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Matteo Gamalerio, Massimo Morelli and Margherita Negri

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IGIER – Università Bocconi, Via Guglielmo Röntgen 1, 20136 Milano –Italy
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Electoral Systems and Immigration Policies*

Matteo Gamalerio[†] Massimo Morelli[‡] Margherita Negri[§]

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Abstract

We show that polities using plurality rule to elect their policymakers are more likely to adopt more restrictive immigration policies than those using dual-ballot systems. Plurality rule provides stronger incentives for right-wing, anti-immigrant parties to run alone, as opposed to joining a coalition with other right-wing parties that offer a less restrictive immigration policy. We prove the result theoretically and empirically. Our theoretical results hold with sincere and strategic voters, with and without endogenous turnout, and can be extended to the comparison between plurality rule and proportional representation without majority bonuses in parliamentary elections. Empirically, we combine municipal-level data on migration-related expenditures and mayoral elections and establish causality using a regression discontinuity design.

Keywords: Electoral Rules, Immigration, Salience. *JEL Classification codes:* D72, J24, J61, R23

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[†]Institut d'Economia de Barcelona (IEB), University of Barcelona

[‡]Bocconi University, LISER and CEPR

[§]University of St. Andrews

1 Introduction

Policy outcomes in democracies depend not only on the electorate’s preferences but also on the relative salience of different policy dimensions and the institutions through which preferences are aggregated. This paper examines how one key institution—the electoral system—affects the likelihood that policy reforms emerge when the salience of the corresponding policy domains increases.

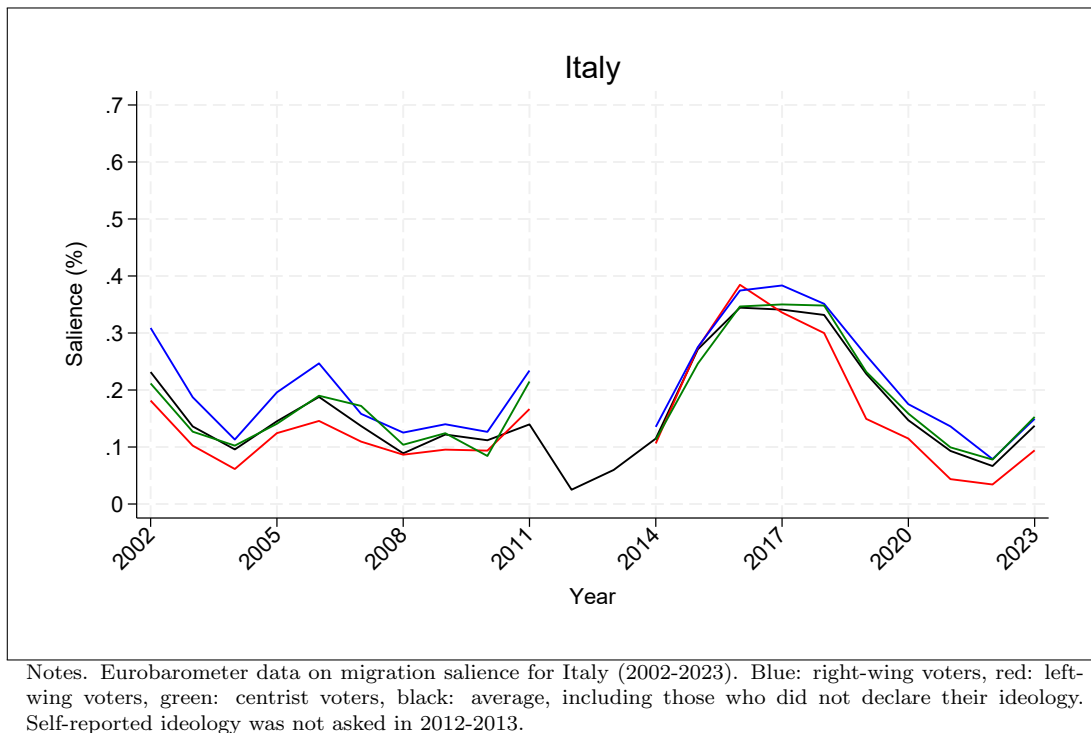
To see why salience matters, consider a voter who sides with one candidate on economic issues but with another on social issues. Her choice depends on which dimension is more salient to her at the time of voting. Different electoral systems, by making different sets of voters decisive, shape how shifts in issue salience translate into policy outcomes. In this paper, we focus on a particular characteristic of electoral systems, namely the share of votes necessary to gain control of the decision-making power. In particular, we distinguish between systems where power can be achieved with just a plurality of votes and those where, instead, a party or coalition needs the support of the absolute majority of the population. We refer to the two types of systems as *Sufficient Plurality* (SP) and *Necessary Majority* (NM), respectively.

Traditionally, political competition was largely one-dimensional, revolving around the economic cleavage between a “public” (left-wing) ideology—favoring redistribution and welfare policies—and a “private” (right-wing) ideology—favoring limited government and market solutions. In such a setting, the classic Meltzer–Richard framework (Meltzer and Richard, 1981) applies, and the median voter determines the winning party and the consequent level of government intervention. However, over the past few decades, trust in both ideologies has eroded severely. Fiscal crises, corruption, and the perceived ineffectiveness of public management have undermined the appeal of the interventionist state. At the same time, globalization, automation, and financial or immigration crises have shaken confidence in free markets.

As the traditional public vs. private (or left vs. right) divide weakened, new issues rose to prominence. In particular, immigration has become one of the most salient political issues in many Western democracies. Immigration combines material concerns (competition for jobs, welfare, and security) with identity-based appeals (national culture, way of life, and protection from crime or terrorism), and these features have made it a focal point of successful populist campaigns. The Eurobarometer data shown in Figure 1 illustrate this shift in salience: in 2002, only about 20% of respondents listed immigration among their top concerns, while by 2016 immigration had overtaken most other issues, rivaled only by

concerns about the economy (which, arguably, is a broad concern that encompasses many others). While Figure 1 focuses on Italy only, Hatton (2021) shows a similar pattern for other European countries. Consistently, the Chapel Hill Expert survey highlights a growing prominence of the immigration topic in party platforms, even beyond the populist ones (Figure 2).

Figure 1: Salience of migration in Italy

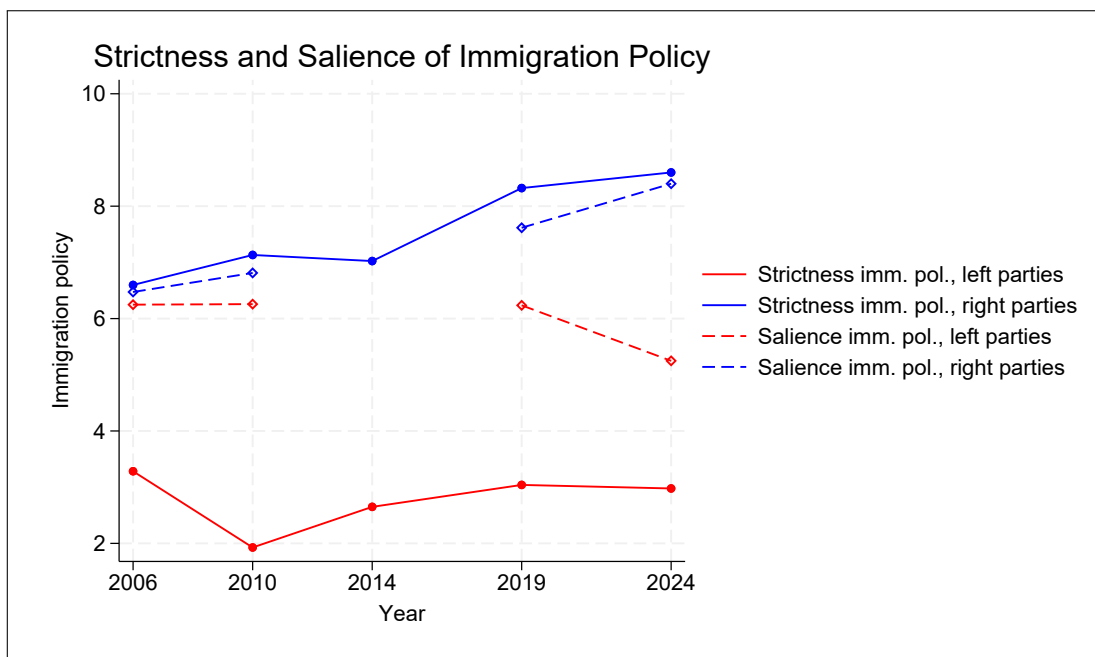


While the general intuition about the importance of issue salience applies broadly, the documented rise of immigration as a salient issue makes it a particularly fitting case to study how the interplay between institutional differences and salience can reshape political competition and policymaking. Figure 3 illustrates the significant cross-country variation in immigration inflows during the period 2000-2018, which suggests the possibility of substantial differences in the openness of immigration policies.¹

In order to capture the essence of our motivation, we propose a model in which voters have preferences along the traditional public vs. private policy dimension, as well as on

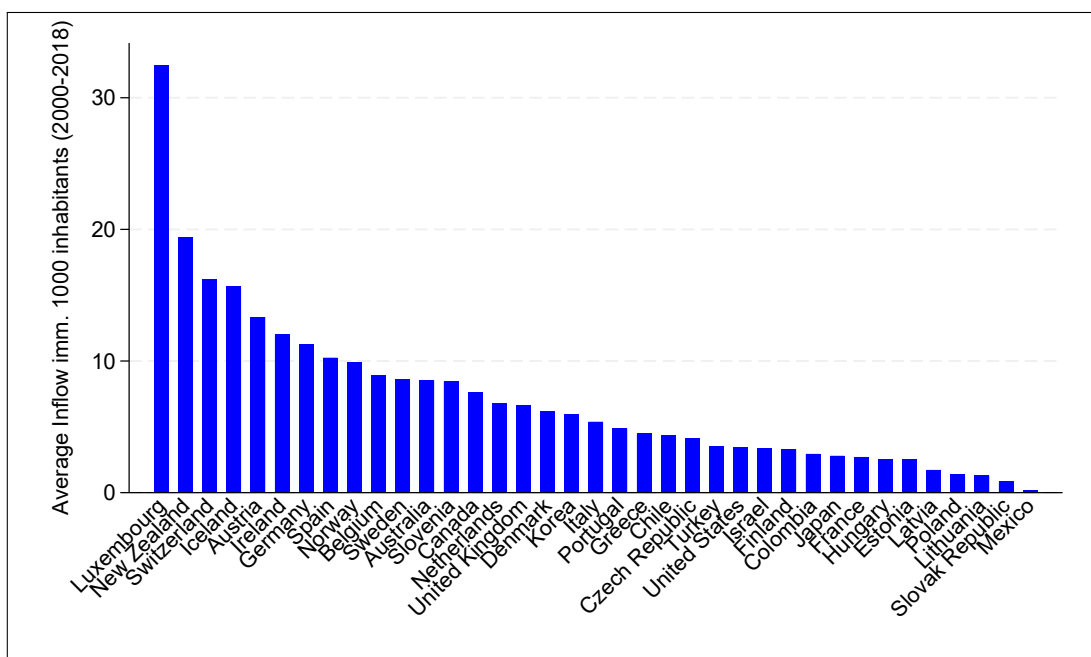
¹See e.g. Ortega and Peri (2013) for evidence on the relevance of immigration policies for the variation in immigration flows.

Figure 2: Strictness and salience of immigration policies
Italian Political parties



Notes. Data from Chapel Hill Expert Survey (2006)

Figure 3: Immigration in OECD countries



Notes. OECD data on immigration inflow per 1,000 inhabitants (2000-2018).

an open vs. closed border policy, resulting in four possible preference profiles. Moreover, voters also differ in the salience they attach to each policy dimension: some voters assign more importance to the public vs. private cleavage, while others prioritize the immigration policy. Voters have to choose among three parties (or candidates): one supporting the public ideology and in favor of maintaining open borders; a party supporting the private ideology and also in favor of an open border policy;² and a populist third alternative that tries to ride the growing distrust in public and private traditional alternatives with an “exclusionary” policy commitment, and in particular a closed border policy proposal. We assume that this third alternative is also within the right, in the sense that the party (or candidate) shares the private ideology but wants the minimal state, low-tax system to operate within national boundaries, with no consideration of gains from trade with other economies or cultures. To operationalize the distinction between SP and NM systems, we compare a case in which a party wins with a simple plurality of votes to a dual-ballot system, where victory requires an absolute majority, and if no party achieves it, a runoff is held between the top candidates. We assume sincere and compulsory voting in the main text, but in the Appendix we show that the main insights extend to the case of strategic voting and endogenous turnout.

Our theoretical results show that polities that elect their policymakers using SP systems (or first-past-the-post, Riker, 1982) are more likely to witness the emergence and electoral success of anti-immigration candidates with respect to polities using NM systems, even if such polities have the same distribution of voters’ preferences. The intuition is simple: in a country where support for a closed border policy is large but does not reach the absolute majority of the population, an anti-immigrant party could still reach power and implement the policy under a SP electoral system, but would stand no chances if the system were of the NM type. Moreover, our results show that the difference between the two electoral systems is maximized in polities where the expected vote share of an anti-immigration candidate running alone is intermediate: when such a share is very large (small), both systems lead to closed (open) borders.

Given the party structure we consider, salience matters only for two of the four types of voters, namely those who support the public, closed border policy platform, and those who support the private, open border one. In fact, all anti-immigrant voters with a private ideology have the same preference ranking over the three parties, independently of the salience of the two dimensions: the populist anti-immigrant alternative represents the best option for

²The open border stance of public (left-wing) parties derives from the importance these parties assign to solidarity, fairness, and altruism. For the private (right-wing) ones, instead it is a direct consequence of their laissez-faire approach (“markets take care of it”).

these voters, providing their preferred policy on both dimensions, while the public, pro-immigrant party is their least favorite, offering none of their desired policies. Voters who prefer the public, open borders policy platform have the opposite ranking over the three parties, but again, salience plays no role. Consider instead anti-immigrant voters who prefer the public policy: these voters face a trade-off between supporting a party that promises a closed border policy and one that offers their favorite ideological position. Hence, voting decisions for this group crucially depend on the salience of immigration. The same holds for right-wing voters who support open borders: in a race between the anti-immigrant party and the public, pro-immigrant one, their vote choice depends on how salient the immigration dimension is for them. Focusing on these voters in particular, gives the clearest intuition for our main theoretical results: in a dual ballot system, like e.g. the presidential race in France, they are exactly those who can determine the victory of Holland against Le Pen, whereas in a system with first-past-the-post, a plurality of votes may suffice to elect the anti-immigration extremist.

The framework we present provides a consistent and intuitive interpretation of the evolution of political cleavages documented by Gethin et al. (2022). In particular, the observed shift of the working class from traditional left parties toward newly emerged anti-immigrant populist parties can be understood as a consequence of the rising salience of immigration for public, anti-immigrant voters in our model. When immigration is of low salience, these voters' behavior aligns closely with the traditional public-versus-private cleavage. As immigration gains importance, however, they assign greater weight to this dimension and may eventually switch their support to the anti-immigrant alternative. By the same logic, salience also helps explain the growing tendency of wealthy entrepreneurs to vote for left parties. These private, pro-immigration voters would support right-wing parties in a world where the salience of immigration is low, but shift toward left parties as immigration becomes a more salient issue and a pro-immigration, right-wing option is unavailable.

We test these theoretical predictions using data from Italian municipalities and leverage two institutional features. First, we exploit a sharp change in the electoral system for Italian mayors, which shifts from plurality rule to a dual-ballot system once the municipal population exceeds 15,000 inhabitants (Bordignon et al., 2016). This institutional threshold allows us to implement a regression discontinuity design (RDD) to study the causal effects of different electoral systems. Second, we take advantage of the influential role of Italian mayors, who hold substantial authority over spending decisions within their municipalities. We use a dataset provided by Pulejo (2025), who constructed a novel source from official procurement

records collected by the Italian National Anti-Corruption Authority (ANAC). This dataset covers municipal procurement contracts between 2007 and 2022, and allows us to construct a measure of municipal spending on migration-related goods and services, which serves as the outcome variable for immigration policies in our empirical analysis.

The results of the RDD analysis confirm the predictions of our theoretical model. Specifically, we find that municipalities electing their mayors through a dual-ballot system are significantly less likely to field standalone anti-immigrant candidates, with the probability decreasing by about 3.5 percentage points. At the same time, anti-immigrant parties are more likely to form coalitions with moderate center-right parties, resulting in a 6.6 percentage point increase in the probability of a center-right coalition candidate. Furthermore, compared to municipalities under plurality rule, those governed by a dual-ballot system are more likely to provide migration-related goods and services, award a larger number of procurement contracts, and spend more on these services. Overall, our findings provide empirical evidence that electoral rules shape both political competition and policy outcomes, demonstrating how institutional design can influence the entry of anti-immigrant candidates and the adoption of immigration policies at the local level.

At the end of the paper, we show how the main mechanism extends to parliamentary elections, where coalition formation plays an important role. Parliamentary elections using pure proportional representation are NM systems, because a government coalition needs the support of an absolute majority within the parliament, which in turn typically represents the absolute majority of voters. With a simple extension of our main model, we confirm that in such systems, the expected probability of support for closed-border policies is lower than in countries using SP systems. We provide cross-country correlations using data from OECD countries, classifying them into those with SP versus NM electoral systems, and show that the correlation between this classification and immigration inflows is consistent with the argument of our theoretical model.

The rest of the paper is organized as follows. We discuss the connections with the literature first; then in Sections 3 and 4 we present our new model of electoral competition and derive the theoretical predictions on the greater openness of polities using a dual ballot system with respect to polities using plurality rule. Section 5 describes the institutional background that allows us to test the theoretical results and Section 6 describes the empirical strategy. Sections 7 and 8 describe the data and the empirical results. Section 9 extends the theory to PR and national elections and Section 10 offers some concluding remarks. All proofs of the main theoretical results, the extensions to strategic voting and endogenous turnout, as well

as multiple robustness checks for the empirical results, are relegated to the Appendix.

2 Related Literature

A large literature has highlighted the role of electoral systems as key determinants of policy outcomes, ranging from redistribution, corruption, employer and investor protection, to policy stability and party structure.³ Given the evidence on the rising salience of identity politics with respect to traditional redistributive politics (see e.g. Bonomi et al. (2021) and Noury and Roland (2020)), and given the close connection of immigration policies with identity politics, our research question on the role of electoral systems for the determination of immigration policies should be of self-evident importance. To the best of our knowledge, only Russo and Salsano (2019) have looked at how electoral rules can influence openness to immigration, but their retrospective voting model reached different conclusions and they did not provide causal evidence.

Our work is related to Buisseret and Van Weelden (2020), who study the entry decision of a party or candidate advocating a policy reform that is undesirable for the pre-existing parties, with the choice being between running alone or crashing one of them. Unlike our paper, they do not focus on electoral systems and do not explicitly emphasize the role of salience. The literature on salience has already established the important role it plays in shaping agents' decisions (Bordalo et al. (2012, 2013)) and political behavior and attitudes (Bordalo et al. (2020)). In the context of immigration, in particular, several papers have highlighted how the increased support for anti-immigrant positions or parties can be explained by an increase in salience of the migration issue, rather than a change in preferences (Alesina et al. (2023); Dennison and Geddes (2019); Barrera et al. (2020); Schneider-Strawczynski and Valette (2025)). Building on this evidence, our work highlights the interplay between salience and electoral systems in shaping policy outcomes.

In the model we take voters' preferences over immigration as given.⁴ For papers that have studied how individual attitudes influence policy outcomes see Benhabib (1996), Dolmas and

³For redistribution see e.g. Austen-Smith (2000), Lizzeri and Persico (2001), Iversen and Soskice (2006), Persson et al. (2007), Galasso and Nunnari (2019), Genicot et al. (2021); for corruption, see e.g. Persson et al. (2003); for employer and investor protection, see e.g. Pagano and Volpin (2005); for stability and party structure, see e.g. Morelli (2004) and Bandyopadhyay et al. (2011).

