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*Vincenzo Galasso and Tommaso Nannicini*

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# So Closed: Political Selection in Proportional Systems*

Vincenzo Galasso‡ Tommaso Nannicini§

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**Abstract**

We analyze political selection in a closed list proportional system where parties have strong gate-keeping power, which they use as an instrument to pursue votes. Parties face a trade-off between selecting loyal candidates or experts, who are highly valued by the voters and thus increase the probability of winning the election. Voters can be rational or behavioral. The former care about the quality mix of the elected candidates in the winning party, and hence about the ordering on the party list. The latter only concentrate on the quality type of the candidates in the top positions of the party list. Our theoretical model shows that to persuade rational voters parties optimally allocate loyalists to safe seats and experts to uncertain positions. Persuading behavioral voters instead requires to position the experts visibly on top of the electoral list. Our empirical analysis, which uses data from the 2013 National election in Italy—held under closed list proportional representation—and from independent pre-electoral polls, is overall supportive of voters' rational behavior. Loyalists (i.e., party officers or former members of Parliament who mostly voted along party lines) are overrepresented in safe positions, and, within both safe and uncertain positions, they are ranked higher in the list.

**JEL codes**: D72, D78, P16.
**Keywords**: political selection, electoral rule, closed party lists.

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‡Bocconi University, Department of Public Policy, Via Rontgen 1, 20136 Milan (Italy); vincenzo.galasso@unibocconi.it.

§Bocconi University, Department of Economics, Via Rontgen 1, 20136 Milan (Italy); tommaso.nannicini@unibocconi.it.

# 1 Introduction

Electoral rules are recognized to influence policy outcomes (e.g., see Persson and Tabellini 2000).[1] A recent literature has begun to suggest that they may affect also political selection (e.g., see Myerson 1999; Besley 2005). Political scientists have studied how the political representation of women and ethnic minorities varies under different voting rules (Norris 2004), but even the valence of the elected politicians may depend on the rules of the electoral game. The recruitment of good politicians relies on candidates' decision to run for office (Caselli and Morelli 2004) as well as on the selection of good candidates by political parties (Galasso and Nannicini 2011)—and both choices are likely to depend on the electoral rule.

So far, in the political economy literature, the typical electoral comparison has been between proportional and majoritarian systems. Much less attention has been devoted to the different internal details characterizing each system, which may largely modify the selection incentives for political parties. Among proportional systems, for instance, the electoral rule may dictate closed or open lists. In the former case, voters cast a ballot for a party, and candidates are elected into Parliament according to their ranking in the party list. In the latter case, voters can express one or more preferences for the candidates in the party list. Clearly, these two systems award a very different gate-keeping power to the party leaders, which will in turn affect their selection criterion when choosing candidates.

In this paper, we study political selection in a closed list proportional system. This electoral rule has received little attention in the literature, in spite of its empirical relevance, but even more of the critical role assigned to the party leaders.[2] With closed lists, in fact, party leaders can effectively nominate candidates to the Parliaments by allocating them in the secure positions at the top of the party list. Unlike in proportional systems with open list, candidates do not compete against each other in the electoral race, which is instead run by the parties. The allocation of candidates in the party list may also represent a crucial instrument for party leaders to convey votes to the party.

The extent to which parties are able to use the selection and allocation of candidates as a tool of political persuasion rests ultimately on the voters' preferences for the type of candidates, and hence on their voting behavior. We follow the literature on valence, and postulate that voters prefer competent politicians. Moreover, we consider two types of voters:

[1] For instance, majoritarian systems have been shown to rely more on targeted redistribution and less on public goods than proportional systems, while rent-seeking tends to be higher in proportional systems (Persson et al. 2003; Persson and Tabellini 2003; Gagliarducci et al. 2011).

[2] According to Norris (2004), at the end of the 90s, around 35% of all lower houses were elected with this rule—including Portugal, Spain, and the Netherlands.

rational and behavioral. Rational voters recognize that the policy outcome carried out by the winning party depends on the quality mix of the elected politicians. Since a candidate position on the party list determines her probability of being elected, these rational voters will pay close attention to the ranking in the party list, when taking their voting decisions. Behavioral voters instead refrain from these complex calculations and use simple rules of thumb to determine their vote choice. In particular, we consider behavioral voters who only focus on the quality type of the candidates in the top few positions of the party list. This simple rule of thumb is consistent with the evidence in Norris (2004), who shows that knowledge about the names of the candidates is lower in closed list proportional systems than in any other electoral rule (such as open list proportional or majoritarian systems).

We introduce a theoretical model that derives empirical prediction about the optimal allocation of candidates in the party lists, depending on the type of voters—rational or behavioral—faced by the parties. Parties can choose between *loyalists*, who have low valence but do rent-seeking activities for the party, and *experts*, who are valuable only to the voters. We show that the party optimal persuasion strategy in order to convince rational voters is to allocate loyalists to safe seats and to send the experts to positions that are ex-ante uncertain, but ensure the election of the candidate if the party wins the election. This is because rational voters only care about the quality mix of a party's candidates if this party wins the election and thus sets the policy. Persuading behavioral voters instead requires to position the experts visibly at the top of the electoral list.

To evaluate empirically the implications of our theoretical framework, we use data from the 2013 National election in Italy, which took place under closed list proportional representation. Our data include independent pre-electoral polls assigning the candidates of each party list in each district to "safe" positions (i.e., candidates expected to get elected), "uncertain" positions, and "unsafe" positions (i.e., candidates expected not to get elected). We assume this to be the information set of parties (leaders) at the time they had to form their list. We also have information on the gender, age, place of birth, professional background, political experience of all candidates, as well as on the parliamentary activity of the Members of Parliament (MPs, henceforth) who served in the term preceding the election (2008–13).

Our empirical findings show that candidates who are more likely to be loyal to the party are overrepresented in safe positions. We proxy party loyalty with a number of measures: (i) being a former MP with a lower rebellion rate (i.e., the share of parliamentary votes where the MP did not follow the party's line); (ii) being a professional politician ("party officer"); (iii) being born in a city that does not belong to the electoral district (this usually happens for candidates who have strong ties with the National political leadership and are sent to safe,

or at least uncertain, positions in any district). Our empirical analysis is overall supportive of rational behavior by voters (and by parties). In fact, consistently with our model, loyalists—that is, professional politicians, former MPs, and especially loyal MPs—are overrepresented in safe positions. Moreover, within both safe and uncertain positions, loyalists are ranked higher in the party list. Interestingly, among politicians who were already in the Parliament, those who showed more party loyalty—namely, by voting on issues along party lines—were more likely to be allocated in safe positions.

This paper contributes to a growing literature on the selection of politicians by parties competing in elections (see Galasso and Nannicini 2011, 2014) by examining an electoral system—closed list proportional representation—which magnifies the gate-keeping role of political parties. Little emphasis has so far been given to this specific electoral rule. Notable exceptions are the papers by Besley et al. (2013) and Bagues and Esteve-Volart (2012), who analyze gender representation and the related effects on the quality of politicians in closed list proportional systems in Sweden and Spain, respectively.[3]

As this electoral system is known to provide little political accountability and electoral control over the candidates, one may expect voters to be more prone to use rules of thumb when taking their decisions. Studies in political science that are not fully consistent with rationality have been common in recent years (see Wilson 2011 for a review), e.g., to explain turnout (Levine and Palfrey 2007), incumbency advantage (Patty 2004), and other voting behaviors. Departures from rationality typically involve social preferences (e.g., altruism toward the others), time discounting, or framing. Alternatively, Hillman (2010) uses expressive utility as an additional element in the preferences of some voters (besides material utility) to account for voting behavior that would not otherwise be consistent with material preferences, such as the rich voting for parties that support redistribution.

