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Evidence from French Municipalities*

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Abstract

When public housing is managed at the local level, politicians might strategically influence admission policies to attract inhabitants more likely to vote for them. Using thirty years of municipal elections in France, we show that in cities where a left- instead of right-wing mayor has been elected, the share of immigrants in the population increases by 1 p.p. within six years after the elections. Most of this increase reflects an increase in the share of non-European immigrants in municipal public housing. In cities initially endowed with more public housing, the effects are higher, more persistent, and associated with longer-lasting incumbent advantage.

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Introduction

Representative democracy is based on the principle that the electorate chooses the politicians in charge of public office. However, when elections are local and voters are mobile, politicians might attempt to choose who elects them by using policies that attract inhabitants more likely to vote for them and repel politically hostile voters. Whether strategic considerations influence local policies and shape, as a consequence, the composition of the population remains unclear. For example, Glaeser and Shleifer (2005) report historical evidence of partisan behavior by mayors in prominent US cities like Detroit or Boston, but Ferreira and Gyourko (2009) do not find any systematic difference between policies implemented by Democratic or Republican mayors.

In this paper, using data from French municipalities over three decades (1982-2014), we provide evidence that the results of elections influence the composition of the population in a direction favorable to the elected mayor and that this change is associated with differences in local policies.[1] In particular, we show that the election of a left-wing mayor is followed by an increase in the share of immigrants and the share of inhabitants in public housing. Such evidence is obtained in the context of increasing immigration from non-European origin, a strong left/right political cleavage on immigration issues and the existence of a large public housing sector where mayors can directly influence admission policies.

To guide the empirical analysis, we first clarify the conditions under which mayors might favor or disfavor groups of voters such as immigrants that never make up a large enough electoral base to deliver electoral wins. Building on Glaeser and Shleifer (2005), we highlight that targeting immigrants may be electorally rewarding when voters are partisan and the arrival of immigrants has a large direct or indirect effect on the local share of loyal partisan voters in the population. While the direct effect on the probability of reelection is based on immigrants' preferences for the left, the indirect effect stems from the fact that policies targeting immigrants may act as a screening mechanism of the native population along the otherwise unobservable dimension of political preferences.

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[1]As is the case for most local authorities, the border of municipalities are fixed and mayors cannot use gerrymandering to change them. French municipal boundaries were defined during the French Revolution and have barely changed ever since.

In the empirical section, we test whether election results affect the composition of the population before the next elections, after 6 years, and also in the longer run, from 12 up to 18 years after the initial election, which correspond to the first, second and third elections after the initial election, respectively. We draw from a sample of 475 French municipalities with more than 9 000 inhabitants in urban areas with more than 30 000 inhabitants. These municipalities are where most immigrants live and most public housing units are located. We observe these municipalities over six local elections that occurred approximately every six years from 1983 to 2014. Importantly, population turnover between elections is high (40% in public housing, even higher in private rentals), so that local policies may rapidly influence the composition of the population.

To identify a causal effect of elections on the composition of the population, we follow Ferreira and Gyourko (2009) and use a regression discontinuity analysis (RDD) that exploits quasi-random variations in the political affiliation of the mayor as a consequence of close elections. The basic idea of this empirical strategy is to compare municipalities where a left-wing mayor barely won relative to municipalities where the left barely lost.

We find evidence that elections are followed by substantial population changes that should be electorally favorable to the elected mayor: after six years, before the next elections, municipalities where a left- relative to a right-wing mayor has won are characterized by a 1 p.p. higher share of immigrants in the population. We can rule out that the increase in the share of immigrants reflects general socioeconomic changes in the population, as the share of immigrants increases across all occupation groups. New residents with immigrant origins have socioeconomic characteristics similar to those of the natives they replace, even if they are less likely to be in high-income occupations.

We find that these changes in the share of immigrants in the population persist over time. The observed effects are even larger in the long-run, after two or three elections. While immigrants are overwhelmingly in favor of the left (Martiniello, 2006; Simmons et al., 2018; Brouard and Tiberj, 2011), the direct effect on the electorate in the short run is nevertheless initially limited as most of the increase in immigration is driven by non-European immigrants who are not citizen. However, in France, the probability of becoming a citizen increases dramatically with the length of stay (Fougère and Safi, 2009).

As a result, in the long run, we observe that most of the persistent differences between left- and right-wing municipalities are driven by immigrants with voting rights.

We then explore the mechanisms explaining why the outcomes of elections influence the share of immigrants in the population. We find small and imprecise effects of elections on the two sources of municipal funding: the housing tax and the property tax. This rules out the hypothesis that immigrant inflows might be driven by an increase in the levels of spending after the election of a left-wing mayor.

In contrast, the empirical evidence suggests that systematic partisan differences in the admission of immigrants into municipal public housing explain the bulk of the increase in the share of immigrants in left-wing municipalities. Even if the stock of public housing only accounts, on average, for 20% of total housing in our sample, the increase in the share of immigrants in public housing accounts for more than half of the total increase in the immigrant population.

Consistent with the evidence that there are strong partisan differences over public housing policies, we also find that the election of a left-wing mayor is associated with a 1.2 p.p. increase in public housing supply per inhabitant in the short run, 6 years after the elections. The long-run effects of elections on the stock of public housing are once again twice as large just after 12 years, which might reflect the fact that constructing new units takes time.

A concern for the interpretation of our results is that we cannot observe all dimensions of municipal policies that might change as a result of the elections. An alternative explanation for our results might be that they are driven by other unobserved systematic policy differences between left- and right-wing mayors that increased demand from immigrants for public housing in left-wing municipalities. As the initial stock of public housing tends to vary dramatically across municipalities and public housing takes time to build, a direct way to assess the plausibility of such alternative explanations is to estimate whether elections have a larger effect on municipalities where the initial stock of public housing was larger, which should give mayors more opportunities to influence the composition of the population.

The empirical evidence confirms that a large initial stock of public housing is associated

with larger changes in the composition of the population after the elections. Separate estimates using municipalities with above and below the median share of the population in public housing in 1982 indicate that the effects of elections on the share of immigrants are driven by municipalities that had a large stock of public housing. In contrast, while elections still have a strong effects on the probability to construct more public housing, they have little effect on the share of immigrants in municipalities with initially little public housing.

Finally, we investigate whether differences in the intensity of changes in the composition of municipal population are associated with future electoral outcomes. We find that the incumbency advantage declines more rapidly in municipalities with little public housing while in municipalities with a large initial stock, it remains broadly similar during the next-but-one, and even next-but-two, election. This last result suggests that reshaping based on directing immigrant inflows into public housing might allow mayors to build local political strongholds over the long run.

Related literature — This paper builds on a large literature in urban economics and political economy that investigates the determinant of local policies. Following Tiebout's (1956) seminal contribution, many theoretical analyses have emphasized that residential mobility and competition across local jurisdictions should prevent partisan behavior at the local level (Epple and Zelenitz, 1981; Calabrese et al., 2011). However, empirical studies of the degree of partisanship of local policies show conflicting results (Ferreira and Gyourko, 2009; Pettersson-Lidbom, 2008; Dippel, 2019). A recent and growing literature has explored the conditions under which local authorities might implement specific policies to secure re-election, using evidence from Russia (Akhmedov and Zhuravskaya, 2004), the Philippines (Labonne, 2013) or France (Pérignon and Vallée, 2017).

We contribute to these debates by emphasizing the relevance of public housing as a possible driver of population-reshaping. In many European and Asian countries, the public housing sector remains a key component of the housing market (Scanlon et al., 2014; Battiston et al., 2014; Chen et al., 2013; Chiu, 2013; Xu and Zhou, 2019) and many European studies have shown that the concentration of immigrants in public housing has influenced their spatial segregation (Quillian and Lagrange, 2016; Verdugo and Toma,

2018; Musterd and Deurloo, 1997). The evidence of systematic differences in the access of immigrants to public housing that we uncover also confirms qualitative research that described discriminatory practices in the allocation of immigrants into housing projects, in Europe (Kesteloot and Cortie, 1998; Jacobs, 1985; Bowes et al., 1990) or in France (Bourgeois, 2013; Masclet, 2005; Tissot, 2005).

Finally, this paper relates to the literature investigating the consequences of the growing political polarization around immigration in the recent decades (Martiniello, 2006; Brouard and Tiberj, 2011; Simmons et al., 2018; Piketty, 2020) and to the challenges pertaining to immigrants' political integration (Pons and Liegey, 2019). It also contributes to a recent literature on the determinants of partisan segregation (Brown et al., 2021), following Bishop's (2009) influential essay.

The rest of the paper is organized as follows. To guide the empirical analysis, Section 1 presents a theoretical model that clarifies the conditions under which a mayor may shape the electorate to increase her reelection probability by implementing policies favorable to immigrants, even if they are always a minority. In Section 2, we describe the context of the study and the data. In Section 3, we detail our empirical strategy. Section 4 presents the results and Section 5 concludes.

1 Theory

We build on Glaeser and Shleifer (2005) to highlight why it may be electorally rewarding for a mayor to target immigrants even though they only make up a small share of the population. Unlike Glaeser and Shleifer (2005), who emphasize the impoverishment associated with electoral reshaping, there is no inefficiency associated with reshaping in our setting.[2] Instead, we assume that there is a strong political divide on attitudes toward immigrants among natives (Piketty, 2020) and that the way natives' location choice is affected by changes in the local share of immigrants is correlated with their political attitudes (Card et al., 2008).

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[2]This is consistent with the empirical evidence that differences in access to existing local public housing units might be the main mechanism underlying our results. The housing stock being already in place, mayors mainly affect its allocation. Furthermore, we do not assume that immigrants are poorer than natives. Introducing efficiency loss would be straightforward but it would not yield additional insights in our case.

1.1 Voting framework

The population is composed of immigrants and natives. Consistent with our data, immigrants are always a minority. For simplicity and consistent with the empirical finding that elections do not affect the size of municipalities, total population is fixed.[3] We assume that favoring immigrants entails a transfer of resources away from natives. For example, it may be that the latter lose access to municipal public housing because its supply is limited. Denote as q the cost paid by each native when the mayor favors immigrants and as $\pi(q) > 1$ the ratio of the number of natives to the number of immigrants in the municipality, which is decreasing in q. Each immigrant receives $\pi(q)q$ when each native experiences a loss $-q$.

We also assume that voters are partisans such that the native population is split between swing voters, who mildly favor the mayor, and political opponents, who disfavor the mayor. However, mayors cannot directly observe the political preferences of natives, which implies that redistribution can only target immigrants or natives. We denote as $\mathcal{I}(q)$, $\mathcal{O}(q)$ and $\mathcal{S}(q)$ the respective population shares of immigrants, political opponents and swing-voters associated with a given q. By definition, $\mathcal{I}(q) = 1/(1 + \pi(q))$ and $\mathcal{O}(q) + \mathcal{S}(q) = \pi(q)/(1 + \pi(q))$.

As in Glaeser and Shleifer (2005), voters' preferences for the incumbent depend on three components: idiosyncratic support for the candidate, group membership and past policies. The idiosyncratic component of preferences is captured by assuming that each voter receives utility j from supporting the incumbent against the opponent, where j is symmetrically distributed around zero with single-peaked density $f(j)$ and cumulative distribution $F(j)$. The group membership component is captured by assuming that immigrants receive utility of $v_0/2 > 0$ if a left-wing mayor is elected and $-v_0/2$ if a right-wing mayor is elected.[4] For swing-voters who lean mildly toward the left, the election of a left-wing mayor provides utility of $v_{00}/2 \in [0, v_0/2]$ and that of a right-wing mayor, $-v_{00}/2$. In contrast, political opponents receive utility $v_0/2$ (resp., $-v_0/2$) if a right-wing (resp., left-wing) leader is elected. Finally, voters are also influenced by the incumbent's

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[3]See Column 1 in Panel A of Table 7 for results on population size.

[4]These preferences are independent of past policies and are best thought of as representing a pure political taste derived from history.

past policies. Higher redistribution toward immigrants increases votes from this group but might decrease votes from natives. Immigrants obtain utility of $v_1(\pi(q)q)$ if the incumbent left-wing mayor is reelected, where $v_1(0) = 0$ and $v_1'(\cdot) > 0$. The two groups of natives obtain utility of $v_1(-q)$ if the incumbent is reelected.

Assuming these three components are additive and utility is linear, the left incumbent who implements policy $q > 0$ will then face a vote share of $P_\mathcal{O}(q) = (1 - F[v_0 - v_1(-q)])$ among political opponents, of $P_\mathcal{I}(q) = (1 - F[-v_0 - v_1(\pi(q)q)])$ among immigrants and of $P_\mathcal{S}(q) = (1 - F[-v_{00} - v_1(-q)])$ among swing-voters. The total share of votes is given by $P(q) = \sum_{g \in \{\mathcal{O}, \mathcal{I}, \mathcal{S}\}} g(q) P_g(q)$. The mayor will set a strictly positive level of q if it helps her being reelected, that is, if $P'(0) > 0$. For consistency with our empirical strategy based on close elections, we assume that the initial situation is such that when $q = 0$, the election is a tie and $P(0) = 1/2$.[5]

1.2 Urban framework

We embed this voting process in a simple urban framework featuring job-unrelated mobility within a single metropolitan area.[6] The metropolitan area is made of two municipalities of fixed size α and $1 - \alpha$. Ex ante, size is the only exogenous difference between the two municipalities and it has no impact on utility.[7] Therefore, the initial composition of the population is the same in both municipalities. In particular, the initial share of natives in each municipality is the same as in the metropolitan area as a whole and given by $\pi(0)/(1 + \pi(0))$. We focus on the municipality of size α.

Locational preferences are partly idiosyncratic. This element of preferences is captured by assuming that, independently of group membership, each voter receives utility ξ from living in the municipality of interest, compared to the other one. This variable ξ is distributed according to a distribution $\ell(\xi)$, with cumulative $L(\xi)$ and hazard $h(\xi)$ and we define the cutoff value ξ_0 such that $\alpha = 1 - L(\xi_0)$. On top of their intrinsic preference

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[5]This situation must verify $\mathcal{O}(0) = \frac{2F(v_0) - 1 + \pi(0)(2F(v_{00}) - 1)}{2(F(v_0) + F(v_{00}) - 1)(1 + \pi(0))}$ and $\mathcal{S}(0) = \frac{(2F(v_0) - 1)(\pi(0) - 1)}{2(F(v_0) + F(v_{00}) - 1)(1 + \pi(0))}$.

