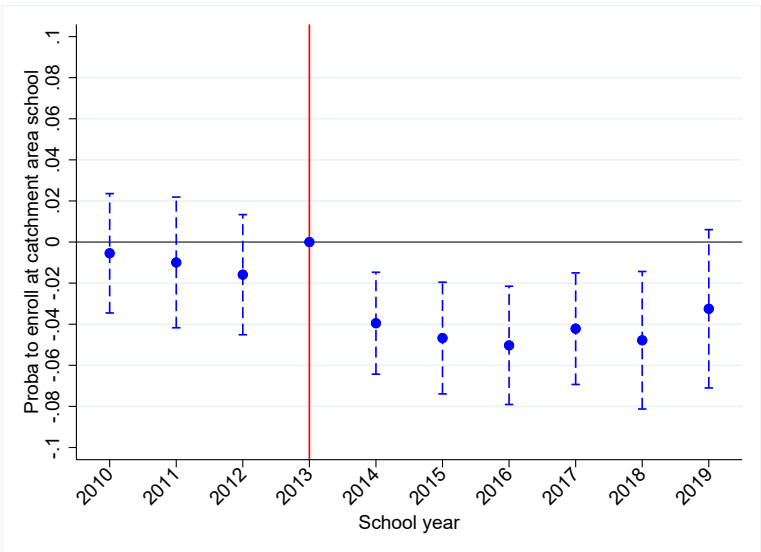
back

Relative probability to choose the Catchment-Area school

(a) With time trends



(b) Without time trends

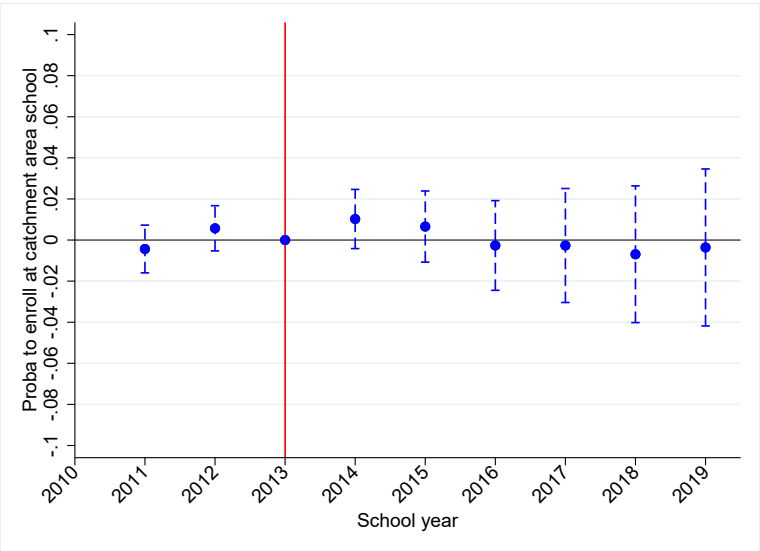


EVENT STUDY - EXIT - WITH TIME TRENDS

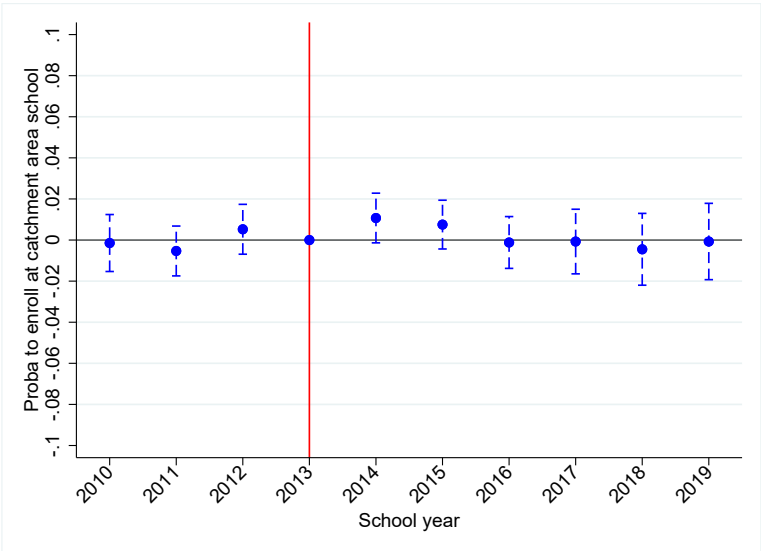
back

Relative probability to choose the Catchment-Area school

(a) With time trends



(b) Without time trends



Re-zoning and pupils' enrollment by SES back

	Probability to enroll at:		
	CA School	Other Public School	Private School
T^{entry}	-0.036*	-0.000	0.036**
	(0.019)	(0.019)	(0.016)
SES (ref.=High)			
Medium SES $\times$ T^{entry}	-0.002	0.029	-0.027
	(0.016)	(0.020)	(0.018)
Low SES $\times$ T^{entry}	-0.013	0.048**	-0.035*
	(0.021)	(0.019)	(0.021)
R^2	0.180	0.136	0.207
No. obs	384,478	384,478	384,478
No. clusters	235	235	235
	Probability to enroll at:		
	CA School	Other Public School	Private School
T^{exit}	-0.003	-0.001	0.004
	(0.010)	(0.010)	(0.008)
SES (ref.=High)			
Medium SES $\times$ T^{exit}	0.010	-0.014	0.004
	(0.009)	(0.009)	(0.009)
Low SES $\times$ T^{exit}	0.021**	-0.010	-0.011
