Ranking of Candidates on Slates: Evidence from 20,000 Electoral Slates*

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Abstract

Using over 20,000 electoral slates from municipal elections in the Czech Republic, we document that in proportional representation electoral systems political parties rank candidates on the slates systematically according to their valence, measured by educational attainment, and intra-party value, measured by political donations and membership. The observed patterns are consistent with market mechanisms where the party leaders benefit from the valence and intra-party value of candidates and offer slate positions (i.e. the probability of winning a mandate) in exchange. We show that candidates with high valence and those who possess more intra-party value are placed in better-ranked positions, despite the fact that candidates with more intra-party value, conditional on observables, tend to receive relatively fewer votes than candidates with low intra-party value. We further show that as a party expects to hold more council seats, the share of their candidates with higher intra-party value increases.

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1 Introduction

Proportional representation (PR) electoral systems are used in both national and local elections by most EU countries and in European Parliament elections. In these systems, political parties have strong gate-keeping power, and thus substantially influence the selection of candidates into mandates. Party leaders[1] selecting candidates and determining candidates' ranking on party slates are likely to maximize their party's vote share by selecting high-valence candidates who presumably appeal to voters. At the same time, party leaders are believed to pursue other within-party goals, for example, rewarding candidates' loyalty (Galasso and Nannicini, 2017) or defending their leadership positions within the party (Besley et al., 2017). Political parties can improve selection of candidates into mandates by partially overcoming information asymmetry between candidates and voters (Caillaud and Tirole, 2008), but they also present the voters with a principal-agent problem, in which voters cannot fully control the pre-selection of candidates. In this study, we provide novel evidence and intuition on how these two aspects of slate formation affect the candidates' ranking.

We analyze the ranking of candidates on over 20,000 party slates from five Czech municipal elections, in which the candidates' ranking on the party slate is informative about the probability of winning a mandate. We categorize candidates in terms of their valence approximated by their education level, and by their intra-party value measured by their party membership status and/or party donations. We find that: (a) high-valence candidates are placed in better-ranked positions than low-valence candidates; (b) candidates with high intra-party value are placed in better-ranked positions than candidates with low intra-party value; (c) conditional on observables including slate rank, valence, and incumbent status, candidates with high intra-party value tend to receive significantly fewer votes than their counterparts with low intra-party value; (d) an increase in party popularity is associated with a sizeable increase in the share of candidates with high intra-party value and a weak increase in the share of high-valence candidates on the party slate.

To provide intuition for our findings, we propose a theoretical framework of the market of candidates. A party leader, the demand side of the market, selects and ranks candidates on a slate according to (i) candidates' valence, as it attracts swing (quality sensitive) voters; (ii) intra-party value of candidates (provision of scarce resources for the party, e.g. donations or voluntary labor). Potential candidates, the supply side, are either of high or low valence, which entail different opportunity costs of running in the election and decide on costly actions that can increase their intra-party value (e.g. becoming

[1] We do not exclude the possibility that the party leader represents a collective decision.

party members or making donations). As a result, in an environment where the party holds strong gate-keeping power, the party leader trades slate ranks that embody the probabilities of winning mandates in exchange for candidates' valence and intra-party value. Candidates accept a slate position if it satisfies their participation constraint. The framework yields two main implications. First, candidates who are more valuable to the party are rewarded by better-ranked positions. Second, parties that can offer more slate positions with a high probability of winning a mandate, attract more valuable candidates, both in terms of valence and intra-party value.

Our contribution to the existing literature is threefold.[2] First, we contribute to the literature that studies the mechanisms driving candidates' ranking on slates. Previous literature has emphasized the role of candidates' political experience on their intra-party positions. In particular, Cirone et al. (2021) propose that candidates' intra-party positions and slate positions are driven by two rules: *incumbent re-nomination norm* and *seniority progression norm*. In a similar vein, Fiva and Røhr (2018) show that in party-list systems, the incumbency advantage of candidates is driven by better slate positions, which effectively highlights the importance of political experience for intra-party position and slate position. Studying the role of quality (valence) of candidates on their slate positions, Buisseret et al. (2022) provide robust evidence that in the PR system (similar to the one studied in this paper), candidates are ranked according to their quality in descending order. We add to this literature by providing novel evidence on how intra-party value interacts with valence of candidates.

Second, in the theoretical framework, we explicitly consider candidates' participation constraints and thus effectively add the supply side of the candidates' market. While candidates' participation constraint is standard in models of political selection with a focus on the self-selection decisions of candidates, models studying the role of parties in the selection of candidates have neglected it. The candidates' participation constraint allows us to explain an increase in the shares of high-valence candidates and candidates with high intra-party value, as the party expects more mandates to win. Third, contrary to the previous literature that assigns candidates one of two mutually exclusive characteristics, i.e. candidates can be either of high valence (experts) or loyal, we assign candidates two characteristics: levels of valence and of intra-party value. Specifically, we treat the intra-party value as a choice variable of the candidates' problem. We thus can replicate that better-ranked positions tend to be occupied by loyal candidates (party officials and incumbent members of the parliament) showed by Galasso and Nannicini (2015) and at the same time that candidates are ranked in descending order according to their quality

[2]Dal Bó and Finan (2018) provide a comprehensive summary of recent progress in the literature of political selection.

showed by Buisseret et al. (2022).

More broadly, this paper builds on the literature that places political parties and their interests at the center stage of the candidate selection process. Researchers have proposed different reasons why political parties may not strictly prefer high-valence candidates. In Besley et al. (2017), a party leader balances the potential threat of being overthrown by high-quality party members against voters' preference for competent candidates. Mattozzi and Merlo (2015) present a model in which having a strong candidate may discourage other candidates from joining the party; therefore, it may be optimal to recruit only mediocre candidates. Alternatively, Galasso and Nannicini (2011, 2017) proposed that leaders may prefer loyal candidates who, in their models, cannot be of high valence.

The Czech Republic is a convenient case study due to the availability of data, a large number of municipalities, the legal option to make political donations and the duty to declare them, and the presence of the flexible-list PR system in which independent candidates (non-members) are allowed to run on party slates. Nevertheless, we believe the main results that the rank of candidates on slates reflects both public and private values of candidates are generalizable to many elections.

2 Institutional Background and Data

In the Czech Republic, public administration is organized into three levels: central, regional, and municipal. There are more than 6,000 municipalities, and each has its council and representatives who are elected every four years. The number of mandates in a municipal council depends on the number of citizens and varies from 5 in the smallest municipalities to 70 in the capital city of Prague. Municipalities are responsible for delivering public goods including schooling, municipal infrastructure, and waste management. Around 200,000 candidates run in every municipal election, and roughly one-third win a council mandate. Generally, about half of the candidates run on the slate of a local branch of a national party, while the rest run on a slate of one of the purely local parties or on a slate of independent candidates.

Municipal elections in the Czech Republic are classified as flexible-list elections. Parties rank candidates on the slates, but voters may cast votes for their preferred candidates. Each voter has as many votes as there are mandates to be allocated. Voters can follow one of three voting strategies. First, they can cast all their votes for one party. Second, they can distribute votes preferentially to different candidates regardless of the slate they are listed on. Third, they can combine the two approaches, i.e. allocate some votes directly to preferred candidates and the remaining votes to a party. In that case, the remaining

votes are assigned to the top-ranked candidates on the party slate. The top-ranked candidates thus mechanically receive more votes. No one can give more than one vote to any candidate. The number of candidates on the slate of a party is limited to, at most, the number of mandates in the municipal council. The allocation of mandates to parties is determined using the D'Hondt method based on all votes the party received, including those allocated to individual candidates as preferential votes.[3] If a candidate receives at least 110% of the votes of the party average per candidate, then he automatically skips to the top of the slate. Over the past five municipal elections, 15% of mandates were assigned to candidates who received enough preferential votes to skip higher in the ranking, and who would not have won the mandates otherwise. The remaining 85% of mandates were assigned to the candidates at the top of the slate - i.e. those pre-selected by the party.

The available data consist of individual candidates for each election from 2002 to 2018. We observe each candidate's name, age, academic degree, place of residence, occupation, party membership, the party they run for, position on the slate, the number of votes received, and elected status.[4] To create a panel structure, we match candidates across different types of elections (municipal, regional, parliamentary) and different election years. Unfortunately, the candidates do not have individual unique identifiers. Instead, we match them using their characteristics including name, surname, year of birth, education level and, where possible, place of residence.[5] We focus on 21,442 slates of local branches of one of the six main national political parties (KDUCSL, CSSD, KSCM, ODS, TOP09, ANO)[6] in 5 municipal elections (2002, 2006, 2010, 2014, and 2018). Local branches of national parties tend to have an organized internal structure. They usually have enough candidates to fill the slate up and tend to participate in elections regularly and repeatedly. On the contrary, local parties and slates of independent candidates often lack continuity, are restricted to specific municipalities, and are not internally organized. They, therefore, do not provide us with the necessary variation.

The Czech legal system allows both individuals and firms to make donations to political parties. Political parties have to disclose a list of all donors, including additional individual information, every year. We collect the data on donations made by individuals and firms between 1995[7] and 2019 and match it with a dataset of candidates. We thus identify candidates who made donations to the party on whose slate they run (either

[3]To be considered for mandates, a party needs to pass an electoral threshold, i.e. receive a certain percentage of total votes.

[4]Occupation and place of residence are self-reported.

[5]We perform robustness checks by matching female candidates whose surnames might have changed after marriage using all the usual characteristics except surname, and none of the analysis changes.

[6]Note that TOP09 only participated in three elections and ANO in two elections.

[7]Prior to 1999, parties were not obliged to publish donations of less than CZK 100,000.

personally or through a firm that they own or represent) and classify them as candidate-donors.[8]

Political parties differ in the amounts of donations they receive from candidates running on their slates. For example, ODS, a liberal-conservative political party, collects significantly more funding through its candidates than other political parties. With several exceptions such as significant donations in years of their establishment (TOP09 in 2009 and ANO in 2011), candidates' donations follow electoral cycles. In election years and years just prior to elections, parties tend to receive more funding than in other years. See Figure 5 in Appendix A for more details.