[6]When residential mobility is costly, elections are less likely to trigger migration decisions. For example, changing metropolitan areas almost always means changing jobs (Moretti, 2011). High search frictions between local labor markets (Schmutz and Sidibé, 2019) make it unlikely that job-seekers would be able to react to elections by finding a job in a new local labor market.

[7]For example, the larger municipality may also be the more central, so that commuting costs and housing costs offset each other.

ξ, residents also care about the provision of public services: natives will assign any policy change $q > 0$ a value $-q$, while immigrants will value it $\pi(q)q$. Finally, opponent natives also derive negative utility from having more immigrant neighbors than they would have if they lived in the alternative municipality. This feature is represented by a function $-V(\pi(q))$, with $V(\pi(0)) = 0$ and $V'(\cdot) \leq 0$. Assuming, once again, that utility is linear and additive in these three components, the residential utility of the three groups is given by:

$$U_\mathcal{I}(\xi, q) = \xi + \pi(q)q \tag{1}$$

$$U_\mathcal{S}(\xi, q) = \xi - q \tag{2}$$

$$U_\mathcal{O}(\xi, q) = \xi - q - V(\pi(q)) \tag{3}$$

In order to recover the resulting spatial political equilibrium, we assume perfect sorting and free mobility. The timing is as follows: (i) the mayor announces the policy q; (ii) voters adjust their location; (iii) the expected vote share is computed.

1.3 Shaping the electorate

Setting $q > 0$ will trigger population responses, which will translate into a new native-immigrant ratio $\pi(q)$ and a new political make-up in the native population. We formalize how the share of political opponents $\mathcal{O}(q)$ responds to a change in q by a function $G(\cdot)$ that verifies $\mathcal{O}(q)/\mathcal{O}(0) = G(\pi(q)) \left(\frac{\pi(q)}{1+\pi(q)} / \frac{\pi(0)}{1+\pi(0)} \right)$, with $G'(\cdot) > 0$ and $G(\pi(0)) = 1$. This setting allows us to write Proposition 1:

Proposition 1. *A positive value of q raises support for the mayor if and only if:*

$$-\frac{\pi'(0)}{\pi(0)} > v_1'(0) \cdot \frac{f(v_{00}) - f(v_0)}{1 - F(-v_0) - F(-v_{00})} \cdot \frac{(\pi(0) - 1)\mathcal{S}(0)}{\pi(0)(\pi(0) - 1)\mathcal{O}(0)G'(\pi(0)) + \mathcal{S}(0)}, \tag{4}$$

with population responses defined by:

$$-\frac{\pi'(0)}{\pi(0)} = (1 + \pi(0)) \cdot h(\xi_0) \tag{5}$$

$$G'(\pi(0)) = -V'(\pi(0)) \cdot h(\xi_0) \tag{6}$$

Proof. See Appendix B. □

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Equation 4 shows that, as in Glaeser and Shleifer (2005), the politician will choose to favor immigrants when group preferences (v_0) are important and when the vote losses associated with discrimination ($v_1'(0)$) are small, that is, if past choices have little direct effect on voters' behavior. A distinct feature of our model is the group of swing voters among natives that acts as a disciplining device for the incumbent. When swing voters have a weak intrinsic preference for the incumbent ($v_{00} \to 0$), reshaping is less likely to increase votes.

More specific to our purpose, condition 4 also illustrates why the usefulness of electoral reshaping effectively depends on two population responses: on the extensive margin ($-\pi'(0)/\pi(0)$ is large) when setting $q > 0$ triggers demographic reshuffling and on the intensive margin ($G'(\pi(0))$ is large) when setting $q > 0$ triggers political reshuffling among the native population. Even a very moderate demographic reshuffling may have large political consequences if opponent natives are very prone to reacting to immigrant inflows by leaving the municipality.[8] Targeting immigrants is a screening device allowing the mayor to distinguish between large groups of favorable and unfavorable voters.

2 Context and data

Our empirical analysis uses French data to investigate whether municipal elections influence the composition of the population and which municipal policies might explain these effects. We describe here the electoral setting and the data that we use.

2.1 Election data

Municipalities (*communes* in French) are the lowest level of administrative division in France.[9] Municipal elections are organized approximately every 6 years to elect the municipal council that in turn will elect the mayor.[10] The elections are based on lists, and voters can pick at most one list. If no list achieves an absolute majority in the first round, a second round is organized. Only lists obtaining more than 10% of the vote in the first

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[8]This static setting does not allow us to distinguish between inflows and outflows. Dynamics could be introduced through random utility shocks, as in Ouazad (2015).

[9]They are analogous to civil townships and incorporated municipalities in the US.

[10]An exception is the 2007 municipal elections, postponed to 2008 because of the 2007 presidential elections.

round can compete in the second round.[11] After the elections, the seats in the municipal council are allocated using a majority premium: half of the seats are attributed to the list that obtained the most votes, while the other half are distributed according to their vote share across all competing lists (including the list that obtained the majority). Such an electoral system creates a strong discontinuity between the share of the vote and the share of seats in the municipal council; we exploit this feature in our RDD framework.

We use electoral data collected by the Center of Socio-Political Data of Sciences Po. The data cover five elections that occurred in 1983, 1995, 2001 and 2008 in municipalities with more than 9 000 inhabitants.[12] We also exclude from the sample rural municipalities and municipalities in very small urban areas with less than 30 000 inhabitants that have little immigration and public housing.[13]

As their electoral system is different, we exclude the municipalities (but not the *metropolitan areas*) of Paris, Marseilles and Lyon from the sample.[14] We categorize the lists ranked first and second in the final election round as either left- or right-wing using the classifications of French electoral authorities.[15] We exclude elections in which the first- and second-ranked lists in the final round are both from the left or the right and elections with a single list in competition (approximately 13% and 1% of the elections in our sample).

Table 1 summarizes the characteristics of municipal elections in our sample. While the sample is unbalanced as a consequence of the restriction to municipalities with left/right competition in the final round, the number of municipalities is quite similar across the elections, ranging from 478 to 545. Column 2 reveals that a second round occurs in 40 to 50% of elections except in 1983 when a majority of elections were decided in the first

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[11]Lists that obtain more than 5% of the vote can merge with another list that qualify to remain in the second round; see Pons and Tricaud (2018) for a description of this system in other local elections.

[12]See Appendix A for details on the data. The results for previous elections or smaller municipalities were not systematically collected. We do not include the 1989 elections in the sample because the closest subsequent census, which we use to assess changes in the composition of the population, took place in 1990, which is too early, and 1999, which is too late, as the 1995 elections occurred between the two. We show in Table 12 that including the 1989 elections matched with the 1999 outcomes does not qualitatively change the results.

[13]We show in Table 12 that the results are broadly similar, but more imprecise, when these municipalities are included.

[14]The municipalities of Paris, Marseilles and Lyon account for, respectively, 17%, 49% and 22% of the population of their metropolitan areas.

[15]This assignment is straightforward, as there were no national or local bipartisan coalitions over the period; see Appendix A for details.

round.[16] Column 3 shows that more than two lists compete in the final round in more than 50% of elections. Column 4 shows that the share of left-wing victories is close to 50% in most elections, except in 2001 when the left suffered a major defeat.

To assess how the share of close elections that we use to identify a causal effect varies over time, Columns 5 to 7 report the share of elections with margins of victory inferior to 10, 5 and 2.5 p.p. Very close elections appear to be quite common: the margin of victory is lower than 2.5 p.p. in between 5% and 10% of elections. The share of close elections is quite similar across electoral years, albeit slightly higher in 1995.

2.2 Census data

We assess the effects of elections on the composition of the population with the 1975, 1982, 1990, 1999, 2008 and 2014 French census. While the ideal situation would be to observe each municipality just before each election, in practice, the census years fall very close to the election years. At most, there is a one-year gap between the 1989 election and the 1990 census, and a two-year gap between the 2001 election and the 1999 census.[17] For the 2008 and 2014 elections, we use the 2008 and 2014 redesigned census, which capture 5-year averages around the census year.[18]

An important advantage of the French census is that we have access to 25% extracts of the population, which allows us to precisely measure population changes, even in the smallest municipalities. Municipalities are identified using a statistical identifier that is constant over time, and municipal boundaries do not change, either. We measure the composition of the population at the head-of-household level to capture the characteristics of potential voters. We exploit information on the country of birth and citizenship of the head of household to categorize a household as immigrant if the head of household is an immigrant.[19] Information on citizenship and country of birth from the census also allows

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[16]In 1983, electoral competition was temporarily less fragmented and most races only involved two coalitions (Dupoirier et al., 1985).

[17]Before the 2000s, census were based on a complete enumeration.

[18]Starting in 2002, the annual census releases began to be based on a rolling sample in which municipalities with more than 10,000 inhabitants are divided into five rotation groups surveyed every five years. As a result, the new census reflects 5-year averages around the census year (Durr, 2005; Desplanques and Rogers, 2008). For municipalities with populations between 9 000 and 10 000, the data are only collected once every five years. These municipalities only account for 5% of our sample.

[19]In line with the official definition, an immigrant is here defined as a foreign-born person who was not a French citizen at birth.

us to identify immigrants allowed to vote in local elections, which includes immigrants with French citizenship and, since 1992, from the European Union.[20] Given that the census does not report any measure of income, we use data on occupations to assess how elections affect the socioeconomic composition of the municipality. Using information on the year of arrival in the housing unit, we also estimate whether elections influence residential turnover by calculating the share of the population that arrived between two elections.

2.3   Data on municipal policies

We focus on two main measures of municipal policies that can be observed in available data sets.

Municipal taxes —   First, we assess whether elections affect municipal finances using the rate of the two main municipal taxes, the housing and the property taxes. We obtain information on these taxes from the *Recensement des éléments d'imposition*, an administrative database collected by the French Ministry of Finance that contains the total amount collected by each municipality for each tax from 1982 to 2014. A limitation is that we do not have detailed data on the composition of the municipal budget.

Public housing —   The second important local policy that we examine concerns municipal public housing. The census reports whether a dwelling belongs to the public or the private housing sector, which allows us to investigate whether elections have an influence on the composition of the population in public relative to private housing or if elections influence the supply of public housing in a municipality. A minor limitation is that the 1975 census does not contain information on public housing, which limits the scope of some of the placebo tests designed to assess the plausibility of our identification strategy.

Characteristics of Public housing —   In contrast with the US but similar to many European countries such as the UK, the Netherlands or Germany and many Asian countries, a large share of the population lives in public housing in France. Table 2 shows that

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[20]There is no information on ethnicity or on descendants of immigrants in the French census.

more than 21% of households live in public housing in our sample over the period. Public housing is also easily accessible as, among the population, more than 55% of households are eligible for public housing, including documented immigrants.[21]

While eligibility rules are defined at the national level, public housing units are managed and allocated by municipalities through local housing authorities, which directly depend on municipalities and are often chaired by the mayor in small municipalities. Reflecting the discretionary power of local authorities, the press often reports anecdotal evidence of nepotism and corruption.[22] Finally, many qualitative studies have described the existence of discrimination in public housing, not only for France (Bonnal et al., 2012; Masclet, 2005; Tissot, 2005; Sala Pala, 2007; Bourgeois, 2018, 2013) but also in other countries such as the Netherlands and the UK.[23]

2.4 Descriptive statistics

In Table 2, we provide descriptive statistics on immigration and public housing in the municipalities that form our sample over the 1982-2014 period.[24] As shown in Panel A, between 1982 and 2014, the share of immigrants in the sample increased by 5 p.p. from 12% to 17%. However, while some municipalities received large inflows of immigrants in recent years, immigrants almost never make up the majority of households.[25]

An important characteristic of immigration over that period is that most of the increase in immigration was driven by non-European immigrants, whose share in the population

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[21]This refers to standard public housing, which includes approximately 86% of units. The eligibility thresholds are similar across France, albeit higher in the Paris region, and they depend on household composition and income. The share of eligible households increases up to 75% when high-income public housing, which accounts for 9% of the stock, is taken into account. To preserve the social mix, households are allowed to stay in the premises if their current income exceeds the initial threshold at the price of a small rent increase; see Appendix A and Verdugo and Toma (2018) for a detailed discussion.

[22]Among recent examples in the press, a mayor was condemned for allocating a public housing unit to her daughter even though she was not eligible (Le Parisien, 2015); a municipality was revealed to have half of its municipal council members living in public housing in spite of their high incomes (Serafini, 2011); municipal employees were discovered to collect bribes in exchange for public housing unit allocations (Le Parisien, 2018, 2019).

[23]See Karn and Henderson (1987), Jacobs (1985), Henderson and Karn (1984) and Bowes et al. (1990) for an early literature on discrimination in access to public housing in the UK. Battiston et al. (2014) argue that discrimination in public housing in the UK has declined in recent years. For the Netherlands, Bolt and Van Kempen (2002) emphasize that local housing associations have long reserved the best-quality units for Dutch natives.

[24]These municipalities include on average 53% of the French population over the period.

[25]Only six municipalities out of 642 have a share of immigrants higher than 50% in our sample, in either 2001 or 2008. Immigrants with voting rights are always below 40% of the population.

more than doubled, from 5% to 12% at the end of the period. Non-European immigrants are overwhelmingly supportive of left-wing parties: more than 60% of them declare that they prefer the left, against only 10% who prefer the right. Unlike natives, their political preferences do not vary much with occupation (Brouard and Tiberj, 2011).[26]

Non-European immigrants are also more likely to live in public housing, in part in response to higher levels of discrimination in private housing (Acolin et al., 2016; Verdugo, 2016; Combes et al., 2018). Panel B of Table 2 shows that, while the share of natives living in public housing is only 20% on average over the period, more than 40% of non-European immigrants live in public housing after 1990, and that proportion does not seem to diminish over time. Large concentrations of immigrants in public housing are also observed in other Western-European countries (Scanlon et al., 2014). In contrast, for natives, the probability of living in public housing declined by 1.6 p.p. from 1982 to 2014.