	(0.009)	(0.010)	(0.008)
R^2	0.186	0.133	0.237
No. obs	954,666	954,666	954,666
No. clusters	616	616	616
Pupil's characteristics	✓	✓	✓
Time-varying controls	✓	✓	✓
Year FE	✓	✓	✓
School FE	✓	✓	✓
Group-trends	✓	✓	✓

***p<0.01, **p<0.05, *p<0.10. Standard errors clustered at the school level.

Re-zoning and the enrollment of teachers' children

back

	Probability to enroll at:		
	CA School	Other Public School	Private School
T^{entry}	-0.041***	0.036**	0.005
	(0.013)	(0.016)	(0.011)
SES (ref.=Non-Teachers)			
Teachers $\times$ T^{entry}	0.059**	-0.061**	0.001
	(0.025)	(0.027)	(0.018)
R^2	0.153	0.123	0.155
No. obs	384,476	384,476	384,476
No. clusters	235	235	235
	Probability to enroll at:		
	CA School	Other Public School	Private School
T^{exit}	0.011*	-0.010*	-0.001
	(0.006)	(0.006)	(0.004)
SES (ref.=Non-Teachers)			
Teachers $\times$ T^{exit}	-0.018	0.021	-0.003
	(0.014)	(0.017)	(0.014)
R^2	0.144	0.116	0.168
No. obs	954,660	954,660	954,660
No. clusters	616	616	616
Pupil's characteristics	✓	✓	✓
Time-varying controls	✓	✓	✓
Year FE	✓	✓	✓
School FE	✓	✓	✓
Group-trends	✓	✓	✓