3 Empirical Evidence

3.1 Types of Candidates

The rank of candidates on the slate is determined by many aspects including the characteristics of the candidates (e.g. political experience and ability), internal party organization, municipality and voters' characteristics, and political competition. We focus on candidates' valence and their intra-party value, and document that both play a major role in explaining the ranking of candidates on slates. Valence represents the public value of candidates, i.e. the characteristic that voters care about, while intra-party value is any characteristic that the party itself appreciates.

We classify the valence of candidates by their education level. We consider candidates as being of high valence if they have obtained at least a college degree and of low valence otherwise. This approach is standard in the literature of political selection (e.g., Dal Bó et al., 2009; Ferraz and Finan, 2009).[9] Importantly, Buisseret et al. (2022) show that education displays similar patterns on slates as other (potentially better) measures of the quality of politicians such as perceived leadership ability, cognitive scores, and labor market income, providing support for our use of the measure.[10]

We use two distinct measures to quantify the intra-party value of candidates: (i) party membership status; and (ii) party donations. Candidates in any election can run on a party's slate even if they are not formal party members. On the slate, such candidates are labeled "without political affiliation". Candidates who are party members are labeled with the party name. Being a member of a political party often comes with costs. At

[8] We link the donations of firms to their owners, executive directors, or board members who run for office.

[9] Dal Bó et al. (2017) argued that while education is correlated with ability, it may also reflect luck or social class.

[10] We replicate our results using a finer measure of educational attainment and report the results in Appendix A.

the very least, all members pay a membership fee. Furthermore, they are often required to provide unpaid help with fundraising, organization, campaign, and other activities. Finally, being publicly affiliated with a political party comes with a reputation cost.

Table 1: Shares of Types of Candidates

	High Valence			Low Valence		
	Member	Non-Member	Total	Member	Non-Member	Total
Donors	1.40%	0.21%	1.61%	0.93%	0.15%	1.08%
Non-Donors	10.93%	14.79%	25.73%	29.51%	42.07%	71.58%
Total	12.33%	15.01%	27.34%	30.44%	42.22%	72.66%

In our primary specification, a candidate is classified as a party donor if: (i) he or a firm that he owns or represents is listed as a donor by the party he runs for, and (ii) the timing of the donation is close to the election, specifically the year prior to municipal elections, the election year, or one year after.[11] Nevertheless, our results are robust to different definitions of donors. We replicate the main results using donations from the election year and the year before the election. We refer to this definition of donors as contemporary donations. Donors in our dataset tend to be more educated, experienced in politics, and more likely to be males. Table 1 shows that roughly 27% of candidates are of high valence and 73% of low valence. More than 42% of candidates are party members, while only a little over 2.5% are party donors.

3.2 Slate Structure

The number of candidates on slates differs across municipalities, parties, and election years. In order to compare the ranking of candidates across different slates, we define *Rank* as the position on the slate normalized to be within the [0,1] interval, where 0 is the top position on the slate and 1 is the bottom.[12] We use this measure of *Rank* throughout this section. In Appendix A, we replicate the main results using candidates' positions on the most common slates with 15 and 21 candidates, respectively.

Party Members Candidates classified according to their valence and party membership status are systematically ranked on the slate. Figure 1a documents the pattern using the average *Rank* of different candidate types. High-valence members are, on average, placed in better-ranked positions than other groups. In contrast, low-valence

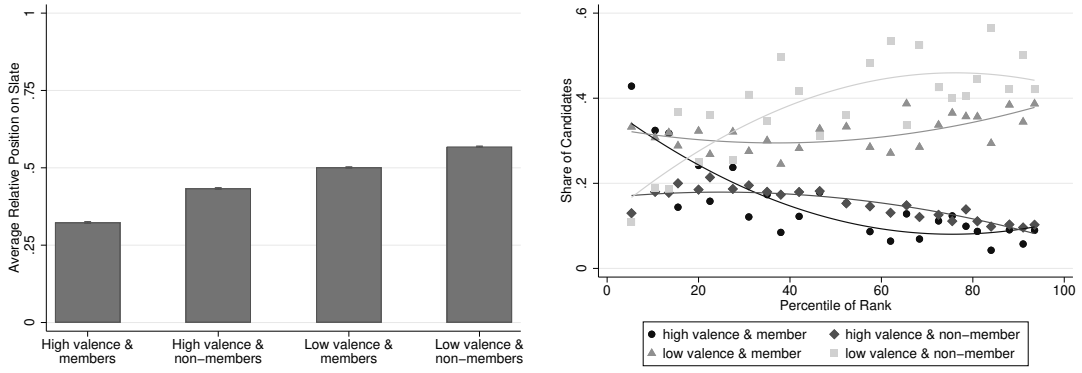
[11] The time window of three years around the election is motivated by anecdotal evidence that suggests that candidates sometimes donate money after the election if elected.

[12] *Rank* of a candidate i, placed on k-th position on a slate with n candidates, is $\frac{k-1}{n-1}$.

non-members are placed in the worst-ranked positions in slates, and their average position is in the bottom half of the slate. Figure 1b plots shares of different candidate types on different slate ranks. The x-axis shows a percentile of the variable *Rank*, while the y-axis shows the shares of the different groups of candidates within the corresponding percentile of *Rank*. Roughly a third (31 %) of the candidates placed in the top decile of the *Rank* are classified as high-valence party members; another third (34.9 %) consists of low-valence party members; and non-members of both levels of valence occupy the rest. Towards the bottom of the slate, the share of low-valence non-members increases, while the share of high-valence candidates, both members and non-members, decreases. Overall, as we move from the top-ranked positions to the bottom of the slate, high-valence candidates (both members and non-members) are gradually replaced by low-valence candidates (both members and non-members).

Observation 1 (Slate Structure - Party Members)**.** *Candidates are on average ranked as follows: (i) high-valence members at the top; followed by (ii) high-valence non-members; (iii) low-valence members; and (iv) low-valence non-members at the bottom of the slate.*

Figure 1: Slate Structure for Members



(a) Average *Rank*

(b) Share of Types by Rank

Notes: Panel A shows the average *Rank* of different types of candidates. The lower the average *Rank* is, the better slate position. 95 % confidence intervals are displayed. Panel B shows shares of different types for different percentiles of *Rank*.

Party Donors We next use party donations as a measure of the intra-party value of candidates. This leads to a new classification of the four groups: high-valence donors, high-valence non-donors, low-valence donors, and low-valence non-donors. As expected, high-valence party donors are over-represented in the best-ranked positions and under-represented in the worst-ranked positions, while the opposite is true for low-valence non-donors. However, the two middle groups switch their positions; low-valence donors are

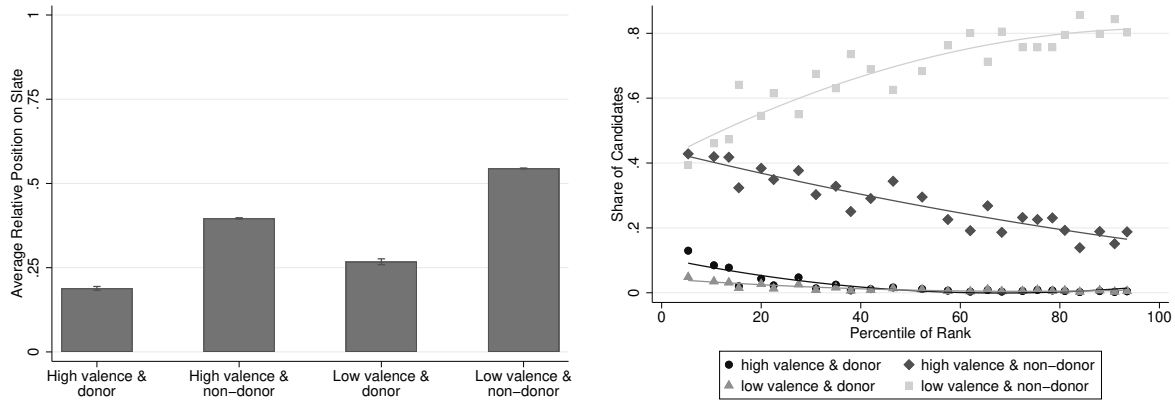
on average ranked better than high-valence non-donors. Applying an alternative and arguably more costly measure of intra-party value leads to a switch between the two types of candidates: low-valence candidates with more intra-party value tend to be in better positions than high-valence candidates with low intra-party value.

Figure 2a shows the average *Rank* of different candidate types. The average position of both high-valence and low-valence donors is around the top quarter of slates. Figure 2b plots the shares of candidate types across the percentile of slate positions. Donors are placed almost exclusively in the best-ranked positions. Roughly 80% the worst-ranked positions are occupied by the low-valence non-donors.

Observation 2 (Slate Structure - Party Donors)**.** *Candidates are on average ranked as follows: (i) high-valence donors; (ii) low-valence donors; (iii) high-valence non-donors; (iv) low-valence non-donors.*

In appendix A, we replicate the figures for both members and donors using only novice candidates, and candidates from slates that consist of at least one candidate of each group.

Figure 2: Slate Structure for Donors



(a) Average *Rank*

(b) Share of Types by Rank

Notes: Panel A shows the average *Rank* of different types of candidates. The lower the average *Rank* is, the better slate position. 95 % confidence intervals are displayed. Panel B shows shares of different types for different percentiles of *Rank*.

3.3 Intra-party Value and Slate Rank

We next estimate a pooled OLS and fixed effect model, to provide additional evidence that membership status and party donations are associated with better-ranked positions and a higher probability of being placed in electable positions.