An important question is whether mobility in public housing is sufficient to allow mayors to influence the composition of public housing between elections. Panel C of Table 2 reports adjusted residential turnover rates in public housing based on the share of households who arrived in their housing unit between two municipal elections (6 years).[27] Consistent with Pan Ké Shon (2010), who documents high levels of mobility in deprived public housing estates, turnover rates in public housing units between elections are large, ranging between 57% and 42% depending on the period. Such large mobility rates in public housing units should allow mayors to influence the composition of public housing inhabitants between elections.

Local elections and immigration — Political preferences and attitudes toward immigration are strongly correlated. Panel A of Figure 1 reproduced from Piketty (2020) reports differences in attitudes towards immigration between voters that identified themselves as left- and right-wing. Over the period, voters who believe that there are too many immigrants in France are more than 30 p.p. more likely to vote for the right than for the left. Clearly, voters favorable to immigration lean toward the left.

Consistent with this evidence, municipalities that elect left-wing mayors tend to have

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[26]Brouard and Tiberj (2011) show that immigrants support the left because they believe that the left defends the collective interest of immigrants.

[27]See Appendix A for details on the computation.

a larger share of immigrants in the population. Panel B of Figure 1 reports the difference in the share of immigrants between left- and right-wing municipalities, in the year of the election and later in time after the election. The share of immigrants in the population is at least 2 p.p. larger in municipalities that just elected a left-wing mayor. Interestingly, this difference increases substantially after the election, consistent with the hypothesis that the outcome of elections affects the composition of the population. Panel B of Figure 1 also shows that share of public housing is also strongly correlated with the share of votes for the left. Municipalities that elected a left-wing mayor have, on average, a much larger share of public housing, with differences between 6 and over 8 p.p. Once again, these differences tend to increase over time, but the pattern is less clear than for the share of immigrants.

3   Empirical Model

To assess whether the outcomes of municipal elections have a causal effect on the composition of the population, an ideal experiment would be to randomly assign a left- or a right-wing mayor to a sample of municipalities. We approximate such an experiment with a regression discontinuity design that compares municipalities in which a left-wing mayor was closely elected with municipalities that closely elected a right-wing mayor. Differences between the two identify the local treatment effect of electing a left- instead of a right-wing mayor after a close election.

Following Lee (2008), our running variable X_{it} is the difference between the share of votes for the left- and the right-wing lists in municipality i in election year t.[28] With treatment defined as a left victory, the assignment variable D_{it} is a dummy equal to one when the election was won by the left, and thus $X_{it} > 0$, and zero otherwise. Our empirical model is given by:

$$\Delta Y_{i\tau} = \beta_0 + \beta_1 D_{it} + \beta_2 X_{it} + \beta_3 X_{it} D_{it} + u_{it} \tag{7}$$

where $\Delta Y_{i\tau} = Y_{i\tau} - Y_t$ is the change in the characteristic of the municipality population in

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[28]As discussed earlier, we only take into account the lists ranked first and second and exclude municipalities without left/right competition.

census year $\tau > t$ relative to the election year t.[29] Our main dependent variables are the evolution in the share of immigrants and public housing inhabitants in the population, measured at the household level.

Our parameter of interest is β_1 which captures the local average treatment effect (LATE) at the threshold $X = 0$ of electing a left- instead of a right-wing mayor after a close election. These local treatment effects are of particular interest: in accordance with the theoretical model, mayors should be more likely to engage in strategic behavior after a close election, which signals that their re-election is going to be difficult. Following Cattaneo et al. (2020), we nonparametrically estimate this coefficient using a local linear function with a triangular kernel and select the bandwidth with the data driven procedure of Calonico et al. (2014) while inference is based on their robust-bias correction method.[30]

The validity of our RDD design depends on whether municipalities close to each side of the threshold are comparable.[31] To assess the plausibility of that hypothesis, we report in Table 3 the results of 'placebo' RDD estimates that test whether the outcome of close elections are associated with changes in the composition of the population that occurred *before* the elections of interest. These characteristics include changes in the share of immigrants in the population, in the share of high-income and low-income occupations in the population, or in the share of households living in public housing.[32] In the last column, we also test whether the outcomes of close elections are associated with past election results, measured by the share of the left in the previous election.

If our RDD design is valid, the predetermined changes in the composition of municipalities should not be correlated with the outcome of close elections in the future. Reassuringly, the estimates are not statistically significant at the conventional level for any outcome. Following McCrary (2008) and Cattaneo et al. (2018), we also test the smoothness of the density of the vote share near the threshold. Consistent with the re-

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[29] In practice, the baseline characteristic Y_t in $\Delta Y_{i\tau} = Y_{i\tau} - Y_t$ is always measured using a census that occurred before the actual election year. One exception concerns future electoral outcomes, which are defined as a binary variable equal to 100% if the left wins. In that case, results are robust to the inclusion of time fixed effects controlling for the average popularity of the left across elections.

[30] The selection is based on the mean-squared optimal bandwidth, which implies that bandwidths vary with the outcome of interest. All estimates and graphs have been obtained using the Rdrobust package on Stata (Calonico et al., 2017).

[31] Formally, the LATE at $X = 0$ is identified under the hypothesis of continuity at the cutoff of the conditional expectation of the outcome (Hahn et al., 2001).

[32] Since we do not observe public housing in the 1975 census, we cannot relate 1982-1975 changes with the 1983 election for public housing outcomes.

sults of Eggers et al. (2015) and Lippmann (2018) for France and other countries, we cannot reject the null of no density jump around the threshold in these elections (p-value = 0.25).

Finally, as the causal effects are identified from close elections, an important question to interpret the results is whether close elections occur in municipalities that are systematically different from others. To investigate this issue, Table 4 compares the average and standard deviation of various observable predetermined characteristics in municipalities that experienced different margins of victory. Remarkably, close elections occur in municipalities with characteristics very similar to those of the full sample, even when we restrict the sample to increasingly close elections.

4 Results

We first present results on the effects of elections on the composition of the population. Then, in order to understand the mechanisms underlying the observed population changes, we investigate the effects of elections on municipal policies, focusing on local tax rates and on the population in public housing. Finally, we study the impact of elections on future electoral outcomes.

4.1 Effects on the composition of the population

Origins and socioeconomic status — In Table 5, we consider 'short-run' changes in the composition of the population, observed around the next election year, six years after the election of interest. We begin in Column 1 by assessing whether elections influence the share of immigrants in the municipality. Consistent with this hypothesis, we find that six years after the elections, the share of immigrants is approximately 1 p.p. larger in municipalities that closely elected a left-wing mayor relative to municipalities that closely elected a right-wing mayor. This effect corresponds to a 6 to 8% increase in the average share of immigrants.

An important issue is that the relative increase in the share of immigrants in left-wing municipalities might be driven by more general changes in the composition of the

population along socioeconomic lines. As immigrants are somewhat more likely to work in low-income occupations (Algan et al., 2010), the previous results might reflect the fact that left-wing mayors attract low-income households of all origins, not specifically immigrants. To disentangle between changes by economic status and changes by origin, we decompose the population into three broad occupation groups: high- and low-income occupations, and retirees.[33] Then, we assess how the elections influence the share of each group in the municipality, independently of the national origin in Panel A in Table 5, and in Panels B and C we interact the share of each group with the national origin.

Overall, we find little evidence of an effect of elections on the overall share of each occupation group. In Panel A, where we do not distinguish between immigrants and natives, we find small and not statistically significant effects of elections on the share of each occupation group. When national origins are taken into account as in Panel B and C, we find that left-wing municipalities are characterized by a higher share of immigrant households not only in low- but also in high-income occupation groups, albeit to a lower extent. For natives, the decline in the share of natives in left-wing municipalities reflects a simultaneous decline in both the high- and the low-income occupation groups.

Long-run effects — How persistent are the consequences of elections on the relative increase in the share of immigrants? To investigate this question, we report in panel A of Table 6 estimates on the share of immigrants in the municipality after one, two and three terms, which correspond to 6, 12 and 18 years after the initial election.[34] To be able to compare short and long-run effects more consistently, we fix the composition of elections in the sample and focus in columns 2 to 4 on the first two elections (1983 and 1995).[35] The figures indicate that the effects of the initial elections are not only persistent, but also increase over time. After 12 years, the close election of a left-wing mayor is associated

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[33]These groups are defined using the French occupational classification at the one-digit level. The high-income group includes managers and high-skilled professionals, while the low-income group includes intermediate occupations and service workers in addition to blue-collar occupations; see Appendix A for further details.

[34]The number of years is approximate as the census years used to observe outcomes do not always perfectly correspond to the election years. See Appendix A for details on the matching between election years and census data. Column 2 shows that this selection does not affect the estimates of short-run effects.

[35]Results for outcomes observed 12 years after the election are similar when the 2001 elections is included in the sample. Other combinations are not available as the last census year observed is 2014.

with a 1.5 p.p. larger increase in the share of immigrants. The estimate is also equal to 1.5 p.p. after 18 years, but it is less precisely estimated.

This lack of precision may reflect the fact that the immigrant category is too broad, by mixing together old immigration waves (mostly from European origin) and more recent ones. In order to better understand which immigrants are concerned by the effect of elections, we distinguish between immigrants from European and non-European origins. Panel B of Table 6 displays the effect of elections on the share of non-European immigrants and confirms that all the effect on the share of immigrants is driven by this latter group, which accounts for the entire increase in immigration in France over the period.

Effects by voting rights — What are the direct consequences of the increase in the share of immigrants on the composition of the electorate? As the direct consequences depend on whether immigrants are allowed to vote, we study in panel C of Table 6 the effects of elections on the share of immigrants with voting rights in the population. Columns 1 and 2 show that elections have little effect on these potential voters in the short run. As discussed earlier, in contrast with most European immigrants that come from the European Union, non-European immigrants must become citizen to be allowed to vote in local elections.

While short-run effects on the electorate appear limited, most immigrants in France acquire citizenship over time (Fougère and Safi, 2009) and long-run changes might be more important as a result. The evidence in Columns 3 and 4 confirms this hypothesis, the impact after three elections on the share of immigrants with voting rights becomes positive, and quite large (1.4 p.p.). Overall, most of the effect of elections on the long-run share of immigrants (1.5 p.p.) are due to immigrants with voting rights. Such long-run changes are directly politically favorable for left-wing mayors given that immigrants are twice as likely as non-immigrants to vote for the left (Brouard and Tiberj, 2011).

Mechanism of population changes — Until here, our dependent variable was defined using changes in the share of immigrants in the population between elections. This is the relevant measure to capture the composition of the electorate as the share of immigrants is measured using the characteristics of the head of household. In practice, our

results might reflect either systematic differences in population growth between munici- palities or changes in the population in existing housing units. To investigate this issue, we report in Column 1 in Panel A of Table 7 the effects of elections on the growth of the population. While the coefficient is positive, it is not statistically significant, which suggests that the previous changes in the share of immigrants are not systematically associated with differences in population growth.

Other columns of in Panel A of Table 7 examine whether there are differences in population turnover between left- and right-wing municipalities. Using data on the year of arrival in the dwelling, we measure population turnover through the inflow and outflow rates in the population, which allows us to decompose the growth of the population.[36] If both left- and right-wing mayors influence the composition of the population to the same extent, but in an opposite direction, turnover rates should not be systematically different. In contrast, if the election of one type of mayor provokes larger population responses, turnover rates should differ systematically. The results suggest that the election of left- wing mayors is associated with larger turnover rates. We find that the inflow rate after the election is 2 p.p. larger in left-wing municipalities than in right-wing municipalities. The estimated effect on the outflow rate is also positive and large but statistically insignificant.

In Panels B and C of Table 7, we examine separately the role of inflows and outflows of immigrants and natives in explaining their changes in the share of the population. As for the overall population growth, changes in the share of immigrants in the municipality can be decomposed by the difference between the inflow and outflow rate relative to the population, plus a term adjusting for total population growth.[37] The results indicate that the increase in the share of immigrants is explained by larger inflows of immigrants into left-wing municipalities and lower inflows of natives into these municipalities. Inter- estingly, we find no evidence of larger outflows of natives from left-wing municipalities.

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[36]Changes in the population P between elections t and $t-1$ are given by $P_t - P_{t-1} = I_t - O_t$ where I and O denote the inflows and the outflows from the municipality. Dividing the previous expression by P_{t-1}, one gets $\frac{P_t - P_{t-1}}{P_{t-1}} = I_t/P_{t-1} - O_t/P_{t-1}$. The previous expression implies that population growth can be decomposed by the difference between the inflow rate I_t/P_{t-1} and the outflow rate O_t/P_{t-1}.

[37]Changes in the number of immigrants M between elections t and $t-1$ are given by $M_t - M_{t-1} = I_t^M - O_t^M$ where I_t^M and O_t^M denote the inflow and the outflow of immigrants from the municipality. Denote by P_t the municipality population and by Δm_t the changes in the share of immigrants in the population which is given by $\Delta m_t = (M_t/P_t) - (M_{t-1}/P_{t-1})$. Using the previous relations, it is straightforward to derive that Δm_t can be decomposed as the sum of the inflow and outflow rate minus the weighted impact of municipal population growth $\Delta m_t = I_t^M/P_t - O_t^M/P_t - \left(\frac{M_{t-1}}{P_t}\right)\left(\frac{P_t - P_{t-1}}{P_{t-1}}\right)$.

Overall, these results suggest that our estimated effects are driven by systematic differences between policies that attract immigrants into left-wing municipalities, more than by policies that make immigrants leave right-wing municipalities.

Graphical evidence — We graphically illustrate our main result in Figure 2.[38] Consistent with the aforementioned evidence on the relationship between political orientation and attitudes towards immigration, the evolution of the share of immigrants is strongly positively correlated with the relative margin of the left. However, a discontinuity at the threshold is visually clear after the election, which suggests that at least part of this correlation is causal (Graph B). Graphs depicting the evolution over the medium (12 years) and long run (18 years) show the same pattern (Graphs C and D). In contrast, when we represent 'placebo estimates' of the effect of elections on the evolution of the share of immigrants using predetermined changes that occurred before the election, there is no visible discontinuity (Graph A).

4.2   Municipal policies

Next, we turn to the effects of elections on municipal policies. We are particularly interested in understanding which systematic differences in policies explain that left-wing municipalities attracted larger immigrant inflows.