***p<0.01, **p<0.05, *p<0.10. Standard errors clustered at the school level.

KEY MECHANISM: INFORMATIONAL FRICTIONS

"Entry" into policy zoning and enrollment into 8th grade back

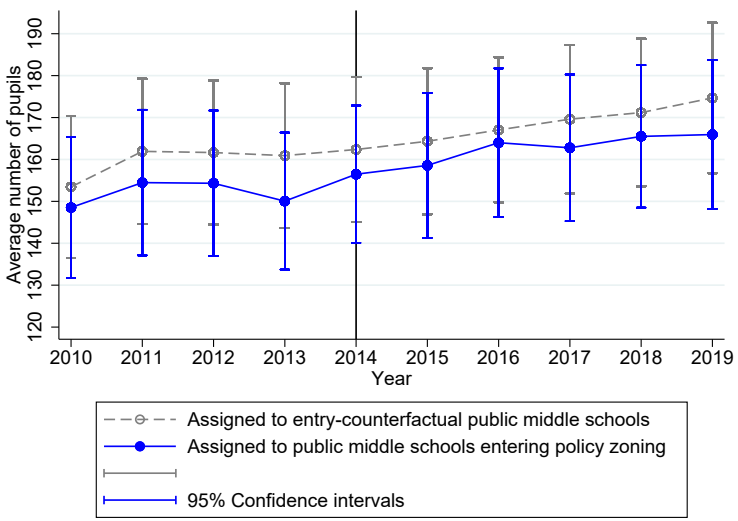
	Probability to enroll at:		
	Previous Public School	Other Public School	Private School
T^{entry}	0.009	-0.009	-0.000
	(0.010)	(0.009)	(0.004)
R^2	0.010	0.009	0.006
No. obs	303,977	303,977	303,977
No. clusters	237	237	237
	Probability to enroll at:		
	Previous Public School	Other Public School	Private School
T^{exit}	0.003	-0.004	0.001
	(0.003)	(0.003)	(0.001)
R^2	0.010	0.009	0.007
No. obs	687,380	687,380	687,380
No. clusters	619	619	619
Year FE	✓	✓	✓
School FE	✓	✓	✓
Group-trends	✓	✓	✓

***p<0.01, **p<0.05, *p<0.10. Standard errors clustered at the school level.

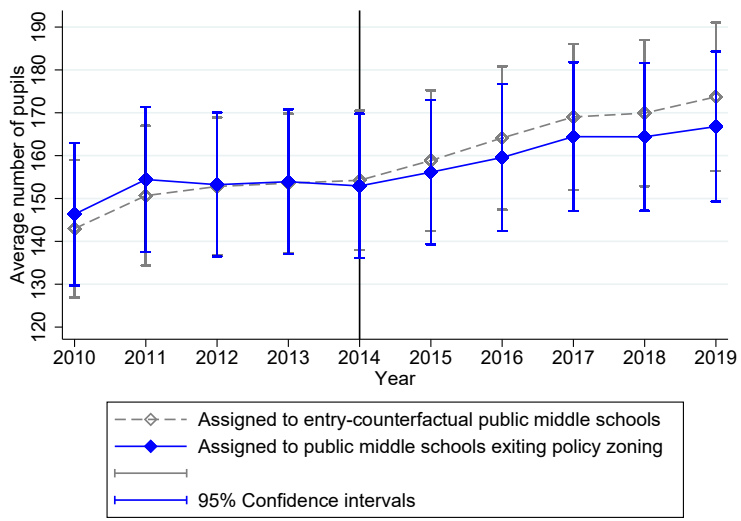
SORTING ACROSS SCHOOLS OR MOVING HOUSE?

Average number of pupils assigned to treated and counterfactual schools back

(a) Entry



(b) Exit



⇒ Re-sorting across schools, rather than across neighborhoods

NARROW DEFINITION OF TREATMENT

- ZUS/ZRU/ZFU delineation: well-known by residents before the reform
- Other CUCS: unknown by most people (even high SES) before 2014

$\Rightarrow$ Changes in perceptions, beliefs or preferences triggered by the reform heterogeneous across these two groups?

$\Rightarrow$ Only ZUS/ZRU/ZFU could have been perceived as treated before 2014

$\Rightarrow$ $T_{dt}^{entry} = 1$ if school not in ZUS/ZRU/ZFU before 2014 and in QP after
$T_{dt}^{exit} = 1$ if school in ZUS/ZRU/ZFU before 2014 and not in QP after