The data are organized in an unbalanced panel with an individual candidate in a given election year being the unit of observation. If a candidate does not run in a certain year, he is missing from the data in that year. We run two empirical specifications: i) a pooled OLS and ii) individual fixed effect models. The latter specification looks as follows:

$$y_{i\tau} = \alpha_i + \beta_1 Donation_{i\tau} + \beta_2 Membership_{i\tau} + \beta_3 Incumbent_{i\tau} + \sum_k \beta_4^k Prev\ Mandate_{i\tau}^k + \sum_m \beta_5^m Prev\ Candidate_{i\tau}^m + \sum_l \beta_6^l Party\ PolCycle_{i\tau}^l + \varepsilon_{i\tau}, \quad (1)$$

where y represents *Rank* or *Electable Position*, an indicator which equals 1 if the candidate's slate rank would win a seat if the party received as many seats as it did in the previous elections, and 0 otherwise.[13] *Donation*, *Membership*, and *Incumbent* are dummy variables. *Donation* equals to 1 if the donation was made the year prior to the elections, the year of the elections, or the year after. *Prev Mandate* and *Prev Candidate* are vectors of dummy variables that capture how many times the candidate has received a mandate and has run in municipal elections, respectively. Finally, *Party PolCycle* is a vector of dummies for each combination of a political party and political cycle. In a pooled OLS specification, we further control for candidates' gender and *Degree*.[14]

Column 1 in Table 2 reports estimates from the pooled OLS regression with *Rank* as the dependent variable and shows that the coefficient on *Donation* is negative, suggesting that donors are placed in better-ranked positions, even conditional on other observed characteristics. The effect of party membership status is also negative but of a lower magnitude. As expected, *Degree*, our measure of candidates' valence, is also associated with a better-ranked position. Column 2 shows how candidates' characteristics are related to the probability of being placed in electable positions. Party donation is associated with a 18 percentage point increase in the probability of being placed in an electable position. Similarly, party membership status also appears to be linked positively to the probability of being placed in electable positions, increasing the probability by 5 percentage points.

Columns 3 and 4 report results from the fixed effects model that controls for the time-invariant unobservable characteristics of candidates, such as their ability. Becoming a party member and a party donor is associated with better-ranked positions on the slate and with a higher probability of being placed in electable positions. For example, becoming a donor is associated with a 10.6 percentage point higher likelihood of being

[13] Our results are robust to several different definitions of electable positions, including the average, minimum, and maximum of mandates the party won in several recent elections in the municipality.

[14] Table 8 in Appendix A replicates the results using contemporary donation and a finer measure of educational attainment.

Table 2: Intra-party Value and Slate Rank and Electable Position

	Rank	Electable Position	Rank	Electable Position
Donation	-0.139***	0.184***	-0.054***	0.106***
	(0.003)	(0.005)	(0.004)	(0.008)
Membership	-0.075***	0.050***	-0.106***	0.109***
	(0.001)	(0.001)	(0.004)	(0.006)
Incumbent	-0.113***	0.498***	-0.065***	0.388***
	(0.003)	(0.004)	(0.003)	(0.006)
Degree	-0.116***	0.065***		
	(0.001)	(0.002)		
Individual FEs	No	No	Yes	Yes
Slate	All	All	All	All
N	275,421	275,421	275,421	275,421

Standard errors in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

Notes: In each specification, we control for a combination of party and political cycle, previous political experience, which includes running and receiving a mandate in municipal elections. In specifications without individual fixed effects, we further control for gender.

placed in an electable position, and becoming a member with a 10.9 percentage point increase in the likelihood. To interpret the size of the effect, consider a median length slate of 15 candidates. Becoming a party donor is associated with a rank improvement by almost one position and becoming a party member by a little over 1.5 positions. We cannot rule out that the results are driven by some time-varying characteristics, such as an increased interest in a political career, that would place the candidate in better positions on the slate and at the same time increase his likelihood of becoming a party member and/or party donor.

Observation 3 (Intra-party Value of Candidates)**.** *Being and becoming a member and/or a donor is associated with a shift towards better-ranked positions and an increase in the probability of being placed in an electable position.*

3.4 Intra-Party Value and Electoral Performance

We next provide evidence that conditional on the level of valence, slate position, incumbent status, and other observable characteristics, candidates with higher intra-party value receive fewer votes than their counterparts with lower intra-party value. Candidates who are valued by party leaders for their intra-party value appear not to be equally popular among voters.

Since the electoral system mechanically favours better-ranked candidates and since slates have different lengths in different municipalities, a simple comparison of votes cast for different candidates is not informative about candidates' electoral performance. Instead, we define a candidate i's $Relative\,Votes$ as a ratio of votes a candidate i received and the slate's average number of votes per candidate (a candidate with the average number of votes has $RelativeVotes_i$=1). To compare candidates running on slates of different lengths, we control for either (i) a polynomial function of $Rank$; or (ii) dummy variables for each slate position for slates with 15 and 21 candidates. The former specification looks as follows:

$$y_{i\tau} = \alpha + \beta_1 Donation_{i\tau} + \beta_2 Membership_{i\tau} + \beta_3 Incumbent_{i\tau} + \sum_k \beta_4^k Prev\ Mandate_{i\tau}^k$$
$$+ \sum_m \beta_5^m Prev\ Candidate_{i\tau}^m + \sum_l \beta_6^l Party\ PolCycle_{i\tau}^l + \sum_{p=1}^{5} \beta_7^p Rank_{i\tau}^p + \varepsilon_{i\tau}, \qquad (2)$$

where y stands for $Relative\,Votes$. Specifications for slates with 21 and 15 candidates rely on a vector of dummies for each position instead of the polynomial function of $Rank$. Table 3 shows results for four specifications.

The results presented in the first column of Table 3 suggest that party members

Table 3: Intra-party Value and Slate Rank and Electable Position

	Relative Votes	Relative Votes	Relative Votes	Relative Votes
Membership	-0.044***	-0.045***	-0.053***	-0.065***
	(0.001)	(0.001)	(0.002)	(0.002)
Donation	-0.062***		-0.030***	-0.029***
	(0.003)		(0.008)	(0.009)
Incumbent	0.030***	0.029***	0.024***	0.038***
	(0.003)	(0.003)	(0.008)	(0.005)
Degree	0.074***	0.074***	0.065***	0.086***
	(0.001)	(0.001)	(0.002)	(0.002)
Contemporary Donation		-0.061***		
		(0.004)		
Polynomial Rank	Yes	Yes	No	No
Slate Positions Dummies	No	No	Yes	Yes
Sample	All	All	21 candidates	15 candidates
N	274,670	274,670	49,660	95,448

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: We control for a party and year fixed effects, and their interactions, candidates' age and gender, previous political experience which includes running and receiving a mandate in municipal, regional, and parliamentary elections.

receive 4.4 percentage points fewer $RelativeVotes$ than party non-members would receive, keeping everything else the same. Suppose, for example, that the predicted $RelativeVotes$ for a top-ranked position are 140% of the slate average votes, then, if a party member runs on that slate position, he receives only 135.6% of the slate average votes. Similarly, party donors receive 6.2 percentage points fewer $Relative\,Votes$ than non-donors. The second column replicates the results using contemporary donations with the results remaining unchanged. Similarly, the results for slates with 21 and 15 candidates, presented in the third and fourth columns, resemble results from the main specification; party members and party donors receive significantly fewer $Relative\,Votes$ than their counterparts.

There are two possible explanations as to why members and donors receive relatively fewer votes. First, voters dislike members and donors in general, and second, candidates with intra-party value are negatively selected based on some characteristics that are unobservable to us, but observable to voters at the time of the elections. While we cannot rule out any of the explanations, we consider the latter much more plausible, as the list of political donors is publicly available only a year after the election. Donors are thus rarely known at the time of the election. Additionally, since members and non-members run on the same slate, i.e. the same party in the same municipality, we view it as unlikely that voters would punish a more formal link to the party they vote for.

We therefore argue that donors and members tend to be negatively selected and differ in some, for us unobserved, characteristics such as individual quality, reputation, political scandals, charisma, and credibility that are, however, observable to voters. Similarly, donors and members may be less motivated and exhibit less effort during the electoral campaign (see Cox et al., 2021, for a similar problem). Regardless of the exact channel, from the party leader's perspective, it is important that candidates with intra-party value under-perform and receive fewer votes than their counterparts.[15]

Observation 4 (Electoral Performance of Candidates)**.** *Conditional on slate position, educational attainment, incumbent status, and other characteristics of candidates and the party, candidates with higher intra-party value tend to receive fewer votes.*

3.5 Popular Parties and Valuable Candidates

We next show that as a party becomes more popular and expects more mandates, there are more valuable candidates on the slate. Suppose a popularity index for each party at the municipal level, which is, at least to some extent, visible to the voters, but not to us.

[15]It is still possible and consistent with our results that placing a donor on a party slate could improve the electoral outcome. For example, if the funds donated enable the party to run a campaign that attracts many voters, and if the funds would not be available without the donor being placed on the party slate. In such a case, it may be worth keeping the under-performing donor on the slate.

Our only observable realization is through election results. As the popularity of the party increases, so does its share of votes. We measure a party's popularity by the share of votes the party received in the most recent parliamentary election at the municipal level. We show that, after a party becomes more popular, it places weakly more high-valence candidates and significantly more candidates with high intra-party value on the slate. Observation 5 is thus consistent with the interpretation that a more popular party can attract more high-valence candidates and prompt them to increase their intra-party value i.e. become a member and make donations.

Observation 5 (Popularity of Parties)**.** *After a local popularity shock, there are on average weakly more high-valence candidates and significantly more candidates with high intra-party value on the slate. In particular, the share of high-valence candidates with high intra-party value increases, while the share of low-valence candidates with low intra-party value decreases. This holds for both party membership status and party donations.*

To measure the popularity of parties and its changes at the municipal level, we rely on party vote shares in the parliamentary elections that are available at the municipal level. Conveniently, parliamentary elections take place from 4 to 12 months prior to municipal elections. Figure 3 shows the sequence of parliamentary and municipal elections in different years. Our empirical specification controls for time-party and municipality-party fixed effects, and the identification is thus based on the time variation in municipal political preferences that is orthogonal to changes in national political preferences and to long-term geographical variation in political preferences. For example, the local perception of national or regional policies promoted by a given political party generates such variation.[16] Furthermore, we control for time-varying slate structures at the regional level, and thus any within-party organizational changes (e.g. party level demand for donors) in slate formation are filtered out.