Taxes — A first possibility is that immigrant inflows were attracted by differences in local taxes and spending between left- and right-wing municipalities. If immigrants prefer higher levels of spending and public goods, systematic differences in local fiscal policies might have attracted them into left-wing municipalities. To test this hypothesis, we report in Table 8 estimates of the effects of elections on the local tax rate. We consider separately the two main municipal taxes: the housing tax in Panel A, which affects all residents, including renters, and the property tax in Panel B, which only affects home-owners, who

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[38]To reflect the support of the running variable, the graphs report quantile-spaced bins that capture averages from the same number of observations for each treatment group (Calonico et al., 2015). For visual clarity, we restrict the sample to margins of victory lower than 50% (95% of our sample) and use a second-order polynomial.

tend to be more affluent.[39]

Overall, we find no effect of elections on the local tax rate: all estimates are small (below 1 p.p.) and statistically insignificant. In the long run, point estimates may even be negative. A limitation of these results is that we do not have detailed data on how the municipal budget is spent. As a result, while it is clear that total spending did not increase dramatically in left-wing municipalities, we cannot rule out any reallocation of the budget towards policies preferred by immigrants.

Public housing — As discussed in Section 2, by design, public housing can be used to *directly* target specific groups by providing housing to future voters. As public housing disproportionately attracted non-European immigrants over the period, it might have played a crucial role in the observed inflows of immigrants in left-wing municipalities. We investigate whether elections influence public housing policies in Table 9. We first examine in Panel A the effects of elections on the supply of public housing as measured by changes in the share of the population in public housing in the municipality .

The results confirm the earlier evidence of an important partisan divide over public housing in that period. Panel A shows that, after 6 years, there is a 1.2 p.p. higher increase in the share of the population living in public housing in municipalities that elected a left-wing mayor. Consistent with the fact that constructions of public housing units might take time and cannot be easily adjusted downward (Glaeser and Gyourko, 2005), long run effects from 12 to 18 years after the initial election are more than twice as large and also statistically significant.

In panels B and C of Table 9, we assess how public and private housing contributed to the increase in the share of immigrants in left-wing municipalities. If differences in public housing admissions are a key driver of our results, the increase in the share of immigrants in public housing over the population should account for a substantial share of the overall increase. Consistent with this hypothesis, we find that, even though public housing only accounts for 23% of total housing units on average, more than 50% of the overall increase in the share of immigrants reflects an increase in the share of immigrants living in public

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[39]Housing and property taxes account for about 80% (35% and 45%, respectively) of the total amount of taxes collected from households.

housing. In the long-run, the direct contribution of the share of immigrants in public housing is even larger.

If differences in public housing admissions are a key driver of the increase in the share of immigrants, we also expect that elections will have a stronger impact on non-European immigrants, who are much more likely to live in public housing. Panels D and E of Table 9 show that the overwhelming majority of the increase in the share of immigrants in public housing is driven by non-European immigrants. In contrast, elections have little effect on the share of European immigrants.

Figure 3 represents graphically these results. There is a clear discontinuity in the increase in the share of households living in public housing associated with the victory of a left-wing mayor, both in the short and long run. As shown in Figure A1 in the Supplementary Appendix, a large fraction of this discontinuity is explained by immigrants living in public housing.

Heterogeneity by initial public housing stock — A concern with the interpretation of the previous results is that they might reflect other unobserved differences in municipal policies. While the fact that municipal budgets are not influenced by elections limits this possibility, we cannot completely rule out that other unobserved policy differences increased immigrants' demand for public housing in left-wing municipalities.

A simple test for the importance of public housing in the reshaping of the population is to estimate whether elections have a different effect depending on the initial stock of public housing in the municipality. That stock tends to vary widely, in part for historical reasons such as war destruction (Verdugo, 2016). If public housing does not matter, we should observe little difference in the evolution of the share of immigrants between municipalities with various initial levels of public housing. In contrast, if changes in public housing admission policies drive our results, elections should have a much larger effect on the share of immigrants in municipalities with a large initial stock. To investigate this hypothesis, we divide our sample into two groups of municipalities using the median share of inhabitants in public housing in 1982 (about 20%), the first year in which the census reports information on public housing.

The results reported in Panels A in Table 10 confirm that the effects of elections

vary widely with the initial share of public housing in the municipality. The share of immigrants increases in municipalities with an above median share of public housing. In contrast, in municipalities where that share was below the median, the effects of elections are dramatically lower and are not statistically significant. This result suggests that the presence of enough public housing units is crucial to observe an effect of elections on the share of immigrants. Graphical evidence of these heterogeneous effects is displayed in Figure A2 in the Supplementary Appendix.

While elections did not affect much the share of immigrants when the initial share of public housing was low, Panel B of Table 10 shows that they nevertheless had a strong effect on the share of households in public housing. The point estimate indicates that the effects of elections is twice as large when the share of inhabitants in public housing was initially low. A large part of the effects of elections on the increase in the share of public housing seems to be driven by municipalities with a low initial stock. Taken literally, these results suggest that elections affect public housing policies through different channels and that the response varies with the initial stock of public housing. When public housing supply is already large, the election of a left-wing mayor is followed by larger inflows of immigrants into existing public housing units. When public housing is relatively scarce, left-wing mayors increase public housing supply, but without admitting more immigrants than right-wing municipalities.[40]

4.3 Reshaping and future electoral outcomes

We now turn to the impact of population reshaping on future electoral outcomes. We investigate in Table 11 how the impact of close victories of the left on future victories of the left varies for municipalities that are initially endowed with a large or low stock of public housing (Panels B and C). Panel A shows the corresponding RDD estimates for the full sample of municipalities. Consistent with the literature on the incumbency advantage in local elections (Trounstine, 2011; Eggers et al., 2015), we find substantial

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[40]Admittedly, both strategies should not have the same impact on municipal budgets. In Table A2 of the Supplementary Appendix, we find evidence of some difference in the evolution of municipal taxes between municipalities with a large or a small initial stock of public housing. The estimates suggest that the election of a left-wing mayor increases tax rates by 1 p.p. in the short run in municipalities with a low stock of public housing. This effect is consistent with the effect we find on public housing construction. However, it is quite small, and it seems to be restricted to the first two elections in the sample.

effects of the outcomes of close elections on votes in future elections. Quantitatively, the close election of a left-wing mayor is followed by a 23 p.p. higher probability that the left wins the next election. However, this effect dissipates over time: it is only equal to 16 p.p. in the next-but-one election, after 12 years, and to 9 p.p. in the next-but-two election, after 18 years (and no longer statistically significant).

We then look at whether the incumbency advantage varies according to the initial stock of public housing, which, according to our earlier results, should capture the mayor's ability to reshape the population. As shown in Columns 1 and 2 of Panels B and C, the estimated incumbency advantage does not change much with the initial stock of public housing in the short run.

However, the picture becomes quite different for elections further away in the future. Columns 3 and 4 show that the incumbency advantage remains extremely stable in municipalities with a large initial stock of public housing, where demographic effects are also stronger and more persistent. On the contrary, in municipalities with a low initial stock of public housing, the incumbency advantage declines by two third and becomes statistically insignificant at the next-but-one election, and is virtually equal to zero at the next-but-two election. This discrepancy, which is represented graphically in Figure A3 in the Appendix, is strongly suggestive of the fact that reshaping based on targeting immigrants might allow left-wing mayors who control a lot of public housing to build local political strongholds by triggering long-term population changes.

4.4 Robustness

Separate estimates by elections — To assess whether the effect of elections varies over time, we report in Table A1 in the Supplementary Appendix separate election-by-election estimates. While election-specific estimates are imprecise and not significantly different from zero, except for the 1983 election, the estimated coefficients all point towards an increase in the share of immigrants after the close election of a left-wing mayor in the short run. Over longer time horizons, 12 and 18 years after the initial election, the effects also appear stronger and more persistent with the 1983 election, but the coefficients are always positive and larger after 12 years relative to 6 years with other elections. Overall,

our estimated effects are not driven by a specific period and the effects of elections appear to be broadly similar across periods.

Other samples and specifications — We report in Table 12 evidence on the robustness of our main results to alternative samples of municipalities, specifications of the model or estimation methods. We consider changes in the share of immigrants in Panel A and changes in the share of the population in public housing in Panel B.

First, we assess in Columns 2 and 3 the sensitivity of our estimates to alternative samples. In Column 2, we investigate whether the results change when the 1989 election, for which we cannot observe the outcomes 6 years after the election as there was no Census in the mid-1990s, is included in the sample. In Column 3, we report estimates including smaller urban areas with less than 30 000 inhabitants in the sample. While results are more imprecise, they are in line with previous estimates.

In Column 4, we introduce election year fixed-effects to the model to adjust for systematic period specific differences in the average changes in outcomes. Once again, our results are similar.

In our baseline specification, we followed the standard data driven procedure of Calonico et al. (2014) which select automatically the bandwidth. In Columns 5 to 7, we assess whether the results are sensitive to the choice of the bandwidth by considering alternative bandwidths of 5 p.p., 10 p.p. and 20 p.p. Reassuringly, our estimates are not very sensitive to the choice of a specific bandwidth and the results are statistically significant in all three specifications. If anything, estimates using the largest bandwidth tend to be lower.

Finally, following Cattaneo et al. (2020), we examine in Columns 8 and 9 the sensitivity of the results to observations near the cutoff. By design, because a triangular kernel is used to estimate the parameter of interest, these observations have a strong impact on the estimates. We use a 'donut hole' approach that excludes observations close to the cutoff with the smaller margin of victory, alternatively using a hole of 1 p.p. and a larger hole of 2.5 p.p. While the coefficient remains positive, the results tend to be substantially more imprecise, thus suggesting that that the closest elections need to be included in the sample to isolate a causal effect.

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5   Conclusion

In this paper, using French municipal elections over three decades, we show that the results of these elections have a short and long-run impact on local demographics. In municipalities where a left-wing mayor wins a close election, we observe that there is a larger increase in the share of immigrants in the population, than in municipalities where the right has won. The increase in the share of immigrants is persistent over time, with larger effects of elections in the long-run, from 12 and up to 18 years after the initial election. The main municipal policy associated with these changes is public housing. While public housing may be an efficient policy tool against high levels of market-driven residential segregation, be it income-based or origin-based (Verdugo and Toma, 2018), our results suggest that when local authorities are in control of its supply or allocation, they may exploit it to reshape the demographic and electoral make-up of their jurisdiction.

A limitation of our results is that we cannot completely rule out that factors other than public housing contribute to the observed demographic changes, even if we do not find much impact of elections on other observable policies. Another limitation is that we abstract from strategic interactions between neighboring municipalities. However, those arguably contribute more to the aggregate impact of political considerations on public good provision than to the local effects measured here. Furthermore, the implementation of a regression-discontinuity framework in the context of spatial interactions is likely to raise identification problems. We leave these interesting questions for future work.

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A Data

Municipal election data — The data come from the Center of Socio-Political Data (*Centre de Données Socio-Politiques*), which is a research center from Sciences-Po.[41] The data include elections results in 1983, 1989, 1995 for municipalities with more than 9,000 inhabitants and results from the 2001 and 2008 elections for municipalities with more than 3,500 inhabitants. As many candidates are affiliated to a regionalist and independentist party that cannot easily be categorized as right-wing or left-wing, we drop Corsica, French Guyana and Overseas territories from the sample. We classify as left-wing lists the lists affiliated to the Socialist Party, Communist Party, Ecologist party, Green Party, Union of the Left or Far-Left lists. All other lists, including lists without affiliations or regionalist lists that received less than 5% of votes over the period, are classified as right-wing lists.

Census data — We use restricted access data obtained from the *Centre d'Accès Sécurisé Distant* (CASD) which is a secure access data center. We have access to confidential individual files for a very large sample extract (25%). For all years, we use the supplement files (*exploitation complémentaire*), which contains detailed variables on occupations and education.

Occupational classifications — To assess changes in composition across socioeconomic status, we use the occupational classification at the one-digit level and the labor force status from the census to decompose the share of natives and immigrants in the population into four groups: 1) high-income occupations, which correspond to managers and professionals; 2) low-income occupations, which include blue-collar and service sector employees; 3) non-employed workers; 4) retirees.

Match between election results and outcomes in census data— *For predetermined effects*, we match the 1983 elections with the 1982 census, the 1995 elections with the 1990 census, the 2001 elections with the 2001 census and the 2008 elections with the 2008 census. This is denoted 'before current election' in the tables and figures. *For the short-run effects 'at next election'*, we match the 1983 elections with the 1990 census, the 1995 elections with the 1999 census, the 2001 elections with the 2008 census and the 2008 elections with the 2014 census. *For the medium-run effects 'at next-but-one election'*, we match the 1983 elections with the 1999 census, the 1995 elections with the 2008 census and the 2001 elections with the 2014 census. *For the long-run effects 'at next-but-two election'*, we match the 1983 elections with the 2008 census and the 1995 elections with the 2014 census. We lose approximately two observations per year in longer-run effects relative to short-run effects because of municipal mergers.

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[41]It can be accessed by researchers through the French data archive (*Réseau Quetelet*) by applying to https://quetelet.casd.eu/en/utilisateur/connexion.

Eligibility to French public housing — The French public housing system currently distinguishes between three categories of dwellings, based on the maximum household income at entry and the level of rent. The category depends on the construction date and the type of financial aid received from the central government during the construction, so it cannot be changed. That categorization is not reported in the census data, but we have information on the construction year. The eligibility thresholds are similar across France, except in the Paris region, where they are higher. Approximately 55% of households are eligible to the standard public housing category that approximately includes 86% of the dwelling stock. The standard category (PLUS) includes all units constructed before 1977 and 74% of units constructed after. When the high-threshold category (PLS/PLI) that accounts for 9% of the stock is included, the share of eligible households increases up to 72%. A third category of low-income public housing (PLAI) accounts for 5% of the stock and approximately 23% of low-income households are eligible.