The paper is structured as follows. The next section develops the theoretical model and predictions. Section 3 discusses the institutional features, Section 4 the data. The results are presented in Section 5, while Section 6 concludes. All proofs are in the Appendix.

# 2 Model

Our model is populated by three types of players: voters, candidates, and parties. Two parties run for election. The winner sets the policy. Before the election, each party has to

[3]Baltrunaite et al. (2014) analyze the effect of gender quota on political selection in Italian local elections run under a mixed system, which combines majoritarian voting for the mayor and proportional representation (with closed list and majority premium) for the city councillors.

select the candidates, who are either party loyalists or experts, and to allocate them into the party list.[4] We consider a closed list proportional system, in which if $n$-seats are won by a party in the election, they are awarded to the first $n$-candidates on the party list. Hence, the candidates' position on the party list determines their probability of being elected. The share of loyal and expert candidates affects the policy of the party. Voters can be core supporters of either party or independent, that is, not aligned to any party.

We embed the voting decision of the independent voters in a standard probabilistic voting model. These voters care about the utility attached to the policy provided by each party, about a popularity shock to the two parties, and have also an idiosyncratic ideological component toward the two parties. Independent voters can be of two types: rational or behavioral. Independent rational voters care about the policy implemented by the winning party, and realize that this policy depends on the relative share of loyalists and experts elected in the (winning) party list. Independent behavioral voters use instead the ability type of the top candidates on the party list as a rule of thumb to infer the party policy.

Our model thus introduces two lines of conflicts: between the two parties—each one seeking to win the election and to implement its policy—and among parties and independent voters, on the policy.

## 2.1 Parties and candidates

We consider two parties, $L$ and $R$, which differ in their ideology, and thus in their core supporters. The two parties compete against each other in the political election, and the winner sets the policy. The main role of the party (leaders) is to select the candidates to be included and allocated in the party list. The position of a candidate on the party list determines her probability of winning a seat. And this decision also affects the policy chosen by the winning party, since this depends on the share of elected candidates.

Candidates can be party-$L$ loyalists ($L$), party-$R$ loyalists ($R$), or experts ($E$). Loyal candidates share their own party preferences, and do rent-seeking to secure public resources for their party. Regardless of their party of affiliation, experts instead act to devote resources to the general public, for instance through general interest policies. Each party chooses the share of experts and of party loyalists to include and to allocate in the electoral list.

The utility of a party depends on whether it wins the election and on the share of elected loyalists. In fact, loyalists are valuable to a party even in the case of an electoral loss, as they

[4]They are selected from a large pool, so that parties are assumed not to be supply constrained, for instance in being able to recruit experts.

do rent-seeking activities, but even more so when the party has won the elections and holds power. Call $N$ the total number of seats, $N^i$ the number of seats won by party $i$, and $T_j^i$ an indicator function that takes value one if the $j$-th candidate of party $i$ is an expert and zero if she is a party-$i$ loyalist. Then party $i$ utility can be summarized as follows:

$$V_i\left(N^i\right) = \begin{cases} \sum_{j=1}^{N^i}\left(1 - T_j^i\right) \text{ if } N^i > 1/2 \\ (1-\varepsilon)\sum_{j=1}^{N^i}\left(1 - T_j^i\right) \text{ if } N^i < 1/2 \end{cases} \tag{1}$$

with $\varepsilon \in (0, 1]$ representing the reduction in rent-seeking activities due to party $i$ not being in power. Also the policy implemented by the winning party $i$ depends on the number of elected loyalists and experts, according to the following function:

$$Y_i\left(N^i\right) = \frac{\sum_{j=1}^{N^i} T_j^i}{N^i} \text{ with } N^i > 1/2. \tag{2}$$

## 2.2 Voters

We consider three groups of voters. Voters in group $L$ and $R$ are core supporters and hence always vote for party $L$ and $R$. The share of core supporters of each party ensures that party $L$ will always win at least $N_L$ seats and party $R$ will always win at least $N_R$ seats. We assume both parties to have the same share of core supporters, and hence $N_L = N_R$.

Independent voters ($I$) care instead about the policy. Since the votes of the core supporters determine $N_L + N_R$ seats, the independent voters determine the remaining $N_I = N - N_L - N_R$ seats. Independent voters can be of two types: rational or behavioral. Rational voters care about the policy implemented by the winning party $i$, $Y_i\left(N^i\right)$, according to equation 2. Behavioral voters only care about the type of the top $N_K$ candidates on the electoral list of the winning party $i$: $A_i = \sum_{j=1}^{N_K} T_j^i$. Hence, the utility from party $i$ winning the election, $V_I^i$, depends on the policy for a rational independent voter, $V_I^i = V_I\left(Y_i\left(N^i\right)\right)$, but on the top candidates only, $V_I^i = V_I\left(A_i\right)$, for a behavioral independent voter.

Besides the value attributed respectively to the policy or to the type of top candidates, both rational and behavior independent voters may feel ideologically closer to one party or another. The ideological characteristic of each independent voter is indexed by $s$, with $s > 0$ if

the voter is closer to party $R$, and vice versa. The distribution of ideology among independent voters is assumed to be uniform, in particular, $s \sim U[-1/2, 1/2]$. The independent voters' decision is also affected by a common popularity shock $\delta$ to the parties, which occurs before the election and may modify the perception that all independent voters have about the image of the two parties. In particular, if $\delta > 0$, party $R$ gains popularity from this pre-electoral image shock and vice versa for $\delta < 0$. Again, it is customary in this class of probabilistic voting models to assume that $\delta$ is uniformly distributed, so that $\delta \sim U\left[-\frac{1}{2\psi}, \frac{1}{2\psi}\right]$ with $\psi > 0$.

To summarize, an independent voter will support party $L$ if the utility obtained from party $L$ (due to the policy for the rational voters or to the type of the top candidates for the behavioral) is larger than the sum of the ideological idiosyncratic component, $s$, of the common shock, $\delta$, and of the utility obtained from party $R$. That is, an independent voter prefers party $L$ if $V_I^L - V_I^R - s - \delta > 0$.

## 2.3 Party list allocation

The incentives for a party to select and allocate expert candidates in the party list depend on the behavior of the independent voters. In fact, while each party (leader) would prefer to have only loyalists, who do party rent-seeking, expert candidates are needed in order to convince independent voters, and thus to win the election.

As in a standard probabilistic voting model, before the election, parties independently and simultaneously make their moves, knowing the distribution of the popularity shock that takes place before the election, but not its realization. In particular, they select the loyal and expert candidates, and allocate them in their lists. After the popularity shock has occurred, independent voters decide whom to support between the two parties; while loyalist voters always support their own party. After the election, the winning party implements its policy, which depends on the relative share of elected loyalists and experts in the winning party.