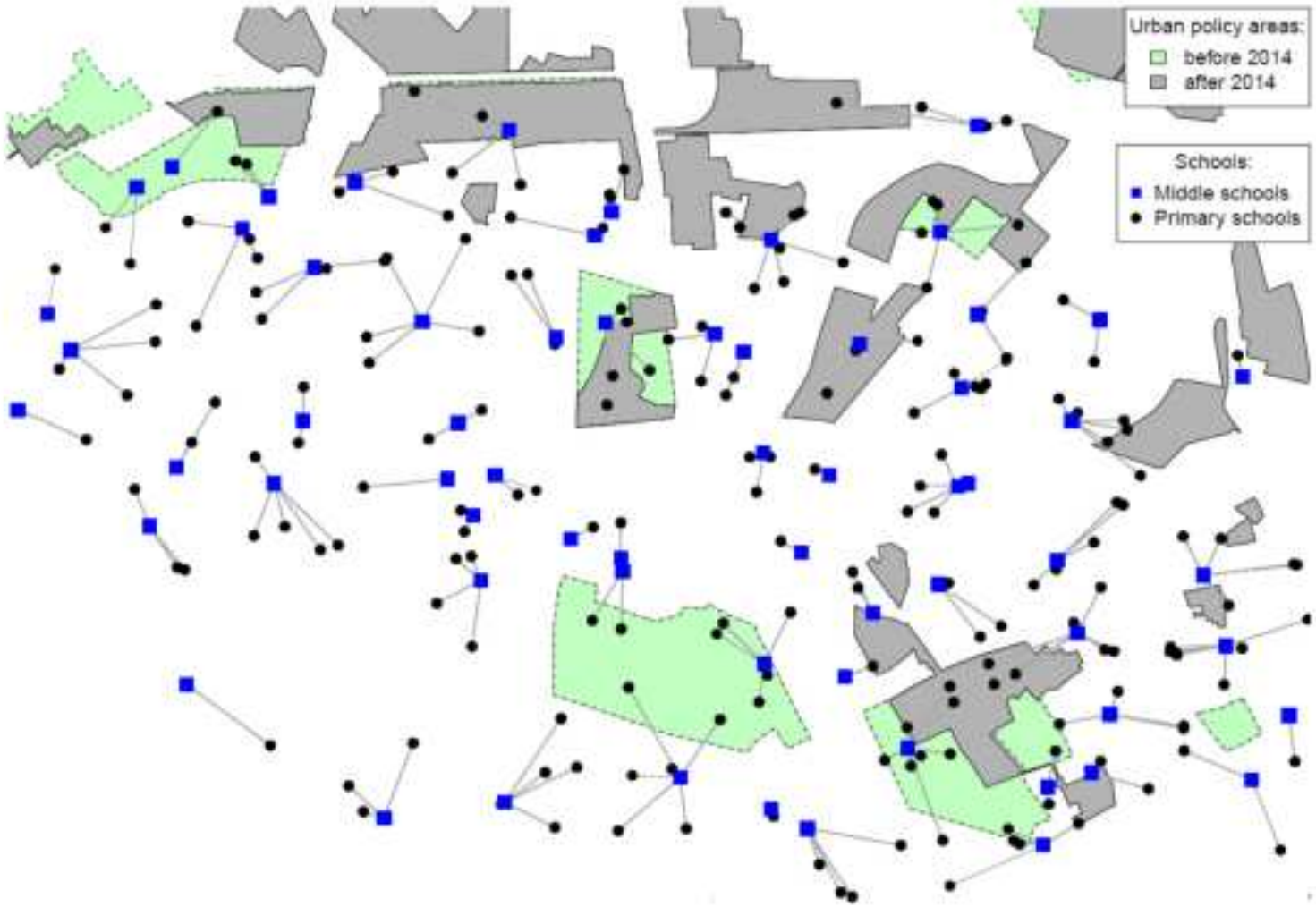
REZONING AND PUPILS' ENROLLMENT - NARROW TREATMENT

	Probability to enroll at:		
	CA School	Other Public School	Private School
T^{entry}	-0.021***	0.026***	-0.005
	(0.008)	(0.008)	(0.005)
R^2	0.170	0.126	0.192
No. obs	449,998	449,998	449,998
No. clusters	280	280	280
T^{exit}	0.014*	-0.017**	0.003
	(0.007)	(0.007)	(0.005)
R^2	0.178	0.102	0.218
No. obs	574,409	574,409	574,409
No. clusters	368	368	368
Pupil's characteristics	✓	✓	✓
Time-varying controls	✓	✓	✓
Year FE	✓	✓	✓
School FE	✓	✓	✓
Group-trends (exit)	✓	✓	✓