B Proof of proposition 1

We detail the resolution strategy of the proof of proposition 1.[42]

Voting process — Write the expected vote share as a function of q:

$$
P(q) = \left(\mathcal{O}(0)G(\pi(q)) \cdot \frac{1+\pi(q)}{1+\pi(0)} \right) \times \left[1 - F(v_0 - v_1(-q)) \right]
$$
$$
+ \left(1 - \frac{1}{1+\pi(q)} - \mathcal{O}(0)G(\pi(q)) \cdot \frac{1+\pi(q)}{1+\pi(0)} \right) \times \left[1 - F(-v_{00} - v_1(-q)) \right]
$$
$$
+ \left(\frac{1}{1+\pi(q)} \right) \times \left[1 - F(-v_0 - v_1(\pi(q)q)) \right],
$$

where $\mathcal{O}(0)$ satisfies the equal vote share condition $P(0) = 1/2$. Differentiate this expression and simplify $P'(0)$ using the symmetry of $f(\cdot)$, $G(\pi(0)) = 1$ and $v_1(0) = 0$. Finally, isolate the only ambiguously-signed term using $0 \leq v_{00} \leq v_0$ and $\pi(0) > 1$ to get equation 4.

Inflows of immigrants — We first consider a simple case where changes in q may only affect the ethnic composition of the municipality between immigrants $\mathcal{I}$ and natives $\mathcal{N}$. With $V(\pi(q)) = 0$, we can define a single utility function for natives $U_{\mathcal{N}}(\cdot)$ such that $U_{\mathcal{N}}(\xi, q) = U_{\mathcal{S}}(\xi, q) = \xi - q$. The measure of ξ in the two groups is given by $\ell_{\mathcal{I}}(\xi) = \frac{1}{1+\pi(0)}\ell(\xi)$ and $\ell_{\mathcal{N}}(\xi) = \frac{\pi(0)}{1+\pi(0)}\ell(\xi)$. Let $\xi_g(q)$ the lowest value of ξ among group-g residents in the municipality of interest. Let $\xi_0 = \xi_{\mathcal{I}}(0) = \xi_{\mathcal{N}}(0)$ such that $\alpha = 1 - L(\xi_0)$. We denote as $\widehat{\mathcal{I}}(q)$ and $\widehat{\mathcal{N}}(q)$ the respective populations of immigrants and natives in this

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municipality, such that $\widehat{\mathcal{I}}(0) = \frac{1}{1+\pi(0)}(1 - L(\xi_0))$ and $\widehat{\mathcal{N}}(0) = \frac{\pi(0)}{1+\pi(0)}(1 - L(\xi_0))$. Setting $q > 0$ will increase the share of immigrants to the extent that $U_{\mathcal{I}}(\xi_{\mathcal{I}}(q), q) = U_{\mathcal{N}}(\xi_{\mathcal{N}}(q), q)$. This means that $\xi_{\mathcal{N}}(q) - \xi_{\mathcal{I}}(q) = q(1 + \pi(q))$, with $\pi(q) = \widehat{\mathcal{N}}(q)/\widehat{\mathcal{I}}(q)$. Then we can use the market-clearing relationships:

$$\frac{1}{1+\pi(q)}[1 - L(\xi_0)] = \frac{1}{1+\pi(0)}\left[1 - L\Big(\xi_{\mathcal{I}}(q)\Big)\right]$$

$$\frac{\pi(q)}{1+\pi(q)}[1 - L(\xi_0)] = \frac{\pi(0)}{1+\pi(0)}\left[1 - L\Big(\xi_{\mathcal{I}}(q) + q(1 + \pi(q))\Big)\right]$$

Substituting and taking the inverse yields:

$$L^{-1}\left(1 - \frac{\pi(q)(1+\pi(0))}{\pi(0)(1+\pi(q))}[1 - L(\xi_0)]\right) - L^{-1}\left(1 - \frac{1+\pi(0)}{1+\pi(q)}[1 - L(\xi_0)]\right) - q(1 + \pi(q)) = 0$$

Differentiate this expression and isolate $\pi'(0)/\pi(0)$ to get equation 5.

Outflows of opponent natives — We now turn to the more general case where $V(\pi(q)) \neq 0$ if $q > 0$. Implementing $q > 0$ will increase the share of immigrants to the extent that $U_{\mathcal{I}}(\xi_{\mathcal{I}}(q), q) = U_{\mathcal{S}}(\xi_{\mathcal{S}}(q), q) = U_{\mathcal{O}}(\xi_{\mathcal{O}}(q), q)$. This means that $\xi_{\mathcal{S}}(q) - \xi_{\mathcal{I}}(q) = q(1 + \pi(q))$ and $\xi_{\mathcal{O}}(q) - \xi_{\mathcal{S}}(q) = V(\pi(q))$. Then we can use the market-clearing relationships:

$$\mathcal{S}(q) = \mathcal{S}(0)\left[1 - L\Big(\xi_{\mathcal{I}}(q) + q(1 + \pi(q))\Big)\right]$$

$$\mathcal{O}(q) = \mathcal{O}(0)\left[1 - L\Big(\xi_{\mathcal{I}}(q) + q(1 + \pi(q)) + V(\pi(q))\Big)\right]$$

From this, using the definition $\mathcal{O}(q) = G(\pi(q))\mathcal{O}(0)(1 - L(\xi_0))\left(\frac{\pi(q)}{1+\pi(q)}/\frac{\pi(0)}{1+\pi(0)}\right)$, we get:

$$G(\pi(q)) = \frac{\pi(0)(1+\pi(q))}{\pi(q)(1+\pi(0))(1 - L(\xi_0))}$$

$$\times \left[1 - L\left(q(1 + \pi(q)) + V(\pi(q)) + L^{-1}\Big(1 - \frac{1+\pi(0)}{1+\pi(q)}(1 - L(\xi_0))\Big)\right)\right]$$

Differentiate this expression, simplify using $V(\pi(0)) = 0$ and equation 5 and isolate $G'(\pi(0))$ to get equation 6.

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Figures and Tables

Figure 1: Immigration and the left/right cleavage in France

A - Opinion on immigration and vote: 1985-2012

—■—Difference between % vote for left parties among voters believing that there are not too many migrants in France and voters believing there are too many migrants

—— After controls for age, sex, family situation, education, income, wealth, father's occupation
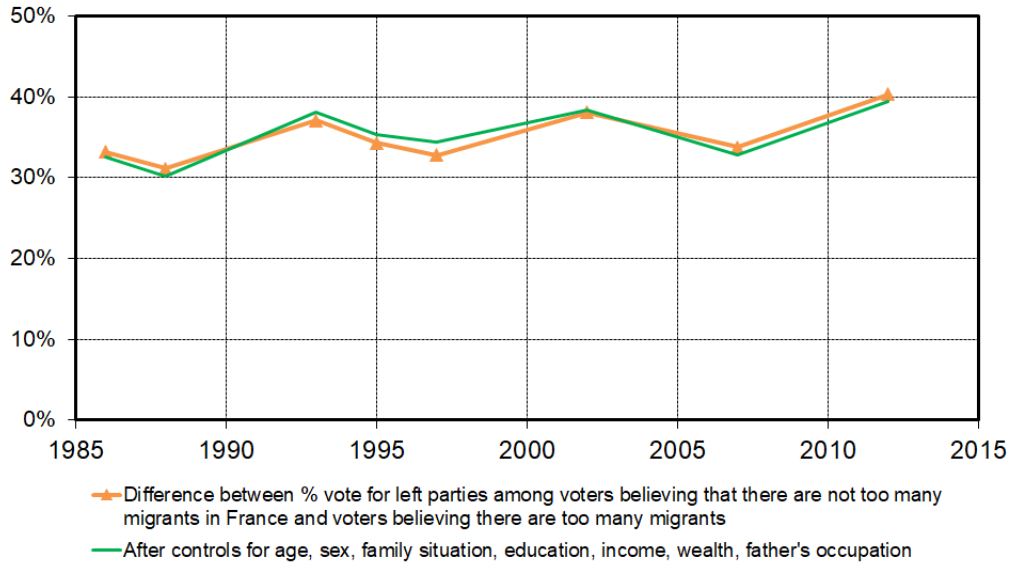
B - Left/right difference in the share of immigrants and public housing 1983-2014

■ Before election ■ At next election ■ At next-but-one election ■ At next-but-two election
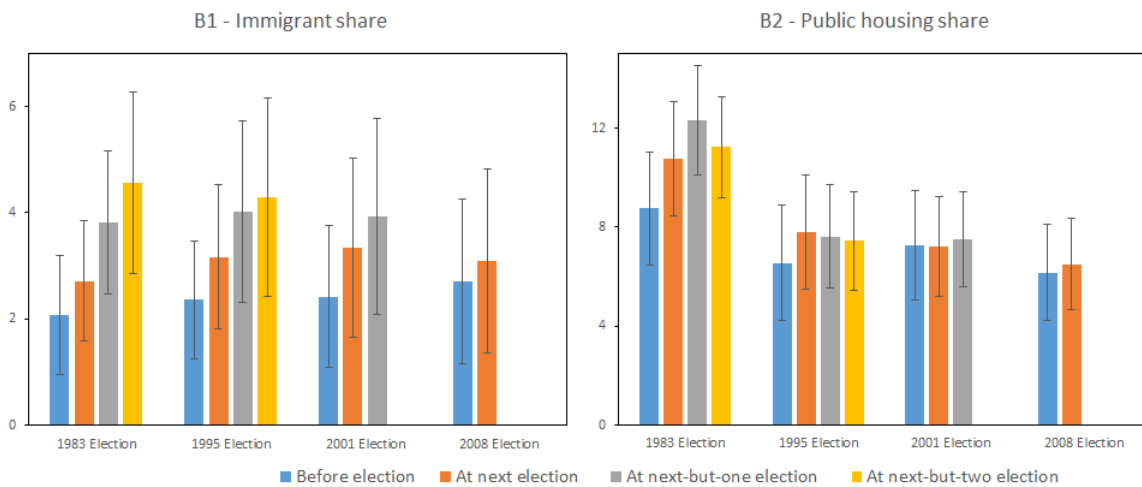
Note: **Graph A:** In 1988, the left vote was 31 points higher among voters believing that there are not too many immigrants in France; in 2012, this gap was equal to 40 points. Electoral surveys, nationwide sample. Source: Piketty (2020, Figure S14.19d). **Graph B:** Difference in the % share of immigrants (B1) and of inhabitants in public housing (B2) between municipalities where the left has won more votes relative to municipalities where the right has won more votes. 95% confidence intervals are depicted by the black segments. Sample of municipalities described in section 2. These shares are measured at the household level. The match between election and census data is described in Appendix A. Sources: 1983, 1995, 2001 and 2008 elections and 1982, 1990, 1999, 2008 and 2014 census.

Figure 2: RDD plots – Effects on the share of immigrants in the population
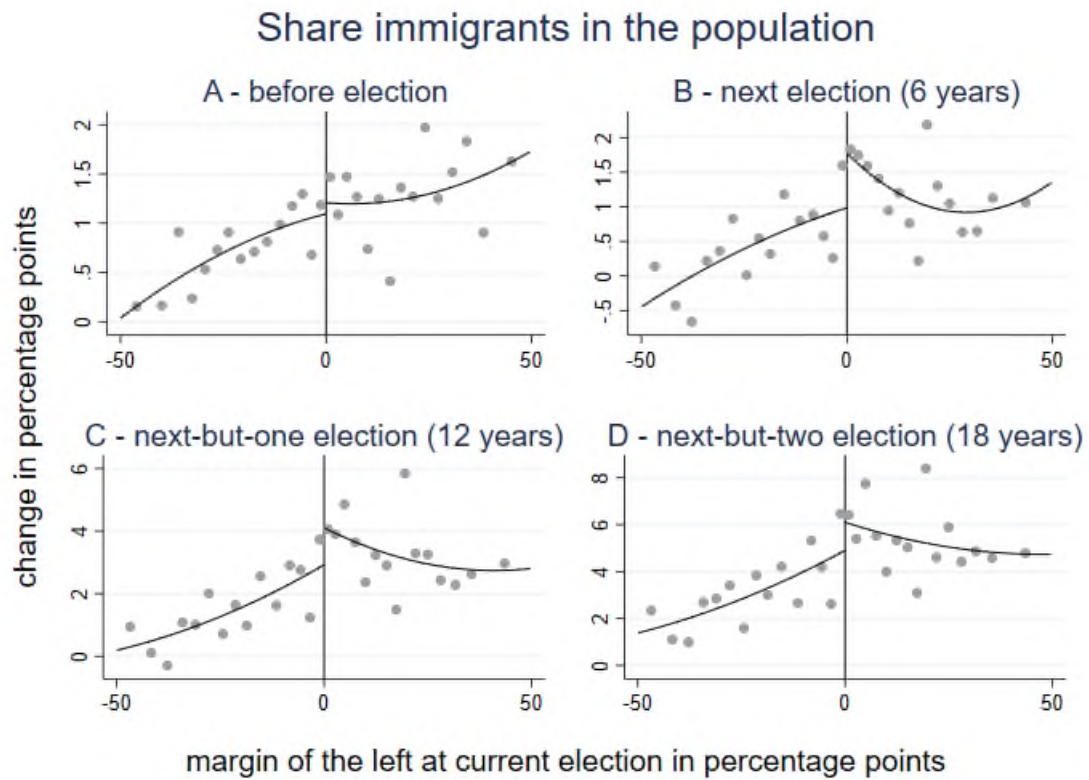
Sources: 1983, 1989, 1995, 2001 and 2008 elections and 1975, 1982, 1990, 1999, 2008 and 2014 census. Note: the graphs report quantile-spaced bins that capture averages from the same number of observations for each treatment group (Calonico et al., 2015). Panel A represents changes in the share of immigrants in the population using changes observed before the election over 6 years and Panels B to D represent changes in the share of immigrants 6, 12 and 18 years after the election. Outcomes are measured at the household level.

