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 education level, 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 as well as 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 selecting candidates to feature on ballots 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 such as rewarding candidates' loyalty (Galasso and Nannicini, 2017) or defending their own 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 on party slates.

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 and valence, 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 explain 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 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 which embody the

probabilities of winning mandates in exchange for candidates' valence and intra-party value. Candidates accept the party offer of a slate position if it satisfies their participation constraint. The model 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 studying the role of political parties in selection of candidates is threefold.[1] First, we contribute to the literature that studies the mechanisms driving candidates' ranking on slates. Previous literature has emphasized a role of candidates' political experience on their intra-party positions. In particular, Cirone et al. (2021) propose that candidates' intra-party positions and consequently 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 the 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 showed by Buisseret et al. (2022).

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

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) and Galasso and Nannicini (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, large number of municipalities, the legal option to make political donations and duty to declare them, and the presence of the 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 likely generalizable to many national elections and to the European Parliament elections.[2]

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 own council and representatives who are elected every four years in municipal elections. The number of mandates in a municipal council depends on the number of citizens in the municipality 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. Czech municipal elections are characterized by large numbers of candidates and parties. When municipal elections are held, there are around 200,000 candidates nationwide running for local mandates. Roughly one third of them will 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. We focus on local branches of national parties.

Municipal elections in the Czech Republic are classified as open 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,

[2]The power of political parties over electoral results in European Parliament elections varies from country to country.

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. some of their votes can be allocated 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. In fact, well ranked candidates can be elected even when there are other not-elected candidates in lower positions on the slate who receive more votes, but not enough to skip to the top.

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, so instead, we match them using their individual characteristics including name, surname, year of birth, education level and, where possible, place of residence.[5] To study the role of intra-party and public value of candidates on a structure of slates, we focus on slates of local branches of one of the six main national political parties (KDUCSL, CSSD, KSCM, ODS, TOP09, ANO)[6] in the last 5 municipal elections (2002, 2006, 2010, 2014, and 2018). Across these five elections, there are 21,442 slates that satisfy the criteria.

The Czech legal system allows both individuals and firms to make donations to political parties. Political parties have to publish a complete list of their donors, including

[3]Note that there is also a threshold share of all valid votes that the party has to exceed, otherwise it is not given a mandate. The default threshold is 5%, and it can be lower for parties that have fewer candidates than there are mandates to allocate in the municipality.

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

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

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

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 all candidates in all elections since 2002. This allows us to identify candidates who made donation to the party on whose slate they run and to 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, liberal-conservative political party, collects significantly more funding through their candidates than other political parties. With several exceptions such as significant donations in years of their establishment (the TOP09 in 2009 and ANO in 2011), the amount of collected donation from candidates follows electoral cycles. In election years and years just prior elections, parties tend to receive more funding than in other years. See Figure 5 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 (who bears responsibility for slate formation and their preferences), 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. it is 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.

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

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

[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.

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 the very least, all members usually have to pay a membership fee. Further, they can take on other duties and work for the party; may be required to provide voluntary labor and help with fundraising, organization, and campaign activities.

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%

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.[10] Donors in our sample tend to be more educated, have more experience in politics (measured by the number of previous candidacies and mandates), and more likely to be males. Table 1 presents shares of different types of candidates in our dataset. Roughly 27% of the candidates are classified as high valence candidates and 73% as low valence candidates. More than 42% of the 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.[11] We use this measure of *Rank* throughout this section. Additionally, in Appendix A we use an alternative approach as a robustness check and replicate the results using only slates with 15 and 21 candidates as these are the most common slates.

[10]The results are robust to different specifications of the time window.

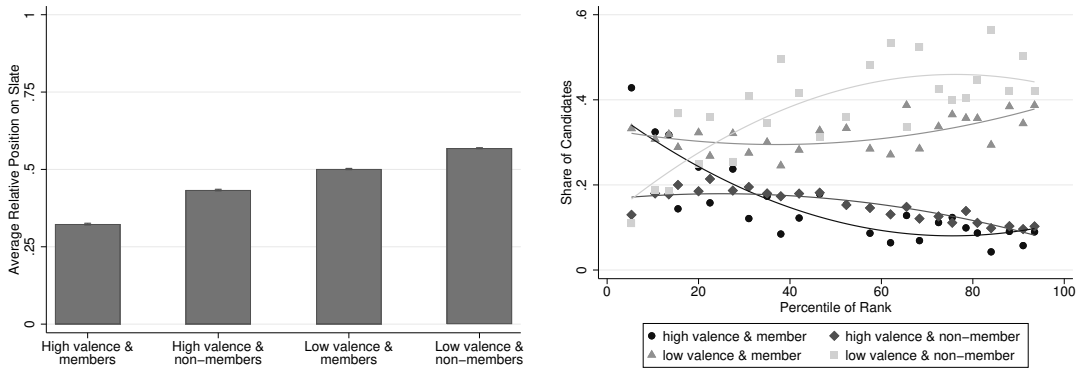
[11]Suppose a candidate i, placed on k-th position on a slate with n candidates, then his *Rank* is $\frac{k-1}{n-1}$.