Since party $i$ decision about selection and allocation of experts and loyalists in the party list occurs before the common shock, $\delta$, party $i$ will maximize the following expected utility

$$E(V_i) = \sum_{N^i=0}^{N} V_i\left(N^i\right) P_i\left(N^i\right) \tag{3}$$

where $P_i(N^i)$ represents the probability that party $i$ obtains $N^i$ seats.

To understand the parties decision, consider party $L$ probability of winning $N^i$ seats. Party $L$ obtains $N_L$ seats for sure, due to votes of its core supporters, and competes for the votes of the independent voters, which provide up to $N_I$ additional seats. Hence, winning

the election depends entirely on the independent voters. Call $\widetilde{s}$ the ideology of the swing voter, that is, of the independent voter who is indifferent between party $L$ or $R$. Hence, $\widetilde{s} = V_I^L - V_I^R - \delta$. All independent voters with ideology $s < \widetilde{s}$ will support party $L$, and viceversa for party $R$. Given the two parties' allocation decisions, the probability of party $L$ winning $N^i$ seats can be expressed as a function of the popularity shock, $\delta$. Using the fact that the popularity shock is uniformly distributed with density $\psi$, the next proposition summarizes the probability for party $L$ of obtaining $N^i$ seats. Clearly, party $R$ would obtain the remaining $N - N^L$ seats.

**Proposition 1.** *For* $V_I^L - V_I^R \in \left[\frac{1}{2}\left(1 - \frac{1}{\psi}\right) - \frac{1}{2N_I}, \frac{1}{2N_I} - \frac{1}{2}\left(1 - \frac{1}{\psi}\right)\right]$, *we have*

$$P_L\left(N^L\right) = \begin{cases} 0 & \text{if } N^L < N_L \\ \frac{1}{2} - \psi\left(\frac{1}{2} - \frac{1}{2N_I} + V_I^L - V_I^R\right) & \text{if } N^L = N_L \\ \frac{\psi}{N_I} & \text{if } N^L \in [N_L + 1, N_L + N_I - 1] \\ \frac{1}{2} - \psi\left(\frac{1}{2} - \frac{1}{2N_I} - V_I^L + V_I^R\right) & \text{if } N^L = N_L + N_I \\ 0 & \text{if } N^L > N_L + N_I \end{cases}$$

This proposition suggests that the probability of party $L$ winning $N^i$ seats depends on the common shock $\delta$, but also on the utility that party $L$ is able to provide to the independent voters, $V_I^L$. Increasing these voters' utility amounts to shifting the support of the common shock distribution, so that – for a given realization of the shock, $\delta$ – party $L$ wins more seats.

### 2.3.1 Rational independent voters

Rational independent voters care about the policy provided by the winning party: $V_I^i = V_I\left(Y_i\left(N^i\right)\right)$. Hence, to increase their seats in Parliament, parties have to please the independent voters by allocating experts in their electoral lists. Yet, this comes at the cost of reducing their own party utility, $V_i\left(N^i\right)$.

Assume that rational independent voters have a linear utility function, so that $V_I^L = Y_L\left(N^i\right)$. When evaluating the policy determined by the winning party, they have already observed the realization of the shock and—given the allocation of experts and loyalists in the party list—they can forecast the policy implemented by the winning party according to equation 2. When allocating candidates to their list, parties have instead a smaller information set, as they have not observed the shock, although they know the distribution function. The next proposition characterizes the optimal allocation decision by each party.

**Proposition 2.** *The optimal allocation of candidates by the parties has the following properties.*

- *Loyalists are allocated to safe seats, $i \in [1, N_L]$, rather than to the uncertain seats $i \in [N_L + 1, N/2]$.*

- *If both loyalists and experts are allocated to safe seats, $i \in [1, N_L]$, the ordering within safe seats does not matter.*

- *If both loyalists and experts are allocated to the uncertain seats $i \in [N_L + 1, N/2]$, the ordering within these uncertain seats matters and loyalists are allocated to the safer seats, i.e., to $N_L + i$ rather than to $N_L + i + 1$, with $i \in [1, N/2 - N_L - 1]$.*

- *If both loyalists and experts are allocated to the very uncertain seats $i \in [N/2 + 1, N_L + N_I]$, the ordering within these uncertain seats matters and loyalists are allocated to the more uncertain seats, i.e., to $N/2+1+i$ rather than to $N/2+i$, with $i \in [1, N_L + N_I - N/2]$.*

- *If $\varepsilon$ is sufficiently small, loyalists are allocated to $N/2 - i$ rather than to $N/2 + i$, with $i \in [1, N_I]$.*

To understand the intuition behind these optimal allocation rules, it is useful to partition each party list in four zones. At the beginning of the list, $i \in [1, N_L]$, seats are safe: these candidates are always elected. In a second zone, $i \in [N_L + 1, N/2]$, seats are uncertain. However, all candidates are elected if the party obtains more than 50% of the votes, and thus wins the election. In a third zone, $i \in [N/2 + 1, N_L + N_I]$, seats are very uncertain, and candidates may not be elected even if their party wins the election. In the last zone, $i \in [N_L + N_I + 1, N]$, candidates are never elected.

Since independent voters care about the winning party policy, the candidate allocation becomes relevant to the voters only when the party wins the election. In other words, voters evaluate party allocation conditional on the party winning the election. Hence, from the voters' viewpoint the first $N/2$ seats are always relevant, or they would be evaluating the other party's policy. Parties instead care about their elected candidates even when an election is lost (albeit by less, since $\varepsilon > 0$). Thus, parties prefer to allocate loyalists in the safe seats, in order to make it sure they are elected even in a lost election, and allocate the experts in the uncertain seats, which become relevant if the election is won, i.e., $i \in [N_L + 1, N/2]$, in order to please the independent voters. By the same logic, if a loyalist is allocated in the uncertain seats $i \in [N_L + 1, N/2]$, she will be allocated at the top, since the expected marginal benefit to the party is decreasing in the probability of being elected, and thus in the position on the party list, while the marginal benefit to the independent voters is constant (again, conditional on the party winning the election). Finally, if loyalists are sufficiently

valuable to the party even in the case of a loss, they are more likely to be allocated in the second, $i \in [N_L + 1, N/2]$, than in the third zone, $i \in [N/2 + 1, N_L + N_I]$.

### 2.3.2 Behavioral independent voters

Behavioral independent voters only care about the type of the top $N_K < N_L = N_R$ candidates on the electoral list of the winning party $i$: $V_I^i = V_I(A_i)$, where $A_i = \sum_{j=1}^{N_K} T_j^i$. Hence, to increase their seats in Parliament, parties have to please the independent voters by allocating experts only in the first $N_K$ secure spots on the electoral list. Again, this comes at the cost of reducing their own party utility, $V_i(N^i)$.

Assume that behavioral independent voters have a linear utility function, so that $V_I^L = A_i$. Unlike with rational independent voters, no information asymmetry emerges in this case, since the allocation decision involves safe seats. The next proposition characterizes the optimal allocation decision by each party.

**Proposition 3.** *If both loyalists and experts are selected, experts are allocated to the safe positions, $i \in [1, N_K]$; the ranking within these safe seats does not matter.*

The intuition is straightforward. Experts are only valuable to a party if allocated in those spots in the electoral list, where they are appreciated by the behavior independent voters, and thus increases the probability of those voters supporting the party. So, if parties optimally chose to select both loyalists and experts, they will allocate the experts where they matter.