Figure 3: RDD plots – Effects on the share of households living in public housing in the population
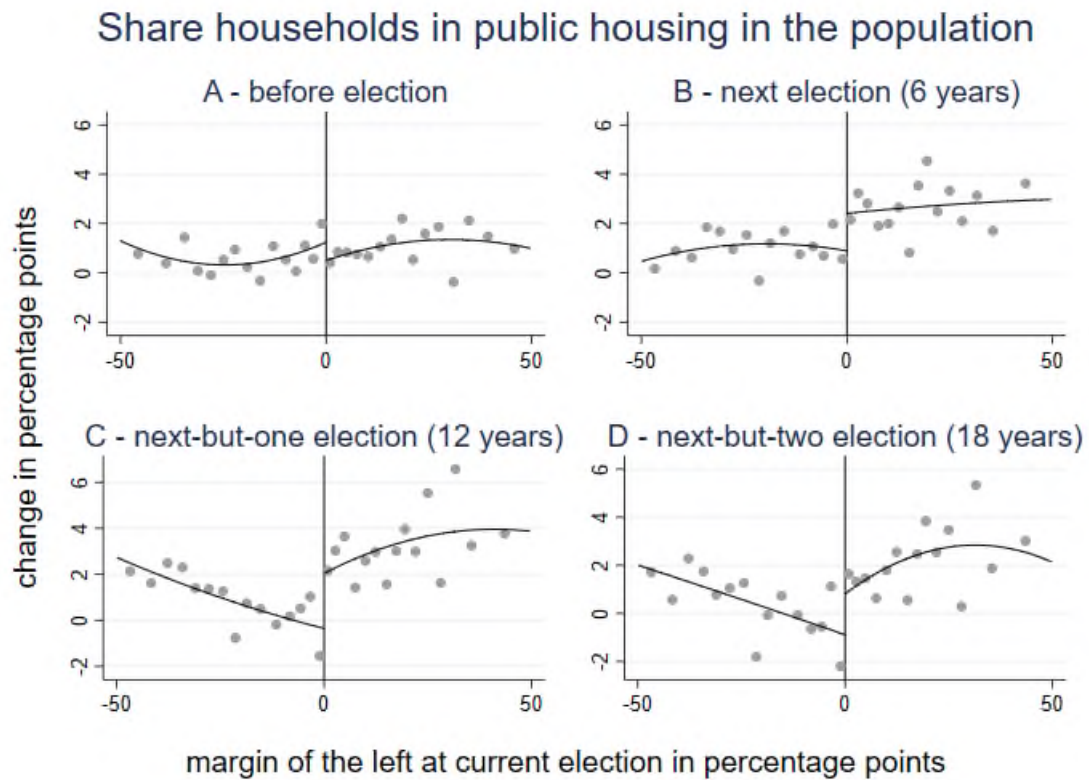
Share households in public housing in the population

Sources: 1983, 1989, 1995, 2001 and 2008 elections and 1982, 1990, 1999, 2008 and 2014 census. Note: the graphs report quantile-spaced bins that capture averages from the same number of observations for each treatment group (Calonico et al., 2015). Panel A represents changes in the share of households living in public housing in the population using changes observed before the election over 6 years and Panels B to D represent changes in the share of households living in public housing 6, 12 and 18 years after the election.

Figure 4: RDD plots – Effects on the probability of a victory of the left

Table 1: Municipal elections since 1983

Election	(1) Number of municipalities	(2) Share second round	(3) Share number lists in final round >2	(4) Share Left Victories	(5) Share Margin Victory <10	(6) Share Margin Victory <5	(7) Share Margin Victory <2.5
1983	478	15.7	41.2	52.1	24.3	12.3	4.8
1995	504	56.3	69.1	54.4	31.3	17.9	9.9
2001	545	45.5	49.5	45.0	27.5	15.0	6.1
2008	520	36.9	59.6	54.2	25.6	15.0	6.9

Source: CDSP election data. Note: The table reports descriptive statistics of municipal elections from our estimation sample. The sample is restricted to municipalities with more than 9,000 inhabitants in urban area with more than 30 000 inhabitant. We include elections with at least two lists in competition, and with a list from the Left and the Right ranked first and second. Column 2 shows the share of elections in which a second round occurred. Column 3 shows the share of elections with strictly more than two lists in competition. Column 4 shows the share of elections followed by a victory of the Left. Columns 5 to 7 document the share of elections with a margin of victory inferior to 10, 5 and 2.5 p.p. respectively. The margin of victory is defined as the difference between the share of the vote between the lists ranked first and second.

Table 2: Immigration and public housing in France, 1982-2014

	1982	1990	1999	2008	2014
A. Share Immigrants in the population					
Immigrants	11.8	12.0	12.7	15.5	16.9
Non-European Immigrants	5.3	6.1	7.7	10.6	12.0
B. Share of the group living in public housing					
Population	21.8	23.0	24.6	21.5	21.7
Natives	20.3	21.8	22.7	19.3	18.7
Immigrants	27.0	31.8	37.3	33.9	36.4
Non-European Immigrants	35.0	40.6	46.6	41.0	43.7
C. Turnover rate between municipal elections					
Owner-occupied	34.3	36.7	20.4	33.3	27.4
Tenant: private housing	60.3	66.8	64.2	73.7	73.3
Tenant: public housing	56.9	57.9	40.8	46.1	42.7

Sources: 1982, 1990, 1999, 2008 and 2014 census. Notes: Municipalities with more than 9,000 inhabitants in urban areas with more than 30 000 inhabitant. Panel A shows the share of immigrants and non-European immigrants. Panel B shows the probability of living in public housing for each group. Panel C reports differences in turnover rates with respect to housing occupancy status. Turnover rates are defined as the share of current occupants arrived in their dwelling less than six years before. The variables are measured at the household level.

Table 3: RDD Estimates on predetermined changes in municipality characteristics

Dependent variable	Share immigrant	Share low-income occupations	Share high-income occupations	Share public housing	Share immigrants in public housing	Share of the left in previous election
A. Pooled sample						
Left victory	0.439	0.139	0.377	-0.890	0.018	-0.034
	(0.338)	(0.380)	(0.224)	(0.554)	(0.192)	(0.028)
N	2047	2047	2047	1452	1452	1452
B. 2008 election						
Left victory	0.278	-0.063	-0.109	-1.336	-0.062	0.010
	(0.733)	(0.676)	(0.490)	(0.709)	(0.281)	(0.045)
N	511	511	511	511	511	511
C. 2001 Election						
Left victory	0.165	-0.163	-0.335	1.502	0.842	-0.031
	(0.552)	(0.660)	(0.398)	(0.893)	(0.472)	(0.048)
N	545	545	545	545	545	545
D. 1995 Election						
Left victory	0.236	0.307	0.728	-0.844	-0.393	-0.048
	(0.440)	(0.634)	(0.465)	(0.816)	(0.279)	(0.051)
N	504	504	504	504	504	504
E. 1983 Election						
Left victory	-0.336	-0.166	1.263	na	na	na
	(0.659)	(1.200)	(0.821)			
N	478	478	478			

Sources: 1983, 1995, 2001 and 2008 elections and 1975, 1982, 1990, 1999 and 2008 census. Notes: The table shows placebo RDD estimates on the indicated predetermined outcomes are measured using changes in the characteristics observed in the census before the elections occurred. The predetermined outcomes are changes in the share of each indicated group in the municipality population except in the last column where it is the previous share of the left in the last municipal election. Outcomes are measured at the household level. Panel A shows results for the pooled election sample, other panels show separate elections-by-election results. Estimates are obtained using local linear regressions with a triangular kernel and a mean squared error optimal bandwidth. We use changes between 1975 and 1982 for the 1983 elections, 1982 and 1990 for the 1995 elections, 1990 and 1999 for the 2001 elections and 1999 and 2008 for the 2008 elections. The sample size is lower in the last three columns as data on public housing is missing from the 1975 census and we do not have data on the results of the 1977 elections. Robust-bias corrected standard errors are reported in parenthesis. (*), (**), and (***) denote statistical significance at, respectively, 10%, 5%, and 1% level.

Table 4: Mean predetermined characteristics of municipalities in increasingly close elections

	Population	Share immigrants	Share low-income occupations	Share high-income occupations	Share public housing	N
All cities	14,739	13.9	52.2	12.7	23.9	2047
	(19,923)	(8.9)	(8.4)	(7.7)	(12.9)	
|Marg Vict| < 10	15,768	13.9	52.7	12.5	23.6	557
	(21,118)	(8.5)	(8.5)	(7.0)	(11.9)	
|Marg Vict| < 5	16,704	14.1	52.3	12.7	23.9	309
	(23,241)	(8.8)	(8.8)	(7.5)	(12.6)	
|Marg Vict| < 2.5	16,803	14.6	52.8	13.1	24.6	142
	(25,622)	(9.3)	(9.5)	(7.8)	(13.3)	

Sources: 1983, 1995, 2001 and 2008 elections and 1982, 1990, 1999 and 2008 census. Notes: The table reports of averages of the share of immigrants, public housing inhabitants, low-income and high-income occupations in the population of municipalities in our sample. The first line reports these averages for the whole sample. Other lines report averages from elections with margins of victory lower than 10%, 5% and 2.5%. The margin of victory is the difference between the share of votes between the list ranked first and the list ranked second in the final round. Column 1 reports the total population but the share of each group in other columns is measured at the household level.

Table 5: RDD estimates – Changes in the share of immigrants and occupation groups in the population

	(1)	(2)	(3)	(4)
A. Changes in the share of the occupation group in population				
	All occupations	High-income	Low-income	Retirees
Left victory	n.a.	-0.205	0.208	0.362
		(0.272)	(0.534)	(0.332)
Bandwidth		0.17	0.17	0.25
N effective		868	868	1238
B. Changes in the share of occupation group and immigrant in population				
	Immigrants (all occupations)	Immigrants & high-income	Immigrants & low-income	Immigrant & retirees
Left victory	0.976**	0.089*	0.745**	0.383**
	(0.382)	(0.050)	(0.336)	(0.161)
Bandwidth	0.14	0.17	0.14	0.15
N effective	729	860	737	759
C. Changes in the share of occupation group and native in population				
	Natives (all occupations)	Natives & high-income	Natives & low-income	Native & retirees
Left victory	-0.976**	-0.334	-0.481	0.087
	(0.382)	(0.266)	(0.480)	(0.352)
Bandwidth	0.14	0.16	0.19	0.21
N effective	729	811	942	1052
N Total	2047	2047	2047	2047

Sources: 1983, 1995, 2001, and 2008 elections and 1982, 1990, 1999, 2008 and 2014 census. The sample includes municipalities with more than 9,000 inhabitants in metro areas with more than 30 000 inhabitants. Notes: The table shows estimates of the effect of the victory of a left- relative to a right-wing mayor in the municipal election using local linear regressions with a triangular kernel and a mean squared error optimal bandwidth. Panel A: the dependent variable is the change in the share of the indicated occupation group in the population (columns 2 to 4) Panel B: changes in the share of individuals in the population that are in the occupation groups and are also immigrants (columns 1 to 5) Panel C: changes in the share of individuals in the population the are in the occupation group and are also natives (columns 1 to 5). Changes are measured over a six year period using the closest census to the municipal elections. Outcomes are measured at the household level. Robust-bias corrected standard errors are reported in parenthesis. (*), (**), and (***) denote statistical significance at, respectively, 10%, 5%, and 1% level.

Table 6: RDD estimates – Changes in the share of immigrants, short- and long-run effects

	(1)	(2)	(3)	(4)
	At next election (6 years)	At next election (6 years)	At next-but-one election (12 years)	At next-but-two election (18 years)
A. Dependent variable: Change in share of immigrants				
Left victory	0.976**	0.935*	1.536*	1.537
	(0.382)	(0.489)	(0.856)	(1.198)
Bandwidth	0.14	0.17	0.20	0.19
N effective	729	426	501	485
B. Dependent variable: Changes in share of non-European immigrants				
Left victory	1.007***	1.014**	1.936**	1.975*
	(0.358)	(0.467)	(0.848)	(1.086)
Bandwidth	0.14	0.16	0.18	0.21
N effective	699	405	455	517
C. Dependent variable: Changes in share of immigrants with voting right				
Left victory	0.293	0.206	0.674	1.405*
	(0.204)	(0.292)	(0.596)	(0.737)
Bandwidth	0.17	0.16	0.15	0.17
N effective	858	405	379	424
N Total	2047	982	980	976
Elections in the sample	1983, 1995, 2001, 2008	1983, 1995	1983, 1995	1983, 1995

Sources: 1983, 1995, 2001 and 2008 elections and 1982, 1990, 1999, 2008 and 2014 census. The sample includes municipalities with more than 9,000 inhabitants. Notes: The table shows estimates of the effect of the victory of a left- relative to a right-wing mayor in the municipal election on the changes in the share of immigrant households in the municipality population after the elections. Estimates are reported using changes over 1, 2 and 3 elections. In Panel A, the dependent variable is the changes in the share of immigrants in the population. In Panel B, the dependent variable is the changes in the share of non-European immigrants in the population. In Panel C, the dependent variable is the changes in the share of immigrants with voting rights in the population. Changes are measured over 6 years after the elections in columns 1 and 2, 12 years in column 3 and 18 years in column 4. The estimates are obtained using local linear regressions with a triangular kernel and a mean squared error optimal bandwidth. Robust-bias corrected standard errors are reported in parenthesis. (*), (**), and (***) denote statistical significance at, respectively, 10%, 5%, and 1% level.

Table 7: RDD estimates - The role of inflows and outflows in population changes

	(1)	(2)	(3)
	A. Overall population		
Dependent variable:	Population growth rate	Inflow rate	Outflow rate
Left victory	0.884	2.805*	1.924
	(1.115)	(1.553)	(1.228)
Bandwidth	0.19	0.19	0.19
N effective	953	953	953
	B. Immigrants		
Dependent variable:	Change in immigrant share	Immigrant inflow rate	Immigrant outflow rate
Left victory	0.976**	2.253***	1.003**
	(0.382)	(0.645)	(0.408)
Bandwidth	0.14	0.14	0.14
N effective	729	729	729
	C. Natives		
Dependent variable:	Change in native share	Native inflow rate	Native outflow rate
Left victory	-0.976**	-0.932	-0.023
	(0.382)	(1.318)	(1.270)
Bandwidth	0.14	0.14	0.14
N effective	729	729	729
N Total	2047	2047	2047

Sources: 1983, 1995, 2001 and 2008 elections and 1982, 1990, 1999, 2008 and 2014 census. The sample includes municipalities with more than 9,000 inhabitants. Notes: The table shows estimates of the effect of the victory of a left- relative to a right-wing mayor in the municipal election. The estimates are obtained using local linear regressions with a triangular kernel. We use the mean squared error optimal bandwidth obtained for the dependent variable in column 1 and maintain the same bandwidth for column 2 and 3 to facilitate comparisons. Panel A use as a dependent variable overall population growth in column 1, decomposed by the inflow and outflow rate in column 2 and 3. Panel B uses as a dependent variable the changes in the share of immigrants in column 1 and the immigrant inflow and outflow rates in columns 2 and 3. Panel C uses as a dependent variable the changes in the share of natives in column 1 and the native inflow and outflow rates in columns 2 and 3. Robust-bias corrected standard errors are reported in parenthesis. (*), (**), and (***) denote statistical significance at, respectively, 10%, 5%, and 1% level.