3.2.1 Party Members

Candidates classified according to their valence and party membership status are systematically ranked on the slate. High valence candidates and party members are over-represented in better ranked positions, i.e. positions with a higher probability of being elected, and are under-represented in worse ranked positions. Observation 1 summarizes the pattern in terms of the average *Rank* of different groups.

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) Panel A

(b) Panel B

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

Figure 1a shows 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 non-members are placed on the worst places 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 the rest is occupied by non-members of both levels of valence. 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).

3.2.2 Party Donors

Instead of party membership status, 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; 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.

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.*

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 worse ranked positions are occupied by the low valence non-donors.

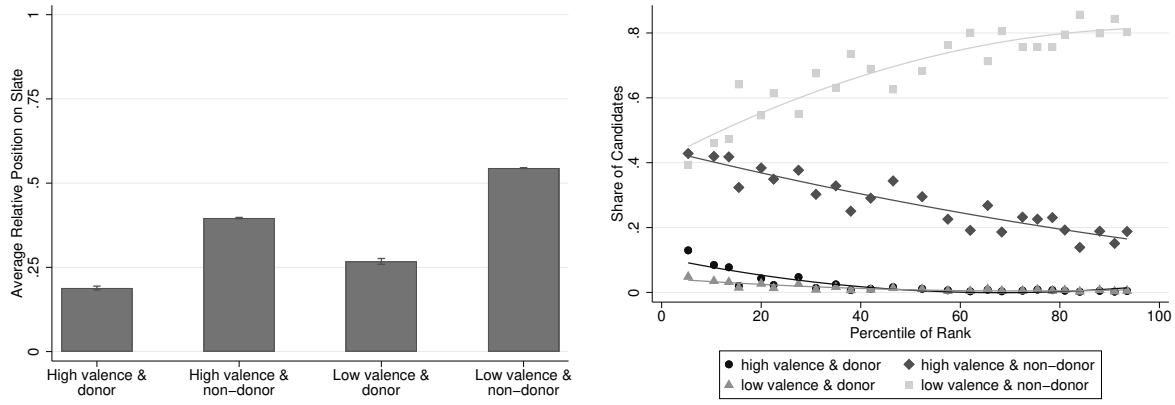
In appendix A, we replicate the figures for both members and donors with novice candidates and show that the rankings are not driven by more politically experienced candidates. Similarly, the same patterns are apparent on slates that consist of at least one candidate of each group.

3.3 Intra-party Value and Slate Rank

We next estimate the link between membership status and party donation using a pooled OLS and fixed effect model, to provide additional evidence that both measures of intra-party value are associated with better ranked positions and a higher probability of being placed in an electable position.

Observation 3 (Intra-party Value of Candidates)**.** *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.*

Figure 2: Slate Structure for Donors



(a) Panel A

(b) Panel B

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

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. On average, candidates run in 1.6 elections. We run two empirical specifications: i) a pooled OLS and ii) individual fixed effect models. Formally, the latter 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* and *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. *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 election, 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 education.

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, suggest-

ing 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 lower magnitude. As expected, *Degree*, our measure of candidates' valence, is also associated with a better ranked position. Column 2 shows how individual characteristics of candidates are related to the probability of being placed in electable positions. Party donation is associated with a 15 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 over 3 percentage points.

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

	Rank	Electable Position	*Rank*	Electable Position
Donation	-0.135***	0.152***	-0.057***	0.103***
	(0.003)	(0.004)	(0.004)	(0.007)
Membership	-0.074***	0.036***	-0.106***	0.090***
	(0.001)	(0.001)	(0.003)	(0.004)
Incumbent	-0.083***	0.528***	-0.058***	0.429***
	(0.002)	(0.003)	(0.003)	(0.005)
Degree	-0.119***	0.049***		
	(0.001)	(0.001)		
Individual FE	No	No	Yes	Yes
Slates	All	All	All	All
N	345,701	345,701	345,701	345,701

Robust standard errors in parentheses

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

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

Columns 3 and 4 report results from the fixed effects model that controls for the time invariant unobservable characteristics of candidates such as ability. Becoming a party member and a party donor is associated with better ranked positions on the slate and with higher probability of being placed in electable positions. For example, becoming a donor is associated with a 10.3 percentage point higher likelihood of being placed in an electable position, and becoming a member with a 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.

3.4 Intra-Party Value and Electoral Performance

We next provide evidence that, conditional on the level of valence, slate position, 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.

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

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 who receives the average number of votes has $Relative Votes_i$=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 first specification looks as follows

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

where y stands for $Relative Votes$ and $Rank$ is included in a form of polynomial function. Specifications for slates with 21 and 15 candidates rely on a vector of dummies for each position instead of the polynomial. Table 3 shows results from all three specifications.