# 3 Institutional framework

In the following sections, we use data from the 2013 National election in Italy, which was held under proportional representation, to study the determinants of candidates' ranking within closed party lists. The electoral rule for the Italian Parliament has changed frequently over time. Up to the legislative term XI (1992–1994), MPs were elected under an open list proportional system. Starting with the legislative term XII (1994–1996) and up to the XIV (2001–2006), they were elected with a two-tier system (25% proportional and 75% majoritarian). The electoral rule changed again with the legislative term XV (2006–2008), switching to a closed list proportional system, with 27 districts in the House of Representatives and 20 districts in the Senate. The proportional system introduced in 2006 has also been used to elect the XVI (2008–13) and the XVII term (2013–current), but it has been ruled as unconstitutional by the Italian Supreme Court in 2014. In 2013, the Census-based district magnitude

ranged from a minimum of 6 to a maximum of 45 in the House, and from a minimum of 7 to a maximum of 49 in the Senate.[5] In every term, the total number of seats has remained unchanged at 945, of which 630 are in the House and 315 in the Senate.

The proportional system used in the 2013 election also entailed a majority premium for the winning coalition of party lists. In the House, there was an explicit electoral threshold of 10 percent for coalitions and of 4 percent for party lists running alone; there was also a threshold of 2 percent for party lists belonging to a coalition above the 10-percent threshold.[6] In the Senate, the same thresholds were equal to 20 percent for coalitions and to 8 percent for parties running alone, but the crucial difference with the House was that both the majority premium and the electoral thresholds were calculated at the district (i.e., regional) level.

Since 1994, the Italian party system has been dominated by two main coalitions of parties: center-left vs. center-right. Yet, the system has remained relatively fragmented, with parties outside the two main coalitions attracting significant electoral support. This tendency to fragmentation was actually amplified in the 2013 election, held on February 24–25, because of the breakout of a new anti-establishment party, the Five-Star Movement, led by a blogger and former comedian, Mr. Beppe Grillo. Indeed, the center-left coalition led by Mr. Pierluigi Bersani obtained 29.54 percent of the votes, securing a majority in the House by a narrow margin, against the 29.18 percent of the center-right coalition led by Mr. Silvio Berlusconi. Close behind, the Five-Star Movement obtained 25.55 percent of the votes, while a centrist coalition led by the sitting Prime Minister, Mr. Mario Monti, obtained 10.56 percent. In the Senate, because of the rule assigning the majority premium at the regional level, no political group or party won an outright majority, resulting in a hung Parliament.

# 4 Data

To perform our empirical analysis on the candidates' allocation within party lists, we combined different data sources. First, we collected the name, date of birth, and gender of all candidates in the 2013 election, as recorded in the official party lists provided by the Ministry of Internal Affairs. Obviously, for each candidate, we also have the ranking in the party list. Second, we merged these data with the information contained in the Italian Registry of Elected Officials (*Anagrafe degli Amministratori*), published by the Ministry of Internal

[5] We do not consider three regions (*Valle d'Aosta*, *Molise*, and *Trentino-Alto Adige*) because they elected their MPs with a different (majoritarian) system.

[6] Actually, also the best party below the 2-percent threshold in each coalition could obtain seats, making the actual electoral threshold even lower.

Affairs, covering the universe of presidents, executive officers, councillors, and mayors at the regional, province, and city level. The dataset contain information on the education, professional background, and administrative experience of all local politicians in Italy since 1985. As most candidates usually have previous experience at some level, we could find information on about 90 percent of the candidates. For the remaining 10 percent, a team of research assistants working for the watchdog website *Lavoce.info* collected equivalent information online.

In order to capture the (ex-ante) information set of political parties (leaders) at the moment they had to form their electoral list, we collected estimates of how many seats each party was expected to obtain in each district, both in the House and in the Senate. Estimates were provided to *Lavoce.info* by a research center specialized in electoral studies (*Cise*) and were based on both original polls and projections.[7] The estimates divided each list in each district into three strata: the first included "safe" positions (i.e., candidates expected to get elected based on the available polls); the second "uncertain" positions; and the third "unsafe" positions (i.e., candidates expected not to get elected). We then collected individual information about candidates in safe positions and in uncertain positions, as well as about a number of candidates in unsafe positions symmetrically equal to the number of safe candidates. This was meant to reduce data collection costs, especially for minor parties where only a small share of candidates had some chance of being elected. For major parties, in fact, this criterion lead us to collect information on the universe of candidates.

The final sample contains 1,850 candidates. Table 1 (panel A) shows the correlation between the ex-ante expectations and the actual electoral outcomes. The correlation is not deterministic, but strong. About 79 percent of candidates in safe positions were elected, against 34 percent in uncertain positions and 5 percent in unsafe positions. The correlation is even stronger in the House (panel B)—where 82 percent of safe candidates were elected—as opposed to the Senate, where the regional majority premiums made the electoral outcome less predictable. The same holds for big parties (panel C)—where 87 percent of safe candidates were elected—as opposed to small parties, for whom it is generally more complicated to predict how many candidates (and especially in what districts) are going to be elected.

Table 2 reports the individual characteristics of the candidates in safe, uncertain, and unsafe positions. Female and younger candidates are overrepresented in unsafe positions, while candidates with a college degree are more likely to be allocated to safe positions. The dummy "born elsewhere" captures whether the candidate was born in a city that does not belong to the electoral district; this usually happens for candidates who have strong ties with

[7]For more information, see the website: www.cise.luiss.it.

the National political leadership and are sent to safe (or at least uncertain) positions in any district. We also have information about whether candidates were professional politicians ("party officer"), to capture their attachment to the party; whether they were professionals (lawyers, financial advisers, entrepreneurs, etc.), to capture their opportunity cost of entering politics; whether they had administrative experience at some level (i.e., regional, provincial, or municipal government); and, finally, whether they had ever been appointed to the Parliament in the past. Party officers are overrepresented in safe positions as opposed to the rest, while former MPs and politicians with administrative experience are overrepresented in both safe and uncertain positions as opposed to unsafe positions.

Finally, to shed more light on the allocation of sitting MPs within party lists, we collected a second dataset about the members of both the House and the Senate in the XVI legislative term (2008–13). We have non-missing information for 909 MPs, and for all of them we know whether they were assigned to safe, uncertain, unsafe positions, or whether they were not running for reelection (about 50 percent of the entire sample). This dataset provides less demographic characteristics but has the advantage of containing a large set of MP-specific indicators of parliamentary activity. The source is the independent organization *Openpolis*, which provides open data on attendance in Parliament, voting records, and bill proposals.[8]

Table 1 (panel D) shows the electoral outcome of the 909 MPs in our dataset. About 91 percent of MPs rerunning in safe positions were elected, as opposed to 45 percent in uncertain and 7 percent in unsafe positions. This means that uncertain positions are somehow less "uncertain" for MPs than for the average candidate. Table 3 reports the parliamentary activity of the MPs by their (ex-ante) election probability. Among sitting MPs, females are overrepresented in safe positions; because of gender quota in some parties, it was actually easier to get reelected for female "insiders" more likely to have connections with the party leadership. The absenteeism rate during (electronic) voting sessions shows no clear pattern. What we call the "rebellion rate" (i.e., the share of parliamentary votes where the MP did not follow the party's line) is generally very low in the Italian Parliament, but is even lower for those (loyal) MPs who end up getting safe positions in the party list for the next election. The "productivity indicator" is calculated by *Openpolis* combining attendance, bill proposals, and speeches; we normalize the indicator to 100 for the most productive MP. More productive (and eventually more senior) MPs are those who end up not running for reelection.