Table 8: RDD estimates - Effect of elections on municipal taxes

	At next election (6 years)	At next election (6 years)	At next-but-one election (12 years)	At next-but-two election (18 years)
	A. Dependent variable: Change in housing tax rate			
Left victory	0.192	0.847	0.310	-0.259
	(0.415)	(0.575)	(0.782)	(0.968)
Bandwidth	0.21	0.26	0.28	0.21
N effective	1040	634	672	513
N Total	2043	979	975	975
	B. Dependent variable: Change in property tax rate			
Left victory	0.054	0.769	-0.192	-0.626
	(0.413)	(0.478)	(0.658)	(0.845)
Bandwidth	0.21	0.20	0.24	0.17
N effective	1023	507	579	410
N Total	2042	978	975	975
Elections in the sample	1983, 1995, 2001, 2008	1983, 1995	1983, 1995	1983, 1995

Sources: 1983, 1995, 2001, 2008 and 2014 elections and 1982, 1988, 1994, 2000, 2007 and 2013 *Recensement des Elments d'Imposition*. The sample includes municipalities with more than 9,000 inhabitants. Notes: The table shows estimates of the effect of the victory of a left- relative to a right-wing mayor in the municipal election using local linear regressions with a triangular kernel and a mean squared error optimal bandwidth. Panel A uses as a dependent variable changes in the housing tax rate. Panel B uses as a dependent variable changes in the property tax rate. Changes are measured over six years after the elections in columns 1 and 2, 12 years in column 3 and 18 years in column 4. Robust-bias corrected standard errors are reported in parenthesis. (*), (**), and (***) denote statistical significance at, respectively, 10%, 5%, and 1% level.

Table 9: RDD estimates - Effects of elections on changes in public housing characteristics

	At next election (6 years)	At next election (6 years)	At next-but-one election (12 years)	At next-but-two election (18 years)
	A. Change in population in public housing			
Left victory	1.251**	1.798**	3.081***	2.652**
	(0.514)	(0.896)	(0.836)	(1.134)
Bandwidth	0.17	0.15	0.22	0.19
N effective	860	375	538	473
	B. Change in immigrants in public housing in population			
Left victory	0.535***	0.631**	1.522***	1.021**
	(0.197)	(0.306)	(0.453)	(0.508)
Bandwidth	0.15	0.15	0.17	0.23
N effective	780	382	425	574
	C. Change in immigrants in private housing in population			
Left victory	0.390	0.354	0.046	0.364
	(0.254)	(0.322)	(0.564)	(0.827)
Bandwidth	0.16	0.21	0.22	0.18
N effective	828	526	539	455
	D. Change in Non-European immigrants in public housing in population			
Left victory	0.446**	0.487*	1.268***	1.069*
	(0.182)	(0.279)	(0.431)	(0.567)
Bandwidth	0.16	0.17	0.20	0.21
N effective	833	424	506	517
	E. Change in European immigrants in public housing in population			
Left victory	0.060	0.175	0.171	0.045
	(0.058)	(0.106)	(0.154)	(0.177)
Bandwidth	0.20	0.14	0.18	0.18
N effective	1027	346	443	433
N Total	2047	982	980	976
Elections in the sample	1983, 1995, 2001, 2008	1983, 1995	1983, 1995	1983, 1995

Sources: 1983, 1995, 2001 and 2008 elections and 1982, 1990, 1999, 2008 and 2014 census. The sample includes municipalities with more than 9,000 inhabitants in metro areas with more than 30 000 inhabitants. Notes: The table shows estimates of the effect of the victory of a left- relative to a right-wing mayor in the municipal election using local linear regressions with a triangular kernel and a mean squared error optimal bandwidth. Panel A: the dependent variable is the change in the share of the public housing inhabitants in the population. Panel B: the dependent variable is the change in the share of immigrants in public housing in the population. Panel C: the dependent variable is the change in the share of immigrants in private housing in the population. Panel D: the dependent variable is the change in the share of non-European immigrants in public housing in the population. Panel E: the dependent variable is the change in the share of European immigrants in public housing in the population. Changes are measured over 6 years after the elections in columns 1 and 2, 12 years in column 3 and 18 years in column 4. Outcomes are measured at the household level. Robust-bias corrected standard errors are reported in parenthesis. (*), (**), and (***) denote statistical significance at, respectively, 10%, 5%, and 1% level.

Table 10: RDD estimates - Effect of elections on immigration and public housing depending on the median share of public housing in 1982

	At next election (6 years)	At next election (6 years)	At next-but-one election (12 years)	At next-but-two election (12 years)
A. Dependent variable: Change in share of immigrants				
A1. Municipalities with above median public housing in 1982 (>20%)				
Left victory	1.406**	1.431*	3.047*	3.534*
	(0.562)	(0.840)	(1.568)	(1.957)
Bandwidth	0.16	0.16	0.17	0.18
N effective	432	213	225	240
N Total	1023	510	508	505
A2. Municipalities with below median public housing in 1982 (<20%)				
Left victory	0.609	0.669	0.780	0.236
	(0.386)	(0.494)	(0.999)	(1.291)
Bandwidth	0.15	0.24	0.19	0.23
N effective	372	254	205	250
N Total	1035	472	472	471
B. Dependent variable: Change in share of population in public housing				
B1. Municipalities with above median public housing in 1982 (>20%)				
Left victory	0.695	0.897	2.460*	1.366
	(0.729)	(1.004)	(1.374)	(1.683)
Bandwidth	0.17	0.23	0.16	0.15
N effective	447	326	217	207
N Total	1023	510	508	505
B2. Municipalities with below median public housing in 1982 (<20%)				
Left victory	1.879***	1.984**	3.109***	2.307*
	(0.689)	(0.942)	(1.084)	(1.257)
Bandwidth	0.14	0.19	0.17	0.18
N effective	351	204	184	198
N Total	1035	472	472	471
Elections in the sample	1983, 1995, 2001, 2008	1983, 1995	1983, 1995	1983, 1995

Sources: 1983, 1995, 2001, 2008 and 2014 elections and 1982, 1990, 1999, 2008 and 2014 census. The sample includes municipalities with more than 9,000 inhabitants in metro areas with more than 30 000 inhabitants. Notes: The table shows estimates of the effect of the victory of a left- relative to a right-wing mayor in the municipal election using local linear regressions with a triangular kernel and a mean squared error optimal bandwidth. Panel A shows results using as a dependent variable changes in the share of immigrants in the municipality. Panel B shows results using changes in the share of the population in public housing. Panels A1 and B1 report estimates of the model on municipalities with an above median share of public housing inhabitants in the population in 1982 (20%). Panels A2 and B2 report estimates of the model using municipalities below the median. Changes are measured over 6 years after the elections in columns 1 and 2, 12 years in column 3 and 18 years in column 4. Outcomes are measured at the household level. Robust-bias corrected standard errors are reported in parenthesis. Robust-bias corrected standard errors are reported in parenthesis. (*), (**), and (***) denote statistical significance at, respectively, 10%, 5%, and 1% level.

Table 11: Probability of a left-wing victory

	At next election (6 years)	At next election (6 years)	At next-but-one election (12 years)	At next-but-two election (18 years)
	Dependent variable: Probability the left wins (in p.p.)			
	A. All municipalities			
Left victory	22.693***	24.872***	15.883*	9.718
	(6.305)	(8.959)	(8.892)	(8.734)
Bandwidth	0.16	0.15	0.19	0.19
N effective	813	378	482	456
N Total	2035	974	974	967
	B. Municipalities with above median public housing in 1982 (>20%)			
Left victory	21.100**	25.959**	23.449**	23.161*
	(8.462)	(12.506)	(10.638)	(12.067)
Bandwidth	0.15	0.15	0.22	0.19
N effective	395	203	308	251
N Total	1018	506	506	501
	C. Municipalities with below median public housing in 1982 (<20%)			
Left victory	24.818***	26.493**	9.070	-0.676
	(7.927)	(12.547)	(15.340)	(13.806)
Bandwidth	0.17	0.16	0.18	0.15
N effective	405	174	196	173
N Total	1017	468	468	466
Elections in the sample	1983, 1995, 2001, 2008	1983, 1995	1983, 1995	1983, 1995

Sources: 1983, 1989, 1995, 2001, 2008 and 2014 elections and 1982 census. The sample includes municipalities with more than 9,000 inhabitants in metro areas with more than 30 000 inhabitants. Notes: The table shows estimates of the effect of the victory of a left- relative to a right-wing mayor in the municipal election using local linear regressions with a triangular kernel and a mean squared error optimal bandwidth. The dependent variable is a binary variable equal to 100% if the left wins the next election. Panel A report estimates of the model on all municipalities. Panel B report estimates of the model using municipalities with an above median share of public housing inhabitants in the population in 1982 (20%). Panel C report estimates of the model using municipalities below the median. Robust-bias corrected standard errors are reported in parenthesis. Robust-bias corrected standard errors are reported in parenthesis. (*), (**), and (***) denote statistical significance at, respectively, 10%, 5%, and 1% level.

Table 12: Robustness of the RDD estimates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Baseline result	Including 1989 election	Including smaller urban areas	Election year fixed effects	Bandwidth 5 p.p.	Bandwidth 10 p.p.	Bandwidth 20 p.p.	Donut hole 1 p.p.	Donut hole 2.5 p.p.
	A. Share immigrants in the population								
Left victory	0.976**	0.639*	0.483*	1.121***	1.560***	1.506**	0.837**	0.503	0.338
	(0.382)	(0.340)	(0.263)	(0.379)	(0.535)	(0.439)	(0.323)	(0.406)	(0.464)
Bandwidth	0.14	0.14	0.14	0.14	0.05	0.10	0.20	0.18	0.19
N Effective	729	915	1215	729	309	557	998	841	806
	B. Share public housing inhabitants in the population								
Left victory	1.251**	0.817*	0.954**	0.898*	1.749**	1.663**	1.127**	0.952	1.125
	(0.514)	(0.457)	(0.410)	(0.466)	(0.802)	(0.651)	(0.477)	(0.602)	(0.725)
Bandwidth	0.17	0.19	0.15	0.18	0.05	0.10	0.20	0.18	0.15
N Effective	860	1161	1260	933	309	557	998	831	648
N Total	2047	2574	3081	2047	2047	2047	2047	1996	1905

Sources: 1983, 1989, 1995, 2001, 2008 and 2014 elections and 1982, 1990, 1999, 2008 and 2014 census. The sample includes municipalities with more than 9,000 inhabitants. Notes: The table shows estimates of the effect of the victory of a left- relative to a right-wing mayor in the municipal election using local linear regressions with a triangular kernel and a mean squared error optimal bandwidth. In Panel A, the dependent variable is the share of immigrants in the population. In Panel B, the dependent variable is the share of households in public housing in the population. Column 1 reproduces our baseline short-run estimates. Column 2 shows estimates on a sample including the 1989 elections. Column 3 shows estimates on a sample including municipalities located in small urban areas. Column 4 shows estimates of a specification including time fixed-effects. Column 5-7 report estimates obtained using a 5, 10 and 20 p.p. bandwidth, respectively. Columns 9 and 10 report estimates where elections with a margin of victory inferior to 1 and 2.5 p.p. have been eliminated. Robust-bias corrected standard errors are reported in parenthesis. (*), (**), and (***) denote statistical significance at, respectively, 10%, 5%, and 1% level.

Supplementary Appendix

Tables

Table A1: Election-specific estimates

	A. change in the immigrant share			B. change in the public housing		
	Dependent variable:					
Period	1983 election on 1990	1983 election on 1999	1983 election on 2008	1983 election on 1990	1983 election on 1999	1983 election on 2008
Left victory	1.776**	3.968***	3.788*	3.177*	4.937*	5.719*
	(0.734)	(1.468)	(1.947)	(1.680)	(2.734)	(3.345)
N	478	478	478	478	478	476
Period	1995 election on 1999	1995 election on 2008	1995 election on 2014	1995 election on 1999	1995 election on 2008	1995 election on 2014
Left victory	0.830	1.075	0.701	1.391*	2.593**	2.176
	(0.651)	(1.196)	(1.609)	(0.844)	(1.238)	(1.617)
N	504	502	500	504	502	500
Period	2001 election on 2008	2001 election on 2014	2008 election on 2014	2001 election on 2008	2001 election on 2014	2008 election on 2014
Left victory	0.415	0.967	0.955*	-0.981	0.917	1.177*
	(0.834)	(1.058)	(0.559)	(0.604)	(1.085)	(0.709)
*N	545	543	520	545	543	520

Sources: 1983, 1989, 1995, 2001 and 2008 elections and 1982, 1990, 1999, 2008 and 2014 census. The sample includes municipalities with more than 9,000 inhabitants. Notes: The table shows estimates of the effect of the victory of a left- relative to a right-wing mayor in the municipal election using local linear regressions with a triangular kernel and a mean squared error optimal bandwidth. Each cell report a separate estimate for different elections in our sample using changes over alternative time horizons. In panel A, the dependent variable is the change in the share of immigrants in the population over the indicated period. In panel B, the dependent variable is the change in the share of households in public housing in the population over the indicated period. All outcomes are measured at the household level. Robust-bias corrected standard errors are reported in parenthesis. (*), (**), and (***) denote statistical significance at, respectively, 10%, 5%, and 1% level.