The results presented in the first column of Table 3 suggest that party members receive 4.8 percentage points fewer $Relative Votes$ than party non-member would receive keeping everything else the same. Suppose, for example, that the predicted $Relative Votes$ for a

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

	Relative Votes	Relative Votes	Relative Votes
Donation	-0.058***	-0.026***	-0.024***
	(0.003)	(0.007)	(0.008)
Membership	-0.048***	-0.061***	-0.068***
	(0.001)	(0.002)	(0.002)
Incumbent	0.016***	-0.005	0.027***
	(0.003)	(0.008)	(0.005)
Degree	0.081***	0.072***	0.093***
	(0.001)	(0.002)	(0.002)
Poly. Rank	Yes	No	No
Slate Positions Dummies	No	Yes	Yes
Sample	All	21 candidates	15 candidates
N	343,991	61,575	120,068

Robust standard errors in parentheses

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

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

top ranked position are 140% of the slate average votes, then, if a party member runs on that slate position, he receives only 135.2% of the slate average votes. Similarly, party donors receive 5.8 percentage points fewer *Relative Votes* than non-donors. The second and third columns show the results for slates with 21 and 15 candidates, respectively. The results resemble those from our 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 received relatively fewer votes conditional on other observed characteristics. 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.

We therefore consider the latter explanation more credible. 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 similar problem). Regardless of the channel through which the negative selection of donors and members operates, from the party leader's perspective, it is important that candidates with intra-party value under-perform and receive fewer votes than their counterparts.[12]

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. 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 on the slate and places significantly more candidates with high intra-party value on the slate. Observation 5 is thus consistent with the interpretation that a more powerful party can attract more high valence candidates and prompt them to increase

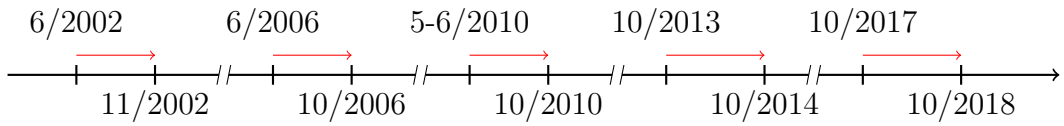
[12]It is still possible and consistent with our results that placing a donor on a party slate could lead to a better electoral outcome than the party would reach without the donor. For example, if the funds donated enable the party to run a campaign that attracts a mass of voters and the funds would not be available without the donor being placed on the party slate, it may be worth keeping the under-performing donor on the slate.

their intra-party value (i.e. becoming a member and making 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 on average increases, while the share of low valence candidates with low intra-party value decreases. This is the case for both of our measures: 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 (Equation 3) 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.[13] 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.

Figure 3: Sequence of Elections



Notes: This figures shows the sequence of parliamentary and municipality elections in political cycles. As a rule, the parliamentary elections (displayed about the timeline) take place several months before the municipal elections (below the timeline)-

For both of our measures of intra-party value and for each candidate type g we run

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

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 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), 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 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 of the following types of candidates g: (i) high valence members (HM); (ii) high valence non-members (HN); (iii) low valence members (LM); (iv) and low valence non-members (LN).

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 of the share of high valence members in the subsequent municipal election. Since the average share of high valence members is roughly 10 percent of a slate, the effect represents a 0.8% increase. The results further show that the share of low valence members increases by 0.35 percentage points and the share of low valence non-members decreases by 0.40 percentage points. These effects represent a 1.2% increase in low valence members and a 0.85% decrease in low valence non-members, respectively. 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. This implies an increase in both the share of donors and the share of high valence candidates. Formally, we run regression (3) for g: (i) high valence donors (HD); (ii) high valence non-donors (HN); (iii) low valence donors (LD); (iv) low valence non-donors (LN).

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 (or 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 (or 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 different sources of variation in a party's popularity.

4 Interpretation of the Results

4.1 Theoretical Framework

In this section we build a highly stylized model of the candidate selection process and use it to 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. 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. We will consider the problem of a single political party and omit interactions between different parties.

For convenience, 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.

Voters 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 thus 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 that of those at the bottom of the slate.[14] Specifically, swing voters care about an 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, therefore, that voters do not care about intra-party value, only about valence.[15]

Candidates 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.[16] 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 payoff (expected benefit minus cost).

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

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

[14]There are two reasons to support this assumption. First, even under an open-list electoral system, top ranked candidates are more likely to be elected due to mechanical reasons, as mandates are allocated from the top down. 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. This assumption has been empirically supported by Buisseret et al. (2022) using Swedish data. They argue that slates are formed according to the *rank-order hierarchy*.

[15]In our setup, this assumption is easier to justify in the case of political donations, which are not visible to voters at the time of the elections, but we find no reason for it to not be true for membership.

[16]This ensures that some candidates are willing to run even in the bottom positions with zero probability of being elected. $c^l > 0$ could lead to incomplete slates.