⁴For evidence on the economic and non-economic factors that drive attitudes towards migration, see Mayda (2006), Facchini and Mayda (2009), Dustmann and Preston (2007), Card et al. (2012). Of course political preferences can be influenced by misperceptions about the impact of immigrants, in line with the findings of Alesina et al. (2023).

Huffman (2004), Facchini and Mayda (2008), Facchini et al. (2011), and Tabellini (2020). For evidence on the relationship between immigration, anti-immigrant attitudes and voting behavior, the literature has produced conflicting results: some papers have found a positive effect of immigration on anti-immigrant attitudes and voting (e.g., Barone et al. (2016); Tabellini (2020)), other papers have provided evidence of a negative effect (Vertier et al. (2023); Gamalerio et al. (2023)), and other papers evidence of a mixed effect (Dustmann et al. (2019); Steinmayr (2021); Mayda et al. (2022)). In our framing what matters is the growing salience of immigration to become the center piece of populist and far right parties, whereas the distribution of preferences on the various policy dimensions do not need to change for our results. Our analysis is not on the dynamics of preferences.

As explained in Guiso and Herrera (2025) and Morelli (2025), even with a fixed distribution of ideologies and preferences, the growing distrust in state and market institutions have greatly affected the salience of exclusionary commitments like anti-immigration policies. In such papers the observed changes in the distribution of votes obtains due to the asymmetric turnout incentives between left and right citizens, and hence in the appendix we allow for endogenous turnout in order to show that the results are consistent, without altering the prediction on electoral systems. Our contribution to this literature is the finding that NM systems may be more “resilient” to the democratic backsliding that seems to be connected with the shift to exclusionary commitments. The anti-immigration attitudes may be large enough to allow for exclusionary policy reforms in SP systems, but only in case such attitudes become an absolute majority the same exclusionary policies will spread to NM systems.

3 The Model

We consider a population of size one. Voters have preferences on the traditional public vs. private dimension and on immigration policy. Both dimensions are binary. Half of the voters supports a public (left-wing) ideology (l), while the other half supports a private (right-wing) one (r). For any $i \in \{l, r\}$, we denote by $f^i \in (0, 1)$ the share of individuals with ideology i who are against immigration. Voters have lexicographic preferences over the two dimensions and we denote by $\alpha^i \in (0, 1)$ the share of individuals with ideology i that place more salience on immigration than ideology.

There are three candidates. Candidates L and R are “traditional”. They support pro-immigration policies but have different ideological positions on the public vs. private dimension. Candidate S is an anti-immigrant, right-wing candidate, who must decide whether to

run as a standalone candidate proposing its preferred policy platform, or join party R in a right-wing, pro-immigration coalition.⁵

Elections take place under two possible electoral systems. Under plurality (P), the winner is the candidate that obtains the largest share of votes. Under dual ballot (DB), a candidate wins if it obtains at least half the votes. If no candidate reaches that threshold, the two candidates with the largest share of votes compete by majority in a second round (runoff). We focus on the election of a single decision maker, as opposed to the election of a parliament.⁶

We are interested in S 's decision to run as a standalone candidate or form a right-wing, pro-immigration coalition under the two electoral systems. We assume that, when deciding, S knows the share of anti-immigrant voters and the salience of immigration for each ideology. We also assume that the cost of running as a standalone is not too large compared to the cost of running as part of a coalition, so that S will run as a standalone if and only if it can win. Hence, in what follows, we will compare the situations where S wins as a standalone under the two electoral systems.

We make the following assumption on the parameters.

Assumption 1. $f^l < f^r$, $\alpha^l < \alpha^r$ and $\alpha^r > 1/2$.

Assumption 1 states that right-wing voters are more opposed to immigration than left-wing ones and that immigration is very salient for them, in line with the descriptive evidence shown in the introduction (see Figures 1 and 2).⁷

We conduct the main analysis assuming that voting is compulsory and voters behave sincerely. In the Appendix, we show that our results extend to the case of endogenous turnout (Appendix B) and strategic voting (Appendix C).

⁵The assumption that when S decides to join forces with R the latter prevails on the immigration dimension is for simplicity, and we could easily extend the model to allow for an internal bargaining or compromise, with no qualitative differences in the results.

⁶This is in line with our empirical analysis, which looks at Italian mayors. Section 9 extends the model to the election of a parliament.

⁷Figure A1 provides evidence consistent with $f^l < f^r$ in Italy. Using European Social Survey data for the waves in which Italy is included (rounds 1, 6, 8, and 9), the figure plots the share of respondents expressing a restrictive view on immigration—those answering “allow a few” or “allow none” to the question on admitting immigrants of a different race or ethnic group. The shares are shown separately for left-wing, centrist, and right-wing voters. Right-wing voters consistently exhibit the highest opposition to immigration, left-wing voters the lowest, with centrists in between. Our results are robust to different assumptions on (f^l, f^r) . In Appendix D, we consider the more general case of $(f^l, f^r) \in (0, 1)^2$.

4 Theoretical Results

In what follows, S will denote the anti-immigrant party when it decides to run alone. Let V_p denote the share of votes obtained by candidate $p \in \{L, R, S\}$ in a three-party competition and let $\tilde{V}_p^{p'}$ denote the share of votes for candidate p in a two-party competition against candidate $p' \neq p$. Then sincere voting and complete turnout imply that

$$\begin{aligned} V_L &= \frac{1 - \alpha^l f^l}{2} \\ V_R &= \frac{1 - f^r}{2} \\ V_S &= \frac{f^r + \alpha^l f^l}{2} \\ \tilde{V}_S^L &= \frac{f^r + \alpha^l f^l + (1 - \alpha^r)(1 - f^r)}{2} \\ \tilde{V}_S^R &= \frac{f^r + f^l}{2} \end{aligned}$$

In words, in a three candidate race, L is supported by those with a left ideology who do not think that closing borders is salient and desirable; R is supported by those with a right-wing ideology who are against closing borders; and S is supported by the right-wing voters who are in favor of closing borders, as well as the left-wing voters who think that closing borders is both salient and desirable. In a runoff against L , those who vote for S are the right-wing voters who prefer to close borders, the left wing voters who think that closing borders is both salient and desirable, and the right-wing voters who think that closing borders is not desirable but in any case not salient, hence making them vote based on ideology; finally, in a runoff against R , S 's supporters are simply those who prefer closing borders within both left and right camps, and salience does not matter.

Under plurality, party S wins when running alone if it obtains more votes than both traditional candidates (i.e. $V_S > \max\{V_R, V_L\}$). Under runoff, S wins if i) it gets at least half of the votes (i.e. $V_S \geq 1/2$) or ii) it gets more votes than at least one of the traditional candidates, and then defeats the other one in the runoff (i.e. if $\min\{V_L, V_R\} < V_S < 1/2 \wedge \tilde{V}_S^p \geq 1/2$ where p is the candidate with the largest share of votes between L and R).⁸ Notice that when S gets more than half of the votes, it wins under both electoral systems. Hence, the interesting cases to consider are only those where $V_S < 1/2$.

⁸We should also require that none of the traditional candidates wins more than half of the votes ($\max\{V_L, V_R\} < 1/2$), but given our assumptions on the distribution of voters' ideologies this is always satisfied.

Lemma 1. *If S reaches and wins a runoff against L under dual ballot, then S wins under plurality too. The opposite is not true.*

A necessary condition for a runoff between S and L to happen is that S defeats R in the first round, i.e. $V_S > V_R$. Moreover, when immigration is salient (Assumption 1) most of the first-round R supporters will vote for L in the second round, since this is the party that offers them their favorite immigration policy. This gives an advantage to L in the second round. Hence, S can win the runoff only if its first-round support is sufficiently large, that is only if $V_S > V_L$. Combining everything, S reaches and wins a runoff against L only if $V_S > V_L$ and $V_S > V_R$, which are the necessary and sufficient conditions for S to win under plurality.

A consequence of Lemma 1 is that situations where S wins under dual ballot but not under plurality can only occur when S reaches a runoff against R . If $f^l < f^r$, however, such a runoff can never happen. Intuitively, when S runs, it diverts the votes of the f^r private, anti-immigrant voters away from party R and the votes of some (α^l) of the f^l public, anti-immigrant voters away from party L . To reach a runoff against R , the share of votes diverted by S must be large enough, and must come primarily from leftist voters. When $f^l < f^r$, however, it is impossible for S to get enough support to reach a runoff without compromising R 's electoral success, so either S does not reach a runoff, or it reaches one against L .⁹

Combining this reasoning with Lemma 1, Proposition 1 concludes that S will always be more likely to run under plurality than under dual ballot.

Proposition 1. *There exists no (f^l, f^r) such that S wins under dual ballot but not under plurality. The contrary is not true.*

We now examine how the difference between the two electoral systems depends on S 's supports in a three-party competition, V_S . This is interesting as V_S can be interpreted as a measure of anti-immigrant sentiment in the population. The following proposition shows that the electoral system plays a role in S 's decision, and therefore in a polity's migration policies, only when the anti-immigrant sentiment is intermediate. When many voters in the population feel strongly against immigration, a standalone anti-immigrant candidate will win under both electoral systems. On the contrary, when most of the population favors immigration, running on an anti-immigration platform is never optimal.

⁹Consistent with this intuition, Figure A2 shows that anti-immigrant candidates in Italian mayoral runoffs are far more likely to face center-left than center-right opponents. Among all such runoffs, the center-left is the opponent in 62% of cases, compared with 23% for the center-right, 14% for civic lists, and 1% for the Five Star Movement. The data cover all municipal elections in municipalities above 15,000 inhabitants between 1993 and 2019. We restrict the sample to elections that reach a second round and in which at least one anti-immigrant candidate advances to the runoff. For these elections, the figure reports the distribution of opponent types.

Proposition 2. *For all (f^l, f^r) such that $V_S > 1/2$, S wins under both electoral systems. For all (f^l, f^r) such that $V_S < \frac{1}{2} - \frac{\alpha^l}{2(1+2\alpha^l)}$, S loses under both electoral systems.*

Proposition 2 implies that, whenever anti-immigrant support in the population is either very high or very small, (i.e. when $V_S < \frac{1}{2} - \frac{\alpha^l}{2(1+2\alpha^l)}$ or $V_S > 1/2$), the likelihood of observing anti-immigrant candidates is similar under the two electoral systems. In turn, this should translate into similar immigration policies.

Remark 1. *Notice that $\frac{1}{2} - \frac{\alpha^l}{2(1+2\alpha^l)}$ is a decreasing function of α^l and takes values between $1/3$ ($\alpha^l = 1$) and $1/2$ ($\alpha^l = 0$). Hence, the set of cases in which the electoral system plays a role in S 's decision, $V_S \in \left(\frac{1}{2} - \frac{\alpha^l}{2(1+2\alpha^l)}, \frac{1}{2}\right)$, becomes larger as salience increases, reinforcing our argument about the role of salience in shaping the interaction between institutions and policy outcomes.*

To conclude, there are three main testable predictions emerging from the theoretical model. First, municipalities employing a dual ballot electoral system are less likely to witness the emergence of standalone, anti-immigrant candidates than municipalities employing plurality rule. Second, as a consequence of this, municipalities employing a dual ballot electoral system should be more open to immigration. Third, the difference between the two electoral systems should be more pronounced in municipalities with intermediate anti-immigration sentiment. The next section tests these predictions using data about Italian municipalities.

5 Background

In Italy, there are just under 8,000 municipalities, grouped into 20 regions, 5 of which enjoy special autonomy guaranteed by the Constitution (Sardegna, Sicilia, Trentino-Alto Adige, Valle d'Aosta, and Friuli-Venezia Giulia). Municipalities are responsible for a wide range of essential services, including waste collection, water supply, local infrastructure, public transport, housing, and municipal policing. They also manage various social welfare programs, such as refugee centers and public housing for disadvantaged households, a substantial share of which is allocated to immigrants. To fulfill these responsibilities, municipalities directly procure the necessary goods and services through public procurement auctions (Pulejo, 2025). These activities are financed through a combination of local taxes and transfers from higher levels of government.

Mayors are the most influential figures within municipal governments, especially since Law 81/1993 introduced their direct election. One example of their power is that they can

freely appoint the members of the municipal executive (the *giunta comunale*). Moreover, if the municipal council votes to dismiss the mayor, it automatically triggers new elections. Municipal elections are held every five years, and the mayor’s term of office also lasts five years. The rules on mayoral term limits have changed several times over the period we study, depending on municipality size. From 1993 to 2014, mayors in all municipalities faced a two-term limit (Law 81/1993; TUEL D.Lgs. 267/2000).¹⁰ The 1993 reform established a new framework, distinguishing municipalities below and above the 15,000-inhabitant threshold. In municipalities with fewer than 15,000 inhabitants, both the mayor and the municipal council are elected under a single-round plurality system. Each mayoral candidate is supported by only one list for the council,¹¹ and voters may cast a single vote that simultaneously counts for the mayoral candidate and the associated list. The candidate with the largest share of votes is elected mayor, while two-thirds of the council seats are automatically assigned to the list linked to the winning candidate. The remaining one-third of seats are distributed proportionally among the other lists.

In municipalities with more than 15,000 inhabitants, mayors are elected under a dual-ballot system. In this system, each mayoral candidate may be supported by multiple lists for the municipal council. In the first round, voters cast two votes: one for a mayoral candidate and one for a council list, which may belong to a different coalition. A candidate who obtains more than 50% of the votes in the first round is directly elected mayor. If no candidate reaches this threshold, the two most-voted candidates advance to a second round, where they may also receive support from the lists that had been associated with candidates eliminated in the first round. In the runoff, voters choose only among the two remaining mayoral candidates, and the one with the majority of votes is elected. The winning candidate’s coalition is then assigned 60% of the seats in the municipal council, while the remaining seats are distributed proportionally among the other lists.

As detailed below, our identification strategy exploits the sharp change in electoral rules at

¹⁰The 2014 Delrio Reform (Law 56/2014) allowed a third consecutive term only in municipalities with populations below 3,000. In 2022, Law 35/2022 extended this possibility to municipalities up to 5,000 inhabitants. Finally, the 2024 reform, confirmed by the Constitutional Court (Decision 196/2024), abolished term limits altogether for municipalities up to 5,000 inhabitants, introduced a three-term limit for those between 5,001 and 15,000, and maintained a two-term limit for municipalities above 15,000. Law 81/1993 introduced the current electoral rules for Italian municipalities. Before its enactment, municipalities with fewer than 5,000 inhabitants used a plurality system with panachage, while those above 5,000 inhabitants adopted a party-list proportional system (Gulino, 2021). All these subsequent changes are irrelevant for our study.

¹¹While each mayoral candidate is formally backed by a single list, this list may be composed either of a single party or of a coalition of parties. As explained in Section 7, our dataset allows us to distinguish between these two cases.

the 15,000-inhabitant threshold to implement a regression discontinuity design. However, as described by Gamalerio and Trombetta (2025), from 2013 onwards an additional discontinuity was introduced by the so-called “Legge Severino” (Law Decree 39/2013). This law established cooling-off periods and incompatibility rules that apply only to mayors from municipalities above 15,000 inhabitants, restricting their immediate eligibility for executive or managerial appointments in regional, provincial, municipal, and health-care administrations, as well as in publicly controlled firms. Gamalerio and Trombetta (2025) show that the Severino Law affected not only the selection of local politicians but also their behavior in office, leading to greater pandering. Therefore, the law could potentially influence the outcomes we study in this paper. Given that both the electoral reform and the Severino Law generate a discontinuity at the same population threshold, our empirical analysis is conducted in two steps. We first estimate the effects over the entire 1993–2019 period, during which both institutional rules are in place. We then restrict the sample to the pre-2013 period (1993–2012), to ensure that the effects we identify are driven exclusively by the electoral system.

6 Empirical strategy

We employ a sharp regression discontinuity design (RDD) to test the main predictions of our theoretical model and to estimate the impact of different electoral systems on two key outcomes. First, we examine how the dual-ballot system, relative to the plurality system, affects the entry of different types of mayoral candidates. In particular, we focus on the probability of entry of (i) standalone anti-immigrant candidates supported exclusively by explicitly anti-immigrant parties (e.g., Lega) and (ii) center-right coalition candidates supported both by anti-immigrant parties (e.g., Lega) and by more moderate center-right parties (e.g., Forza Italia). Second, we analyze whether the dual-ballot system leads municipalities to adopt more open immigration policies. Following Pulejo (2025), we measure these policies using municipal spending on goods and services targeted at immigrants and refugees. We exploit the institutional reform introduced by the Italian government in 1993 (Law 81/1993) and estimate the following specification:

$$Y_{it} = \rho_0 + \rho_1 POP_{it}^* + \beta_0 DB_{it} + \beta_1 DB_{it} * POP_{it}^* + \varepsilon_{it} \quad (1)$$

where the treatment variable DB_{it} equals 1 for municipalities with more than 15,000 inhabitants (dual-ballot municipalities) and 0 for those below this threshold (plurality municipali-

ties). The running variable POP_{it}^* is defined as the municipality’s population relative to the 15,000-inhabitant threshold, based on the most recent available census (1991, 2001, or 2011). Treatment assignment changes discontinuously at $POP_{it}^* = 0$, where the electoral system shifts from plurality to dual-ballot.

Following Gelman and Imbens (2019), we estimate the coefficient of interest, β_0 , using local linear regression (LLR). Specifically, we estimate equation 1 on the subsample within the MSE-optimal bandwidth, $POP_{it}^* \in [-h, +h]$, centered at the 15,000-inhabitant threshold. The bandwidth h is selected using the procedure proposed by Calonico et al. (2014) and further refined by Calonico et al. (2018). Estimation is carried out with a triangular kernel, and standard errors are clustered at the municipality level.

The empirical strategy in this paper relies on two key identification assumptions. First, pre-treatment municipal characteristics must evolve smoothly around the 15,000-inhabitant threshold. Table A3 shows that observable characteristics from the 1991, 2001, and 2011 Censuses do not exhibit discontinuous changes at the cutoff. Second, municipalities must not strategically sort around the threshold; that is, they should not manipulate their reported population figures to fall on their preferred side of the cutoff. We test this using the manipulation test proposed by Cattaneo et al. (2018). As shown in Figure A3, the density of the running variable is smooth at the threshold, providing no evidence of manipulation.

7 Data

We draw the data for the empirical analysis from multiple sources. First, to measure the entry of mayoral candidates supported by different parties and coalitions, we collect information on municipal elections from the official archive of the Italian Ministry of Interior (Eligendo, Archivio Storico delle Elezioni). This source allows us to construct the dependent variables at the mayoral candidate–election level. To capture the role of anti-immigrant parties, we define two binary indicators. The first, *Anti-Immigrant Candidate*, equals 1 if a mayoral candidate is supported exclusively by explicitly anti-immigrant parties (e.g., Lega) and 0 otherwise. This variable identifies standalone anti-immigrant candidates, that is, those not allied with more moderate center-right parties. The second variable, *Center-Right Coalition Candidate*, equals 1 if a candidate is supported jointly by explicitly anti-immigrant parties and by more moderate center-right parties, 0 otherwise. Consistent with the predictions of our model, we expect the probability of observing an *Anti-Immigrant Candidate* to decline when moving from plurality to dual-ballot elections, while the probability of a *Center-Right*

Coalition Candidate should increase.

We construct these variables for electoral years from 1993 to 2019, focusing on municipalities in the 15 Ordinary Statute Regions (*Regioni a Statuto Ordinario*) and excluding the five regions granted special autonomy by the Constitution – for they have different municipal electoral laws.

For the 1993-2019 period, we collected information on 40,382 municipal elections in these regions. In 15.71% of these elections, at least one mayoral candidate was supported exclusively by explicitly anti-immigrant parties (e.g., Lega). In a further 21.36%, candidates were backed by coalitions that included both anti-immigrant parties and more moderate center-right parties. In classifying these cases, we identify the main anti-immigrant parties active during the period (see Appendix Tables A1 and A2 for the full list of party names and identification keywords used to classify anti-immigrant candidates), with Lega and Fratelli d'Italia emerging as the two dominant actors, both consistently maintaining strong anti-immigration positions over the period studied.