[8]For more information, see the website: www.openpolis.it.

# 5 Empirical results

In this section, we implement a set of multinomial econometric models to study the determinants of candidates' allocation to safe, uncertain, or unsafe positions within the (closed) party list. Table 4 uses the first dataset on candidates and reports estimates from a multinomial logit model. Specifically, we model the probability that candidate $i$ is assigned to a position $j$ as:

$$P_{ij} = \frac{e^{x_i'\beta_j}}{\sum_{k=1}^{m} e^{x_i'\beta_k}}, \tag{4}$$

where $j = 1, 2, 3$ corresponds to unsafe, uncertain, and safe positions, respectively. To focus on the allocation into safe seats, we use either uncertain or unsafe as the (excluded) base category, therefore normalizing either $\beta_2$ or $\beta_1$ to zero, respectively. The vector of candidate-specific characteristics $x_i$ includes district fixed effects and political party fixed effects. The regressors of interest are the candidates' characteristics: gender, age, place of birth, education, professional and political experience. Estimation is by maximum likelihood. The assumption of independence of irrelevant alternatives is not a major issue here, because all alternatives are tied together, that is, they are meaningful only if the others exist.

In Table 4, we report both the odds ratios ($e^{\beta_3}$), which capture the marginal impact of each variable on the relative risk of being placed in safe positions as opposed to either uncertain (second column) or unsafe positions (third column), as well as the marginal effects evaluated at the mean (fourth column). Unlikely the odds ratios, the marginal effects capture the impact of each variable on the probability of being placed in safe positions as opposed to all of the other alternatives.[9] We also report Wald tests on the joint significance of each regressor with respect to all of the outcome alternatives.

The estimates show that males and college graduates are more likely to be allocated to safe positions. The same happens for former MPs, party officers, and candidates born outside of the district. We interpret all of these results as evidence that candidates who are closer (more loyal) to the party leadership obtain safer positions. The result on party officers is statistically different from zero when we contrast safe positions with uncertain positions (as predicted by the model with rational independent voters) and with all the rest, not when we contrast them with unsafe positions. The Wald tests show that, on the whole, parliamentary experience and being born elsewhere are strong predictors of the ranking within party lists.

[9] To save on space, all tables focus on the probability of being placed in safe positions; the complete set of odds ratios and marginal effects with respect to the other alternatives is available upon request.

The multinomial logit model considers all alternatives as unordered, but one may claim that there is a natural (descending) hierarchy between being placed in safe, uncertain, or unsafe positions. Therefore, in Table 5, we also report estimates from an ordered logit model. Using the same set of fixed effects and regressors of equation (4), we evaluate their impact on the probability of being placed in safer positions within the party list. We report the odds ratios. Results are qualitatively identical to those of the multinomial logit model.

Table 6 estimates the multinomial logit model in equation (4) using the dataset on sitting MPs. Here, the only difference is that we have one more outcome category ("not running"), which we use as base category in the third column; in the second column, uncertain positions are again used as base category.[10] Obviously, variables in the vector $x_i$ are also different. We include a dummy distinguishing the House from the Senate and—as regressors of interest—gender, the absenteeism rate, the rebellion rate, and the productivity index. Contrary to the overall finding in the candidates' dataset, female MPs are more likely to rerun in safe positions. Not all female politicians are therefore discriminated when forming the (closed) party list. Insiders belonging to protected minorities are actually favored by the list allocation mechanism. The impact of the absenteeism rate and the productivity index are not statistically different from zero. The rebellion rate, instead, strongly reduces the probability of being placed in safe positions as opposed to not running for reelection.[11]

Table 7 estimates the ordered logit model using the second dataset on sitting MPs. Here, the assumption is that running in unsafe positions is better than not running at all. This might be the case because of two reasons: first, because there is a small probability of being elected also for candidates in unsafe positions; second, because the inclusion in the list might signal some loyalty to the party to be rewarded with other (non-parliamentary) appointments. Again, results are qualitatively identical to those of the multinomial logit model.

Overall, our findings suggest that parliamentary effort does not matter for being reelected in a system with closed party lists; only loyalty to the party in parliamentary voting does.

Finally, we study the ranking of candidates within their party list, conditional on the same (ex-ante) reelection probability. Specifically, we estimate OLS models with the exact ranking as dependent variables (lower rankings corresponding to safer positions), separately for safe, uncertain, and unsafe positions. Table 8 and Table 9 report the results for all candidates and for sitting MPs, respectively. In safe positions, party officers and candidates born outside the district are even safer, that is, they tend to be placed on top of the list (in

[10] To save on space, we do not report results with unsafe positions as base category (available upon request), as only 6.7 percent of sitting MPs are placed there.

[11] Wald tests confirm that the rebellion rate is the strongest predictor of the outcome for sitting MPs.

line with Proposition 2 in our model with rational independent voters). Evidence is mixed on the sitting MPs. Among uncertain or unsafe positions, a higher rebellion rate is associated with a better ranking, but these effects are significant only at the 10 percent level. The main discrimination against non-loyal MPs is whether they are allowed to rerun or not.

# 6 Conclusion

Closed list proportional systems award strong gate-keeping power to the party leaders. While a top spot in the party list ensures a seat in Parliament, the probability of election drastically decreases for positions down the list. Party leaders can hence determine the political fate of their candidates, almost at will. However, they are somewhat constrained by the preferences of swing voters, as parties compete for their vote to win the elections. But how do these voters form their preferences? Do they make any effort to infer the policy of the winning party from the candidates who are likely to be elected? Or do they just use a rule of thumb—such as focusing on the top candidates—to make their voting decision?

Our theoretical model shows that parties react differently to the preferences of rational or behavioral voters. In the former case, they optimally allocate their loyal candidates to safe seats, while moving expert candidates, who are highly valued by independent voters, to those uncertain positions which however ensure a seat in Parliament if the party wins the election. In the latter case, parties drop a few experts in the top positions—the only spots considered by behavioral voters—while filling the rest of the party list with loyalists.

Our empirical analysis exploits the closed list proportional system used during the 2013 Italian political election to show that parties on average reserve their safe seats to loyalists, that is, to former MPs (particularly if they voted along party lines in the previous legislature), party officers, and politicians with administrative experience. These results are in line with the optimal party allocation when facing rational independent voters.