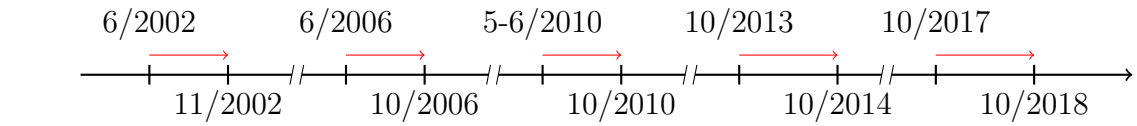
For both our measures of intra-party value and for each candidate type g, we run the following regression.

$$Share^{g}_{pj\tau} = \alpha^{g} + \beta^{g} PE\ ShareVotes_{pj\tau} + \sum_{k \in \{HM,HN,LM\}} \delta^{k} PE\ Share^{k}_{p\tilde{j}\tau} + \gamma^{g}_{pj} + \gamma^{g}_{p\tau} + \epsilon^{g}_{pj\tau} \tag{3}$$

where p denotes a political party, j municipality, τ is a political cycle, i.e. a sequence of parliamentary and municipal elections, and k is a type of candidate: high-valence with high intra-party value (HM,HD), low-valence with high intra-party value (LM,LD),

[16] National policies promoted by a given political party may affect municipalities differently depending on their local demographic and economic conditions.

Figure 3: Sequence of Elections



Notes: This figure shows the sequence of parliamentary and municipality elections over time. As a rule, the parliamentary elections (above the timeline) take place several months before the municipal elections (below the timeline).

high-valence with low intra-party value (HN), and low-valence with low intra-party value (LN). $PE\,ShareVotes_{pj\tau}$ is the share of votes that a party p received in municipality j in the parliamentary elections during a political cycle τ, and finally $PE\,Share^{k}_{p\tilde{j}\tau}$ captures the share of candidates of group k on the slate of party p in the parliamentary elections in the electoral region $\tilde{j}$ and political cycle τ. In parliamentary elections, parties form an individual slate in each of fourteen regions $\tilde{j}$, and each municipality j belongs to exactly one region. We include $PE\,Share^{k}_{p\tilde{j}\tau}$ to control for the effect of the structure of the slate in the particular region - i.e. to control for the possibility that a party receives more votes in a given municipality not because it gained popularity, but because it formed a particularly good slate in the parliamentary elections.

3.5.1 Party Membership

An increase in a party's share of votes in a parliamentary election is associated with an increase in the number of party members on the slate in the subsequent municipal election. Formally, we run Regression 3 separately for each type of candidate g.

Table 4: Changes in Party Popularity and Shares of Members

	Share of HM	Share of HN	Share of LM	Share of LN
PE Share Votes	0.080***	-0.033	0.352***	-0.400***
	(0.017)	(0.024)	(0.033)	(0.036)
N	21,442	21,442	21,442	21,442
Party Year FE	Yes	Yes	Yes	Yes
Party Municipality FE	Yes	Yes	Yes	Yes
PE Share of HM, HN, and LM	Yes	Yes	Yes	Yes

Robust standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

A percentage point increase in the vote share in a parliamentary election in a given municipality is associated with an increase of 0.08 percentage points (0.8%) of the share of high-valence members in the subsequent municipal election. The results further show that the share of low-valence members increases by 0.35 percentage points (1.2%) and the share of low-valence non-members decreases by 0.40 percentage points (0.85%). Overall, low-valence non-members, who are arguably the least valuable to the party leader, are squeezed out and replaced by more valuable types of candidates as the party's popularity increases. An increase in the vote share in a parliamentary election is followed by a municipal election slate that includes more high-valence candidates and strictly more party members. Considering a slate of a median length, i.e. 15 candidates, receiving an additional 14 percentage points of votes in parliamentary elections implies one additional member in the subsequent municipal election.

3.5.2 Party Donors

The effects for party donors are qualitatively equivalent. An increase in the vote share of a party in a parliamentary election is connected to an increase in the shares of high and low-valence donors, while the share of the least valuable candidates, low-valence non-donors, decreases.

Table 5: Changes in Party Popularity and Shares of Donors

	Share of HD	Share of HN	Share of LD	Share of LN
PE Share Votes	0.016*	0.032	0.026***	-0.074***
	(0.008)	(0.027)	(0.008)	(0.027)
N	21,442	21,442	21,442	21,442
Party Year FE	Yes	Yes	Yes	Yes
Party Municipality FE	Yes	Yes	Yes	Yes
PE Share of HD, HN, LD	Yes	Yes	Yes	Yes

Robust standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Receiving 10 additional percentage points in a parliamentary election is associated with a 0.16 percentage point (11.4%) increase in high-valence donors on the slates. Similarly, an increase of 10 percentage points in parliamentary elections implies a 0.26 percentage point (26%) increase in the share of low-valence donors on average. The increase in the share of donors is offset by the share of low-valence non-donors, whose share falls by 0.74 percentage points after a 10 percentage point popularity shock. In Appendix A, we show that the effects are similar for all political parties studied and robust to a different definition of donors using contemporary donations.

4 Interpretation of the Results

4.1 Theoretical Framework

In this section we build a highly stylized framework of the candidate selection process. Our framework may not be the only possible mechanism at play, but we argue that it fits our observations particularly well and it helps us to interpret our findings and formalize the intuition for the observed ranking patterns. We model the selection process as a market of candidates in which a party leader (she) demands candidates' valence and intra-party value in exchange for slate positions, while candidates offer their valence and costly intra-party value in exchange for the probability of winning a mandate. The party leader forms the slate and decides what types of candidates will be placed at what positions on the slate.[17] Her objective is twofold. First, to attract swing voters and thus increase the chances of success in elections, she needs high-valence candidates on the slate. Second, as for her intra-party objective, she maximizes the number of candidates with high intra-party value who bring other valuable resources to the party, such as money (either in the form of membership fees or donations), public and media support and visibility, and voluntary work during the campaign. We consider the problem of a single political party and omit interactions between different parties.

We normalize the slate length to an interval [0,1] and denote a slate rank as $t \in [0, 1]$, such that $t = 0$ is the top rank and $t = 1$ the bottom. Any candidate placed on a slate rank t has two indicator characteristics: (i) valence v; (ii) intra-party value m. If a candidate placed on t rank is of high valence, then $v(t) = 1$, otherwise $v(t) = 0$. Similarly, if a candidate placed on t rank has high intra-party value, then $m(t) = 1$, otherwise $m(t) = 0$. The key object of our framework is a slate characterized by $(v(t), m(t))$, where $v(t) : [0, 1] \mapsto \{0, 1\}$ and $m(t) : [0, 1] \mapsto \{0, 1\}$, so it maps each slate rank t into a space of the characteristics of the candidates placed in that position.

For tractability, we highly simplify voters' behavior. As is common in the literature, we assume there are two types of voters: (i) party core voters; and (ii) swing voters. Core voters always vote for their preferred party, and the party receives α votes from its core voters. The decisions of swing voters depend on the overall valence of the slate. We assume that voters are more sensitive to the valence of the top-ranked candidates than to valence of those at the bottom of the slate.[18] Specifically, swing voters care about an

[17] For the conceptual framework, it does not matter whether the party leader is a single person or a committee. We talk about a party leader purely for simplification.

[18] Two reasons support this assumption. First, in a flexible-list electoral system, top-ranked candidates are more likely to be elected due to mechanical reasons. Hence, being more sensitive to the top-ranked candidates follows from maximizing the expected valence of elected candidates. Second, if voters are inattentive, they are likely to pay attention to the more pronounced or salient candidates, i.e. the candidates at the top of the list.

aggregate measure (weighted average) of the valence of the slate $\bar{v} = \int_0^1 g(t)v(t)dt$, where $g(t)$ is a weighting function satisfying $g'(t) < 0$ and $g(1) > 0$. The party receives $\delta\bar{v} + \epsilon$ votes from swing voters, where ϵ is random noise with a mean of zero. The behaviour of voters therefore yields the following probability of winning a mandate.

$$P(\text{winning a mandate}|\alpha, \bar{v}, t) = P(\alpha + \delta\bar{v} + \epsilon \geq \omega_t) \tag{4}$$

where ω_t is a unique threshold for a rank t. The probability is increasing in α and $\bar{v}$, but decreasing in t, as ω_t is increasing in t. Any model of voting behavior with these characteristics is consistent with our framework. Importantly, the individual candidate's probability of winning a mandate is a function of the party's popularity (α), the candidate's slate rank (t), and the overall aggregate valence of the slate ($\bar{v}$). A crucial aspect of our setup is that voters do not care about intra-party value, only valence.[19]

There are two infinitely large pools of candidates: high-valence candidates (with $v = 1$) and low-valence candidates ($v = 0$), who differ in their opportunity cost of running; $c^h > c^l = 0$, so that candidacy is more costly for high-valence candidates. We set the cost of running for low-valence candidates at zero.[20] In order to ensure a better slate position, candidates can perform a costly action a, pay cost c^a and become intra-party valuable ($m = 1$). This can take the form of an active party membership status ($a = M$) or a financial donation to the party ($a = D$). Candidates value a mandate that brings them a benefit b, and they maximize their expected benefit minus cost.

Party leader forms a slate and seeks to maximize her value function

$$V(\bar{v}, \bar{m}) = \bar{v} + \gamma^a \bar{m},$$

where $\bar{v} = \int_0^1 g(t)v(t)dt$ is the measure of overall valence of the slate that follows from the electoral success motive. As $\bar{v}$ increases so does the expected number of mandates. Additionally, the party value function is increasing in the share of candidates on the slate with high intra-party value, $\bar{m} = \int_0^1 m(t)dt$. The coefficient γ^a captures the relative importance of $\bar{m}$ compared to $\bar{v}$. The party leader's value function is strictly increasing with every additional high-valence candidate and with every additional candidate with high intra-party value, holding the rest of the slate constant.[21]

[19] This assumption is easier to justify in the case of political donations, which are not visible to voters at the time of the elections.