Table A2: RDD estimates - Effect of elections on municipal taxes depending on the median share of public housing in 1982

	At next election (6 years)	At next election (6 years)	At next-but-one election (12 years)	At next-but-two election (18 years)
A. Dependent variable: Change in housing tax rate				
A1. Municipalities with above median public housing in 1982 (>20%)				
Left victory	0.434	0.670	-0.160	-1.000
	(0.643)	(0.957)	(1.189)	(1.510)
Bandwidth	0.27	0.22	0.20	0.17
N effective	687	312	279	331
N Total	1021	509	506	505
A2. Municipalities with below median public housing in 1982 (<20%)				
Left victory	0.025	1.021*	0.314	0.339
	(0.444)	(0.591)	(1.298)	(1.047)
Bandwidth	0.24	0.21	0.19	0.27
N effective	556	222	210	274
N Total	1022	470	469	470
B. Dependent variable: Change in property tax rate				
B1. Municipalities with above median public housing in 1982 (>20%)				
Left victory	0.052	0.575	-1.217	-1.377
	(0.628)	(0.793)	(1.063)	(1.348)
Bandwidth	0.24	0.19	0.17	0.16
N effective	603	274	335	218
N Total	1020	508	506	505
B2. Municipalities with below median public housing in 1982 (<20%)				
Left victory	0.106	0.953*	0.338	-0.033
	(0.434)	(0.576)	(1.317)	(1.273)
Bandwidth	0.20	0.16	0.17	0.18
N effective	477	180	190	193
N Total	1022	470	469	470
Elections in the sample	1983, 1995, 2001, 2008	1983, 1995	1983, 1995	1983, 1995

Sources: 1983, 1995, 2001 and 2008 elections, 1982 census and 1982, 1988, 1994, 2000, 2007 and 2013 *Recensement des Elments d'Imposition*. The sample includes municipalities with more than 9,000 inhabitants in metro areas with more than 30 000 inhabitants. Notes: The table shows estimates of the effect of the victory of a left- relative to a right-wing mayor in the municipal election using local linear regressions with a triangular kernel and a mean squared error optimal bandwidth. Panel A uses as a dependent variable changes in the housing tax rate. Panel B uses changes in the property tax rate. Panels A1 and B1 report estimates of the model on municipalities with an above median share of public housing inhabitants in the population in 1982 ($\geq 20\%$). Panels A2 and B2 report estimates of the model using municipalities below the median ($< 20\%$). Changes are measured over 6 years after the elections in columns 1 and 2, 12 years in column 3 and 18 years in column 4. Outcomes are measured at the household level. Robust-bias corrected standard errors are reported in parenthesis. Robust-bias corrected standard errors are reported in parenthesis. (*), (**), and (***) denote statistical significance at, respectively, 10%, 5%, and 1% level.

Figures

Figure A1: RDD plots – Effects on the share of immigrants living in public housing in the population
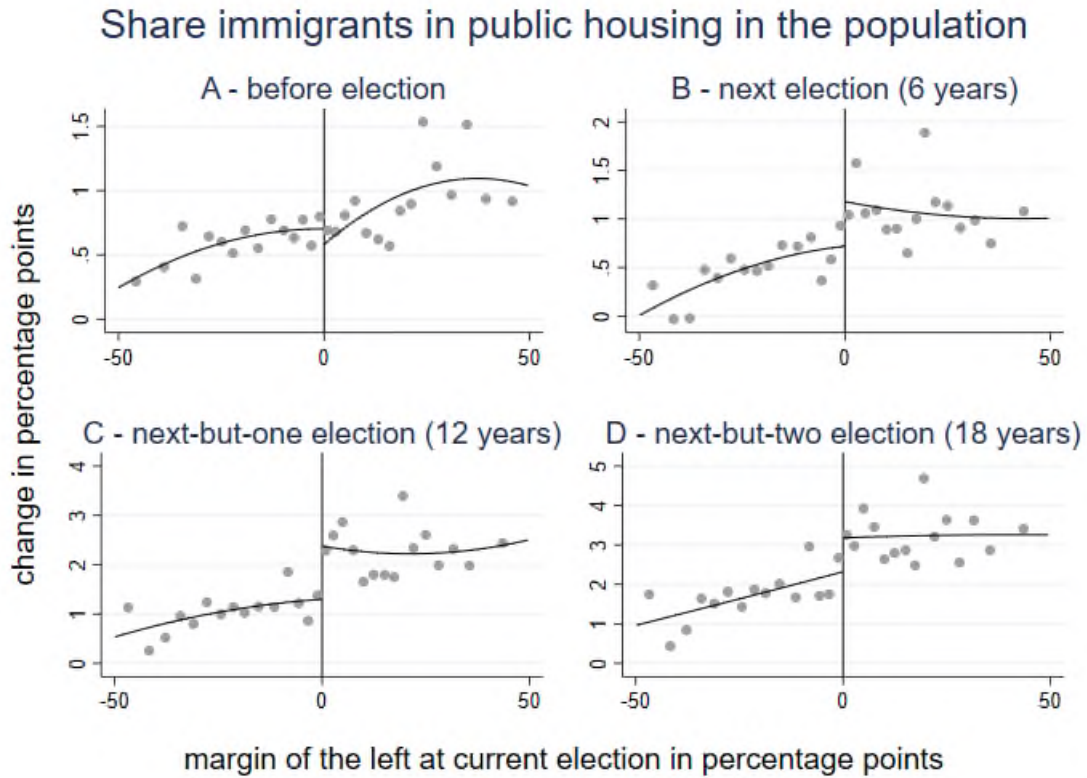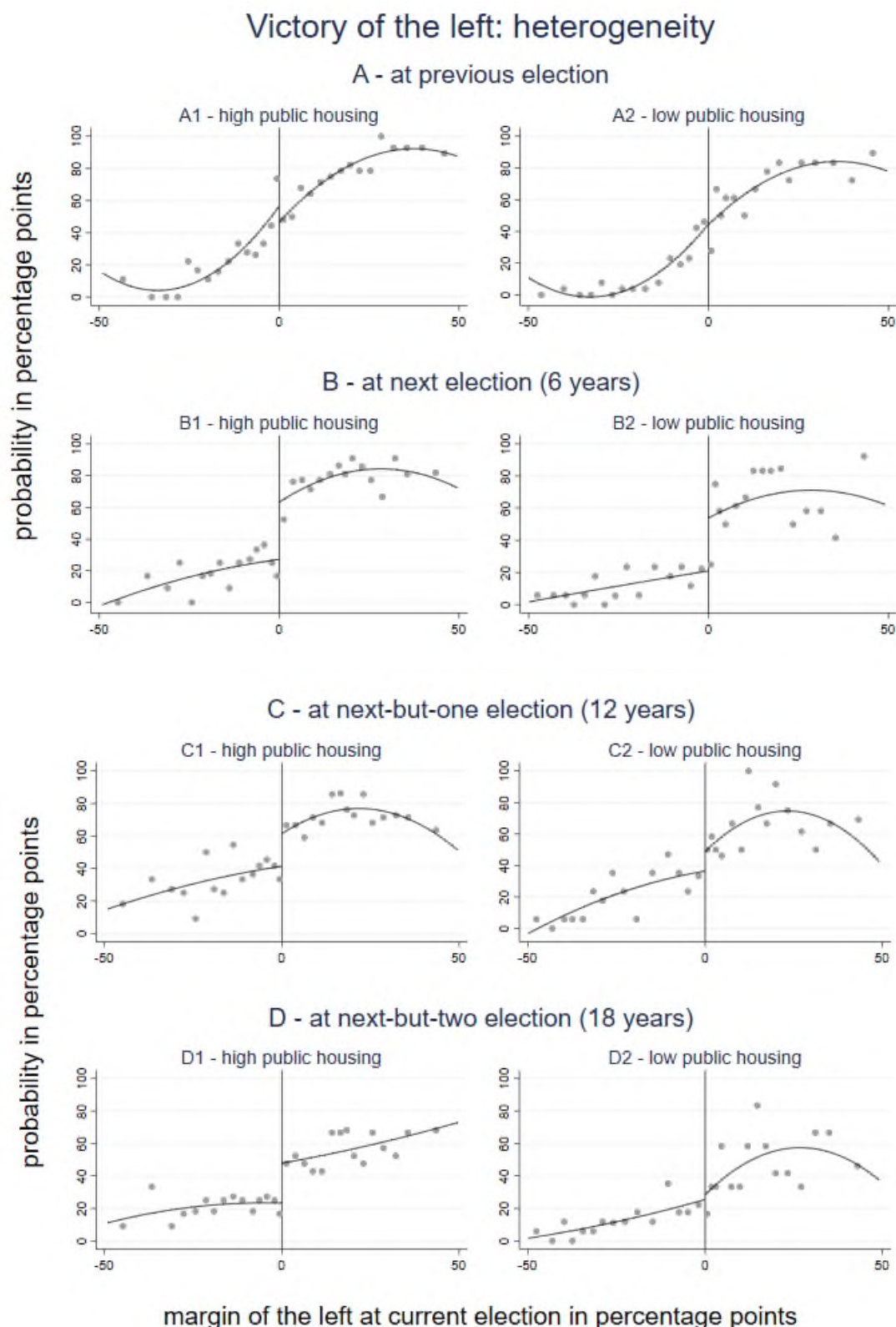

Share immigrants in public housing in the population

Sources: 1983, 1995, 2001 and 2008 elections and 1982, 1990, 1999, 2008 and 2014 census. Note: the graphs report quantile-spaced bins that capture averages from the same number of observations for each treatment group (Calonico et al., 2015). Panel A represents changes in the share of immigrants in public housing in the population using changes observed before the election over 6 years and Panels B to D represent changes in the share of immigrants in public housing 6, 12 and 18 years after the election. Outcomes are measured at the household level.

Figure A2: RDD plots – Effects on the share of immigrants: heterogeneity
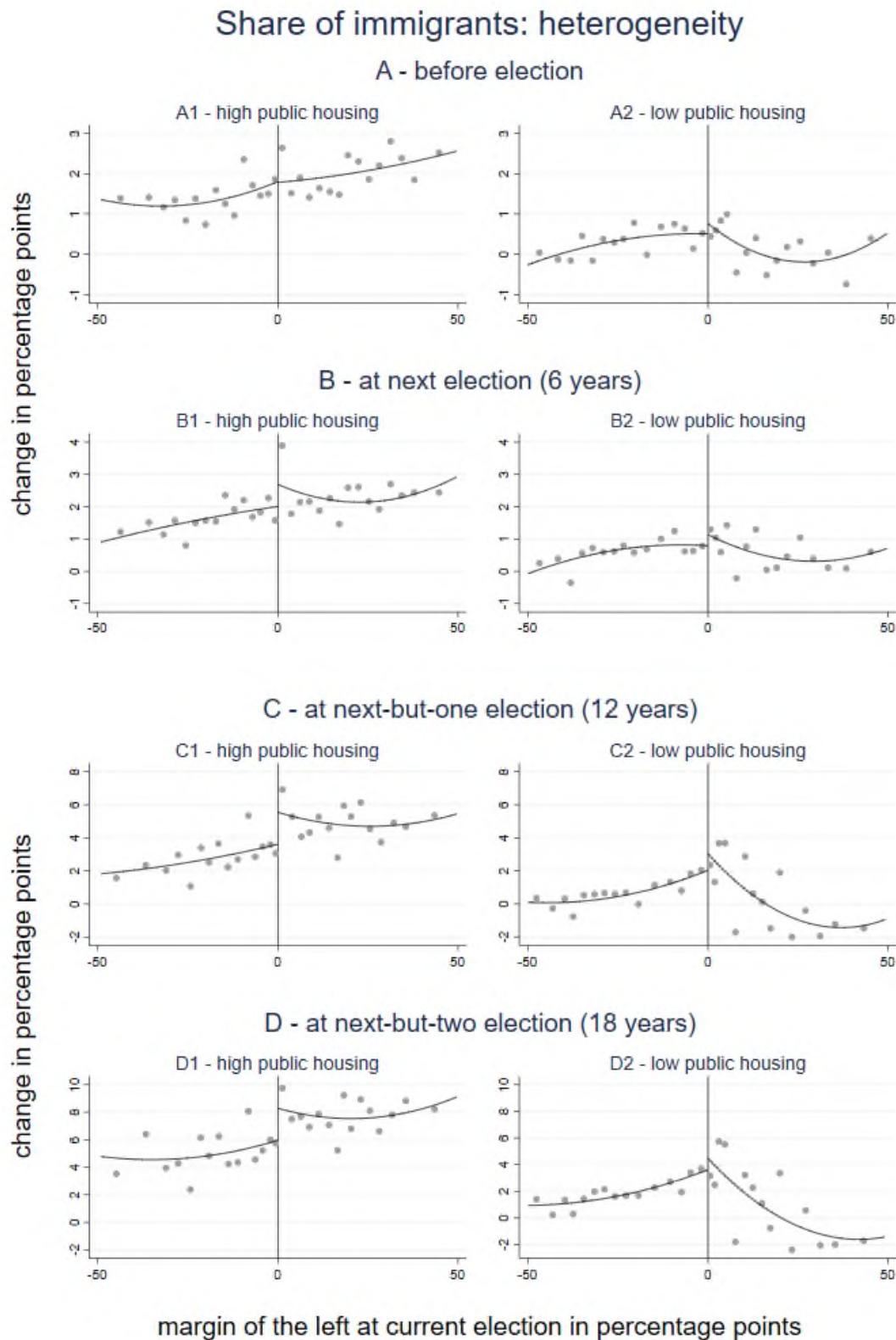
Sources: 1983, 1995, 2001 and 2008 elections and 1975, 1982, 1990, 1999, 2008 and 2014 census. Note: the graphs report quantile-spaced bins that capture averages from the same number of observations for each treatment group (Calonico et al., 2015). Panel A represents changes in the share of households living in public housing in the population using changes observed before the election over 6 years and Panels B to D represent changes in the share of households living in public housing 6, 12 and 18 years after the election. In Graphs A1, B1, C1 and D1, the sample is restricted to municipalities with an above-median share of public housing in 1982. In Graphs A2, B2, C2 and D2, the sample is restricted to municipalities with a below-median share of public housing in 1982.

Figure A3: RDD plots – Effects on the probability of a victory of the left: heterogeneity

Victory of the left: heterogeneity

A - at previous election

probability in percentage points

B - at next election (6 years)

C - at next-but-one election (12 years)

probability in percentage points

D - at next-but-two election (18 years)

margin of the left at current election in percentage points

Sources: 1983, 1989, 1995, 2001, 2008 and 2014 elections and 1982 census. Note: the graphs report quantile-spaced bins that capture averages from the same number of observations for each treatment group (Calonico et al., 2015). Panel A represents the probability (in %) of a victory of the left during the previous election and Panels B to D represent the probability of a victory (in %) of the left during the next, next-but-one and next-but-two election. In Graphs A1, B1, C1 and D1, the sample is restricted to municipalities with an above-median share of public housing in 1982. In Graphs A2, B2, C2 and D2, the sample is restricted to municipalities with a below-median share of public housing in 1982.