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 $\bar{v}$, and may depend on the particular form of intra-party value applied. A crucial property of the party leader's objective is that it 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.[17]

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 highly intra-party valuable. The offer is binding, and the party leader cannot change it once it is accepted by a candidate. Importantly, 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 model 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

There are four thresholds that 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 (Equation 7) the cost of running is c^h; the worst position that ensures that the

[17] 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 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.

expected benefit will be at least equal to the cost of running is rank t_3. 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 (Equation 5) and for low valence candidates with high intra-party value t_2 (Equation 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 two dominant strategies: (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 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, *ceteris paribus*. 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. Formally,

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

For all slate ranks lower than t_4 the party leader prefers high valence candidates with low intra-party value, while for all higher slate ranks she prefers low valence candidates with high intra-party value.

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. We are interested in the general case in which all types are present, so we assume the interior solution (all thresholds are within the [0,1] interval). In appendix B we prove that t_4 as defined in Equation 8 maximizes the party leader's value function.

4.3 Explaining Our Observations

We next link the predictions of our theoretical framework with the established empirical observations. The framework introduced here predicts that the ranking of candidates depends on how the thresholds are ordered. The 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 ordering is as follows: (i) HM; (ii) HN; (iii) LM; and (iv) LN.*

Proof appears in Appendix B. Depending on exactly where t_4 lies, there are three different combinations of the thresholds that support the observed data.[18]

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 better ranked positions than high valence non-donors; the opposite is true for party members. The following proposition argues that there is only one order of the thresholds that can generate the observed ranking among donors. Proof appears 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 model used here enables us to understand the ranking differences between members and donors. First, note that 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 predicts that for candidates, becoming a donor is more costly than becoming a member,* $c^D > c^M$*, and for party leaders, donors are more valuable than members of the same valence,* $\gamma^D > \gamma^M$*.*

The model can therefore rationalize the reversal in ranking between party donors and members by donations being more costly for candidates and more valuable for political parties. Finally, the model is also consistent with Observation 5. In particular, the model

[18]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.

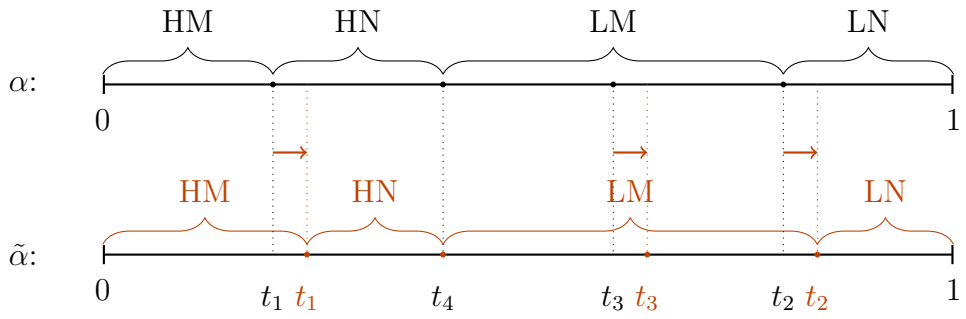
predicts that an increase in popularity leads to a higher share of high valence candidates with high intra-party value and a decrease in low valence candidates with low intra-party value, which is what we find in the data for both members and donors.

Proposition 4 (Strength 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, *ceteris paribus*. 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, and the relative shifts are therefore not easy to calculate. 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: $t_1 < t_4 < t_3 < t_2$.[19] As a party experiences a positive popularity shock, an increase in α to $\tilde{\alpha} > \alpha$, the participation constraints relax for all types of candidates. This shifts t_1, t_2, and t_3 towards the bottom of the slate as displayed in 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



[19]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.

5 Concluding Remarks

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. This interaction resembles typical market forces. We support the market-like interpretation by empirical evidence. First, candidates are ranked as predicted by market mechanisms in which the top positions tend to be occupied by high valence candidates with intra-party value, whereas the bottom positions tend to be occupied by the candidates that are the least valuable. Second, we document that party leaders seem to face a trade-off between candidates' intra-party value and their attractiveness to voters. Third, with increasing popularity of the party, the party leader takes advantage of her position to form a slate with a higher intra-party value, as she has more to offer to candidates in exchange for their intra-party value. Fourth, higher intra-party value (more costly intra-party action) tends to be rewarded by better slate positions. This follows from a comparison between party membership and, arguably more costly, party donations. 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 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. In fact, this approach may easily lead to misleading results, even in (semi-) open list electoral systems.

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. Swing voters incentivize the party leader to care about valence, which mitigates the problem, assuming that voters' concern is candidates' valence. The interests of the party leader and 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 and ranking 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 which is prevalent in the literature. 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 different 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 wide 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.