The political context in Italian municipalities is characterized by the widespread presence of Civic Lists, locally based political organizations that operate independently of national parties (Gamalerio, 2020). To account for this feature of the electoral landscape, we use data from the Italian Ministry of Interior (Eligendo, Archivio Storico delle Elezioni) to construct a dummy variable (*Civic Lists*) equal to 1 for mayoral candidates supported exclusively by Civic Lists. This indicator allows us to assess whether the presence of these local movements is also affected by the electoral system and to examine how their inclusion may influence our main results.

To measure migration policies, we use data provided by Pulejo (2025), who constructed a novel dataset from official procurement records collected by the Italian National Anti-Corruption Authority (ANAC). The dataset covers municipal procurement contracts between 2007 and 2022, amounting to more than six million observations. To identify contracts financing goods and services targeted at immigrants and refugees, contract titles were systematically screened against a dictionary of immigration-related terms (see Pulejo (2025) for the full list of keywords used). Using this approach, 27,969 contracts were identified across 3,025 municipalities, with a total value of approximately 2.75 billion euros. We use these data to construct our measure of municipal spending on migration-related goods and services, which serves as the outcome variable for immigration policies in our empirical analysis.

Our dataset also includes information on municipal socio-economic characteristics. These data are drawn from the Italian National Institute of Statistics (Istat), specifically from the

1991, 2001, and 2011 Censuses. We collect information on the following variables, which are used in the balance tests: geographic characteristics (area, latitude, longitude, and a dummy for the macro-geographical area of Italy in which the municipality is located), demographic composition (share of the population aged 0–14 and 65 and older), educational attainment (share of residents with a university degree), labor market conditions (share of unemployed individuals), and the share of foreign-born residents. These variables are merged with the municipal election dataset by assigning the values from the most recent Census to each municipality–election-year observation. We then use them to document that pre-treatment municipal characteristics evolve smoothly around the 15,000-inhabitant threshold, as reported in Table A3.

Finally, in addition to focusing only on municipalities within the 15 Ordinary Statute Regions, we further restrict the sample to observations with non-missing values for the dependent variables. The resulting dataset covers 6,726 municipalities and 40,382 municipal elections. Descriptive statistics are reported in Table A4.

8 Empirical Results

8.1 Effect on mayoral candidates’ list choice

In this section, we test the first main prediction of the theoretical model: municipalities using a dual-ballot electoral system should be less likely to field standalone anti-immigrant mayoral candidates supported solely by anti-immigrant parties or lists than municipalities under plurality rule. Conversely, dual-ballot municipalities should be more likely to see the emergence of mayoral candidates supported by coalitions between anti-immigrant parties and more moderate center-right parties. We examine this prediction by estimating equation (1) with a sharp regression discontinuity design (RDD) around the 15,000-inhabitant threshold. Our dependent variables are the dummies *Anti-Immigrant Candidate*, *Center-Right Coalition Candidate*, and *Civic Lists*, as defined in Section 7.

Table 1 reports the main results of our RDD analysis, which we present in two steps. Panel A shows the results for the full sample of electoral years from 1993 to 2019. Panel B repeats the analysis excluding elections held since 2013, in order to account for the introduction of the anti-revolving door policy under the “Legge Severino” (Law Decree 39/2013), which also generates a discontinuity at the 15,000-inhabitant threshold and may confound the effect of the electoral system (Gamalerio and Trombetta, 2025). In Panel A, columns 1–2, the estimated coefficients are statistically significant and consistent with the predictions of the

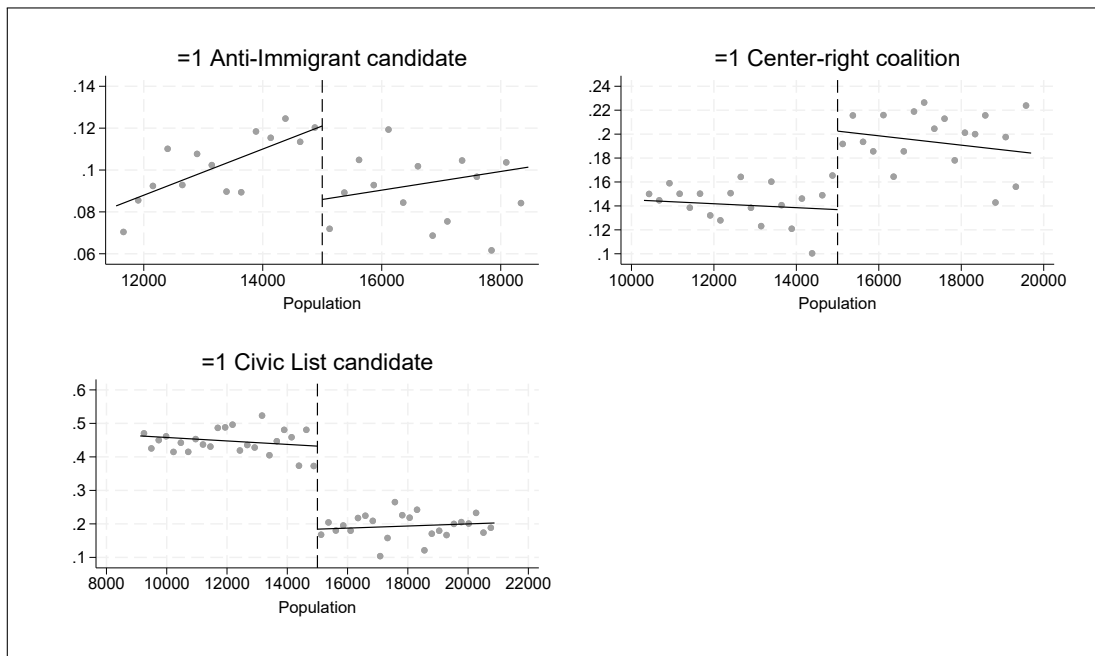
theoretical model: municipalities using a dual-ballot electoral system are less likely to field standalone anti-immigrant mayoral candidates and more likely to field candidates supported by coalitions between anti-immigrant parties and more moderate center-right parties.

Turning to Panel B of Table 1, which restricts the analysis to electoral years prior to 2013, Column (1) shows that the adoption of a dual-ballot electoral system is associated with a statistically significant decrease of 3.5 percentage points ($p < 0.05$) in the probability that a mayoral candidate is supported exclusively by an explicitly anti-immigrant party. In addition, Column (2) indicates that the probability of observing a center-right coalition candidate increases by 6.6 percentage points ($p < 0.01$) under the dual-ballot system. Taken together, the evidence in Panels A and B of Table 1 suggests that, rather than running independently, anti-immigrant parties are more likely to form coalitions with moderate center-right parties in municipalities that adopt the dual-ballot system. These findings are consistent with the first prediction of the theoretical model.

The graphical evidence in Figure 4 further illustrates these findings for the electoral years 1993–2012, when only the electoral system changed discontinuously at the 15,000-inhabitant threshold. The top two panels of the figure show a clear discontinuous drop in the probability of a mayoral candidate being a standalone anti-immigrant candidate at the threshold, alongside an increase in the probability of observing a center-right coalition candidate. This pattern provides additional support for the idea that anti-immigrant parties are less likely to run independently and more likely to join broader coalitions in dual-ballot municipalities. Similarly, the top two panels of Figure A4 present comparable evidence for the entire 1993–2019 period.

Finally, in Column (3) of Table 1 and in Figures 4–A4, we examine the impact of the dual-ballot electoral system on the probability that a mayoral candidate is supported by a Civic List, i.e., a local political organization formally independent of national parties. This effect is particularly relevant given the widespread presence of Civic Lists in Italian municipal elections: in our data, 83.27% of contests feature at least one mayoral candidate supported by such a list. As shown by Gamalerio (2020), Civic Lists have become a defining feature of Italian local politics since the 1990s. Their rise is often traced to the collapse of the national party system in the aftermath of the *Mani Pulite* (“Clean Hands”) corruption scandal of 1992–1994, which severely undermined trust in national parties and fostered the success of independent local movements (Daniele et al., 2020). Importantly, however, some Civic Lists may not be genuinely independent: politicians affiliated with national parties in some cases may campaign under the Civic List label for electoral advantage. This feature

Figure 4: Effect of Dual Ballot on entry of mayoral candidates
Electoral years 1993-2012



Notes. RDD estimates are obtained using a conventional RD design with the MSE-optimal bandwidth selector (Calonico et al., 2014). The horizontal axis reports the relevant population used to determine the electoral system. The vertical axis shows the probability that the candidate is an anti-immigrant candidate, is supported by the center-right coalition, or belongs to a civic list. Scatter points are averaged over bins of 250 inhabitants. The central line represents a linear regression of the outcome variable on population, fitted separately on each side of the threshold.

Table 1: Effect of Dual Ballot on entry of mayoral candidates

	(1)	(2)	(3)
Dep. Variable	=1 Anti-Immigrant Candidate	=1 Center-right Coalition	=1 Civic Lists
<i>Panel A: electoral years 1993-2019</i>			
Dual Ballot	-0.023* (0.013)	0.052*** (0.012)	-0.236*** (0.022)
Observations	8407	12663	11516
Optimal bandwidth	3272	4883	4488
Mean Dep. Var.	0.087	0.123	0.518
<i>Panel B: electoral years 1993-2012</i>			
Dual Ballot	-0.035** (0.015)	0.066*** (0.016)	-0.248*** (0.023)
Observations	6202	8642	11291
Optimal bandwidth	3464	4696	5878
Mean Dep. Var.	0.101	0.142	0.445

Notes. The estimated coefficients capture the effect of a dual-ballot electoral system relative to a plurality electoral system. Estimates are obtained using a conventional RD design with the MSE-optimal bandwidth selector (Calonico et al., 2014). Standard errors clustered at the municipal level are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Inference is based on robust bias-corrected confidence intervals estimated with the MSE-optimal bandwidth selector (Calonico et al., 2014). All regressions include election-year fixed effects. Mean of the dependent variable for observations to the left of the RDD cutoff and within the selected optimal bandwidth.

has implications for our analysis, as it may affect the estimated probabilities of observing candidates supported by explicitly anti-immigrant parties or by center-right coalitions.

Column (3) of Table 1, together with the bottom graphs of Figures 4–A4, shows that the dual-ballot electoral system is associated with a large and statistically significant reduction in the probability that a mayoral candidate is supported by a Civic List—approximately 23–24 percentage points, both in the full sample (Panel A) and in the subsample restricted to elections before 2013 (Panel B). The reduction in the number of civic-list-only candidates under dual-ballot systems may stem from aspects of pre-runoff negotiations that go beyond the scope of this paper.¹² The sharp decline in the share of Civic Lists above the 15,000-

¹²For instance, in a runoff between two candidates where the supporters of a third candidate are pivotal for the outcome, if one of the two finalists is backed by a national party while the other is supported only by a civic list, the latter has fewer resources or incentives to offer to third-party voters in order to secure their support.

inhabitant threshold could lead to an underestimation of our negative effect on standalone anti-immigrant candidates if Civic Lists above the threshold were systematically more moderate on immigration issues than those below. Conversely, if the distribution of moderate and extremist Civic Lists were balanced across the threshold, the reduction in Civic Lists would not bias our estimates of the presence of standalone anti-immigrant candidates. However, if Civic Lists exhibited the opposite pattern relative to our main results (i.e., more moderate on immigration policies below the threshold but more extremist above it), the robustness of our findings could reasonably be called into question. To address this concern, we conduct a text analysis of mayoral candidates’ electoral manifestos, as discussed in Section 8.4.

8.2 Effect on migration policies

This section empirically tests the second prediction of the theoretical model, namely that municipalities using a dual-ballot electoral system should adopt more open immigration policies. To test this prediction, we rely on the data provided by Pulejo (2025), which measure municipal welfare expenditures directly benefiting migrants, that is, expenditures by municipal governments to finance goods and services targeted at migrants. Using this dataset, which covers the years 2007 to 2022, we construct three dependent variables. The first dependent variable is a dummy equal to 1 if, at a given point in time, a municipality provides a good or service to migrants through a procurement contract. We measure this variable at the municipality–electoral term level, assigning a value of 1 to municipalities that provide such goods or services during a term and 0 otherwise. This indicator captures the extensive margin, i.e., the probability that a municipality provides any migration-related service. The second dependent variable reflects one dimension of the intensive margin, as it measures the average number of procurement contracts for migration-related goods and services awarded by a municipal government during an electoral term.

The third dependent variable also captures the intensive margin, as it measures the average municipal expenditures over an electoral term devoted to welfare goods and services targeted at the non-native population. This outcome is characterized by the presence of outliers with very large values relative to the average, as well as a mass of zeros for municipalities that do not spend on these goods and services. To address these features, and to account for the fact that an extensive margin is present, we follow the recent approach of Chen and Roth (2024) and transform the variable to deal with both outliers and zeros. Specifically, we first normalize the outcome so that 1 corresponds to the minimum non-zero expenditure in the data. We then estimate the treatment effect for the transformed outcome $m(Y)$, defined as

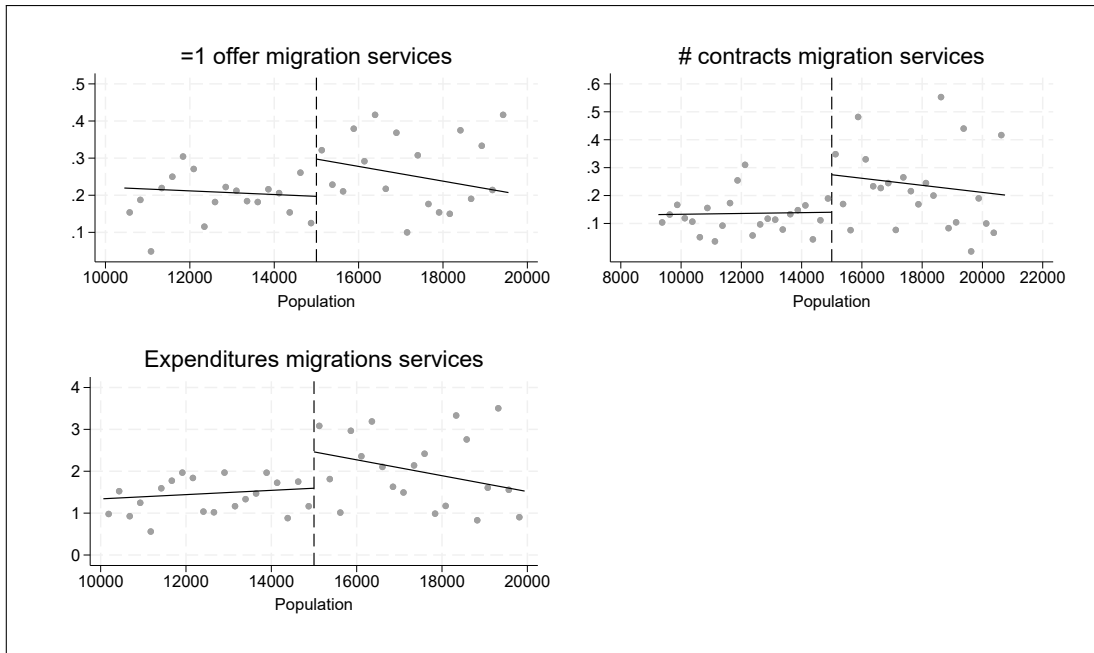
$m(y) = \log(y)$ for $y > 0$ and $m(y) = -x$ for alternative values of x . In the main specification, we set $x = 0$, which implies treating observations with zero migrant-related expenditures as equivalent to those with the minimum non-zero value, thereby shutting down the extensive margin between 0 and $y_{\min}$. We then repeat the analysis for different values of x , ranging from 0.1—treating a change from 0 to $y_{\min}$ as equivalent to a 10 log point change along the intensive margin—to 3, which treats the same change as equivalent to 300 log points. As explained by Chen and Roth (2024), this transformation is preferable to using $\log(1 + Y)$ or $\operatorname{arcsinh}(Y)$, as it is scale-invariant and allows us to trace how the estimated effect changes when placing different weights on the extensive versus the intensive margin. In terms of interpretation, the estimated coefficients can be read approximately as percentage (log point) effects.

We report the results of this analysis in Table 2 and graphically in Figures 5–A5. Panel A presents the estimates for the period 2007–2019, while Panel B restricts the analysis to 2007–2012, when only the electoral system changed discontinuously at the 15,000-inhabitant threshold. The evidence indicates that municipalities with a dual-ballot system, compared to those under plurality rule, are more likely to provide migration-related goods and services, award a larger number of procurement contracts, and spend more on these services.

Focusing on Panel B, the magnitudes of the estimated coefficients are sizable. First, municipalities with a dual-ballot system are about 10 percentage points more likely to provide migration-related goods and services, relative to a baseline probability of 19.8% (Column 1). Second, they award on average 0.134 additional contracts per electoral term, which corresponds to roughly a 104% increase relative to the baseline mean of 0.129 contracts (Column 2). Third, dual-ballot municipalities spend significantly more on migration-related goods and services (Column 3). As described above, in our main specification, we set $x = 0$, which treats municipalities with zero expenditures as equivalent to those with the minimum non-zero value. The estimated coefficient of 0.868 corresponds to an increase of about 86 log points, which translates into an increase of approximately 138% in migrant-related expenditures, calculated as $\exp(0.868) - 1 \approx 1.38$.¹³ Together, these results provide consistent evidence that the dual-ballot electoral system induces municipalities to adopt more open immigration policies, both at the extensive and intensive margins.

¹³Table A5 shows how the magnitude of the effect changes when applying different values of x , thereby placing increasing weight on the extensive margin. As shown in the table, the estimated coefficient remains relatively stable for low values of x , but grows substantially when x is set to a value equivalent to 300 log points.

Figure 5: Effect of Dual Ballot on immigration policies
Years 2007-2012



Notes. RDD estimates are obtained using a conventional RD design with the MSE-optimal bandwidth selector (Calonico et al., 2014). The horizontal axis reports the relevant population used to determine the electoral system. The vertical axis shows migration policies. Scatter points are averaged over bins of 250 inhabitants. The central line represents a linear regression of the outcome variable on population, fitted separately on each side of the threshold.

Table 2: Effect of Dual Ballot on immigration policies

	(1)	(2)	(3)
Dep. Variable	=1 Offer Migration Services	Number of Contracts	Expenditures Migration Services
<i>Panel A: years 2007-2019</i>			
Dual Ballot	0.099* (0.054)	0.089 (0.069)	0.760* (0.430)
Observations	1680	3208	2115
Optimal bandwidth	4235	6930	5062
Mean Dep. Var.	0.302	0.231	2.181
<i>Panel B: years 2007-2012</i>			
Dual Ballot	0.100* (0.058)	0.134** (0.066)	0.868* (0.485)
Observations	966	1328	1091
Optimal bandwidth	4552	5752	4936
Mean Dep. Var.	0.198	0.129	1.396

Notes. The estimated coefficients capture the effect of a dual-ballot electoral system relative to a plurality electoral system. Estimates are obtained using a conventional RD design with the MSE-optimal bandwidth selector (Calonico et al., 2014). Standard errors clustered at the municipal level are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Inference is based on robust bias-corrected confidence intervals estimated with the MSE-optimal bandwidth selector (Calonico et al., 2014). All regressions include election-year fixed effects. Mean of the dependent variable for observations to the left of the RDD cutoff and within the selected optimal bandwidth.

8.3 Heterogeneity analysis

This section tests the theoretical prediction that the impact of the dual-ballot system should be strongest in municipalities with intermediate levels of anti-immigration sentiment. To measure this sentiment, following Gamalerio and Negri (2023), we collect municipal-level data from the 1994, 1999, 2004, and 2009 European election results. For each municipality, we compute the average vote share obtained by anti-immigrant and far-right parties across these elections, which we use as a proxy for V_s in the theoretical model. The resulting variable, *Extreme-right voting*, has a mean of 0.173, a minimum of 0.026, a median of 0.154, and a maximum of 0.508.¹⁴

¹⁴We use the positions in the political spectrum reported by Wikipedia: left, center-left, center, center-right, right, and extreme-right. The variable *Extreme-right voting* is constructed by summing the vote shares of parties classified as “right” (Alleanza Nazionale, Fratelli d’Italia, La Destra, and Lega Nord) and

The theoretical model predicts that there should be no systematic differences between dual-ballot and plurality systems for very low values of V_s and for very high values of V_s , and that differences should arise only for intermediate values of V_s .¹⁵ To test this prediction, we use the variable *Extreme-right voting*, which we interpret as a proxy for V_s .¹⁶ There are two important caveats in mapping the model to the data. First, 0.30 is a rough estimate from the model with three candidates. Since elections may involve more candidates, the lower threshold could be lower when using *Extreme-right voting* as a proxy. Second, we have only eight observations above the 0.5 threshold, making it impossible to study this range empirically. We therefore discard these cases from the analysis. Given these considerations, we divide the sample into three groups of equal size (tertiles), excluding municipalities above 0.50. The first group ranges from 0.026 to 0.123, the second from 0.123 to 0.198, and the third from 0.198 to 0.494. We do not expect any effect in the first group, while in the second group small effects could begin to emerge. In contrast, we expect the effect to materialize clearly in the third group, where values of *Extreme-right voting* are closer to the intermediate range highlighted by the theoretical model. If this pattern emerges, it would provide evidence consistent with the model’s predictions.