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# Tables

Table 1: Ex-ante election probability and actual electoral outcome

| | Not elected | Elected | Obs. |
|---|---|---|---|
| | | *A. All candidates* | |
| Safe position | 21.05 | 78.95 | 727 |
| Uncertain position | 65.55 | 34.45 | 447 |
| Unsafe position | 94.67 | 5.33 | 676 |
| Total | 58.70 | 41.30 | 1,850 |
| | | *B1. House* | |
| Safe position | 17.53 | 82.47 | 445 |
| Uncertain position | 70.43 | 29.57 | 257 |
| Unsafe position | 97.54 | 2.46 | 406 |
| Total | 59.12 | 40.88 | 1,108 |
| | | *B2. Senate* | |
| Safe position | 26.60 | 73.40 | 282 |
| Uncertain position | 58.95 | 41.05 | 190 |
| Unsafe position | 90.37 | 9.63 | 270 |
| Total | 58.09 | 41.91 | 742 |
| | | *C1. Big parties* | |
| Safe position | 12.52 | 87.48 | 519 |
| Uncertain position | 40.14 | 59.86 | 147 |
| Unsafe position | 94.70 | 5.30 | 491 |
| Total | 50.91 | 49.09 | 1,157 |
| | | *C2. Small parties* | |
| Safe position | 42.31 | 57.69 | 208 |
| Uncertain position | 78.00 | 22.00 | 300 |
| Unsafe position | 94.59 | 5.41 | 185 |
| Total | 71.72 | 28.28 | 693 |
| | | *D. Sitting MPs only* | |
| Safe position | 9.32 | 90.68 | 279 |
| Uncertain position | 54.70 | 45.30 | 117 |
| Unsafe position | 93.44 | 6.56 | 61 |
| Not running | 100.00 | 0.00 | 452 |
| Total | 65.90 | 34.10 | 909 |

Notes. Proportions of candidates "elected" vs "not elected" by ex-ante election probability (safe, uncertain, unsafe); all proportions are expressed in percentage points. The dummy "big parties" refers to the two major Italian parties before the 2013 election (i.e., *Partito Democratico* and *Popolo della Libertà*). "Sitting MPs" are those who served during the 2008-13 legislative term.

Table 2: Candidates' characteristics by ex-ante election probability

| | Safe position | Uncertain position | Unsafe position | Total |
|---|---|---|---|---|
| Male | 0.697 | 0.785 | 0.617 | 0.689 |
| Age | 51.142 | 52.000 | 48.953 | 50.549 |
| Born elsewhere | 0.300 | 0.362 | 0.160 | 0.264 |
| College graduate | 0.695 | 0.597 | 0.590 | 0.633 |
| Party officer | 0.088 | 0.047 | 0.046 | 0.063 |
| Former professional | 0.376 | 0.416 | 0.404 | 0.396 |
| Administrative experience | 0.908 | 0.805 | 0.404 | 0.699 |
| Former MP | 0.498 | 0.425 | 0.120 | 0.342 |
| Obs. | 727 | 447 | 676 | 1,850 |

Notes. Average values of candidates' characteristics by ex-ante election probability. Age is expressed in years; all the other (dummy) variables are expressed as shares.

Table 3: Sitting MPs' behavior by ex-ante election probability

| | Safe position | Uncertain position | Unsafe position | Not running | Total |
|---|---|---|---|---|---|
| Male | 0.717 | 0.838 | 0.754 | 0.836 | 0.794 |
| Absenteeism rate | 14.223 | 13.433 | 10.445 | 14.290 | 13.901 |
| Rebellion rate | 1.296 | 1.613 | 1.448 | 1.768 | 1.582 |
| Productivity index | 13.983 | 13.889 | 14.453 | 15.182 | 14.598 |
| Obs. | 279 | 117 | 61 | 452 | 909 |

Notes. Average values of MPs' characteristics and parliamentary activity indicators by ex-ante election probability. The male dummy is expressed as a share; the activity indicators are expressed in percentage points.

Table 4: Candidates' characteristics and ex-ante election probability, multinomial logit

| | Safe position | | | *Wald test* |
|---|---|---|---|---|
| | OR (Uncertain) | OR (Unsafe) | ME (All) | |
| Male | 0.658*** | 1.300** | -0.007 | 19.90*** |
| | [0.010] | [0.168] | [0.028] | |
| Age | 0.988* | 0.989* | -0.003** | 3.91 |
| | [0.007] | [0.007] | [0.001] | |
| Born elsewhere | 0.699*** | 1.832*** | 0.047 | 37.56*** |
| | [0.098] | [0.272] | [0.029] | |
| College graduate | 1.551*** | 1.474*** | 0.099*** | 13.65*** |
| | [0.212] | [0.187] | [0.027] | |
| Party officer | 1.846*** | 1.364 | 0.107** | 5.20* |
| | [0.511] | [0.358] | [0.053] | |
| Former professional | 0.934 | 0.826 | -0.034 | 2.22 |
| | [0.128] | [0.106] | [0.027] | |
| Administrative experience | 1.218* | 1.223* | 0.048** | 4.53 |
| | [0.137] | [0.137] | [0.023] | |
| Former MP | 1.476*** | 7.679*** | 0.325*** | 102.28*** |
| | [0.290] | [1.574] | [0.040] | |

Notes. Units of observation: 1,850 candidates. Estimation method: multinomial logit. District fixed effects and political party fixed effects included. OR stands for "Odds Ratio" and ME for "Marginal Effect;" they both capture the effect of the covariates on the probability of being in a safe position; OR is evaluated with respect to the baseline alternative (either uncertain or unsafe position, as specified in the column heading); ME is evaluated with respect to all other alternatives. The Wald test captures the joint significance of each variable with respect to all alternatives (Chi-squared reported). Standard errors are in brackets. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 5: Candidates' characteristics
and ex-ante election probability, ordered logit

| | OR |
|---|---|
| Male | 1.236** |
| | [0.127] |
| Age | 0.991* |
| | [0.005] |
| Born elsewhere | 1.413*** |
| | [0.150] |
| College graduate | 1.365*** |
| | [0.133] |
| Party officer | 1.430* |
| | [0.290] |
| Former professional | 0.853 |
| | [0.084] |
| Administrative experience | 1.150* |
| | [0.097] |
| Former MP | 4.129*** |
| | [0.608] |

Notes. Units of observation: 1,850 candidates. Estimation method: ordered logit (safer positions associated with higher values). District fixed effects and political party fixed effects included. OR stands for "Odds Ratio." Standard errors are in brackets. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 6: Sitting MPs' behavior and ex-ante election probability, multinomial logit

| | Safe position | | | *Wald test* |
|---|---|---|---|---|
| | OR (uncertain) | OR (not running) | ME (all) | |
| Male | 0.497** | 0.498** | -0.136*** | 15.78*** |
| | [0.142] | [0.094] | [0.036] | |
| Absenteeism rate | 1.006 | 0.998 | 0.001 | 5.31 |
| | [0.009] | [0.006] | [0.001] | |
| Rebellion rate | 0.897* | 0.880** | -0.025** | 8.59** |
| | [0.058] | [0.046] | [0.011] | |
| Productivity index | 1.003 | 0.995 | -0.001 | 1.53 |
| | [0.010] | [0.001] | [0.001] | |

Notes. Units of observation: 909 sitting MPs. Estimation method: multinomial logit. House dummy included. OR stands for "Odds Ratio" and ME for "Marginal Effect;" they both capture the effect of the covariates on the probability of being in a safe position; OR is evaluated with respect to the baseline alternative (either uncertain or unsafe position, as specified in the column heading); ME is evaluated with respect to all other alternatives. The Wald test captures the joint significance of each variable with respect to all alternatives (Chi-squared reported). Standard errors are in brackets. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 7: Sitting MPs' behavior and ex-ante election probability, ordered logit

| | OR |
|---|---|
| Male | 0.576*** |
| | [0.090] |
| Absenteeism rate | 0.997 |
| | [0.005] |
| Rebellion rate | 0.922** |
| | [0.032] |
| Productivity index | 0.994 |
| | [0.006] |