[20] This ensures that some candidates are willing to run even in the bottom positions with zero probability of being elected.

[21] The objective function of the party leader should be thought of as induced preference over candidate types that reflects the leader's preference for candidates with intra-party value as well as high valence. We assume a very simple value function which is additively separable in valence and intra-party value and where the value of each candidate with high intra-party value is constant. We could also assume that

At time $s = 1$, candidates receive an offer from the party leader to run in a particular position on the slate conditional on having a certain intra-party value, and they must decide whether to accept or reject the offer. When making the decision, candidates compare the expected payoff $P(\alpha, \bar{z}, t)b$ with the cost of running and, if required, the cost of becoming intra-party valuable. The offer is binding, and the party leader cannot change it once it is accepted by a candidate. At the time of the decision, candidates do not know the realized valence $\bar{v}$ of the slate. Instead, they base their decisions on an exogenous prior belief $\bar{z}$. We impose the exogeneity of the candidates' beliefs in order to keep the framework as tractable as possible. At time $s = 2$, the party leader assigns positions to candidates given their valence and their affiliation status, and the aggregate valence of the slate $\bar{v}$ is revealed. At time $s = 3$, the election takes place, votes are realized and mandates are assigned to elected candidates.

4.2 Characterization of the Solution

Four thresholds fully characterize the optimal slate. Three of the thresholds (t_1, t_2, and t_3) represent the supply side of the market and are defined by the participation constraints of candidates, defined by Equations (5) - (7).

$$P(\alpha, \bar{z}, t_1)b = c^h + c^a \tag{5}$$

$$P(\alpha, \bar{z}, t_2)b = c^a \tag{6}$$

$$P(\alpha, \bar{z}, t_3)b = c^h \tag{7}$$

Each threshold represents the worst slate rank for which the corresponding type of candidates is willing to run. For example, for a high valence candidate with low intra-party value the cost of running is c^h; the worst position that ensures that the expected benefit will be at least equal to the cost of running is rank t_3 (7). As a result, this candidate accepts an offer of slate rank t_3 or lower (i.e. better position). Similarly, the threshold for high-valence candidates with high intra-party value is t_1 (5) and for low-valence candidates with high intra-party value t_2 (6).

The fourth condition follows from the party leader's preferences and represents the demand side of the market of candidates. Her objective function implies that (i) she always prefers high valence candidates with high intra-party value over anyone else; (ii) she always prefers anyone else over low-valence candidates with low intra-party value. The only trade-off occurs between high-valence candidates with low intra-party value

the value of each candidate with high intra-party value is decreasing in his rank, t, as we do for valence. If instead of $\gamma\bar{m}$ we had $\tilde{m} = \int_0^1 \tilde{\gamma}(t)m(t)dt$, where $\tilde{\gamma}'(t) < 0$ and $\tilde{\gamma}(1) \geq 0$, as long as $g(0) > \tilde{\gamma}(0)$ and $\tilde{\gamma}'(t) > g'(t)$ for $\forall t$, the results would be qualitatively unchanged.

and low-valence candidates with high intra-party value in the domain of the slate where both types are willing to run. Holding the rest of the slate constant, the marginal value of the valence of a candidate is $g(t)$. Since voters are more sensitive to the valence of the top-ranked candidates, $g(t)$ is decreasing in the slate rank. On the other hand, the marginal value of high intra-party value of a candidate is γ^a, which is constant across all slate ranks. Therefore, there is a unique rank, t_4, for which the party leader is indifferent between high-valence candidates with low intra-party value and low-valence candidates with high intra-party value.

$$g(t_4) = \gamma^a. \tag{8}$$

For all positions ranked better than t_4, the party leader prefers high-valence candidates with low intra-party value, while for all worse-ranked positions she prefers low-valence candidates with high intra-party value.[22] The thresholds might not fall within the [0,1] interval and in that case one or more of the candidate types will not be on the slate at all. In what follows, we assume that all thresholds are within the [0,1] interval and all types of candidates are present.

4.3 Explaining Our Observations

The framework introduced predicts that the ranking of candidates depends on how the thresholds are ordered. The empirically observed ranking of party members is summarized in Observation 1 which states that, on average, high valence members (HM) tend to be placed at the top of the slate, followed by high valence non-members (HN), low valence members (LM) and lastly low valence non-members (LN). Proposition 1 introduces an equivalence relation between threshold ordering and the patterns observed for party members.

Proposition 1 (Membership)**.** *Consider membership as a measure of intra-party value. If and only if* $t_1^M < t_3^M < t_2^M$ & $t_1^M < t_4^M$*, the group order is as follows: (i) HM; (ii) HN; (iii) LM; and (iv) LN.*

Depending on exactly where t_4 lies, there are three different combinations of the thresholds that support the observed data.[23]

Similarly, Observation 2 establishes the ranking among party donors which differs from members in one fundamental aspect: low-valence donors are placed, on average, in

[22]The proof that t_4 maximizes the party leader's problem is presented in Appendix B.

[23]These are: $t_1^M < t_3^M < t_2^M < t_4^M$, $t_1^M < t_3^M < t_4^M < t_2^M$, and $t_1^M < t_4^M < t_3^M < t_2^M$. We are not able to distinguish among the three cases without making additional assumptions or without more detailed data, as they all imply the same ranking.

better-ranked positions than high-valence non-donors. The following proposition argues that there is only one order of the thresholds that can generate the observed ranking among donors. Proofs of both propositions are presented in Appendix B.

Proposition 2 (Donations)**.** *Consider political donations as a measure of intra-party value. If and only if* $t_4^D < t_1^D < t_2^D < t_3^D$*, the group ranking is as follows: (i) HD; (ii) LD; (iii) HND; and (iv) LND.*

The framework enables us to understand the ranking differences between members and donors. First, among donors $t_2^D < t_3^D$, while the opposite is true among members $t_3^M < t_2^M$. Since t_3 is the threshold below which high-valence candidates are willing to run, it is the same in both cases, so $t_3^M = t_3^D = t_3$, which implies that $t_2^D < t_3 < t_2^M$. Therefore, donors must be rewarded with better slate positions than members in order to meet their participation constraints. In other words, donation is more costly than membership ($c^D > c^M$). Second, the value of donors to the party leader exceeds the value of being a party member. That follows from the fact, that for members $t_1^M < t_4^M$, whereas for donors $t_4^D < t_1^D$. These two facts, along with the cost differences described earlier, $c^D > c^M$, yield that $t_4^D < t_1^D < t_1^M < t_4^M$ implying that $\gamma^D > \gamma^M$. Proposition 3 summarizes both implications.

Proposition 3 (Comparison)**.** *Suppose the slate is ranked as proposed in Observations 1 and 2. Then, our theoretical framework implies that becoming a donor is more costly than becoming a member,* $c^D > c^M$*, and that donors are more valuable for party leaders than members of the same valence,* $\gamma^D > \gamma^M$*.*

We thus rationalize the reversal in ranking between party donors and members by donations being more costly for candidates and more valuable for political parties. Finally, our framework predicts that an increase in popularity leads to a higher share of high-valence candidates with high intra-party value and a decrease in low-valence candidates with low intra-party value, which is what we find in the data for both members and donors.

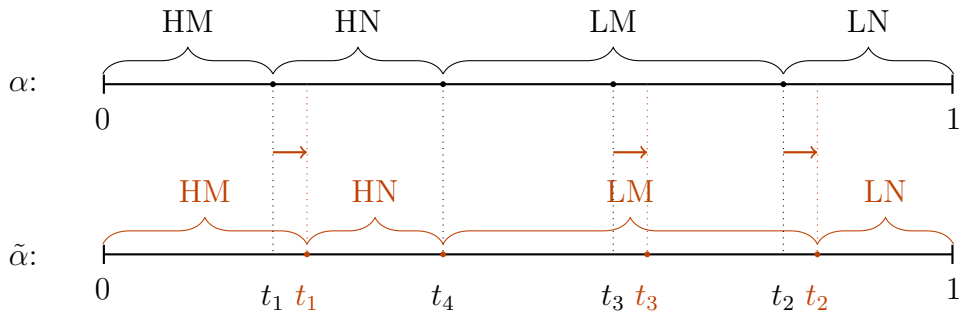
Proposition 4 (Popularity of Parties)**.** *An increase in the popularity of a party represented by an increase in* α *leads to a higher share of high-valence candidates with high intra-party value and a lower share of low-valence candidates with low intra-party value on the slate.*

Proposition 4 follows from relaxing the participation constraints of all candidates. As α increases, so does the probability of being elected at any slate rank. The changes in the shares of the two remaining types of candidates are generally ambiguous and depend

on the relative shifts of different thresholds. The thresholds are complex to characterize, as they depend on several features, including the slope of the probability function. The suggested ranking for donors stated in Proposition 2 additionally implies that the overall share of donors, both with high- and low-valence, always rises when α increases. For members, since there are several possible combinations, not much more can be said about the two middle groups of candidates.

To provide intuition, consider one particular combination of thresholds: $t_1 < t_4 < t_3 < t_2$.[24] As a party experiences a positive popularity shock, the participation constraints relax for all types of candidates. This shifts t_1, t_2, and t_3 towards the bottom of the slate (see Figure 4). Since t_4 does not change, the shares of high and low valence candidates remain unchanged, but the share of members (high and low valence together) increases.

Figure 4: Explaining Membership Data



5 Concluding Remarks

We document a systematic ranking of candidates on slates. High-valence candidates with intra-party value are placed in better-ranked positions, while the least valuable candidates with low valence and low intra-party value occupy the bottom positions. To interpret the observations, we approach the process of the selection of political candidates in PR systems as a market. On the one hand, a party leader (the demand side) demands valence and intra-party value in exchange for slate positions that are more likely to win a mandate. On the other hand, candidates (the supply side) decide on their intra-party value, as they strive to win a mandate on a municipal council.