We implement the heterogeneity analysis by estimating model (1) separately for the three groups defined by the tertiles of *Extreme-right voting*, using the same optimal bandwidths as in the main results (Tables 1 and 2). We conduct this analysis for two dependent variables: (i) the presence of standalone anti-immigrant candidates, and (ii) the extensive margin of migration policies, measured by a dummy equal to 1 if a municipality offers migration-related goods and services.

Table 3 reports the results of the heterogeneity analysis. The table is divided into three columns corresponding to the groups into which we split the sample according to *Extreme-right voting*: municipalities below the first tertile (Column 1), between the first and second tertile (Column 2), and above the second tertile (Column 3). Starting with the entry of anti-immigrant candidates, we do not find significant effects in Columns 1 and 2, although the coefficient is exactly zero in Column 1 and becomes negative, though still insignificant, in Column 2. In contrast, in Column 3 the estimated coefficient is large and statistically

“extreme-right” (Alternativa Sociale, Fiamma Tricolore, Forza Nuova, and Movimento Idea Sociale).

¹⁵Specifically, the model predicts that the differences between dual-ballot and plurality systems should arise primarily at intermediate values of V_s , roughly between 0.30 and 0.50. No systematic differences are expected below 0.30 or above 0.50.

¹⁶We do not claim to measure V_s exactly at the municipal level, since no survey data are available at that level. Instead, we rely on European election results, where voting is expected to be relatively sincere under the proportional system. However, turnout is not 100%, so the measure can only be considered an approximation.

significant: the dual-ballot system reduces the probability of an anti-immigrant candidate by about 6.7 percentage points, relative to a mean of 17.5%.

Turning to the extensive margin of migration policies, we again find no significant effects in Columns 1 and 2. In Column 3, however, the estimated coefficient is positive and sizable: municipalities governed under a dual-ballot system are 28 percentage points more likely to provide migration-related goods and services, relative to a baseline probability of 17.4%. Overall, the evidence is consistent with the predictions of the theoretical model: the differential impact of the dual-ballot system is concentrated in municipalities with intermediate levels of anti-immigration sentiment. While *Extreme-right voting* is only a proxy for V_s and the results should therefore be interpreted with caution, we view these findings as reassuring, as they align closely with the model's prediction that intermediate values of anti-immigration sentiment drive the effects.

Table 3: Heterogeneity analysis

	(1)	(2)	(3)
Sample	$V_s < 1st\ tertile$	$1st\ tertile < V_s < 2nd\ tertile$	$2nd\ tertile < V_s$
<i>Dep. Variable: = 1 Anti-Immigrant candidate</i>			
Dual Ballot	0.000 (0.026)	-0.038 (0.027)	-0.067*** (0.019)
Observations	2424	2351	1422
Optimal bandwidth	3464	3464	3464
Mean Dep. Var.	0.051	0.103	0.175
<i>Dep. Variable: = 1 Offer migration services</i>			
Dual Ballot	0.044 (0.071)	0.076 (0.106)	0.281* (0.162)
Observations	417	345	202
Optimal bandwidth	4552	4552	4552
Mean Dep. Var.	0.193	0.217	0.174

Notes. The estimated coefficients capture the effect of a dual-ballot electoral system relative to a plurality electoral system. Estimates are obtained using a conventional RD design with the MSE-optimal bandwidth selector (Calonico et al., 2014). Standard errors clustered at the municipal level are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Inference is based on robust bias-corrected confidence intervals estimated with the MSE-optimal bandwidth selector (Calonico et al., 2014). All regressions include election-year fixed effects. Mean of the dependent variable for observations to the left of the RDD cutoff and within the selected optimal bandwidth.

8.4 Additional robustness checks

In this section, we implement a series of tests to assess the robustness of the RDD analysis. First, in Figures A6 and A7, we examine how the estimated coefficients vary as the bandwidth is reduced or increased. This exercise allows us to assess the sensitivity of the results to different bandwidth choices. The figures show that the estimated coefficients remain quite stable across a wide range of bandwidths. Moreover, consistent with the typical behavior in an RDD framework, moving toward smaller bandwidths produces coefficients that are larger in absolute value (reflecting lower bias) but also associated with wider confidence intervals (reflecting greater inefficiency).

Second, Bordignon et al. (2016) document that fiscal policy volatility is lower in dual-ballot municipalities than in plurality ones. In particular, they show that both the time and cross-sectional variances of the municipal business property tax are significantly lower under dual-ballot systems, which they interpret as the result of reduced bargaining power of political extremes vis-à-vis moderate parties in dual-ballot municipalities compared to plurality ones. To rule out the possibility that our findings are driven by this alternative mechanism, we estimate Model 1 using as dependent variables the time and cross-sectional variance of the probability of offering migration services. If the mechanism highlighted by Bordignon et al. (2016) were at work in our context, we should observe lower volatility of these variables in dual-ballot municipalities. The results in Table A6 provide no evidence of this: the estimated coefficients are positive, small in magnitude and statistically insignificant. This suggests that our main findings are unlikely to be explained by this alternative mechanism.

Third, Table A7 reports a robustness check testing whether Civic Lists below and above the 15,000-inhabitant threshold differ in their ideological stance, particularly with respect to immigration policies. This concern arises because our main results (see Column 3 of Table 1) show that the introduction of the dual-ballot electoral system is associated with a sharp decline in the probability that a mayoral candidate is supported by a Civic List. If Civic Lists above the threshold were systematically more moderate on immigration issues than those below, our estimated negative effect on standalone anti-immigrant candidates could be underestimated. By contrast, if the distribution of moderate and extremist Civic Lists is balanced across the threshold, the reduction in Civic Lists would not bias our estimates of the presence of standalone anti-immigrant candidates. Conversely, if Civic Lists displayed the opposite pattern relative to our main results (i.e., more moderate below the threshold but more extremist above it), the robustness of our findings could reasonably be called into question.

To test this, we collected electoral manifestos of mayoral candidates, primarily from Paci (2023) and, when missing, by replicating the search procedure employed there. In total, we assembled 1,609 manifestos of Civic List candidates across 931 municipalities between 2004 and 2023. To measure their positions on immigration policies, we applied the Wordscore approach to local manifestos following Gross and Jankowski (2020). As reference texts, we used national party manifestos from the Manifesto Project, assigning them positions based on the closest Chapel Hill Expert Survey (CHES) wave for immigration policies, which range from 0 (liberal policies) to 10 (restrictive policies). The resulting Wordscore estimates for municipal manifestos were adjusted using the Martin and Vanberg (2008) transformation to align their distribution more closely with the reference data. In addition to this continuous measure, we constructed a binary indicator equal to one for manifestos with values below the median (i.e., more liberal positions on immigration) and zero otherwise (i.e., more restrictive positions). Finally, we merged these manifesto data with our dataset of mayoral candidates using candidate names, municipalities, and election years to identify Civic List candidates.

Using these Wordscore-based estimates, we estimate the RDD model in equation 1 to test whether the positions of Civic List manifestos differ below and above the threshold. The results in Table A7 show no significant differences. For the continuous immigration-policy measure (Column 1), the estimated coefficient is small and statistically insignificant, with Civic Lists on both sides of the threshold displaying relatively restrictive positions. Column 2 provides similar evidence: the share of moderate versus extremist positions on immigration policies in Civic List manifestos is essentially the same across municipalities with plurality and dual-ballot electoral systems. Overall, this evidence reassures us that the reduction in Civic Lists above the threshold does not mask an offsetting effect relative to our main findings on the presence of standalone anti-immigrant candidates.

9 Extension to other electoral systems

The main intuition for our theoretical and empirical results relates to the observation that having the support of a relatively small share of the population could be *sufficient* to get elected for an anti-immigration standalone party or candidate in a plurality system. On the other hand, in a dual ballot system in order to be elected it is *necessary* to obtain absolute majority. We can show that an electoral system at the national level such as pure proportional representation (PR) may behave in a manner comparable with dual ballot.

We first offer a simple formal argument to support this expectation in light of the logic

of our model. This also allows us to extend our results to the election of a parliament, rather than a single decision maker. Then, in the final subsection, we show how cross-country correlations confirm the plausibility of the relevance of the contrast between sufficient plurality and necessary majority.

9.1 A stylized adaptation of the model to PR

Consider a polity whose population is identical to the main model in terms of size, preferences and salience parameters and assume there are three parties, L , R and S . Suppose first that the polity elects its parliament using a pure PR system. There is a unique polity-wide electoral district, and parties' seat share is identical to their vote share in the entire population. The government of the polity needs the support of the majority of the parliament, and if no party obtains the absolute majority of the votes, coalitions are formed ex post. For simplicity, we assume that a party will form a coalition with party p instead of party p' if and only if the majority of the party's supporters rank p above p' .

Intuitively, if all three parties run and none of them obtains the absolute majority, the two possible coalitions that could form given our assumptions are either (R, S) or (L, R) . A coalition between S and L would be unlikely, as the two parties have opposite preferences on both policy dimensions. Both parties would prefer a coalition with R , with which at least they agree on one policy dimension. Hence, R is pivotal at the coalition formation stage. When immigration is sufficiently salient (i.e. when $\alpha^r > 1/2$ as in Assumption 1), the majority of R 's supporters will prefer a coalition between L and R to the one between R and S . Hence, when Assumption 1 holds, S can only form a government under PR if it gets the absolute majority of the votes, that is when $V_S \geq 1/2$.

Consider plurality rule now. Suppose the polity is divided into three equally-sized districts, electing one member of parliament each. A party needs to win at least two districts to form a government. For simplicity, assume the polity's population is evenly distributed across the three districts.¹⁷ Then, S can form a government under plurality rule if it has more support than the other two parties at the national (and therefore district) level, i.e. $V_S > \max\{V_L, V_R\}$. It is immediate to see that S winning under PR is a sufficient (but not necessary) condition for S to win under plurality.

¹⁷Our results would hold in more general cases, as long as anti-immigrant sentiment is sufficiently widespread across the three districts.

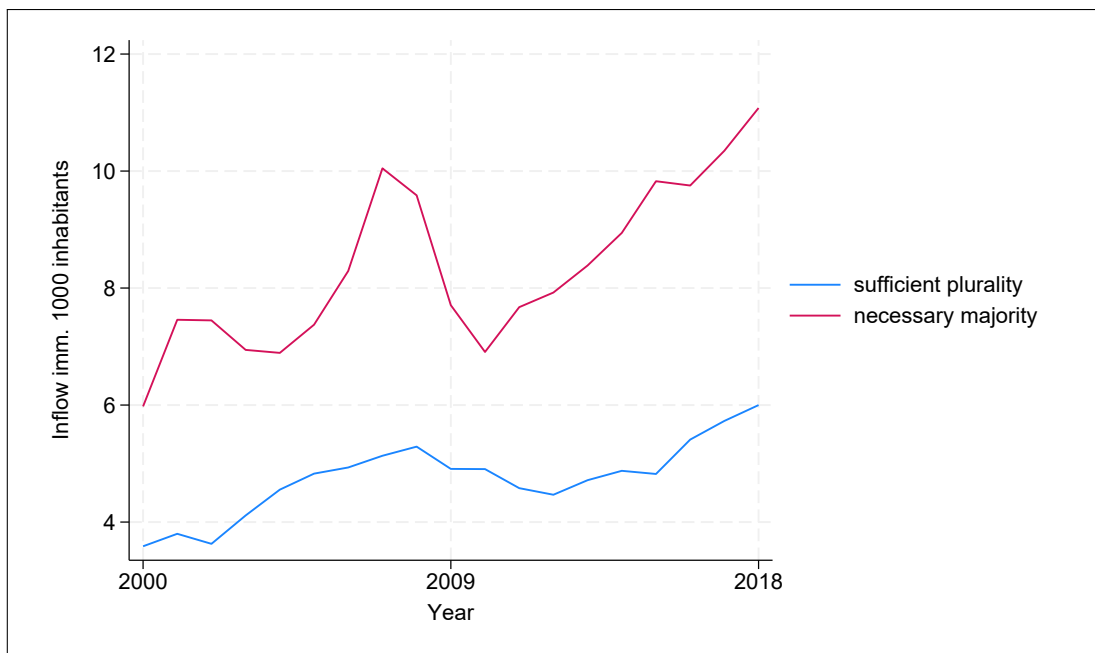
9.2 Some supporting correlations

We provide cross-country evidence that aligns with both the theoretical model and the causal evidence found for Italian municipalities. This cross-country analysis examines the correlation between a proxy for immigration policies and the electoral system, distinguishing between countries with NM and SP electoral systems. To construct this evidence, we use data from the OECD, Eurostat, the Quality of Government Institute, and the World Bank Database of Political Institutions. Table A8 describes the political and electoral systems of 37 OECD countries, indicating their classification as either SP or NM. More specifically, we classify NM and SP electoral systems based on the criteria outlined above, where a plurality of votes is sufficient to control the decision-making process in SP systems, while a majority of votes is required in NM systems. We define the electoral system based on the election of the government or president, rather than the election of Parliament, focusing on the majority requirements needed to control decision-making. For example, Italy and Greece are classified sometimes as SP and sometimes as NM, because they have proportional systems with a majority premium for the first party or coalition in certain years. In presidential or semi-presidential systems, we classify countries based on the electoral system used to elect the president.

The cross-country correlations are in line with our predictions: countries with NM electoral systems appear to exhibit greater openness towards migrants than those with SP electoral systems. Figure 6 illustrates this relationship by displaying the total inflow of immigrants per 1,000 inhabitants for the years 2000-2018, comparing countries with NM and SP electoral systems. The graph suggests that countries with NM electoral systems tend to have higher immigration inflows over time, highlighting a potential link between electoral institutions and migration policy openness. The difference is particularly strong for recent years, during which the salience of the migration issue has increased. Table A9 presents the estimated correlation between the total inflow of immigrants per 1,000 inhabitants and a dummy variable indicating whether the electoral system is NM rather than SP. The correlation remains statistically significant even after controlling for other country characteristics, including GDP per capita.

Finally, to explore whether the cross-country correlation between electoral systems and immigration inflows varies with the political salience of migration, we restrict the sample to European OECD countries covered by the Eurobarometer and exploit the availability of a consistent measure of issue salience. Eurobarometer surveys ask respondents to identify the two most important issues facing their country; our measure of salience corresponds to the

Figure 6: Cross-countries evidence: sufficient plurality vs necessary majority



Notes. The data, sourced from the OECD, covers 37 countries from 2000 to 2018. The graph compares countries with (NM) electoral systems and those with (SP) electoral systems, examining the total inflow of immigrants per 1,000 inhabitants.

percentage of individuals in each country–year who mention immigration among these top two concerns (the original 0–1 indicator multiplied by 100). Table A10 reports the results of a specification that interacts the NM indicator with this measure of salience. Across all columns, the coefficient on the interaction term is positive and statistically significant, indicating that the correlation between NM systems and immigration inflows becomes more positive as migration becomes a more salient issue for the electorate. Figure 7 illustrates these results by plotting the marginal effect of having an NM system rather than an SP system across the empirical distribution of salience. Panel A corresponds to the specification without additional controls (column 1 of the table), while Panel B incorporates the full set of controls (column 4). In both cases, the marginal effect increases steadily with salience, confirming that the difference in immigration inflows between NM and SP systems is larger in periods and countries where migration is more politically salient.

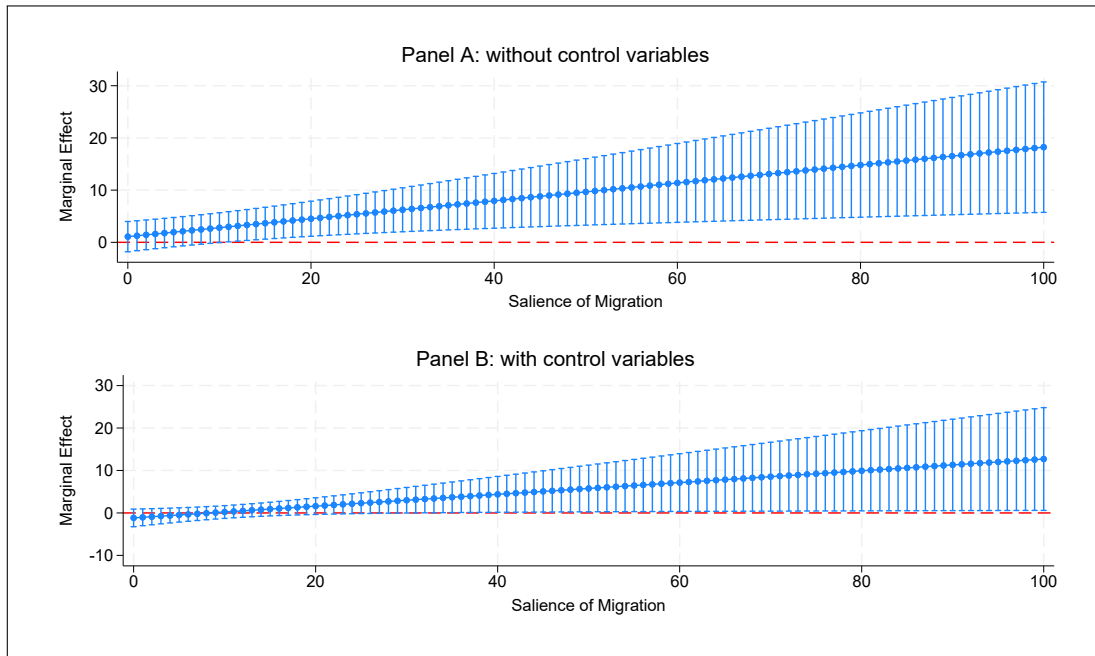
10 Concluding Remarks

Different institutions can affect policy outcomes on immigration by facilitating or discouraging the emergence of anti-immigration parties. This paper explains *how* and *how much* different electoral rules can affect policy decisions on immigration. The theory (explaining the *how*) as well as the empirical analysis (explaining the *how much*) are the novel contributions of the paper. The key insight is that different electoral rules give different power and incentives to anti-immigration parties.

The paper’s general theoretical result is that a polity is more open when the electoral system is such that the policy decision is more likely to be supported by an absolute majority of voters. Moreover, these types of system always choose the “optimal” policy, in the sense that they allow or limit immigration when the majority of the population is in favor or against it, respectively. On the contrary, systems where only a plurality of votes is needed to control power can “inefficiently” lead to a border closure when less than 50% of the population favors it.