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Appendix A

Data Description

Table 6 summarizes a distribution of candidates according to the parties under which they run and political cycles. Note that two parties, TOP 09 and ANO, participated in only three and two elections, since they were founded in 2009 a 2011 respectively. The drop in the number of candidates running on the 2018 TOP 09 slate is because we exclude candidates from joint slates, which was a common practice of TOP 09 in many municipalities in 2018. Table 7 shows shares of formal members on parties' slates. There is a significant variation both in time and across parties. The more recently established parties, TOP 09 and ANO tend to have fewer members on the slates.

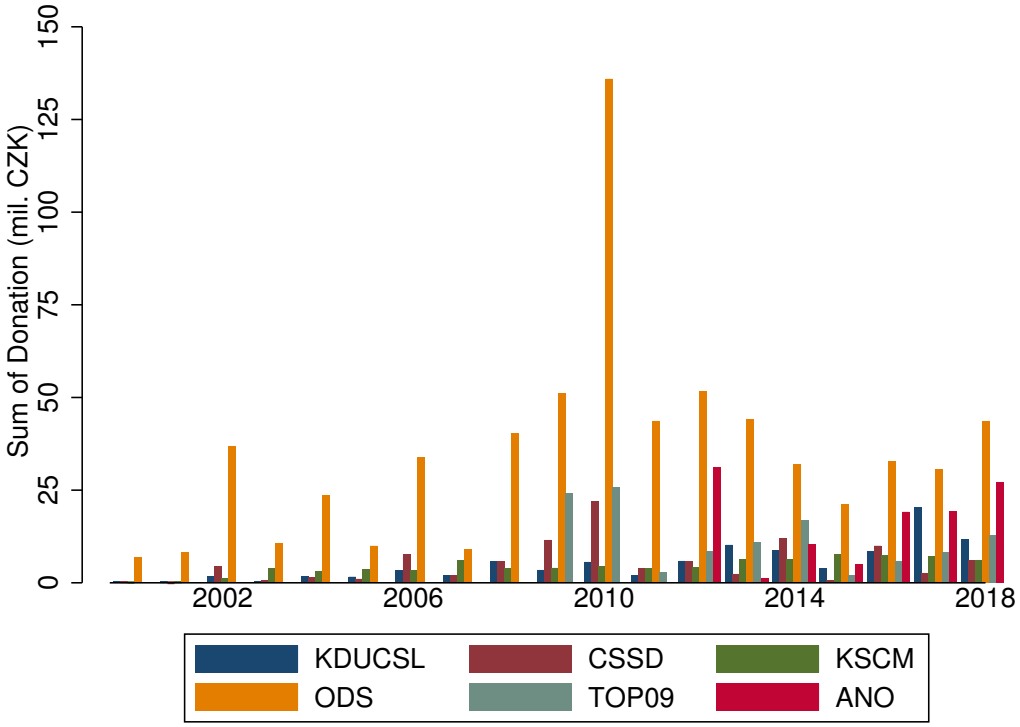
Table 6: Number of Candidates

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

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%	

Figure 5: Total Donation Made by Candidates by Years

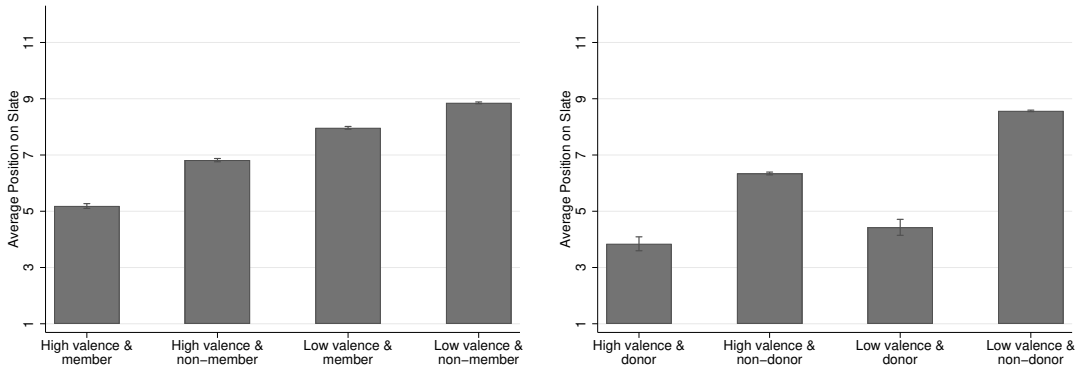


Notes: The figure shows donations made in a given year by candidates who run on a slate of the political party in any municipal election.

Slate Structure - Robustness Exercise

We provide two types of robustness exercises. First, Figures 6 and 7 replicate the average slate position patterns from Section 3.2 using slates with 15 and 21 candidates, respectively. Second, Figures 8 and 9 replicate patterns from Section 3.2 on specific samples: i) slates that consist of all candidate types (there is at least one candidate of each type on the slate) and ii) only novice candidates with no prior experience in municipal elections. The latter specification shows that the relation is robust against different forms of historical relationships between candidates and the party.