***p<0.01, **p<0.05, *p<0.10. Standard errors clustered at the school level.

back

CATCHMENT-AREAS BASED ON PUPIL'S PRIMARY SCHOOL



Blue squares = public middle schools, black dots = primary schools. Black segments link each primary school to its closest public middle school, defined as the catchment-area school of all pupils previously enrolled at this primary school

Re-zoning and pupil enrollment - Geo-coded data back

	Probability to enroll at:		
	CA School	Other Public School	Private School
T^{entry}	-0.026***	0.020***	0.006
	(0.009)	(0.007)	(0.006)
R^2	0.110	0.083	0.135
No. obs	152,679	152,679	152,679
No. clusters	236	236	236
T^{exit}	0.027***	-0.019*	-0.008
	(0.010)	(0.012)	(0.006)
R^2	0.136	0.077	0.150
No. obs	391,673	391,673	391,673
No. clusters	607	607	607
Pupil's characteristics	✓	✓	✓
Time-varying controls	✓	✓	✓
Year FE	✓	✓	✓
School FE	✓	✓	✓
Group-trends (exit)	✓	✓	✓

***p<0.01, **p<0.05, *p<0.10. CA School refers to the Catchment-Area School. Standard errors in parentheses are clustered at the CA-school level. Pupils' characteristics include socioeconomic background, gender, scholarship and citizenship. Time-varying controls include a dummy for the CA school benefiting from a compensatory education program, and the share of private schools in the urban unit hosting the primary school. For the sake of clarity, the constant and the coefficients on these controls are not listed.

MULTINOMIAL ANALYSIS

Multinomial logit model:

$$Y_{idt} = k \text{ if } U^k_{idt} > U^l_{idt},$$

$$U^k_{idt} = \alpha^k + \beta^k T_{dt} + X_{it}\gamma^k + Z_{dt}\delta^k + \mu^k_d + \mu^k_t + \eta^k_{idt},$$

U^k_{idt} = pupil i's utility from choosing school k

$k = \{1, 2, 3\}$ for the catchment-area school, another public school, or a private school

Multinomial logit - "Entry" into policy zoning back

	Relative risk ratios	
	Middle school choice (ref = CA School)	
	Other Public School	Private School
T^{entry}	1.322***	1.053
	(0.139)	(0.061)
SES (ref.=Medium)		
Very High SES	1.114***	1.664***
	(0.045)	(0.066)
High SES	0.996	1.155***
	(0.027)	(0.040)
Low SES	0.907***	0.370***
	(0.027)	(0.018)
Unknown SES	0.990	0.377***
	(0.086)	(0.039)
Male	1.052***	1.054***
	(0.011)	(0.016)
French	1.120**	2.361***
	(0.059)	(0.163)
Age	1.100***	0.770***
	(0.022)	(0.022)
CA School in comp. educ. prog.	0.965	0.927
	(0.069)	(0.079)
No. of Private Schools within 5km	0.594***	0.919
	(0.048)	(0.050)
Pseudo R^2	0.165	
No. obs	384,478	
No. clusters	235	
Year FE	✓	
School FE	✓	

Multinomial logit - "Exit" from policy zoning

back

	Relative risk ratios	
Middle school choice (ref = CA School)	Other Public School	Private School
T^{exit}	0.960	1.056*
	(0.028)	(0.031)
SES (ref.=Medium)		
Very High SES	1.386***	2.182***
	(0.045)	(0.083)
High SES	1.112***	1.270***
	(0.024)	(0.034)
Low SES	0.755***	0.300***
	(0.017)	(0.009)
Unknown SES	0.873***	0.310***
	(0.040)	(0.022)
Male	1.052***	1.038***
	(0.006)	(0.011)
French	1.192***	2.441***
	(0.036)	(0.103)
Age	1.013	0.617***
	(0.012)	(0.012)
CA School in comp. educ. prog.	0.942	0.966
	(0.035)	(0.034)
No. of Private Schools within 5km	0.835***	0.899***
	(0.029)	(0.031)
Pseudo R^2	0.168	
No. obs	954,666	
No. clusters	616	
Year FE	✓	
School FE	✓	