We conjecture that SP and NM systems may have similar and equally relevant differential implications for other policy dimensions when salient. Considering for example that in the post-2008 years in OECD countries the populism wave is typically connected to complementary anti-globalization and anti-immigration sentiments (see e.g. Rodrik (2018)), it is conceivable that we may find results similar to ours when replacing anti-immigration preferences with anti-globalization preferences. Guiso and Herrera (2025) do find indeed that

Figure 7: Marginal Effect of NM electoral system on migration
The role of salience of migration



Notes. The sample includes European OECD countries over the period 2000–2018. The dependent variable is the total inflow of immigrants per 1,000 inhabitants. *Necessary Majority* is an indicator equal to 1 for countries using a NM electoral system and 0 for countries using a SP system. *Salience* is constructed from Eurobarometer responses to the question asking respondents to name the two most important issues facing their country; it captures, for each country–year, the percentage of respondents mentioning immigration among the top two issues (original 0–1 indicator multiplied by 100). Controls include GDP per capita, the share of employees in the labor force, the unemployment rate, the share of taxes in GDP, social expenditure as a share of GDP, total population, the share of individuals aged 65 and above, an indicator for left-wing governments, and region and year fixed effects. Blue markers show point estimates and vertical blue lines indicate 90% confidence intervals.

protectionism demand by voters and protectionism supply in party manifestos did increase sharply after the financial crisis in Europe, but the test of whether this increased protectionist tendency on the trade dimension had asymmetric development depending on the electoral system deserves careful consideration in future research. As a caveat, while anti-immigration parties exist almost everywhere, anti-globalization parties or candidates are scattered in Europe and variation at the municipal level could also be more difficult to identify, given that trade policies are definitely not competence of municipal governments. Thus, the generalization of our theoretical and empirical findings to salient domains other than immigration poses some challenges.

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Appendix

A Proofs of the results in Section 4

In the proofs, we will make use of the following conditions.

- $V_S > V_L$ if and only if

$$f^r > 1 - 2\alpha^l f^l \quad (2)$$

- $V_S > V_R$ if and only if

$$f^r > \frac{1}{2} - \frac{\alpha^l f^l}{2} \quad (3)$$

- $V_L > V_R$ if and only if

$$f^r > \alpha^l f^l \quad (4)$$

- $V_S > 1/2$ if and only if

$$f^r > 1 - \alpha^l f^l \quad (5)$$

- $\tilde{V}_S^L > 1/2$ if and only if

$$f^r \geq 1 - \frac{\alpha^l f^l}{\alpha^r} \quad (6)$$

- $\tilde{V}_S^R > 1/2$ if and only if

$$f^r \geq 1 - f^l \quad (7)$$

Proof of Lemma 1

Proof. S reaches and wins a runoff against L if and only if $V_S > V_R$, $V_L > V_R$ and $\tilde{V}_S^L \geq 1/2$, or equivalently if (3), (4) and (6) hold. Under plurality, S wins if $V_S > V_L$ and $V_S > V_R$, or equivalently if (2) and (3) hold. Under Assumption 1, (6) implies (2), so if S wins a runoff against L , it must win under plurality too.

To see that the contrary is not true, notice that $(f^l, f^r) = (\frac{1}{3\alpha^l}, \frac{1}{3} + \epsilon)$, with ϵ small enough, always satisfy (2), (3) and (4), but do not satisfy (6). $\square$

Proof of Proposition 1

Proof. When $f^l < f^r$, condition 4 is violated and $V_L > V_R$. Hence, any runoff under dual ballot must involve L , and one between R and S is impossible. By Lemma 1, when S wins a

runoff against L under dual ballot, it must win under plurality too (but the contrary is not true), which proves the result. $\square$

Proof of Proposition 2

Proof. The case of $V_S > 1/2$ is straightforward, as S wins for sure under both electoral systems. Now suppose $V_S < \frac{1}{2} - \frac{\alpha^l}{2(1+2\alpha^l)}$. This is equivalent to

$$f^r < \frac{1 + \alpha^l}{1 + 2\alpha^l} - \alpha^l f^l \quad (8)$$

Our claim is that when (8) holds, S always loses under plurality. By Proposition 1, it must lose under dual ballot too, which proves the result.

Since $V_L > V_R$, S loses under plurality as soon as $V_S < V_L$, or equivalently whenever (2) fails. Hence, to prove the result it is sufficient to show that there exists no value of (f^l, f^r) , with $f^l < f^r$, such that (8) and (2) hold at the same time.

Condition (2) implies $f^r > f^l$ for all values of $f^l < \frac{1}{1+2\alpha^l}$, so we start by showing that, in this range, (2) and (8) are incompatible. The two inequalities would be jointly satisfied only if we could find (f^l, f^r) such that

$$1 - 2\alpha^l f^l < f^r < \frac{1 + \alpha^l}{1 + 2\alpha^l} - \alpha^l f^l$$

However, the interval is well defined only if $f^l > \frac{1}{1+2\alpha^l}$, contradicting the restriction we have imposed on f^l . Whenever $f^l > \frac{1}{1+2\alpha^l}$, $f^l < f^r$ implies (2), and to prove the result we need to show that there exists no (f^l, f^r) such that

$$f^l < f^r < \frac{1 + \alpha^l}{1 + 2\alpha^l} - \alpha^l f^l$$

The interval is well defined only if $f^l < \frac{1}{1+2\alpha^l}$, which again contradicts the restriction we have made. $\square$

B Endogenous turnout

In this section, we aim to show that our theoretical predictions hold even if we abandon the assumption that everybody votes. We keep all the modeling choices of the main text, but we add the assumption that individuals have a cost of voting and decide to turn out if and only

if the “as if pivotal” benefit of voting (i.e., the difference in utility from having the voted policymaker rather than the one who would win without her vote) is higher than the cost of voting (see e.g. Alesina and Rosenthal (1996) for the use of the as if pivotal model of turnout).

Depending on the context, i.e. depending on who is running and in what electoral system, voters can be intuitively divided in sets of voters with “high benefit” of voting or “low benefit” of voting, for the following reason: if a voter faces a tradeoff when choosing between two parties, because one is the one preferred on one dimension and the other on the second dimension, then the benefit of voting is low – the two differentials in utility on the two dimensions offset each other; on the other hand, when the choice a voter faces contains a candidate that is preferred to the other on both dimensions, the benefit of voting when thinking in the as-if pivotal manner is high. Notice that, in this context, the interpretation of α s as “salience” parameters can also be rephrased in terms of a comparison between the net gain and the net loss on the two dimensions when facing a tradeoff. For example, we can think of α^l as the percentage of people with the public ideology whose utility differential between the closed and open immigration policy is larger in absolute terms than the utility differential between the public and private ideology.

To keep things simple, we assume that voters with a low benefit from voting (which we will call the *tradeoff facers*) vote with probability $\lambda \in [0, 1)$, while those with a high benefit of voting (the *non-tradeoff-facers*) vote with probability 1. This can be interpreted as a reduced form of a more general model where the individual cost of voting is drawn from a continuous distribution and is independent of political preferences and salience. Because of the different benefits of voting, the probability that the cost exceeds the benefits is higher for tradeoff facers than non-tradeoff facers, whose probability is normalized to one.

We can now show that results described in Section 4 hold also with this simple endogenous turnout extension. As in the main text, let V_p denote the share of votes obtained by candidate $p \in \{L, R, S\}$ in a three-party competition and let $\tilde{V}_p^{p'}$ denote the share of votes for candidate p in a two-party competition against candidate $p' \neq p$. These shares have to be recomputed in each context because of the endogenous turnout.

Lemma 2. *In the endogenous turnout extension it continues to be true that whenever S reaches and wins a runoff against L , S wins under plurality too. The contrary is not true.*

Proof. Under plurality and in the first round of dual ballot, the only tradeoff facers are the voters supporting the public and closed borders policy platform. If these voters vote with probability λ , then total turnout is $1 - (1 - \lambda)f^l/2$ (recall that half of the population supports

the public ideology and, within this group, f^l voters are in favor of a closed border policy). Parties' vote shares in this case are

$$V_L = \frac{1 - [1 - \lambda(1 - \alpha^l)]f^l}{2 - (1 - \lambda)f^l} \quad (9)$$

$$V_R = \frac{1 - f^r}{2 - (1 - \lambda)f^l} \quad (10)$$

$$V_S = \frac{f^r + \lambda\alpha^l f^l}{2 - (1 - \lambda)f^l} \quad (11)$$

For S to win under plurality, we must have $V_S > V_R$ and $V_S > V_L$. The second condition, in particular, holds if and only if

$$f^r > 1 - [(1 - \lambda) + 2\lambda\alpha^l]f^l \quad (12)$$

Now consider a dual ballot system. To reach a runoff between S and L , it must be that $V_S > V_R$. In such a runoff, the tradeoff facers are both the voters supporting the public and closed borders policy platform and those supporting the private and open borders one. Hence, turnout in this case is $1 - \frac{(1-\lambda)(f^l+1-f^r)}{2}$ and

$$\tilde{V}_S^L = \frac{f^r + \lambda[\alpha^l f^l + (1 - \alpha^r)(1 - f^r)]}{2 - (1 - \lambda)(f^l + 1 - f^r)}$$

S wins the runoff when $\tilde{V}_S^L > 1/2$, or equivalently when

$$f^r > 1 - \frac{[(1 - \lambda) + 2\lambda\alpha^l]f^l}{(1 - \lambda) + 2\lambda\alpha^r} \quad (13)$$

Notice that equation (13) implies equation (12), so whenever $\tilde{V}_S^L > 1/2$, it must also be that $V_S > V_L$. Combined with the fact that S reaches a runoff against L only if $V_S > V_R$, this shows that whenever S wins a runoff against L , it must also win under plurality. To see that the contrary is not true, take any (f^r, f^r) such that $V_S > V_R$ and such that

$$1 - [(1 - \lambda) + 2\lambda\alpha^l]f^l < f^r < 1 - \frac{[(1 - \lambda) + 2\lambda\alpha^l]f^l}{(1 - \lambda) + 2\lambda\alpha^r}$$

Under these values, S wins under plurality since $V_S > V_R$ and condition (12) is satisfied; but loses under dual ballot since condition (13) fails. $\square$

As in the main text, Lemma 2 implies that the only situations where S wins under dual ballot but not under plurality are those where S reaches a runoff against R . Under endogenous turnout, it is still true that such a runoff can never happen whenever $f^l < f^r$. Indeed, using the expressions for V_L and V_R in equations (9) and (10), we get that $V_L > V_R$ if and only if

$$[1 - \lambda(1 - \alpha^l)]f^l < f^r$$

which is implied by $f^l < f^r$. This means that any runoff must involve L , excluding the possibility of a runoff between S and R .

Proposition 3. *In the endogenous turnout extension, it continues to be true that there exists no (f^l, f^r) such that S wins under dual ballot but not under plurality. The contrary is not true.*

We now turn to the role played by the anti-immigrant support in the population for the difference between the two electoral systems. In the endogenous turnout setting, we need to distinguish between the share of individuals who rank party S first, which measures anti-immigrant support and we now denote by

$$\mathcal{V}_S = \frac{f^r + \alpha^l f^l}{2} \tag{14}$$

and the share of individuals who actually turn out to vote for S , V_S (as defined in (11)). In our main model with full turnout, the distinction did not matter and $\mathcal{V}_S = V_S$ always.

Proposition 4. *For all (f^l, f^r) such that $\mathcal{V}_S > 1/2$, S wins under both electoral systems. For all (f^l, f^r) such that $\mathcal{V}_S < \frac{1}{2} - \frac{1-\lambda+(2\lambda-1)\alpha^l}{2(2-\lambda+2\lambda\alpha^l)}$, S loses under both electoral systems.*

Proof. Suppose first that $\mathcal{V}_S > 1/2$. This happens whenever $f^r > 1 - \alpha^l f^l$. Since this inequality implies (13), $\mathcal{V}_S > 1/2$ must imply that S wins under runoff. By Proposition 3, then S must win under plurality too.

Now suppose $\mathcal{V}_S < \frac{1}{2} - \frac{1-\lambda+(2\lambda-1)\alpha^l}{2(2-\lambda+2\lambda\alpha^l)}$. This is equivalent to

$$f^r < \frac{1 + \alpha^l}{(2 - \lambda + 2\lambda\alpha^l)} - \alpha^l f^l \tag{15}$$

Our claim is that when (15) holds, S always loses under plurality. By Proposition 3, it must lose under dual ballot too. Since $V_L > V_R$, S loses under plurality as soon as $V_S < V_L$, or equivalently whenever (12) fails. Hence, to prove the result, it is sufficient to show that there exists no value of (f^l, f^r) , with $f^l < f^r$, such that (12) and (15) hold at the same time.

Condition (12) implies $f^r > f^l$ for all values of $f^l < \frac{1}{2-\lambda+2\lambda\alpha^l}$, so we start by showing that, in this range, (12) and (15) are incompatible. The two inequalities would be jointly satisfied only if we could find (f^l, f^r) such that

$$1 - [(1 - \lambda) + 2\lambda\alpha^l]f^l < f^r < \frac{1 + \alpha^l}{(2 - \lambda + 2\lambda\alpha^l)} - \alpha^l f^l$$

However, the interval is well defined only if $f^l > \frac{1}{2-\lambda+2\lambda\alpha^l}$, contradicting the restriction we have imposed on f^l . Whenever $f^l > \frac{1}{2-\lambda+2\lambda\alpha^l}$, instead $f^l < f^r$ implies (12), and to prove the result we need to show that there exists no (f^l, f^r) such that

$$f^l < f^r < \frac{1 + \alpha^l}{(2 - \lambda + 2\lambda\alpha^l)} - \alpha^l f^l$$

The interval is well defined only if $f^l < \frac{1}{2-\lambda+2\lambda\alpha^l}$, which again contradicts the restriction we have made. $\square$

C Strategic voting

We now consider the possibility of strategic behavior by voters. We assume that, among the voters who rank one of the two traditional parties first, a share $\sigma \in (0, 1)$ votes strategically, while the remaining $1 - \sigma$ votes sincerely. Strategic voters are perfectly able to coordinate on one of the two traditional parties. We assume that the voters who rank S first always vote sincerely.

When $\sigma \rightarrow 1$, party S 's behavior is identical under the two electoral systems. Indeed, when all supporters of traditional parties coordinate on the same party, the electoral race becomes a two-party competition and S wins if and only if it gets the absolute majority of the votes, independently of the electoral system (Bouton, 2013; Bouton and Gratton, 2015). However, our analysis below shows that, as long as there is a positive share of sincere voters, our main conclusions are unchanged. In what follows, we consider the case in which strategic voters believe that the most likely tie is between L and S and the one where they believe it is between R and S separately.

C.1 Most likely tie between L and S

Suppose that voters believe that the most likely tie is between S and L . Then, among the σ strategic voters ranking R first, α^r of them will vote for L and $(1 - \alpha^r)$ will vote for S . The remaining $(1 - \sigma)$ non-strategic voters will keep voting for R . Then, under plurality and in the first round of runoff, the vote shares of each party are

$$\begin{aligned} V_L &= \frac{1 - \alpha^l f^l + \sigma \alpha^r (1 - f^r)}{2} \\ V_R &= \frac{(1 - \sigma)(1 - f^r)}{2} \\ V_S &= \frac{f^r + \alpha^l f^l + \sigma(1 - \alpha^r)(1 - f^r)}{2} \end{aligned}$$

Vote shares in the second round of dual ballot do not change. In the proofs, we will make use of the following conditions:

- $V_S > V_L$ if and only if

$$f^r > 1 - \frac{2\alpha^l f^l}{1 + (2\alpha^r - 1)\sigma} \quad (16)$$

- $V_S > V_R$ if and only if

$$f^r > 1 - \frac{1 + \alpha^l f^l}{2(1 - \sigma) + \sigma \alpha^r} \quad (17)$$

- $V_L > V_R$ is always satisfied if $\sigma > 1/(1 + \alpha^r)$. When this is not true, then the condition holds if and only if

$$f^r > \frac{\alpha^l f^l}{1 - (1 + \alpha^r)\sigma} - \frac{(1 + \alpha^r)\sigma}{1 - (1 + \alpha^r)\sigma} \quad (18)$$

- $V_S > 1/2$ if and only if

$$f^r > 1 - \frac{\alpha^l}{1 - (1 - \alpha^r)\sigma} f^l \quad (19)$$

Lemma 3. *Suppose strategic voters believe that the most likely tie is between L and S and vote accordingly. It continues to be true that if S reaches and wins a runoff against L under dual ballot, then S wins under plurality too. The opposite is not true.*

Proof. The proof closely mirrors that of Lemma 1. S reaches and wins a runoff against L if and only if $V_S > V_R$, $V_L > V_R$ and $\tilde{V}_S^L \geq 1/2$, or equivalently if (17), (18) and (6) hold. The conditions for S to win under plurality are $V_S > V_L$ and $V_S > V_R$, or equivalently (16) and

(17). As in Lemma 1, (6) implies (16), since $2\alpha^l/(1 + (2\alpha^r - 1)\sigma) > \alpha^l/\alpha^r$ for any $\sigma \in (0, 1]$ and $\alpha^r > 1/2$. This shows that if S wins a runoff against L , it must win under plurality too.

We now show that the contrary does not hold. If $\sigma < 1/(1 + \alpha^r)$ the point

$$(f^l, f^r) = \left(\frac{(2\alpha^r - 1)\sigma + 1}{3\alpha^l(1 - \sigma)}, \frac{1 - 3\sigma}{3(1 - \sigma)} + \epsilon \right)$$

with ϵ small enough, satisfies (18), (16) and (17), but does not satisfy (6). Whenever $\sigma \geq 1/(1 + \alpha^r)$, $V_L > V_R$ is always satisfied, and

$$(f^l, f^r) = \left(1, 1 - \frac{2\alpha^l}{1 + (2\alpha^r - 1)\sigma} + \epsilon \right)$$

for ϵ small enough, satisfies (16) and (17) but not (6). □

As in the main model, then, situations where S wins under dual ballot but not under plurality can only happen when S reaches a runoff against R . However, once again, such a runoff can never occur, since $f^l < f^r$ always implies $V_L > V_R$ (see condition (18)). Hence, the following proposition holds.

Proposition 5. *Suppose that strategic voters believe that the most likely tie is between L and S and vote accordingly. It continues to be true that there exists no (f^l, f^r) such that S wins under dual ballot but not under plurality. The contrary is not true.*

Finally, we can look at how strategic voting modifies our results on the role played by the anti-immigrant support in the population (Proposition 2). As in the endogenous turnout extension (Appendix B), we measure it as the share of individuals who rank party S first, and we denote it by $\mathcal{V}_S$ (defined in (14)). The following proposition shows that, when voters coordinate on party L , our conclusions are qualitatively unaffected.

Proposition 6. *For all (f^l, f^r) such that $\mathcal{V}_S > 1/2$, S wins under both electoral systems. For all (f^l, f^r) such that $\mathcal{V}_S < \frac{1}{2} - \frac{[1 - (2\alpha^r - 1)\sigma]\alpha^l}{2[1 + (2\alpha^r - 1)\sigma + 2\alpha^l]}$, S loses under both electoral systems.*

Proof. Since $\mathcal{V}_S > 1/2$ implies $V_S > 1/2$, this case is straightforward, as S wins for sure under both electoral systems. Now suppose $\mathcal{V}_S < \frac{1}{2} - \frac{[1 - (2\alpha^r - 1)\sigma]\alpha^l}{2[1 + (2\alpha^r - 1)\sigma + 2\alpha^l]}$. This is equivalent to

$$f^r < 1 - \frac{[1 - (2\alpha^r - 1)\sigma]\alpha^l}{[1 + (2\alpha^r - 1)\sigma + 2\alpha^l]} - \alpha^l f^l \quad (20)$$

Our claim is that when (20) holds, S always loses under plurality. By Proposition 5, it must lose under dual ballot too, which proves the result.

Since $V_L > V_R$, S loses under plurality as soon as $V_S < V_L$, or equivalently whenever (16) fails. Hence, to prove the result it is sufficient to show that there exists no value of (f^l, f^r) , with $f^l < f^r$, such that (20) and (16) hold at the same time.