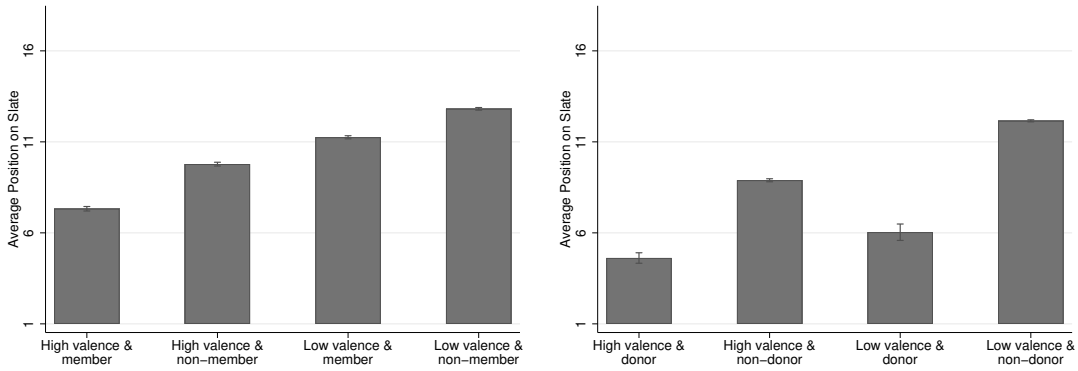
Figure 6: Average Positions on Slates with 15 Candidates



(a) Average Slate Position (Members) (b) Average Slate Position (Donors)

Notes: Panel (a) shows the average slate positions on slates with 15 candidates for the four types of candidates defined on candidates' membership status. Low valence non-members are on average ranked in the bottom half of the slates. Panel (b) shows the average slate positions on slates with 15 candidates for the four types of candidates defined on candidates' donation status. Low valence donors and ranked better than high valence non-donors on average. The results are equivalent to the results from our main specification.

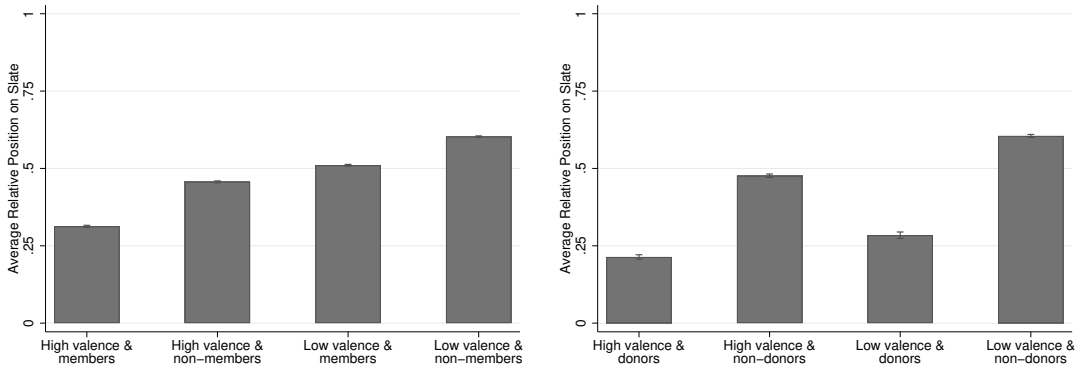
Figure 7: Average Positions on Slates with 21 Candidates



(a) Average Slate Position (Members) (b) Average Slate Position (Donors)

Notes: Panel (a) shows the average slate positions on slates with 21 candidates for the four types of candidates defined on candidates' membership status. Low valence non-members are on average ranked in the bottom half of the slates. Panel (b) shows the average slate positions on slates with 21 candidates for the four types of candidates defined on candidates' donation status. Low valence donors and ranked better than high valence non-donors. The results are equivalent to the results from our main specification.

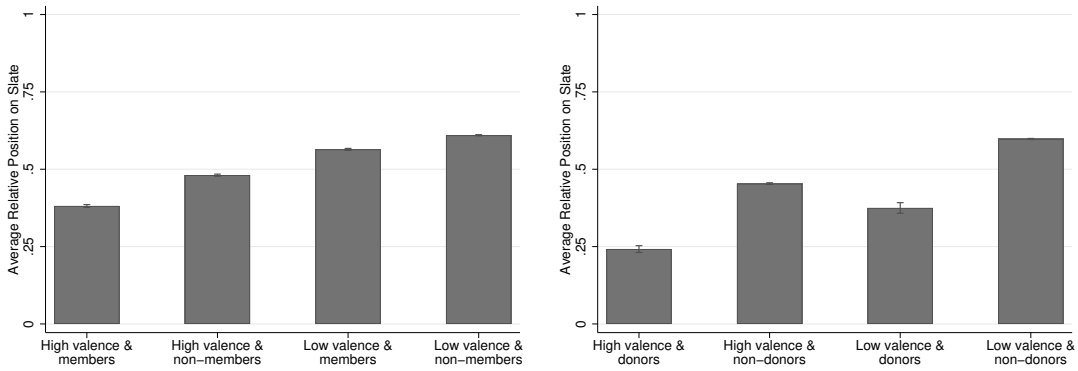
Figure 8: Average Positions on Slates with All Four Groups of Candidates



(a) Average Rank Position (Members) (b) Average Rank Position (Donors)

Notes: This figure uses only candidates who ran on a slate with all four groups of candidates (there is at least one candidate of each type on the slate). Panel (a) shows the average slate positions of candidate types defined on candidates' membership status. Panel (b) shows the average slate positions of candidate types defined on candidates' donation status. The results are equivalent to the results from our main specification.