Notes. Units of observation: 909 sitting MPs. Estimation method: ordered logit (safer positions associated with higher values). House dummy included. OR stands for "Odds Ratio." Standard errors are in brackets. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 8: List ranking conditional on ex-ante election probability, candidates

| | Safe position | Uncertain position | Unsafe position |
|---|---|---|---|
| Male | -0.386 | -0.744 | -1.623** |
| | [0.342] | [0.606] | [0.717] |
| Age | -0.026 | -0.039 | -0.067* |
| | [0.016] | [0.024] | [0.036] |
| Born elsewhere | -1.339*** | -1.567*** | -1.174 |
| | [0.335] | [0.407] | [0.990] |
| College graduate | -0.052 | 0.043 | 0.504 |
| | [0.370] | [0.420] | [0.692] |
| Party officer | -1.406** | -0.875 | -1.518 |
| | [0.565] | [0.943] | [1.275] |
| Former professional | -0.728** | 0.386 | -0.280 |
| | [0.321] | [0.440] | 0.720 |
| Administrative experience | -0.154 | 0.608 | 0.425 |
| | [0.243] | [0.408] | [0.585] |
| Former MP | 0.678 | -0.899 | -1.770* |
| | [0.426] | [ 0.681] | [1.065] |
| Obs. | 727 | 447 | 676 |

Notes. Estimation method: OLS, separately in the subsamples indicated by column heading. District fixed effects and political party fixed effects included. Coefficients reported; standard errors are in brackets. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 9: List ranking conditional on ex-ante election probability, sitting MPs

| | Safe position | Uncertain position | Unsafe position |
|---|---|---|---|
| Male | -0.655 | -3.609* | -2.829 |
| | [0.567] | [1.967] | [2.485] |
| Absenteeism rate | -0.056*** | -0.010 | -0.044 |
| | [0.015] | [0.028] | [0.083] |
| Rebellion rate | -0.334** | -0.222 | -0.056 |
| | [0.116] | [0.167] | [0.142] |
| Productivity index | -0.038*** | -0.012 | -0.103 |
| | [0.014] | [0.061] | [0.072] |
| Obs. | 279 | 117 | 61 |

Notes. Estimation method: OLS, separately in the subsamples indicated by column heading. House dummy included. Coefficients reported; standard errors are in brackets. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

# Appendix

## Proof of Proposition 1

Party $L$ wins $N_L$ seats for sure because of its core voters, and competes for the $N_I$ seats assigned according to the votes of the independent voters. In particular, each share $1/N_I$ of votes from the independent voters translates into an additional seat for party $L$. Recall that $\widetilde{s} = V_I^L - V_I^R - \delta$ defines the swing voter among the independent voters, so that all independent voters with ideology $s < \widetilde{s}$ will support party $L$.

Party $L$ wins all $N_I$ seats if party $R$ obtains less than a share $1/2N_I$ of votes, that is, if party $L$ obtains more than a share $\frac{N_I - 1/2}{N_I}$.

Hence, party $L$ probability of getting all $N_I$ seats is $P_L\left(N^L = N_L + N_I\right) =$
$\Pr\left\{\frac{1}{2} + \widetilde{s} > \frac{N_I - 1/2}{N_I}\right\} = \Pr\left\{\delta < \frac{1}{2N_I} - \frac{1}{2} + V_I^L - V_I^R\right\} = \frac{1}{2} - \psi\left(\frac{1}{2} - \frac{1}{2N_I} - V_I^L + V_I^R\right)$.

Analogously, party $L$ probability of getting $N_I - i$ seats is $P_L\left(N^L = N_L + N_I - i\right) =$ $\Pr\left\{\frac{N_I + 1/2 - i}{N_I} > \frac{1}{2} + \widetilde{s} > \frac{N_I - 1/2 - i}{N_I}\right\} = \Pr\{\frac{1}{2} + V_I^L - V_I^R - \frac{N_I + 1/2 - i}{N_I} < \delta < \frac{1}{2} + V_I^L - V_I^R -$ $\frac{N_I - 1/2 - i}{N_I}\} = \frac{\psi}{N_I}$.

And party $L$ probability of getting only $N_L$ seats is $P_L\left(N^L = N_L\right) = \Pr\left\{\frac{1}{2} + \widetilde{s} < \frac{1/2}{N_I}\right\} =$ $\Pr\left\{\delta > \frac{1}{2} - \frac{1}{2N_I} + V_I^L - V_I^R\right\} = \frac{1}{2} - \psi\left(\frac{1}{2} - \frac{1}{2N_I} + V_I^L - V_I^R\right)$.

Finally, notice that $P_L\left(N^L = N_L + N_I\right) \geq 0$ and $P_L\left(N^L = N_L\right) \geq 0$ for $V_I^L - V_I^R \in \left[\frac{1}{2}\left(1 - \frac{1}{\psi}\right) - \frac{1}{2N_I}, \frac{1}{2N_I} - \frac{1}{2}\left(1 - \frac{1}{\psi}\right)\right]$.

## Proof of Proposition 2

Party $L$ allocates its loyalists and experts in the party list in order to maximize the expected utility at eq. 3, given party $R$ decision. Let us consider the marginal cost and benefit for party $L$ from allocating an expert respectively to a safe and to an uncertain position. Notice that both costs and benefits are null if the expert is located in an unsafe position, where she will not be elected for sure.

For $i \in [1, N_L]$, i.e., safe seats, we have

$$-(1-\varepsilon)\sum_{N^L=0}^{N/2} P_L\left(N^L\right) - \sum_{N^L=(N/2)+1}^{N} P_L\left(N^L\right) + \sum_{N^L=0}^{N} \frac{\partial P_L\left(N^L\right)}{\partial T_i} V_L\left(N^L\right)$$

where $P_L\left(N^L\right)$ is defined at proposition 1, and, with an abuse of notation, we indicate with $\frac{\partial P_L\left(N^L\right)}{\partial T_i}$ the marginal change in the probability of party $L$ obtaining $N^L$ seats when an expert is allocate at position $i \in [1, N_L]$ on party $L$ list. Hence, the above equation for $i \in [1, N_L]$

can be rewritten as

$$-(1-\varepsilon)\sum_{N^L=0}^{N/2} P_L\left(N^L\right) - \sum_{N^L=(N/2)+1}^{N} P_L\left(N^L\right) + \psi\left[V_L\left(N_L+N_I\right) - V_L\left(N_L\right)\right]\frac{\partial V_I^L}{\partial T_i}. \quad (5)$$

Among the uncertain seats, for $i \in [N_L+1, N/2]$, we have

$$-(1-\varepsilon)\sum_{N^L=i}^{N/2} P_L\left(N^L\right) - \sum_{N^L=(N/2)+1}^{N} P_L\left(N^L\right) + \psi\left[V_L\left(N_L+N_I\right) - V_L\left(N_L\right)\right]\frac{\partial V_I^L}{\partial T_i}. \quad (6)$$

and for $i \in [(N/2)+1, N_L+N_I]$, we have

$$-\sum_{N^L=i}^{N} P_L\left(N^L\right) + \psi\left[V_L\left(N_L+N_I\right) - V_L\left(N_L\right)\right]\frac{\partial V_I^L}{\partial T_i}. \quad (7)$$

We can now turn to analyze how rational voters, who care about the policy implemented by the winning party, $V_I^L = Y_L\left(N^L\right)$, are affected by the expert allocation, i.e., we examine $\frac{\partial V_I^L}{\partial T_i}$. Notice that the expected utility from party $L$ policy, conditional on party $L$ winning the election is

$$E\left(V_I^L\right) = E\left(Y_L\right) = \frac{\sum_{N^L=(N/2)+1}^{N} P_L\left(N^L\right) Y_L\left(N^L\right)}{\sum_{N^L=(N/2)+1}^{N} P_L\left(N^L\right)}$$

with $\sum_{N^L=(N/2)+1}^{N} P_L\left(N^L\right) = \Pi_L$.