Condition (16) implies $f^r > f^l$ for all values of $f^l < \frac{1+(2\alpha^r-1)\sigma}{1+(2\alpha^r-1)\sigma+2\alpha^l}$, so we start by showing that, in this range, (16) and (20) are incompatible. The two inequalities would be jointly satisfied only if we could find (f^l, f^r) such that

$$1 - \frac{2\alpha^l f^l}{1 + (2\alpha^r - 1)\sigma} < f^r < 1 - \frac{[1 - (2\alpha^r - 1)\sigma]\alpha^l}{[1 + (2\alpha^r - 1)\sigma + 2\alpha^l]} - \alpha^l f^l$$

However, the interval is well defined only if $f^l > \frac{1+(2\alpha^r-1)\sigma}{1+(2\alpha^r-1)\sigma+2\alpha^l}$, contradicting the restriction we have imposed on f^l . Whenever $f^l > \frac{1+(2\alpha^r-1)\sigma}{1+(2\alpha^r-1)\sigma+2\alpha^l}$, $f^l < f^r$ implies (16), and to prove the result we need to show that there exists no (f^l, f^r) such that

$$f^l < f^r < 1 - \frac{[1 - (2\alpha^r - 1)\sigma]\alpha^l}{[1 + (2\alpha^r - 1)\sigma + 2\alpha^l]} - \alpha^l f^l$$

The interval is well defined only if $f^l < \frac{1+(2\alpha^r-1)\sigma}{1+(2\alpha^r-1)\sigma+2\alpha^l}$, which again contradicts the restriction we have made. $\square$

C.2 Most likely tie is between R and S

Now suppose that voters believe that the most likely tie is between S and L . Then, among the public, pro-immigration voters (who rank L first and R second), σ of them will vote for R while the remaining $(1 - \sigma)$ will keep voting for L . Among the public, anti-immigration voters who rank L first (and S second), instead, a fraction σ of will vote for S , while the remaining $(1 - \sigma)$ will keep voting for L . Then,

$$\begin{aligned} V_L &= \frac{(1 - \sigma)(1 - \alpha^l f^l)}{2} \\ V_R &= \frac{(1 - f^r) + \sigma(1 - f^l)}{2} \\ V_S &= \frac{f^r + \alpha^l f^l + \sigma(1 - \alpha^l) f^l}{2} \end{aligned}$$

The following Lemmas and Propositions show that strategic coordination on R does not change our results. In the proofs, we will make use of the following conditions:

- $V_S > V_L$ if and only if

$$f^r > (1 - \sigma) - (\sigma + 2(1 - \sigma)\alpha^l)f^l \quad (21)$$

- $V_S > V_R$ if and only if

$$f^r > \frac{1 + \sigma}{2} - \frac{2\sigma + (1 - \sigma)\alpha^l}{2}f^l \quad (22)$$

- $V_L > V_R$ if and only if

$$f^r > 2\sigma - [\sigma - (1 - \sigma)\alpha^l]f^l \quad (23)$$

- $V_S > 1/2$ if and only if

$$f^r > 1 - [\sigma + \alpha^l(1 - \sigma)]f^l \quad (24)$$

The following lemma is equivalent to Lemma 1 and shows that, even under strategic voting scenario where voters coordinate on party R , if S wins a runoff against L , it also wins under plurality.

Lemma 4. *Suppose strategic voters believe that the most likely tie is between R and S and vote accordingly. It continues to be true that if S reaches and wins a runoff against L under dual ballot, then S wins under plurality too. The opposite is not true.*

Proof. The proof closely mirrors the one for Lemmas 1 and 3. S reaches and wins a runoff against L if and only if $V_S > V_R$, $V_L > V_R$ and $\tilde{V}_S^L \geq 1/2$, or equivalently if (22), (23) and (6) hold. The conditions for S to win under plurality are $V_S > V_L$ and $V_S > V_R$, or equivalently (21) and (22). As in Lemmas 1 and 3, (6) implies (21) for any $\sigma \in (0, 1)$ and $\alpha^r > 1/2$ and $\alpha^l < \alpha^r$ (Assumption 1). This shows that if S wins a runoff against L , it must win under plurality too.

To see that a victory under plurality does not imply a victory under runoff against R , notice that $(f^l, f^r) = \left(\frac{(1-3\sigma)}{3\alpha^l(1-\sigma)}, 2\sigma - \frac{((\sigma-\alpha^l(1-\sigma))(1-3\sigma))}{3\alpha^l(1-\sigma)} + \epsilon \right)$, with ϵ small enough, always satisfy (21), (22) and (23), but do not satisfy (6). $\square$

Contrary to the results in our main model, when voters believe that the most likely tie is between R and S , a runoff between the two parties *can* occur. However, when $f^l < f^r$, if S wins such a runoff, it always wins under plurality too, as we prove in the following Lemma.

Lemma 5. *Suppose strategic voters believe that the most likely tie is between R and S and vote accordingly. If S reaches and wins a runoff against R under dual ballot, then S wins under plurality too.*

Proof. S reaches and wins a runoff against R if and only if $V_S > V_L$, $V_R > V_L$ and $\tilde{V}_S^R \geq 1/2$ and it wins under plurality if $V_S > V_L$ and $V_S > V_R$. To prove the result, we show that $f^l < f^r$ and $\tilde{V}_S^R \geq 1/2$ imply $V_S > V_R$, so that whenever S wins under dual ballot, $V_S > V_L$, $V_R > V_L$ must hold, and S must win under plurality too. Using (7), notice that $f^l < f^r$ and $\tilde{V}_S^R \geq 1/2$ are jointly satisfied whenever

$$f^r > \max\{f^l, 1 - f^l\} \quad (25)$$

and recalling condition (22), $V_S > V_R$ holds whenever

$$f^r > \frac{1 + \sigma}{2} - \frac{2\sigma + (1 - \sigma)\alpha^l}{2} f^l$$

Simple computations show that

$$\max\{f^l, 1 - f^l\} > \frac{1 + \sigma}{2} - \frac{2\sigma + (1 - \sigma)\alpha^l}{2} f^l$$

so condition (25) implies condition (22), concluding the proof. $\square$

Hence, combining Lemma 4 and Lemma 5, we can show that our main results continue to hold.

Proposition 7. *Suppose that strategic voters believe that the most likely tie is between R and S and vote accordingly. It continues to be true that there exists no (f^l, f^r) such that S wins under dual ballot but not under plurality. The contrary is not true.*

Finally, let us turn to the role played by the anti-immigrant sentiment in the population, which again we denote by $\mathcal{V}_S$ (defined in (14)) to distinguish it from the *actual* share of votes that party S receives. Although we do not formalize the reasoning in a proposition, we can show that our main conclusions still hold.¹⁸ As before, $\mathcal{V}_S > 1/2$ implies $V_S > 1/2$, so S wins under both electoral systems whenever the anti-immigrant sentiment in the population is larger than $1/2$. Moreover, there must exist a $\delta < 1/2$ such that $\mathcal{V}_S < \delta$, S loses under both electoral systems. In particular, since S loses under dual ballot whenever it loses under plurality (Proposition 7), δ is the largest value of $\mathcal{V}_S$ such that $V_S < \max\{V_L, V_R\}$. Since S wins under both systems when $\mathcal{V}_S > 1/2$, we must have $\delta < 1/2$.

¹⁸The exact value of the lower bound on $\mathcal{V}_S$ such that S loses under both systems can be computed and depends on σ and α^l . More details are available upon request.

D Relaxing the $f^l < f^r$ assumption

In this section, we relax the assumption that $f^l < f^r$ and consider the more general case where $(f^l, f^r) \in (0, 1)^2$. The results in Lemma 1 do not depend on the specific assumptions on (f^l, f^r) and continue to hold in this case too (see the proof of Lemma 1 in Section A). Hence, once again, the only situation where S might win under dual ballot but not under plurality must happen under a runoff against R .

The next lemma shows that the set of (f^l, f^r) such that a runoff between S and R can happen shrinks as α^l decreases. Importantly, this runoff never happens when α^l is small enough. Indeed, a runoff between S and R only occurs if *both* parties get more votes than L in the first round, and this becomes less and less likely as α^l decreases. Intuitively, the smaller α^l , the lower the support that S gets from left-wing, anti-immigrant voters. To get to the second round, then, S must get enough votes from right-wing voters, decreasing R 's support. Hence, low values of α^l strengthen the competition for votes between S and R and reduce the chances that both reach the runoff together. When α^l is small enough, only one of the two parties can get enough votes to defeat L , making a runoff between S and R impossible.

Lemma 6. *The set of (f^l, f^r) such that a runoff between S and R occurs expands with α^l . When $\alpha^l < 1/3$, such a runoff can never happen.*

Proof. A runoff against R is only possible if $V_R > V_L$ and $V_S > V_L$. Using (2) and (4), the two conditions hold jointly if and only if

$$1 - 2\alpha^l f^l < f^r < \alpha^l f^l$$

The lower bound is decreasing in α^l , while the upper bound is increasing. Moreover, the interval is well defined if only if $f^l > 1/3\alpha^l$. $\square$

Proposition 8 directly follows from Lemmas 1 and 6. It shows that if α^l is small enough, then whenever S runs under dual ballot, it will run under plurality too, while the contrary is not true.

Proposition 8. *If $\alpha^l < 1/3$, there exists no (f^l, f^r) such that S wins under dual ballot but not under plurality. The contrary is not true.*

When $\alpha^l \geq 1/3$, a runoff between S and R can happen under dual ballot. Most importantly, there appear cases where S can win under dual ballot but not under plurality. An

α^l	α^r	f^l	f^r
0.5	0.8	0.9	0.2

V_L	V_R	V_S	$\tilde{V}_S^R$
0.275	0.4	0.325	0.55

Table 4: An example where S wins under dual ballot but not under plurality when $\alpha^l > 1/3$. The parameter values are shown in the top row, and the corresponding vote shares of the three parties are shown in the bottom row.

example is provided in Table 4. In the example, $V_L < V_S < V_R$, so S is defeated by R under plurality, but reaches a runoff against R under dual ballot. Moreover, as $\tilde{V}_S^R > 0.5$, S wins in the second round. Hence, when $\alpha^l \geq 1/3$, it is not true anymore that S wins under dual ballot only if it also wins under plurality. It is crucial to notice, however, that scenarios where the party only wins under dual ballot can only happen when $f^l > f^r$, which we claim is less realistic. Moreover, if any pair $(f^l, f^r) \in (0, 1)^2$ is equally likely and α^r is sufficiently high, the probability that S wins only under plurality is larger than the probability that it wins only under dual ballot. We show the result in Proposition 9. Denote by π_e the probability that the pair (f^l, f^r) is such that S wins under electoral system $e \in \{P, DB\}$. Then,

Proposition 9. *Suppose (f^l, f^r) are uniformly distributed on $(0, 1)^2$. When $\alpha^l \geq 1/3$, there exists a lower bound $\underline{\alpha}^r < 1$ such that $\pi_P > \pi_{DB}$ for all $\alpha^r \geq \underline{\alpha}^r$.*

Proof. The probability that (f^l, f^r) are such that S wins under plurality is $\pi_P = \text{Prob}(V_S > \max\{V_L, V_R\})$. Using (2) and (3), this is equivalent to

$$\pi_P = \text{Prob}\left(f^r > \max\left\{1 - 2\alpha^l f^l, \frac{1}{2} - \frac{\alpha^l f^l}{2}\right\}\right)$$

Since

$$1 - 2\alpha^l f^l \geq \frac{1}{2} - \frac{\alpha^l f^l}{2}$$

whenever

$$f^l \leq \frac{1}{3\alpha^l} \equiv \hat{f}^l$$

and assuming a uniform distribution, we have

$$\pi_P = 1 - \left(\int_0^{\hat{f}^l} (1 - 2\alpha^l f^l) df^l + \int_{\hat{f}^l}^1 \left(\frac{1}{2} - \frac{\alpha^l f^l}{2} \right) df^l \right)$$

or equivalently

$$\pi_P = \frac{1}{2} \left[\frac{2}{3} + \left(\frac{1}{2} + \frac{\alpha^l}{2} \right) \left(1 - \frac{1}{3\alpha^l} \right) \right]$$

To compute the probability of winning under dual ballot, we consider the case of $\alpha^l \in \left(\frac{1}{3}, \frac{\alpha^r}{(1+\alpha^r)} \right]$, $\alpha^l \in \left(\frac{\alpha^r}{(1+\alpha^r)}, \frac{1}{2} \right]$ and $\alpha^l > \frac{1}{2}$ separately. Figures ??, 9 and 10 provide a useful graphical representation of the three cases.

As shown in Figure ??, when $\alpha^l \in \left(\frac{1}{3}, \frac{\alpha^r}{(1+\alpha^r)} \right]$, the set of (f^l, f^r) such that S wins under dual ballot is the sum of the regions where i) $\tilde{V}_S^L \geq 1/2$ (condition (6)) and ii) $V_S > V_L$ and $V_L < V_R$ (conditions (2) and (4), with reversed inequality sign). Hence, in this case, π_{DB} can be computed as the sum of two triangles, giving

$$\pi_{DB} = \frac{1}{2} \left[\frac{\alpha^l}{\alpha^r} + \left(1 - \frac{1}{3\alpha^l} \right) (3\alpha^l - 1) \right]$$

Simple computations show that $\pi_P > \pi_{DB}$ for all $\alpha^r > 1/2$ and all α^l in the range under consideration.

When $\alpha^l \in \left(\frac{\alpha^r}{(1+\alpha^r)}, \frac{1}{2} \right]$, the set of (f^l, f^r) such that S wins is defined by $\tilde{V}_S^L \geq 1/2$ (condition (6)) when $V_L > V_R$ (condition (4)) and $V_S > V_L$ (condition (2)) when $V_L < V_R$ (see Figure 9). Then,

$$\pi_{DB} = 1 - \left(\int_0^{\frac{\alpha^r}{\alpha^l(1+\alpha^r)}} \left(1 - \frac{\alpha^l}{\alpha^r} f^l \right) df^l + \int_{\frac{\alpha^r}{\alpha^l(1+\alpha^r)}}^1 \alpha^l f^l df^l \right) + \frac{1}{2} \left(1 - \frac{1}{3\alpha^l} \right) (3\alpha^l - 1)$$

or equivalently,

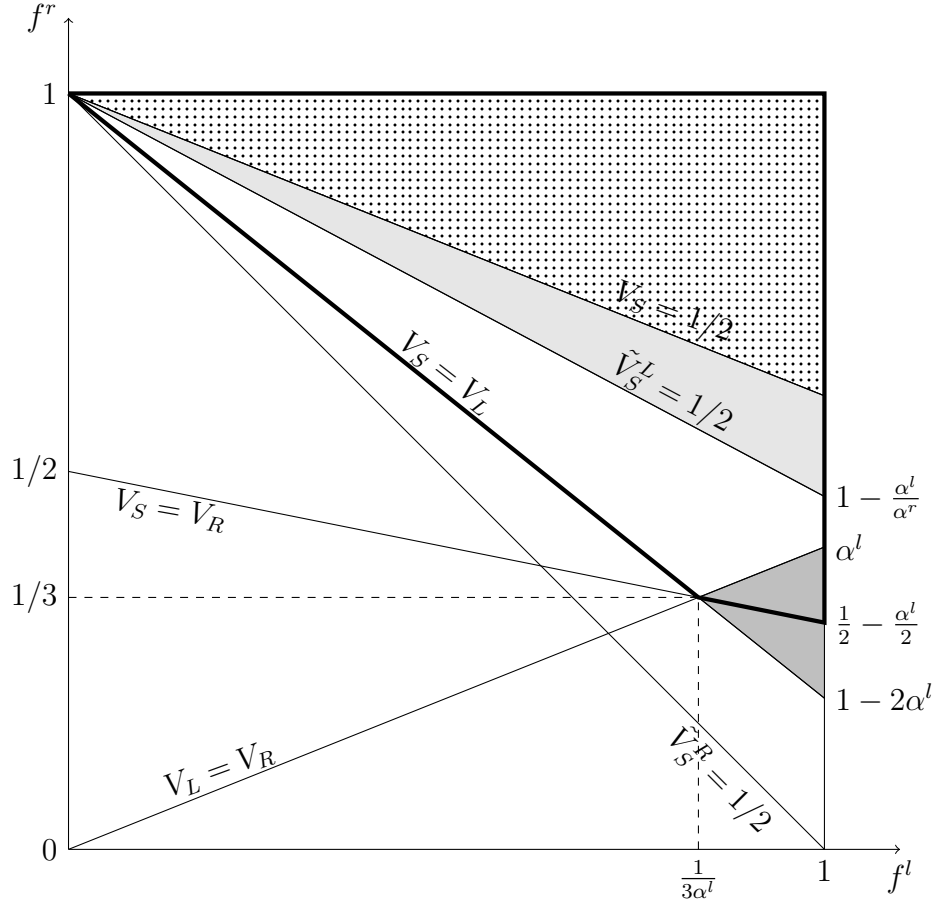
$$\pi_{DB} = \frac{1}{2} \left[\frac{\alpha^l}{\alpha^r} + \left(1 - \frac{1}{3\alpha^l} \right) (3\alpha^l - 1) - \left(1 - \frac{\alpha^r}{\alpha^l(1+\alpha^r)} \right) \left(\alpha^l - \frac{\alpha^l}{\alpha^r} \right) \right]$$

In this case, $\pi_P > \pi_{DB}$ for α^r sufficiently large. To see this, note that the inequality is satisfied for $\alpha^r = 3/4$. Then, as π_{DB} is decreasing and π_P is constant in α^r , it must hold for all $\alpha^r \geq 3/4$.

Finally, when $\alpha^l > 1/2$, the set of (f^l, f^r) such that S wins is defined by $\tilde{V}_S^L \geq 1/2$ when $V_L > V_R$ and $\tilde{V}_S^R > 1/2$ (condition (7)) when $V_L < V_R$ (see Figure 10). Hence,

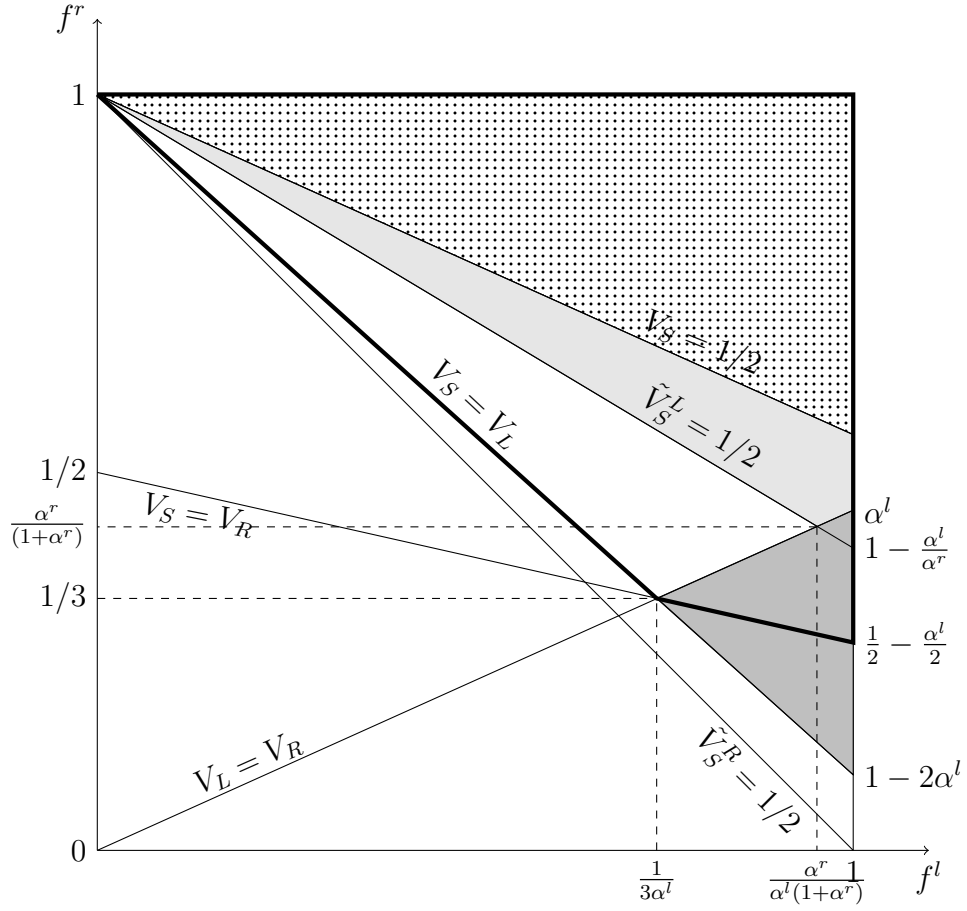
$$\pi_{DB} = 1 - \left(\int_0^{\frac{\alpha^r}{\alpha^l(1+\alpha^r)}} \left(1 - \frac{\alpha^l}{\alpha^r} f^l \right) df^l + \int_{\frac{\alpha^r}{\alpha^l(1+\alpha^r)}}^1 \alpha^l f^l df^l \right) + \frac{\alpha^l}{2} \left(1 - \frac{1}{1+\alpha^l} \right)$$