Figure 9: Only Candidates Without Prior Political Experience



(a) Average Rank Position (Members) (b) Average Rank Position (Donors)

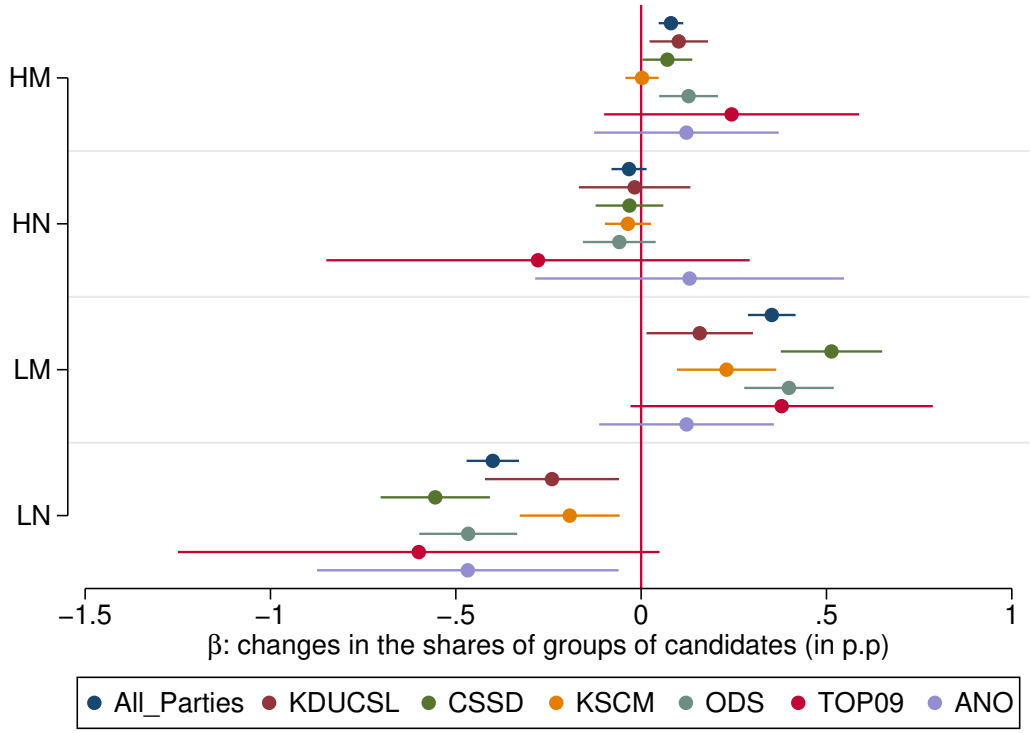
Notes: This figure uses only candidates without prior political experience. Panel (a) shows the average slate positions of candidate types defined on candidates' membership status. Panel (b) shows the average slate positions of candidate types defined on candidates' donation status. The results are equivalent to the results from our main specification.

The Effect of the Popularity of Party on Slate Structure

We also extend the results showing that after a popularity shock, there is an increase in the shares of high valence candidates and candidates with high intra-party value. In particular, we show that the effect is comparable across all political parties studied and thus is not driven by one party and additionally, we show the same results using a different source of variation.

Party Heterogeneity Figure 10 shows changes in slate structure after a popularity shock, decomposed for all six parties. It 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. Note that for both TOP09 and ANO, the coefficients have relatively large confidence intervals, as the parties have participated only in three and two elections, respectively, and thus the estimates are based on fewer observations.

Figure 10: Changes in Group Shares (Members) by Party



Different Sources of Variation To provide additional evidence supporting our narrative, we explore different sources of variations in party power. Specifically, compared to the baseline specification as in Regression 3, we do not control for variation caused

by a change in party popularity at the national level. Suppose party A becomes more popular; this popularity shock increases both the share of votes in a national election in the municipality and the party's electoral potential in the next municipal election.

$$Share^{g}_{pj\tau} = \alpha^{g} + \beta^{g} PE\ ShareVotes_{pj\tau} + \sum_{k \in \{HM,HN,LM\}} \delta^{k} PE\ Share^{k}_{p\tilde{j}\tau} + \gamma^{g}_{pj} + \gamma^{g}_{\tau} + \epsilon^{g}_{pj\tau} \tag{9}$$