The systematic ranking of candidates has an important methodological implication. The fact that high-valence candidates and candidates with high intra-party value are over-represented in positions with higher probability of being elected casts doubt on

[24]This is our preferred combination as it unambiguously predicts an increase in members in response to a positive party shock, which is the most pronounced effect that we found in the data.

the frequently used approach that evaluates a slate by considering the simple shares of different groups of candidates on the slate rather than considering their distribution on the slate.

The gate-keeping power of parties is likely to give rise to a principal-agent problem in which party leaders may pursue their private goals in political selection. We argue that the interests of the party leader and (swing) voters are aligned at the top positions where high-valence candidates are willing to increase their intra-party value. The conflict between a party leader's interests and the interests of the public tends to appear at the lower slate positions where the party leader has the opportunity to skew the selection of the candidates in her favor, by prioritizing low-valence candidates with intra-party value rather than high-valence candidates with no intra-party value.

We assign candidates two characteristics, valence and intra-party value, and relax an assumption that the two are mutually exclusive. While this mitigates the principal-agent problem, it may intensify other problems such as rent-seeking. If being of high valence does not guarantee that candidates will be placed in well-ranked slate positions, everyone is incentivized to acquire more intra-party value, which may take various forms and may not be limited to membership status and political donations. In fact, intra-party value can be a very broad concept that can include a variety of attributes. For example, employees of the party, public proponents, or anyone providing services of any kind to the party may be considered of high intra-party value, regardless of whether they are also members or donors. More importantly, any rent-seeking activity that a candidate engages in for the benefit of the political party may be seen by the party leader as increasing his value to the party.

While this paper describes the process of selecting and ordering candidates on a slate as a trade between party leaders and candidates, it is mute about the exact mechanisms. It does not address the structure of the market, nor the forms of contracts between candidates and parties. As candidates and party leaders interact in highly uncertain environments and contracts between them are potentially dynamic, there are other possible research questions to study. For example, who bears the cost of uncertainty? Do candidates in marginal positions make donations prior to an election or only after being elected? Do party leaders enforce party affiliation after the election and does such enforcement depend on the valence of candidates? Furthermore, this paper has not addressed interactions among different political parties within a municipality, but future research may shed light on the influence of political competition on the interaction of parties and candidates.

References

Besley, T., Folke, O., Persson, T., and Rickne, J. (2017). Gender Quotas and the Crisis of the Mediocre Man: Theory and Evidence from Sweden. *American Economic Review*, 107(8):2204–2242.

Buisseret, P., Folke, O., Prato, C., and Rickne, J. (2022). Party nomination strategies in list proportional representation systems. *American Journal of Political Science*, 66(3):714–729.

Caillaud, B. and Tirole, J. (2008). Parties as Political Intermediares. *Quarterly Journal of Economics*, 117(4):1453–1489.

Cirone, A., Cox, G. W., and Fiva, J. H. (2021). Seniority-based Nominations and Political Careers. *American Political Science Review*, 115(1):234–251.

Cox, G. W., Fiva, J. H., Smith, D. M., and Sørensen, R. J. (2021). Moral hazard in electoral teams: List rank and campaign effort. *Journal of Public Economics*, 200:104457.

Dal Bó, E., Dal Bó, P., and Snyder, J. (2009). Political Dynasties. *Review of Economic Studies*, 76(1):115–142.

Dal Bó, E. and Finan, F. (2018). Progress and Perspectives in the Study of Political Selection. *Annual Review of Economics*, 10(1):541–575.

Dal Bó, E., Finan, F., Folke, O., Persson, T., and Rickne, J. (2017). Who Becomes a Politician? *Quarterly Journal of Economics*, 132(4):1877–1914.

Ferraz, C. and Finan, F. (2009). Motivating Politicians: The Impacts of Monetary Incentives on Quality and Performance. *NBER Working Paper Series*, (No. w14906).

Fiva, J. H. and Røhr, H. L. (2018). Climbing the Ranks: Incumbency Effects in Party-list Systems. *European Economic Review*, 101:142–156.

Galasso, V. and Nannicini, T. (2011). Competing on Good Politicians. *American Political Science Review*, 105(01):79–99.

Galasso, V. and Nannicini, T. (2015). So closed: Political Selection in Proportional Systems. *European Journal of Political Economy*, 40:260–273.

Galasso, V. and Nannicini, T. (2017). Political Selection Under Alternative Electoral Rules. *Public Choice*, 171(3-4):257–281.

Mattozzi, A. and Merlo, A. (2015). Mediocracy. *Journal of Public Economics*, 130:32–44.

Appendix A

Table 6: Number of Candidates

Political Party	2002	2006	2010	2014	2018	Total
KDUCSL	17,717	17,930	14,940	14,603	12,238	77,428
CSSD	16,095	16,111	16,884	16,336	11,752	77,178
KSCM	20,717	19,074	17,375	16,083	12,704	85,953
ODS	16,168	19,042	18,757	11,667	10,615	76,249
TOP 09	0	0	9,703	6,363	1,338	17,404
ANO	0	0	0	7,906	7,927	15,833
Total	70,697	72,157	77,659	72,958	56,574	350,045

Notes: Table 6 summarizes a distribution of candidates by party and political cycle. TOP 09 and ANO participated in three and two elections, respectively. We excluded candidates running on joint slates, which explains a significant drop in the number of candidates running on 2018 TOP 09 slate.

Table 7: Shares of Members

Political Party	2002	2006	2010	2014	2018	Average
KDUCSL	37%	34%	31%	27%	27%	31.2%
CSSD	43%	41%	48%	50%	50%	46.4%
KSCM	60%	55%	52%	48%	48%	52.6%
ODS	48%	51%	51%	50%	43%	48.6%
TOP 09	.	.	27%	29%	35%	30.3%
ANO	.	.	.	18%	27%	22.5%
Average	47.0%	45.3%	42.8%	37.0%	38.3%	

Notes: This table shows shares of formal members on parties' slates.

Table 8: Intra-party Value and Slate Rank and Electable Position (Robustness Exercises)

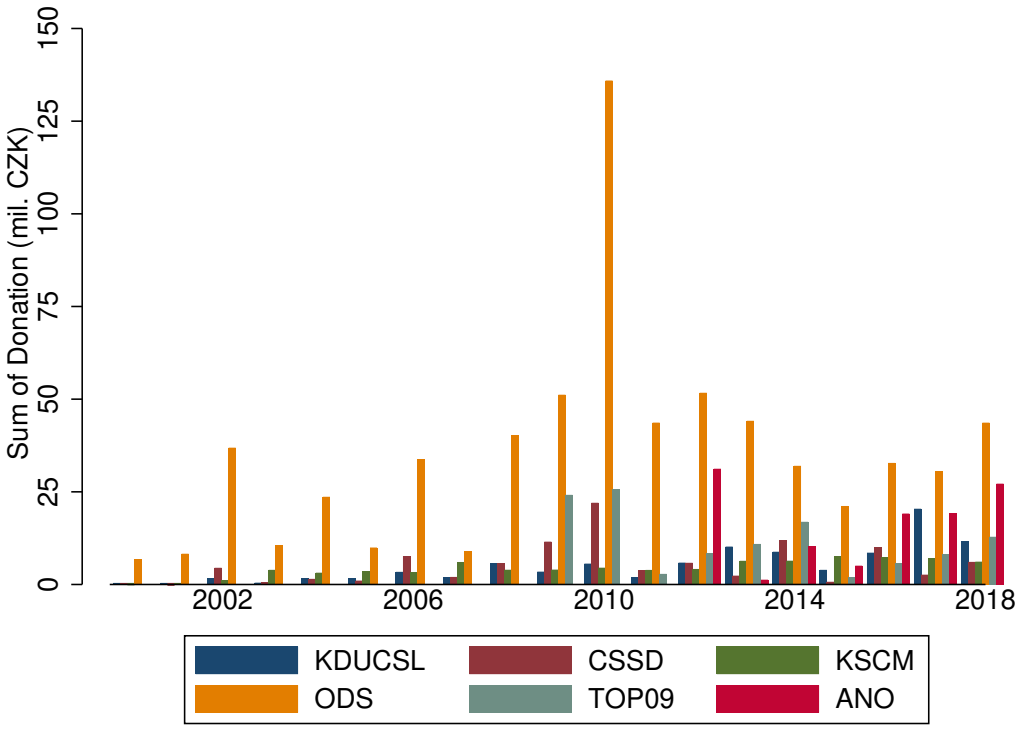
	Rank	Electable Position	Rank	Electable Position	Rank	Electable Position
Donation	-0.138***	0.184***				
	(0.003)	(0.005)				
Membership	-0.075***	0.050***	-0.077***	0.053***	-0.077***	0.052***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Incumbent	-0.113***	0.498***	-0.114***	0.499***	-0.114***	0.499***
	(0.003)	(0.004)	(0.003)	(0.004)	(0.003)	(0.004)
Specialist	-0.077***	0.037***			-0.077***	0.037***
	(0.006)	(0.008)			(0.006)	(0.008)
Undergraduate	-0.109***	0.068***			-0.110***	0.069***
	(0.003)	(0.004)			(0.003)	(0.004)
Business Degree	-0.185***	0.176***			-0.191***	0.183***
	(0.019)	(0.032)			(0.019)	(0.032)
Arts Degree	-0.095**	0.015			-0.095**	0.014
	(0.039)	(0.047)			(0.039)	(0.047)
Master Degree	-0.116***	0.069***			-0.117***	0.070***
	(0.001)	(0.002)			(0.001)	(0.002)
Doctors	-0.113***	0.040***			-0.115***	0.041***
	(0.003)	(0.004)			(0.003)	(0.004)
PhD and higher	-0.163***	0.079***			-0.165***	0.082***
	(0.006)	(0.008)			(0.006)	(0.008)
Contemporary Don.			-0.125***	0.177***	-0.125***	0.177***
			(0.003)	(0.006)	(0.003)	(0.006)
Degree			-0.117***	0.066***		
			(0.001)	(0.002)		
N	275,421	275,421	275,421	275,421	275,421	275,421

Standard errors in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

Notes: This table replicates first two columns of Table 2. Columns 1 and 2 use a finer measure of the educational attainment of candidates and columns 3 and 4 use an alternative definition of donors. Columns 5 and 6 use a finer measure of educational attainments and an alternative definition of donors. We control for candidates' age and gender, political experience, and party-year fixed effects in all specifications.