Figure 8: $\frac{1}{3} \leq \alpha^l < \frac{\alpha^r}{(1+\alpha^r)}$



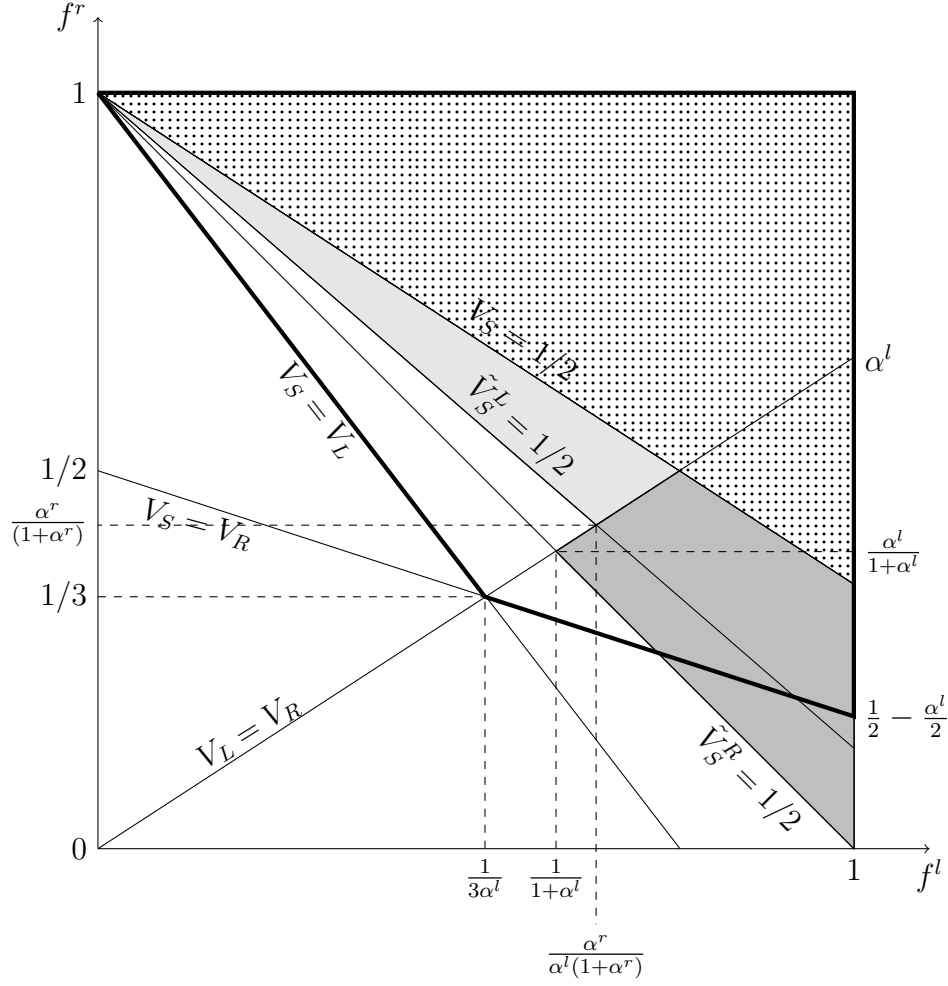
The dotted region denotes the set of f^l and f^r for which S wins in the first round under dual ballot. The light-gray region denotes the set of f^l and f^r for which S wins a runoff against L , the dark-gray region the set for which S wins a runoff against R . The region delimited by the thick line corresponds to the set of f^l and f^r for which S wins under plurality.

Figure 9: $\frac{\alpha^r}{(1+\alpha^r)} < \alpha^l \leq \frac{1}{2}$



The dotted region denotes the set of f^l and f^r for which S wins in the first round under dual ballot. The light-gray region denotes the set of f^l and f^r for which S wins a runoff against L , the dark-gray region the set for which S wins a runoff against R . The region delimited by the thick line corresponds to the set of f^l and f^r for which S wins under plurality.

Figure 10: $\alpha^l > \frac{1}{2}$



The dotted region denotes the set of f^l and f^r for which S wins in the first round under dual ballot. The light-gray region denotes the set of f^l and f^r for which S wins a runoff against L , the dark-gray region the set for which S wins a runoff against R . The region delimited by the thick line corresponds to the set of f^l and f^r for which S wins under plurality.

which gives

$$\pi_{DB} = \frac{1}{2} \left[\left(1 - \frac{1}{1 + \alpha^l}\right) \alpha^l + \left(1 - \frac{\alpha^r}{(1 + \alpha^r)}\right) + \left(1 - \frac{\alpha^r}{\alpha^l(1 + \alpha^r)}\right) (1 - \alpha^l) \right]$$

As before, the inequality holds for $\alpha^r = 0.6$ and since π_{DB} is decreasing and π_P is constant in α^r , $\pi_P > \pi_{DB}$ for all $\alpha^r > 0.6$.

□

Finally, Proposition 10 extends Proposition 2 to the case of $(f^l, f^r) \in (0, 1)^2$, and shows that even in this case the electoral system matters only when V_S takes intermediate values.

Proposition 10. *For all (f^l, f^r) such that $V_S > 1/2$, a standalone S wins under both electoral systems. Moreover, there exists a $\bar{\lambda}(\alpha^l)$ such that, for all (f^l, f^r) such that $V_S < \bar{\lambda}(\alpha^l)$, a standalone S loses under both electoral systems. $\bar{\lambda}(\alpha^l) > 1/4$ for all α^l .*

Proof. The case of $V_S > 1/2$ is straightforward. Consider the second part of the proposition now. Let λ_e be a share of votes for party S such that, for all (f^l, f^r) such that $V_S < \lambda_e$, a standalone S would not win under electoral system $e \in \{P, DB\}$. Then, let $\bar{\lambda}_e$ be the largest possible value of λ_e .

Consider plurality. When $\alpha^l < 1/3$, $V_S > V_L$ (condition (2)) implies $V_S > V_R$ (condition (3)), so S wins if and only if it obtains more votes than L . In this case, $\bar{\lambda}_P = (1 - \alpha^l)/2$. Indeed, $V_S < V_L$ for all (f^l, f^r) such that $V_S < (1 - \alpha^l)/2$. Suppose instead $\bar{\lambda}_P = (1 - \alpha^l)/2 + \epsilon$. The point $(f^l, f^r) = (1, 1 - 2\alpha^l + \epsilon)$ satisfies $V_S < \bar{\lambda}_P$ and $V_S > V_L$, so that S would win as a standalone party. For all other values of α^l , S runs as a standalone party if and only if $V_S \geq \max\{V_L, V_R\}$. This is never possible if $V_S < 1/3$. As before, suppose $\bar{\lambda}_P = 1/3 + \epsilon$. The point $(f^l, f^r) = (\frac{1}{3\alpha^l}, \frac{1}{3} + \epsilon)$ is such that $V_S < \bar{\lambda}_P$, $V_S > V_L$ and $V_S > V_R$, so S would win under plurality. Hence,

$$\bar{\lambda}_P = \begin{cases} \frac{1-\alpha^l}{2} & \text{if } \alpha^l < \frac{1}{3} \\ \frac{1}{3} & \text{otherwise} \end{cases}$$

Let us now turn to dual ballot. When $\alpha^l < 1/3$, S can only win through a runoff against L (Lemma 6). In this case, $\bar{\lambda}_{DB} = 1/2 - \alpha^l(1 - \alpha^r)/2\alpha^r$. Indeed, $V_S < 1/2 - \alpha^l(1 - \alpha^r)/2\alpha^r$ implies $\tilde{V}_S^L < 1/2$, so S would lose the runoff against L . Suppose instead that $\bar{\lambda}_{DB} = 1/2 - \alpha^l(1 - \alpha^r)/2\alpha^r + \epsilon$. The point $(f^l, f^r) = (1, 1 - \alpha^l/\alpha^r + \epsilon)$ satisfies $V_S < \bar{\lambda}_{DB}$ and $\tilde{V}_S^L > 1/2$, which in this case implies $V_S > V_L$ and $V_S > V_R$.

Suppose $\alpha^l \in [1/3, 1/2]$. In this case, $\bar{\lambda}_{DB} = (1 - \alpha^l)/2$. To see this, notice that $V_S < (1 - \alpha^l)/2$ implies $V_S < V_L$ and $\tilde{V}_S^L < 1/2$, so that S could not reach a runoff against R and would lose one against L . To see that there is no higher value of V_S for which S would never run as standalone party, let $\bar{\lambda}_{DB} = (1 - \alpha^l)/2 + \epsilon$. For ϵ sufficiently small, the point $(f^l, f^r) = (1, 1 - 2\alpha^l + \epsilon)$ satisfies $V_S < \bar{\lambda}_{DB}$, $V_S > V_L$, $V_L < V_R$ and $\tilde{V}_S^R > 1/2$, so that S would reach and win a runoff against R .

When $\alpha^l > 1/2$, $\bar{\lambda}_{DB} = \alpha^l/2$. Indeed, $V_S < \alpha^l/2$ implies $\tilde{V}_S^R < 1/2$ and $\tilde{V}_S^L < 1/2$, so S would never win in the second round. Now let $\bar{\lambda}_{DB} = \alpha^l/2 + \epsilon$. For ϵ sufficiently small, the point $(f^l, f^r) = (1, \epsilon)$ satisfies $V_S < \bar{\lambda}_{DB}$, $V_S > V_L$, $V_L < V_R$ and $\tilde{V}_S^R > 1/2$, so that, as

before, S would reach and win a runoff against R . Hence,

$$\bar{\lambda}_{DB} = \begin{cases} \frac{1}{2} - \frac{\alpha^l}{2} \left(\frac{1-\alpha^r}{\alpha^r} \right) & \text{if } \alpha^l < \frac{1}{3} \\ \frac{1-\alpha^l}{2} & \text{if } \alpha^l \in \left[\frac{1}{3}, \frac{1}{2} \right] \\ \frac{\alpha^l}{2} & \text{if } \alpha^l > \frac{1}{2} \end{cases}$$

Combining everything, the maximum value of V_S such that S does not run as a standalone party but forms a coalition with party R in either system is

$$\bar{\lambda} = \min\{\bar{\lambda}_P, \bar{\lambda}_{DB}\} = \begin{cases} \frac{1-\alpha^l}{2} & \text{if } \alpha^l \leq \frac{1}{2} \\ \frac{\alpha^l}{2} & \text{if } \alpha^l \in \left(\frac{1}{2}, \frac{2}{3} \right] \\ \frac{1}{3} & \text{if } \alpha^l > \frac{2}{3} \end{cases}$$

Notice that $\bar{\lambda} \geq 1/4$. □

E Tables and Figures

Table A1: List of full party names and identification keywords used to classify anti-immigrant candidates (municipalities below 15,000 inhabitants)

Party name	Party name
AGIRE INSIEME LEGA PONTREMOLI	ALLEANZA NAZIONALE
ALTERNATIVA SOCIALE	ALTERNATIVA SOCIALE ITALIANA LEGA AUTONOMIA
ALTERNATIVA SOCIALE MUSSOLINI	AN-CIVICA
FASCI	FASCISMO
FIAMMA	FORZA NUOVA
FRAT.D'IT-AN-P.PENS-PLI-CIVICA	FRATELLI
FRONTE INDIPENDENTISTA LOMBARDIA	FRONTE NAZIONALE
GRANDE NORD	GRANDE NORD-LEGA PADANA LOMBARDIA
GRANDE NORD-LEGA PADANA LOMBARDIA-GRANDE CASTELLO	L. NORD
L'ALTRA ITALIA-DESTRA ITALIANA-MOV. PER L'ITALIA SOCIALE-MDA	L'ALTRA ITALIA-DESTRA ITALIANA-MOV.PER L'ITALIA SOCIALE-MDA
L.NORD	LA DESTRA
LA DESTRA - ALTRI	LA DESTRA - FIAMMA TRICOLORE
LEGA	LEGA - CIVICA
LEGA ALPINA LUMBARDA	LEGA D'AZIONE MERID.
LEGA DI BARBATA	LEGA E CIVICI
LEGA E INDIPENDENTI INSIEME	LEGA ITALIA FEDERALE
LEGA LOMB-LEGA NORD	LEGA LOMBARDA
LEGA LOMBARDA VENETA	LEGA LOMBARDO VENETA
LEGA MOLISE	LEGA NORD
LEGA NORD-ALTRE	LEGA NORD-BASTA €URO
LEGA NORD-BASTA €URO-ALTRI	LEGA NORD-BASTA €URO-CIVICA
LEGA NORD-FRAT.D'IT-AN	LEGA NORD-LA DESTRA-CIVICA
LEGA PADANA	LEGA PADANA LOMBARDIA - ALTRI
LEGA PADANA PIEMONTE	LEGA PER BORGHETTO
LEGA PER CAPIZZONE	LEGA PER CASTELVETRO
LEGA PER FORNOVO	LEGA PER LE MARCHE
LEGA PER NOSATE	LEGA PER PEDRENGO
LEGA PER PONTOGGIO	LEGA PER TALAMONA
LEGA VENETA	LEGA-CASTEL D'AZZANO DEL FARE-CASTEL D'AZZANO DOMANI
LEGA-CIVICA	LEGA-ESPERIENZA E FUTURO
LEGA-FRATELLI D'ITALIA-ALTRI	LEGA-IL POPOLO DELLA FAMIGLIA
LEGA-LISTA CIVICA	LEGA-NOI PER ISTRANA
LEGA-PROGETTO FUTURO	LEGA-VIVERE ARCADE
LEGA-VIVERE MAROSTICA-FRATELLI D'ITALIA	LG NORD
GIORGIA MELONI	
LG.FRIULI	LG.NORD-LG.VENETA
LG.PADANA LOMBARDIA	M.NAZ.SOC.LAVORATORI
MOV.IDEA SOC. RAUTI	MOV.SOC.TRICOLORE

Continues on next page

Party name	Party name
MOVIMENTO NAZ. E SOC. DEI LAVORATORI	MOVIMENTO SOCIALE
MSI-DN	MUSSOLINI
PARTITO VALORE UMANO	PER CASTELGOBERTO-LEGA
POUND	SALVINI
VIVI AMO SUMIRAGO-LEGA LOMBARDIA- INDIPENDENTI-INSIEME PER CAMBIARE	

Notes: The table lists all full party names, together with shorter keywords that we used to identify anti-immigrant candidates in Italian municipal elections held in municipalities with fewer than 15,000 inhabitants. The data cover the electoral years 1993–2019. **Source:** Italian Ministry of Interior (Eligendo, Archivio Storico delle Elezioni).

Table A2: List of full party names and identification keywords used to classify anti-immigrant candidates (municipalities above 15,000 inhabitants)

Party name	Party name
ALLEANZA NAZIONALE	ALTERNATIVA SOCIALE
AN-ALTRI	AN-CIVICA
AN-CPA	AN-U.UMBRIA-CPA
CASAPOUND	F.D'ITALIA-AN-L.NORD-BASTA EURO-DESTRA
FIAMMA	FORZA NUOVA
FRAT.D'IT-AN-L.NORD-ALL.SOCIALE	FRAT.D'IT-AN-L.NORD-BASTA EURO
FRATELLI D'ITALIA	FRATELLI D'ITALIA CON GIORGIA MELONI
FRATELLI D'ITALIA GIORGIA MELONI-CIVICA	FRATELLI D'ITALIA-ALLEANZA CIVICA
FRATELLI D'ITALIA-AN-ALTRI	FRATELLI D'ITALIA-AN-CIVICA
FRATELLI D'ITALIA-AN-L.NORD	FRONTE NAZIONALE
ITALEXIT	L.NORD-CIVICHE
L.VEN-L.NORD	LA DESTRA
LEGA	LEGA D'AZIONE MERID.
LEGA D'AZIONE MERIDIONALE	LEGA LAZIO
LEGA LOMB-LEGA NORD	LEGA LOMBARDA
LEGA NORD	LEGA NORD-ALTRE
LEGA NORD-BASTA EURO	LEGA NORD-BASTA EURO-CIVICA
LEGA PADANA	LEGA PADANA LOMBARDIA
LEGA PADANA PIEMONTE	LEGA TOSCANA
LG.NORD-LG.VENETA	LG.PADANA LOMBARDIA
LS.CITO LG.AZ.MERID.	M.S.TRICOLORE-ALTRI
MOV.SOC.TRICOLORE	MUSSOLINI
MSI-DN	PER L'ITALIA CON PARAGONE ITALEXIT
PIEMONTE-L.NORD	RINNOVAMENTO MISSINO
SALVINI	

Notes: The table lists all full party names, together with shorter keywords that we used to identify anti-immigrant candidates in Italian municipal elections held in municipalities with more than 15,000 inhabitants. The data cover the electoral years 1993–2019. **Source:** Italian Ministry of Interior (Eligendo, Archivio Storico delle Elezioni).

Table A3: Balance tests on municipal covariates

	(1)	(2)	(3)	(4)	(5)	(6)
<i>Panel A: municipal characteristics</i>						
Dependent var.	Area	% 0-14	% 65+	% graduated	% unemployed	% foreign
Dual Ballot	8.286 (8.643)	0.003 (0.006)	-0.002 (0.007)	-0.008* (0.005)	0.024 (0.018)	-0.004 (0.004)
Observations	4059	1784	1826	2293	1664	3333
Optimal bandwidth	5847	2839	2915	3681	2660	4988
Mean Dep. var.	46.49	0.155	0.170	0.055	0.131	0.034
<i>Panel B: geographical characteristics</i>						
Dependent var.	North	Centre	South	Latitude	Longitude	
Dual Ballot	-0.106 (0.085)	0.043 (0.055)	0.032 (0.081)	-0.366 (0.375)	0.432 (0.545)	
Observations	2207	5366	2413	2163	2325	
Optimal bandwidth	3500	7105	3808	3428	3672	
Mean Dep. var.	0.500	0.181	0.317	43.39	12.31	

Notes. Electoral years 1993-2019. The estimated coefficients capture the effect of a dual-ballot electoral system relative to a plurality electoral system. Estimates are obtained using a conventional RD design with the MSE-optimal bandwidth selector (Calonico et al., 2014). Standard errors clustered at the municipal level are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Inference is based on robust bias-corrected confidence intervals estimated with the MSE-optimal bandwidth selector (Calonico et al., 2014). Mean of the dependent variable for observations to the left of the RDD cutoff and within the selected optimal bandwidth.

Table A4: Descriptive statistics

	Below 15,000		Above 15,000		p-value
	Mean	N	Mean	N	
Anti-immigrant candidate (dummy)	0.043	6089	0.088	637	0.000
Center-right coalition (dummy)	0.058	6089	0.182	637	0.000
Civic list (dummy)	0.717	6089	0.259	637	0.000
Municipal area (km ²)	28.835	6086	83.525	637	0.000
Age 0-14 (%)	0.136	6059	0.152	634	0.000
Age 65+ (%)	0.214	6064	0.171	634	0.000
College graduates (%)	0.044	6059	0.067	634	0.000
Unemployed (%)	0.109	6059	0.140	634	0.000
Foreign-born population (%)	0.030	6059	0.031	634	0.143
North (dummy)	0.600	6089	0.441	637	0.000
Center (dummy)	0.140	6089	0.232	637	0.000
South (dummy)	0.260	6089	0.327	637	0.000
Latitude	43.709	5998	43.231	636	0.000
Longitude	11.413	5998	12.331	636	0.000

Notes. Descriptive statistics (municipality average) for the 6,726 municipalities used in the analysis.

Table A5: Expenditures Migration Services - Explicit calibration of the extensive margin

	(1)	(2)	(3)	(4)	(5)	(6)
<i>Expenditures Migration Services</i>						
Extensive margin value (x):	0	0.1	0.5	1.0	2.0	3.0
Dual Ballot	0.868* (0.485)	0.877* (0.491)	0.916* (0.513)	0.965* (0.541)	1.064* (0.598)	1.162* (0.654)
Observations	1091	1091	1087	1073	1053	1045
Optimal bandwidth	4936	4930	4908	4884	4842	4811

Notes. The estimated coefficients capture the effect of a dual-ballot electoral system relative to a plurality electoral system. Estimates are obtained using a conventional RD design with the MSE-optimal bandwidth selector (Calonico et al., 2014). Standard errors clustered at the municipal level are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Inference is based on robust bias-corrected confidence intervals estimated with the MSE-optimal bandwidth selector (Calonico et al., 2014). All regressions include election-year fixed effects. Mean of the dependent variable for observations to the left of the RDD cutoff and within the selected optimal bandwidth.