Hence, we have

$$\frac{\partial V_I^L}{\partial T_i} = \begin{cases} \frac{1}{\Pi_L}\sum_{N^L=(N/2)+1}^{N} \frac{P_L\left(N^L\right)}{N^L} & \text{for } i \in [1, N/2] \\ \frac{1}{\Pi_L}\sum_{N^L=i}^{N} \frac{P_L\left(N^L\right)}{N^L} & \text{for } i \in [(N/2)+1, N_L+N_I] \end{cases} \quad (8)$$

Combining the above equation with the first order conditions at eq. 5, 6, and 7, we are now in the position to prove the five statements in proposition 2.

First, by comparing equations 5 and 6, it is straightforward to see that allocating an expert to $[1, N_L]$ is more costly than allocating her to $[N_L, N/2]$, but provides the same benefit (see eq. 8). Hence, experts are allocated to uncertain, i.e., $[N_L+1, N/2]$, rather than to safe seats, i.e., $[1, N_L]$, and viceversa for loyalists.

Second, if both experts and loyalists are allocated to $[1, N_L]$, the ordering does not matter, as both costs and benefits are unaffected by the ordering (see equations 5 and 8).

Third, if both experts and loyalists are allocated to uncertain seats, i.e., $[N_L+1, N/2]$, experts are allocated to more uncertain seats, i.e., $N_L+i+1$ rather than $N_L+i$, because the benefit of allocating them is unaffected by the ordering (see eq. 8), whereas the cost of having an expert is decreasing in the ordering, as suggested by the first term at eq. 5.

Forth, to see that loyalists are allocated to $N/2+i$ rather than to $N/2+i-1$ assume that eq. 7 is equal to zero for $N^L=(N/2)+i$. Then,

$$-\sum_{N^L=(N/2)+i}^{N} P_L\left(N^L\right)+\psi\left[V_L\left(N_L+N_I\right)-V_L\left(N_L\right)\right]\frac{1}{\Pi_L}\sum_{N^L=(N/2)+i}^{N}\frac{P_L\left(N^L\right)}{N^L}=0, \text{ or}$$

$$\frac{\psi\left[V_L\left(N_L+N_I\right)-V_L\left(N_L\right)\right]}{\Pi_L}=\frac{\sum_{N^L=(N/2)+i}^{N} P_L\left(N^L\right)}{\sum_{N^L=(N/2)+i}^{N}\frac{P_L(N^L)}{N^L}} \tag{9}$$

Now, if equation 7 is positive for $(N/2)+i-1$, experts are allocated to $(N/2)+i-1$ rather than to $(N/2)+i$, and the opposite for loyalists. Equation 7 can be written as

$$-\sum_{N^L=(N/2)+i-1}^{N} P_L\left(N^L\right)+\psi\left[V_L\left(N_L+N_I\right)-V_L\left(N_L\right)\right]\frac{1}{\Pi_L}\sum_{N^L=(N/2)+i-1}^{N}\frac{P_L\left(N^L\right)}{N^L}>0$$

Using condition 9, we have

$-\frac{\sum_{N^L=(N/2)+i-1}^{N} P_L\left(N^L\right)}{\sum_{N^L=(N/2)+i-1}^{N}\frac{P_L(N^L)}{N^L}}+\frac{\sum_{N^L=(N/2)+i}^{N} P_L\left(N^L\right)}{\sum_{N^L=(N/2)+i}^{N}\frac{P_L(N^L)}{N^L}}>0$. Simple algebra shows that this conditions always holds.

Fifth, to see that loyalists are allocated to $N/2-i$ rather than to $N/2+i$, assume as before that eq. 7 is equal to zero for $N^L=(N/2)+i$. Then condition 9 holds.

Now, if equation 6 is negative for $(N/2)-i$, experts are allocated to $(N/2)+i$ rather than to $(N/2)-i$, and the opposite for loyalists. Notice that equation 6 can be written as

$$-(1-\varepsilon)\sum_{N^L=(N/2)-i}^{N/2} P_L\left(N^L\right)-\sum_{N^L=(N/2)+1}^{N} P_L\left(N^L\right)+$$

$$+\psi\left[V_L\left(N_L+N_I\right)-V_L\left(N_L\right)\right]\frac{1}{\Pi_L}\sum_{N^L=(N/2)+1}^{N}\frac{P_L\left(N^L\right)}{N^L}<0.$$

Using condition 9, we have

$$-(1-\varepsilon)\sum_{N^L=(N/2)-i}^{N/2} P_L\left(N^L\right)-\sum_{N^L=(N/2)+1}^{N} P_L\left(N^L\right)+$$

$$+\sum_{N^L=(N/2)+1}^{N}\frac{P_L\left(N^L\right)}{N^L}\frac{\sum_{N^L=(N/2)+i}^{N} P_L\left(N^L\right)}{\sum_{N^L=(N/2)+i}^{N}\frac{P_L(N^L)}{N^L}}<0,$$

which holds for $\varepsilon<1+\frac{\Pi_L}{\sum_{N^L=(N/2)-i}^{N/2} P_L(N^L)}-\frac{\sum_{N^L=(N/2)+1}^{N}\frac{P_L\left(N^L\right)}{N^L}}{\sum_{N^L=(N/2)-i}^{N/2} P_L(N^L)}\frac{\sum_{N^L=(N/2)+i}^{N} P_L\left(N^L\right)}{\sum_{N^L=(N/2)+i}^{N}\frac{P_L(N^L)}{N^L}}$.

## Proof of Proposition 3

As in the previous proposition, party $L$ allocates its loyalists and experts in the party list in order to maximize the expected utility at eq. 3, given party $R$ decision. Equations 5, 6, and 7 hold also in this case, but with behavioral voters

$$\frac{\partial V_I^L}{\partial T_i} = \begin{cases} 1 & \text{for } i \in [1, N_k] \\ 0 & \text{otherwise} \end{cases} \tag{10}$$

Hence, an expert will be allocated in $i \in [1, N_k]$ with $N_k \leq N_L$

if $-(1-\varepsilon)\sum_{N^L=0}^{N/2} P_L\left(N^L\right) - \sum_{N^L=(N/2)+1}^{N} P_L\left(N^L\right) + \psi\left[V_L\left(N_L+N_I\right) - V_L\left(N_L\right)\right] \geq 0$, but no expert will be allocated in $i \in [N_k, N]$ since $-(1-\varepsilon)\sum_{N^L=0}^{N/2} P_L\left(N^L\right) - \sum_{N^L=(N/2)+1}^{N} P_L\left(N^L\right) < 0$.