Figure 11: Changes in Group Shares on the Slate

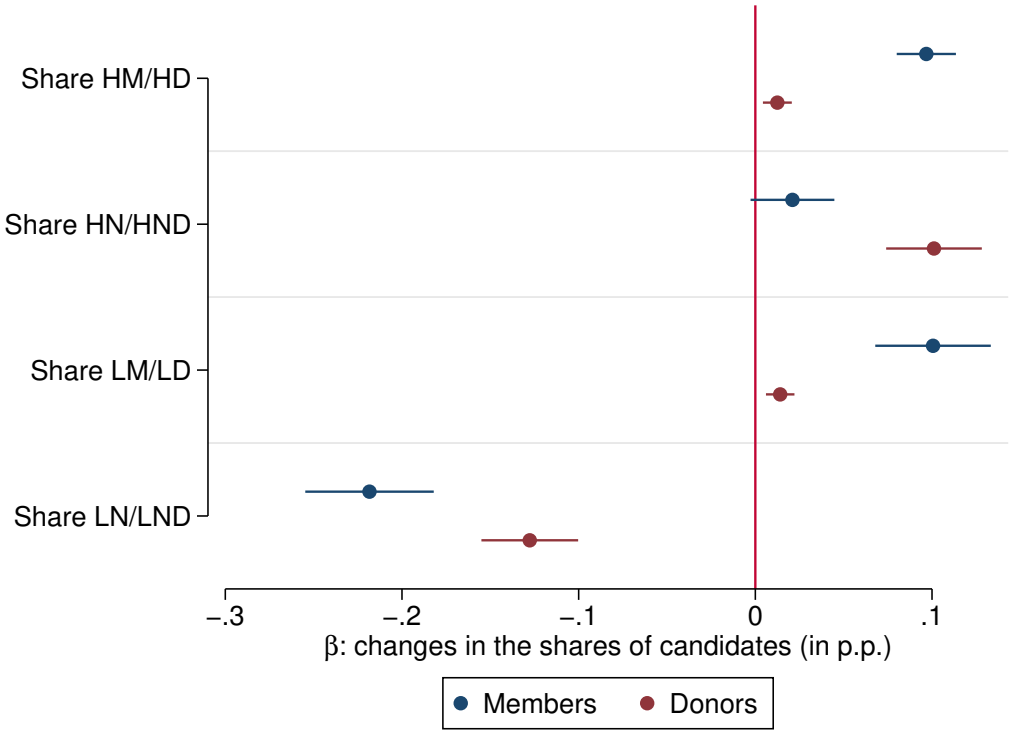


Figure 11 graphically shows coefficients β^{g} for both measures of intra-party values. The main narratives hold. As a party becomes more popular and expects more mandates to win, there are more high valence candidates and more candidates with high intra-party value on the slate. Consequently, the least valuable group, low valence candidates with low intra-party value, are forced out.

Appendix B

Optimal t_4

Lemma 1. *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,*

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

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

$$t_4 = \underset{\tilde{t}}{\operatorname{argmax}} \; V(\bar{v}(\tilde{t}), \bar{m}(\tilde{t}) | t_1, t_2, t_3) \tag{11}$$

Proof. To see this, 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 $V(\bar{v}, \bar{m})$:

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

The first two terms of the objective function represent the valence and intra-party value of high valence members and are independent of the party leader's choice of $\tilde{t}$. That simplifies the problem into a sum of two integrals.

$$\max_{\tilde{t}} \tilde{V} = \max_{\tilde{t}} \int_{HN} g(t)dt + \int_{LM} \gamma^a dt \tag{13}$$

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

$$\max_{\tilde{t}} \tilde{V} = \max_{\tilde{t}} \int_{t_1}^{\tilde{t}} g(t)dt + \int_{\tilde{t}}^{\min(t_2,t_3)} \gamma^a dt, \tag{14}$$

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

$$g(t_4) = \gamma^a. \tag{15}$$

□

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.

As there are four different thresholds t_1, t_2, t_3, and t_4 ordered on a continuous interval $[0, 1]$, there are 24 different combinations in which they may be ordered. First, note that 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, note that 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.

1. $t_1 < t_3 < t_2 < t_4$ implies the following intervals {HM, HN, LM, LN, LN}
2. $t_1 < t_3 < t_4 < t_2$ implies the following intervals {HM, HN, LM, LN, LN}
3. $t_1 < t_4 < t_2 < t_3$ implies the following intervals {HM, HN, LM, HN, LM}
4. $t_1 < t_4 < t_3 < t_2$ implies the following intervals {HM, HN, LM, LM, LN}
5. $t_4 < t_1 < t_2 < t_3$ implies the following intervals {HM, HM, LM, HN, LN}
6. $t_4 < t_1 < t_3 < t_2$ 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 the case (c) out as not representing the data.

Finally, the 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 case, the share of the group at the top of the slate increases instead.