Table A6: Effect of Dual Ballot on immigration policies volatility

	(1)	(2)
Dep. Variable	Time Variance Offer Migration Services <i>Years 2007-2012</i>	Cross-sectional variance Offer Migration Services
Dual Ballot	0.031 (0.044)	0.052 (0.047)
Observations	644	105
Optimal bandwidth	5760	5541
Mean Dep. Var.	0.182	0.160

Notes. The estimated coefficients capture the effect of a dual-ballot electoral system relative to a plurality electoral system. Estimates are obtained using a conventional RD design with the MSE-optimal bandwidth selector (Calonico et al., 2014). Standard errors: clustered at the municipal level (Column 1); heteroskedasticity-robust (Column 2). Estimates in Column 2 are weighted by the frequency of municipalities in each bin to account for heteroskedasticity and to reflect differences in the precision of variance estimates across bins of varying size. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Inference is based on robust bias-corrected confidence intervals estimated with the MSE-optimal bandwidth selector (Calonico et al., 2014). Mean of the dependent variable for observations to the left of the RDD cutoff and within the selected optimal bandwidth. Dependent variables: (1) variance of the probability of offering migration services over time within municipalities (Column 1); (2) variance of the probability of offering migration services across municipalities within 100-inhabitant bins (Column 2).

Table A7: Analysis of Electoral Manifestos of Civic Lists

	(1)	(2)
Dep. Var.	Immigration policy	Immigration policy > median
Dual Ballot	0.071 (0.209)	-0.017 (0.123)
Observations	275	245
Optimal bandwidth	5568	5059
Mean Dep. Var.	6.443	0.523

Notes. The estimated coefficients capture the effect of a dual-ballot electoral system relative to a plurality electoral system. Estimates are obtained using a conventional RD design with the MSE-optimal bandwidth selector (Calonico et al., 2014). Standard errors clustered at the municipal level are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Inference is based on robust bias-corrected confidence intervals estimated with the MSE-optimal bandwidth selector (Calonico et al., 2014). All regressions include election-year fixed effects. Mean of the dependent variable for observations to the left of the RDD cutoff and within the selected optimal bandwidth. Dependent variables are derived from Wordscore estimates based on the Chapel Hill Expert Survey (CHES): (a) *Immigration Policy* = position on immigration, ranging from 0 (liberal policies) to 10 (restrictive policies); (b) *Immigration Policy > median* = position on immigration above the median value.

Table A8: Majority vs. Plurality in OECD countries

(1)	(2)	(3)	(4)
Country	Political system	Electoral system	Sufficient plurality (SP) or Necessary Majority (NM)
Australia	Parliamentary	Instant-runoff voting (IRV)	SP
Austria	Parliamentary	Proportional	NM
Belgium	Parliamentary	Proportional	NM
Canada	Parliamentary	FPTP	SP
Chile	Presidential	Dual ballot	NM
Colombia	Presidential	Dual ballot	NM
Czech Republic	Parliamentary	Proportional	NM
Denmark	Parliamentary	Proportional	NM
Estonia	Parliamentary	Proportional	NM
Finland	Parliamentary	Proportional	NM
France	Presidential	Dual ballot	NM
Germany	Parliamentary	Proportional	NM
Greece	Parliamentary	Proportional with 50 seats plurality bonus	SP
Hungary	Parliamentary	Parallel voting (mix FPTP and proportional)	SP
Iceland	Parliamentary	Proportional	NM
Ireland	Parliamentary	Proportional	NM
Israel	Parliamentary	Proportional	NM
Italy	Parliamentary	75% FPTP and 25% proportional up to 2001 elections Proportional with plurality bonus up to 2013 37% FPTP and 61% proportional since 2018 election	SP up to 2013 elections, NM since 2018 election
Japan	Parliamentary	Parallel voting (mix FPTP and proportional)	SP
Korea	Presidential	Plurality	SP
Latvia	Parliamentary	Proportional	NM
Lithuania	Semi-presidential	Dual ballot	NM
Luxembourg	Parliamentary	Proportional	NM
Mexico	Presidential	Plurality	SP
Netherlands	Parliamentary	Proportional	NM
New Zealand	Parliamentary	Mix member proportional (MMP)	NM
Norway	Parliamentary	Proportional	NM
Poland	Presidential	Dual ballot	NM
Portugal	Parliamentary	Proportional	NM
Slovak Republic	Parliamentary	Proportional	NM
Slovenia	Parliamentary	Proportional	NM
Spain	Parliamentary	Proportional	NM
Sweden	Parliamentary	Proportional	NM
Switzerland	Parliamentary	Proportional	NM
Turkey	Parliamentary	Proportional	NM
United Kingdom	Parliamentary	FPTP	SP
USA	Presidential	FPTP	SP

Notes. OECD countries.

Table A9: Cross-countries correlation

	(1)	(2)	(3)	(4)
Dep. var.	Inflow imm. 1000 inhabitants			
Continent and Year FE	No	Yes	Yes	Yes
Economic characteristics	No	No	Yes	Yes
Additional controls	No	No	No	Yes
Necessary Majority	3.655** (1.643)	3.763** (1.479)	3.307** (1.427)	2.805* (1.650)
Observations	652	652	625	625
R-squared	0.055	0.175	0.697	0.707

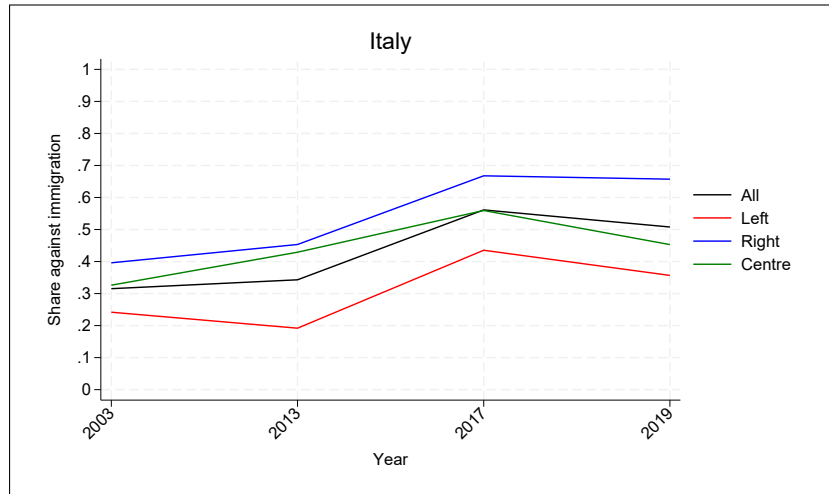
Notes. The sample includes OECD countries over the period 2000–2018. The dependent variable is the total inflow of immigrants per 1,000 inhabitants. *Necessary Majority* is an indicator equal to 1 for countries using a NM electoral system and 0 for countries using a SP system. Economic controls include GDP per capita, the share of employees in the labor force, the unemployment rate, the share of taxes in GDP, and social expenditure as a share of GDP. Additional controls include total population, the share of individuals aged 65 and above, and an indicator for left-wing governments. Specifications with continent and year fixed effects include continent dummies (Europe, Asia, America, Oceania) and year dummies. Robust standard errors clustered at the country level in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A10: Cross-countries correlation - The role of salience of migration

	(1)	(2)	(3)	(4)
Dep. var.	Inflow imm. 1000 inhabitants			
Region and Year FE	No	Yes	Yes	Yes
Economic characteristics	No	No	Yes	Yes
Additional controls	No	No	No	Yes
Necessary Majority	1.092 (1.695)	0.200 (1.162)	-1.301 (1.180)	-1.171 (1.211)
Necessary Majority x Salience	0.171** (0.075)	0.228** (0.087)	0.140* (0.071)	0.139* (0.079)
Observations	377	377	374	374
Mean Dep. Var.	5.039	5.039	5.039	5.039

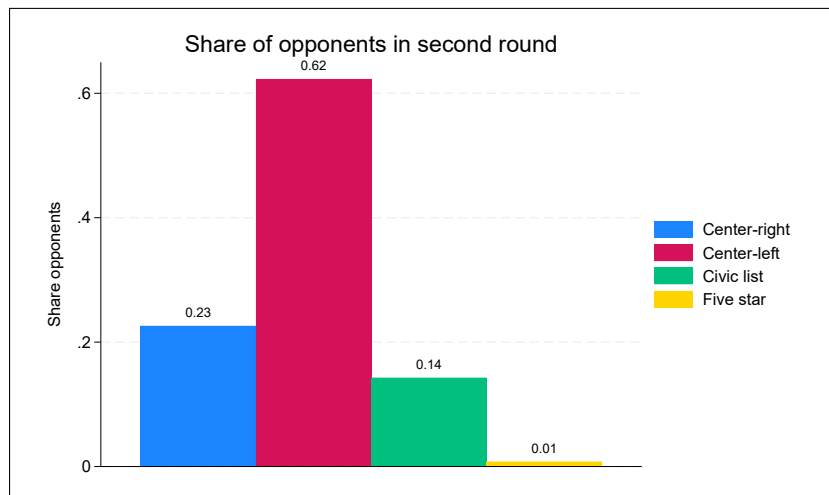
Notes. The sample includes European OECD countries over the period 2000–2018. The dependent variable is the total inflow of immigrants per 1,000 inhabitants. *Necessary Majority* is an indicator equal to 1 for countries using a NM electoral system and 0 for countries using a SP system. *Salience* is constructed from Eurobarometer responses to the question asking respondents to name the two most important issues facing their country; it measures, for each country–year, the percentage of respondents mentioning immigration among the top two issues (original 0–1 indicator multiplied by 100). Economic controls include GDP per capita, the share of employees in the labor force, the unemployment rate, the share of taxes in GDP, and social expenditure as a share of GDP. Additional controls include total population, the share of individuals aged 65 and above, and an indicator for left-wing governments. Specifications with region and year fixed effects include European region dummies (West, North, South, East) and year dummies. Robust standard errors clustered at the country level are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Figure A1: Attitudes Toward Immigration in Italy by Ideology (ESS)



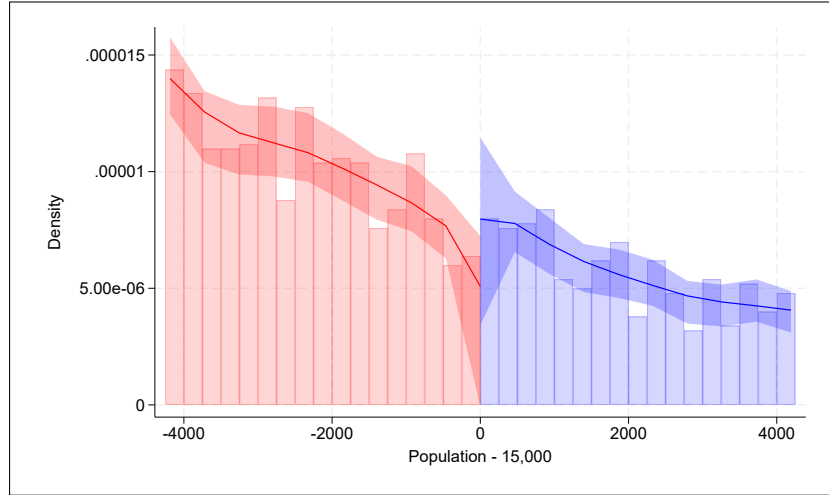
Notes. The figure uses data from the European Social Survey (ESS) for the waves in which Italy is included (rounds 1, 6, 8, and 9). For each round, it reports the share of respondents expressing a restrictive attitude toward immigration, defined as answering “allow a few” or “allow none” to the question on admitting immigrants of a different race or ethnic group. Shares are shown separately for left-wing, centrist, and right-wing voters, as well as for the overall sample.

Figure A2: Runoff Opponents of Anti-Immigrant Candidates



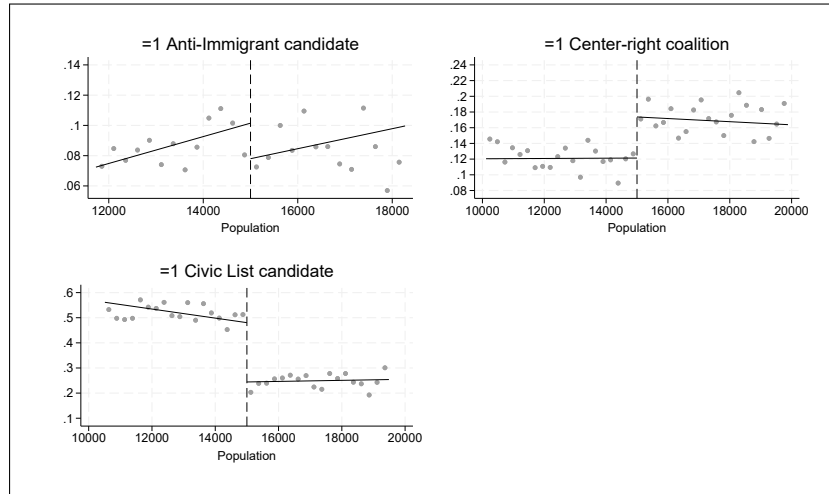
Notes. The figure uses data on Italian municipal elections in municipalities above 15,000 inhabitants from 1993 to 2019. We restrict the sample to elections that reach a second round and in which at least one anti-immigrant candidate advances to the runoff. The figure reports the share of cases in which the opponent to the anti-immigrant candidate belongs to the center-left, the center-right, a civic list, or the Five Star Movement.

Figure A3: Manipulation test on the density of running variable



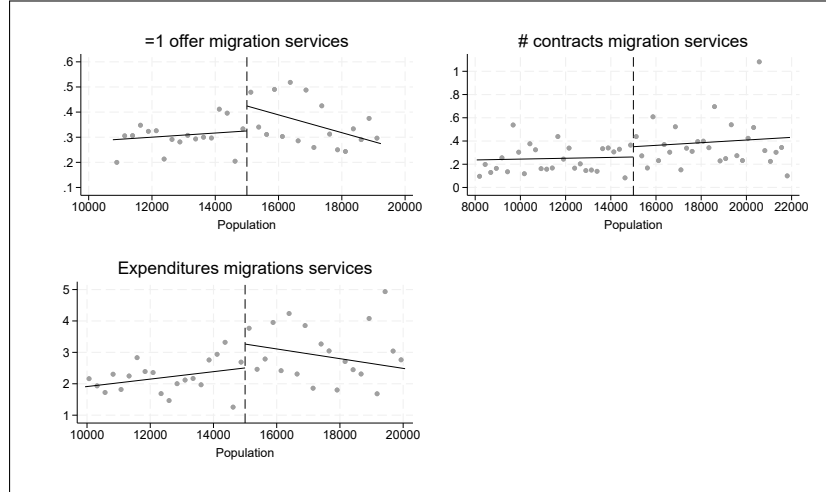
Notes. Electoral years 1993-2019. Manipulation test on the density of the normalized population (i.e., population minus 15,000). The manipulation test uses the procedure developed by Cattaneo, Jansson, and Ma (2018). Robust T-statistics (p-value): 1.390 (0.165).

Figure A4: Effect of Dual Ballot on entry of mayoral candidates - Electoral years 1993-2019



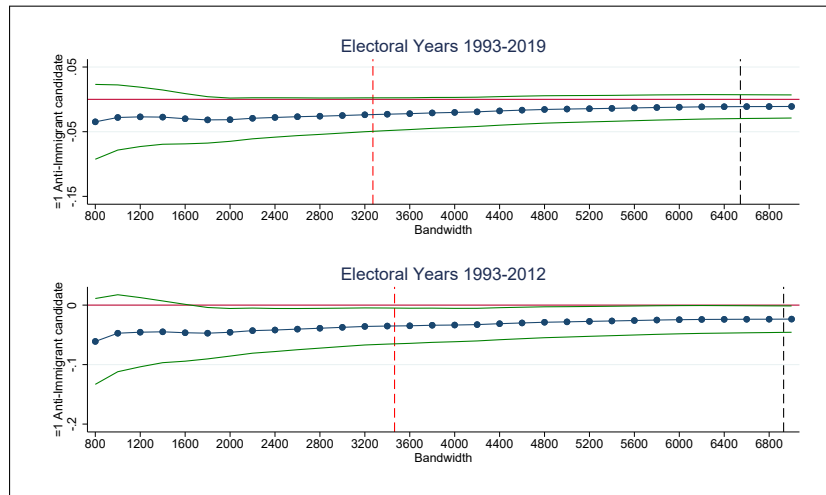
Notes. RDD estimates are obtained using a conventional RD design with the MSE-optimal bandwidth selector (Calonico et al., 2014). The horizontal axis reports the relevant population used to determine the electoral system. The vertical axis shows the probability that the candidate is an anti-immigrant candidate, is supported by the center-right coalition, or belongs to a civic list. Scatter points are averaged over bins of 250 inhabitants. The central line represents a linear regression of the outcome variable on population, fitted separately on each side of the threshold.

Figure A5: Effect of Dual Ballot on immigration policies - Years 2007-2019



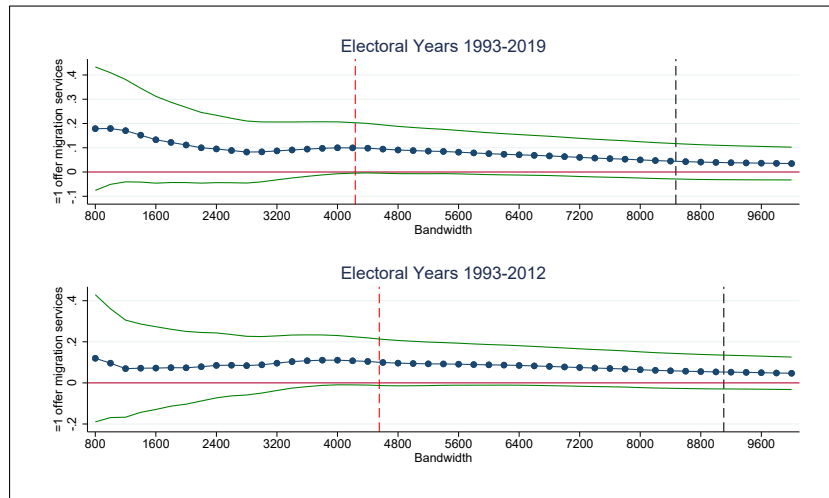
Notes. RDD estimates are obtained using a conventional RD design with the MSE-optimal bandwidth selector (Calonico et al., 2014). The horizontal axis reports the relevant population used to determine the electoral system. The vertical axis shows migration policies. Scatter points are averaged over bins of 250 inhabitants. The central line represents a linear regression of the outcome variable on population, fitted separately on each side of the threshold.

Figure A6: Effect of Dual Ballot on entry of mayoral candidates - Multiple bandwidths



Notes. RDD estimates are obtained using a conventional RD design with the MSE-optimal bandwidth selector (Calonico et al., 2014). Horizontal axis: different bandwidths used to estimate the RDD coefficients. Vertical axis: RDD coefficients. Dashed red vertical line: optimal bandwidth calculated using the MSE-optimal bandwidth selector (Calonico et al., 2014). Dashed black vertical line: double the optimal bandwidth. The central blue lines connect the estimated coefficients, while the green lines the 95 percent confidence intervals.

Figure A7: Effect of Dual Ballot on migration policies - Multiple bandwidths



Notes. RDD estimates are obtained using a conventional RD design with the MSE-optimal bandwidth selector (Calonico et al., 2014). Horizontal axis: different bandwidths used to estimate the RDD coefficients. Vertical axis: RDD coefficients. Dashed red vertical line: optimal bandwidth calculated using the MSE-optimal bandwidth selector (Calonico et al., 2014). Dashed black vertical line: double the optimal bandwidth. The central blue lines connect the estimated coefficients, while the green lines the 95 percent confidence intervals.