Figure 5: Total Donation Made by Candidates by Years



Notes: The figure shows donations by year made by candidates who run on a slate of the political party in any municipal election.

Table 9: Changes in Party Popularity and Shares of Donors (Contemporary Donation)

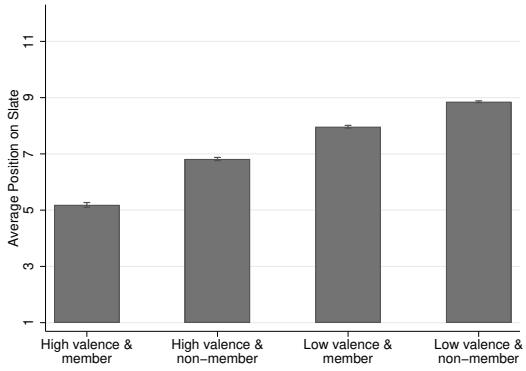
	Share of HD	Share of HND	Share of LD	Share of LND
PE Share Votes	0.027***	0.023	0.028***	-0.078***
	(0.008)	(0.027)	(0.008)	(0.027)
N	21,439	21,439	21,439	21,439
Party Year FE	Yes	Yes	Yes	Yes
Party Municipality FE	Yes	Yes	Yes	Yes
PE Share of HD, HN, LD	Yes	Yes	Yes	Yes

Standard errors in parentheses

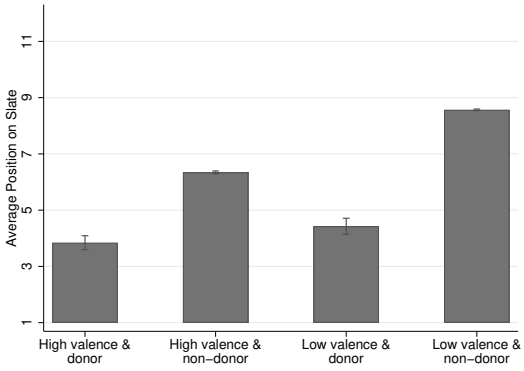
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: This table replicates Table 5 using the contemporary donations to define donors.

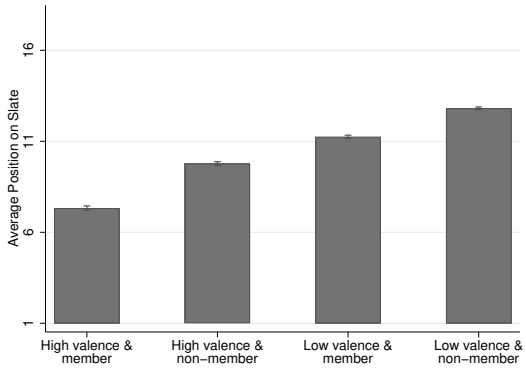
Figure 6: Average Positions on Slates with 15 and 21 Candidates



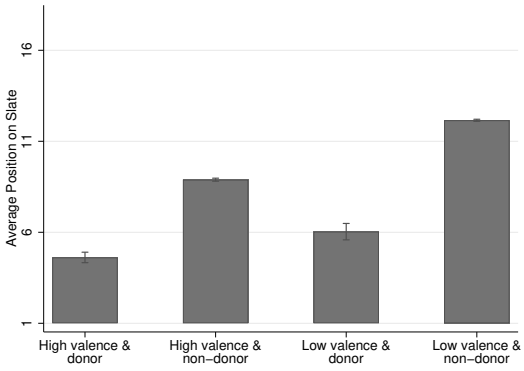
(a) Slates with 15 Candidates (Members)



(b) Slates with 15 Candidates (Donors)



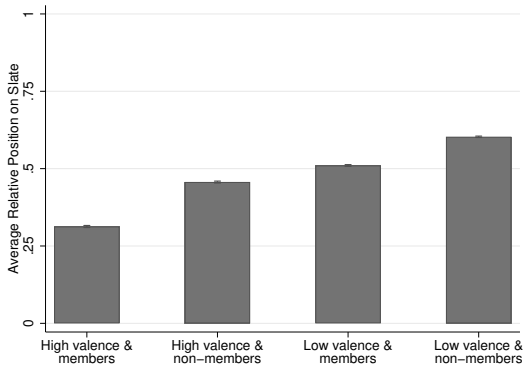
(c) Slates with 21 Candidates (Members)



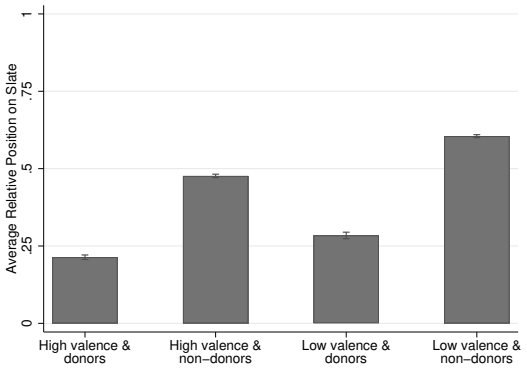
(d) Slates with 21 Candidates (Donors)

Notes: Panels (a) and (b) show the average slate positions on slates with 15 candidates for the four types of candidates defined on membership and donation status, respectively. Panels (c) and (d) show the same for slates with 21 candidates.

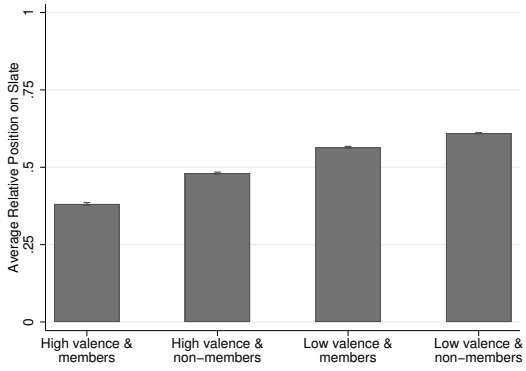
Figure 7: Average Positions on Slates: Alternative Specifications



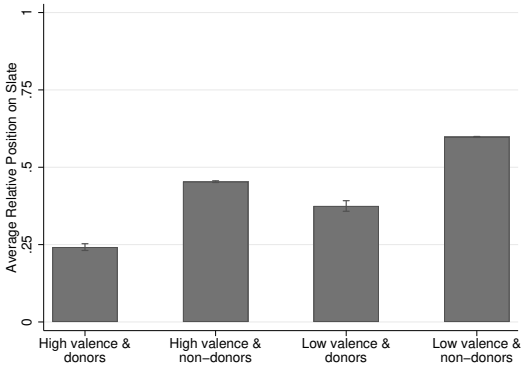
(a) All Types of Candidates (Members)



(b) All Types of Candidates (Donors)



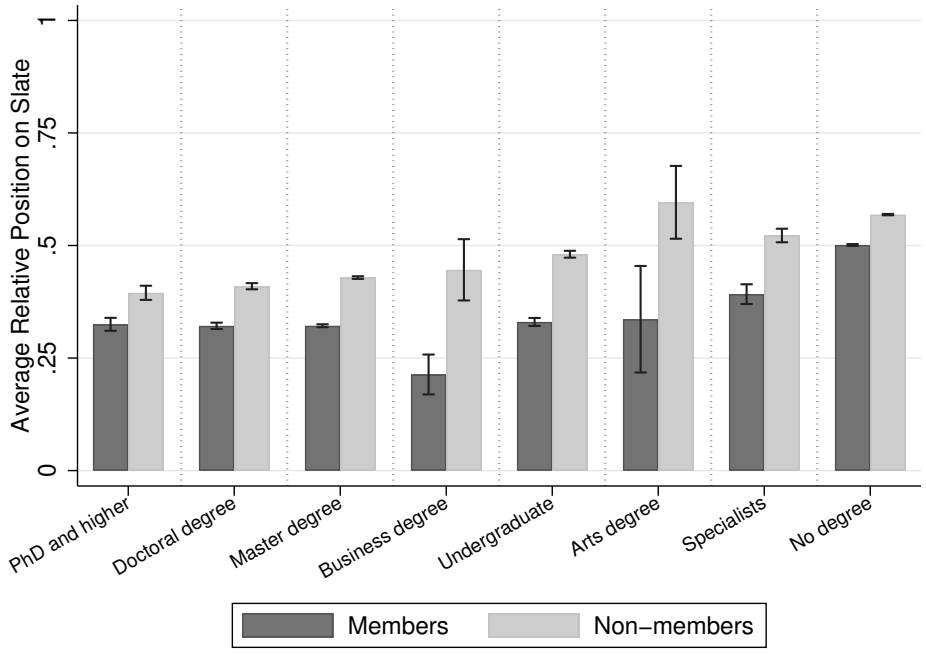
(c) Novice Candidates (Members)



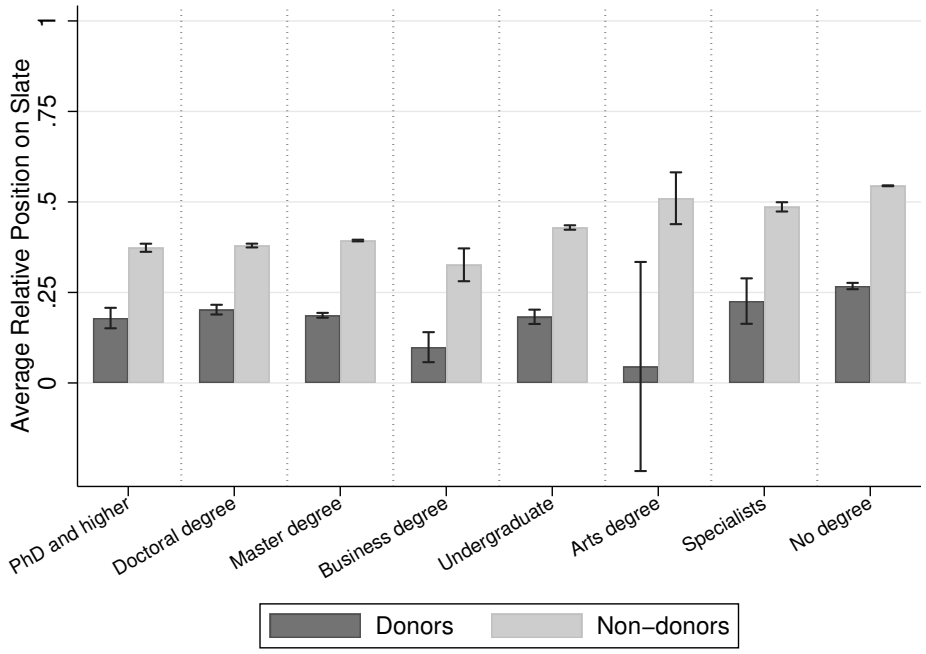
(d) Novice Candidates (Donors)

Notes: Panels (a) and (b) show the average slate positions of candidates running on slates with all four types of candidates for types of candidates defined on membership and donation status, respectively. Panels (c) and (d) show the average rank position only for novice candidates.

Figure 8: Finer Structure of Educational Attainment



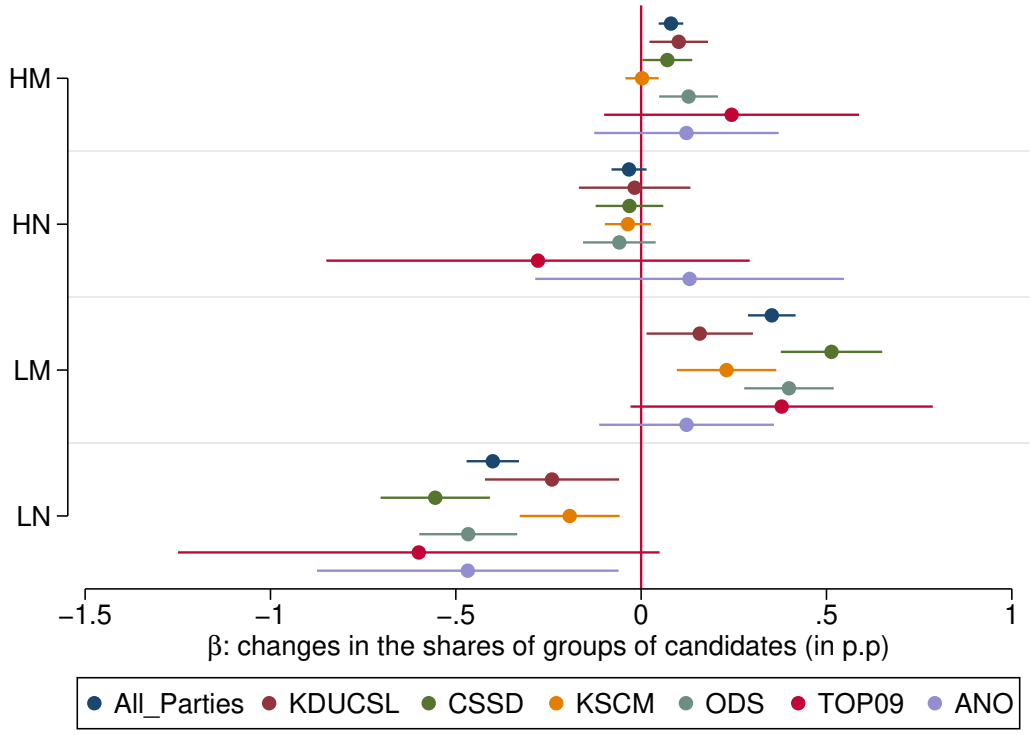
(a) Average Rank Position (Members vs non-members)



(b) Average Rank Position (Donors vs. non-donors)

Notes: The first column in each pair shows the average rank of members and donors, respectively, while the other column shows the average rank of non-members and non-donors.

Figure 9: Changes in Group Shares (Members) by Party



Notes: Figure 9 shows that a positive popularity shock is followed by a weak increase in high-valence members in all parties. The share of low-valence members increases as well. The predicted drop in the share of low-valence non-members is also prevalent among all parties. Estimates for TOP09 and ANO are based on fewer observations, as they participated in three and two elections, respectively.

Appendix B

Lemma 1 (Optimal t_4)**.** *Suppose t_1, t_2, and $t_3 \in [0,1]$. Then t_4 implicitly defined as $g(t_4) = \gamma^a$ is a solution to the party leader's problem. Formally,*

$$t_4 \in \underset{\tilde{t}}{\operatorname{argmax}}\ V(\bar{v}(\tilde{t}), \bar{m}(\tilde{t}) | t_1, t_2, t_3) \tag{9}$$

If $t_4 < min(t_2, t_3)$ then t_4 is a unique solution of the party leader's problem.

$$t_4 = \underset{\tilde{t}}{\operatorname{argmax}}\ V(\bar{v}(\tilde{t}), \bar{m}(\tilde{t}) | t_1, t_2, t_3) \tag{10}$$

Proof. We will solve the party leader's problem. To fix the notation, we use the membership notation for the measure of intra-party value. The party leader chooses a threshold $\tilde{t}$, such that it maximizes her objective function $V(\bar{v}, \bar{m})$:

$$\max_{\tilde{t}} V(\bar{v}, \bar{m}) = \max_{\tilde{t}} \int_{HM} g(t)dt + \int_{HM} \gamma^a dt + \int_{HN} g(t)dt + \int_{LM} \gamma^a dt \tag{11}$$

The first two terms of the objective function are independent of the party leader's choice of $\tilde{t}$. That simplifies the problem into a sum of two integrals.

$$\max_{\tilde{t}} \tilde{V} = \max_{\tilde{t}} \int_{HN} g(t)dt + \int_{LM} \gamma^a dt \tag{12}$$

Remember that t_2 and t_3 are the worst positions from which LM and HN are willing to run, respectively. The only trade-off for the party leader occurs for positions in which both these groups of candidates are willing to run. Therefore, for $\tilde{t} > \min\{t_2, t_3\}$ there is no trade-off and any choice of $\tilde{t}$ maximizes the objective function.

If $\tilde{t} < \min\{t_2, t_3\}$ then the problem looks as follows

$$\max_{\tilde{t}} \tilde{V} = \max_{\tilde{t}} \int_{t_1}^{\tilde{t}} g(t)dt + \int_{\tilde{t}}^{\min(t_2,t_3)} \gamma^a dt, \tag{13}$$

Deriving the first order conditions and denoting the solution as t_4 yields

$$g(t_4) = \gamma^a. \tag{14}$$

□

Proofs of Propositions

We prove Proposition 1 and 2 simultaneously by considering all possible combinations of thresholds and the associated orders of groups of candidates.

There are 24 different combinations in which the four thresholds t_1, t_2, t_3, and t_4 can be ordered on a continuous interval $[0, 1]$. First, it must be the case that $t_1 < t_3$, otherwise intra-party value would impose a negative cost, i.e. $c^a < 0$. Similarly, it must be the case that $t_1 < t_2$, otherwise running would impose a negative cost for high valence candidates, i.e. $c^h < 0$. That leaves eight possible cases.

Second, if all four groups are represented on a slate, it must be the case that $t_2 > \min\{t_3, t_4\}$. Suppose the opposite is true and $t_2 < t_4$ & $t_2 < t_3$, then low valence candidates with high intra-party value (LM candidates) will be willing to run only in positions for which high valence candidates with low intra-party value are preferable and willing to run. Therefore, LM would not be represented on the slate. That excludes additional two combinations.

We are left with six combinations of thresholds. Note that four thresholds divide the slate into five intervals. We next describe which types of candidates (using a notation for membership status) will be in which intervals.

(a) $t_1 < t_3 < t_2 < t_4$ implies the following intervals {HM, HN, LM, LN, LN}

(b) $t_1 < t_3 < t_4 < t_2$ implies the following intervals {HM, HN, LM, LN, LN}

(c) $t_1 < t_4 < t_2 < t_3$ implies the following intervals {HM, HN, LM, HN, LN}

(d) $t_1 < t_4 < t_3 < t_2$ implies the following intervals {HM, HN, LM, LM, LN}

(e) $t_4 < t_1 < t_2 < t_3$ implies the following intervals {HM, HM, LM, HN, LN}

(f) $t_4 < t_1 < t_3 < t_2$ implies the following intervals {HM, HM, LM, LM, LN}

Note that HN are missing in (f). Case (c) is a special case, as HN occupy two disconnected intervals. If this were true, we should observe high variance in HN candidates' positions, which is not the case. Therefore, we rule case (c) out as not representing the data.

Finally, case (e) is the only possible case that implies that the average position of low valence candidates with high intra-party value is *better* than the average position of high valence candidates with low intra-party value. That proves Proposition 2. Cases (a), (b), and (d) are the only three cases that: (i) satisfy the conditions from Proposition 1 ($t_1 < t_3 < t_2$ & $t_1 < t_4$); and at the same time: (ii) imply the sorting of candidates observed in the data. This proves Proposition 1.

Proposition 4 follows by looking at the threshold orderings and shifting t_1, t_2, and t_3 to the right. However much they shift, the HM interval always increases and the LN interval is always reduced. We omitted cases where $t_1 < 0$ or does not exist and HM are not present. In such cases, the share of the group at the top of the slate increases instead.