Intra-Party Democracy and Policy Proximity to the Median Voter

Ron Lehrer

Department of Government

University of Essex

rdlehr@essex.ac.uk

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Abstract

Who selects the party leader influences party policy positions. Intra-party "selectors" who receive office benefits favor office-seeking policy positions (i.e., they are office-motivated), whereas rank-and-file members prefer policy-seeking policy positions (i.e., they are policy-motivated). The mixture of office-motivated and policy-motivated selectors affects where the party positions: Under democratic intra-party institutions, policy-seeking selectors dominate, leading parties to pursue policy goals over office payoffs. Under non-democratic intra-party rules, office-seeking selectors demand office-seeking policy positions which allow the party to be office-seeking in the Downsian sense. In mixed selectorates, the dispersion in selector preferences determines to what extant intra-party constraints bind. I provide empirical evidence that intra-party democracy is linked to policy proximity to the median voter position and the median party member position as theorized. These finding have important implications political representation and our general understanding of party politics.

Keywords: Intra-Party Politics, Spatial Modeling, Party Competition, Political Representation; Party Policy Proximity

When do political parties appeal to party members instead of to the median voter? In two party systems, the Downsian model predicts that parties respond to public opinion because they have vote-seeking incentives to position themselves at the median voter position (Downs 1957). With respect to multi-party systems, scholars have put forth theoretical arguments that parties diverge from the median voter (Palfrey 1984; Cox 1990a, 1990b; Adams et al. 2005; Miller and Schofield 2003; Cho 2014). While these studies focus on system-level factors – such as electoral rules (Cox 1990a), the number of parties in the party system (Adams and Merrill 2006; Plümper and Martin 2008; Cox 1990b), the type of voting (Lin et al. 1999; Adams 1999; Patty 2005), and valence (Stokes 1963; Adams et al. 2005; Schofield 2003) – these formal models of party competition have done so at the cost of overlooking the effects of intra-party democracy.

I argue that internally democratic party organizations, where members hold leaders accountable, pressure leaders to adopt non-centrist positions. Conversely, less democratic parties, where leaders are not constrained by members, adopt centrist positions.

Although the party competition literature has largely overlooked the effects of intra-party democracy, there are conspicuous instances of its effects. Before the 1979 and the 2001 British general elections, the Conservative party could have adopted centrist policies or policies that aligned with its party members' ideals. In 1979, only members of parliament (MPs) were allowed to select the party leader (Quinn 2012, 100), and the Conservatives adopted a centrist position (Blake 1997, 334). In 2001, on the other hand, when they changed their internal leadership selection rules and allowed rank-and-file party members to participate (Quinn 2012, 100), this internal party rule change resulted in the party adopting a more rightward ideological position (Bale 2010, 127). The Conservatives won the 1979 election and lost in 2001. In 2001, intra-party politics induced the party leadership to appease rank-and-file members by adopting policies consistent with them, while MPs requested electorally beneficial policies in 1979 (Schumacher et al. 2013; Ezrow et al. 2011; Strom and Müller 1999).

The example above provides the intuition for the model I develop of intra-party politics. The model predicts that more democratic parties allow for less policy leeway for the party leadership to adopt vote-maximizing centrist positions. Simply, party leaders have to cater to rank-and-file party members in order to stand for office. Following this logic, the model develops three expectations: First, internally democratic parties will position closer to the median party

member position than to the median voter position (Democratic Party Hypothesis). Second, non-democratic parties take positions closer to the median voter position than to the median party member position (Non-Democratic Party Hypothesis). Third, for parties in the middle – parties that are not completely democratic nor completely undemocratic – party positioning depends on the heterogeneity in party members' policy preferences with the more heterogeneous parties allowing for policy support at more extreme positions. Hence, with increasing dispersion in party members' policy ideals parties behave more like internally non-democratic rather than internally democratic parties (Hybrid Party Hypothesis). Using data from ten democratic countries between 1964-2010, I find that intra-party democracy affects "real world" party competition in line with these expectation.

Even though predictions about the effects of intra-party competition on inter-party competition can partially be derived analytically, linking it to competition for votes among parties makes the model analytically intractable (Roemer 2001, 103-116). Accordingly, I employ simulation strategies to obtain predictions (Adams 2001; Adams et al. 2005; Laver 2005; Bendor et al. 2011; Laver and Sergenti 2012).

This study makes a number of important contributions. First, it is the first formal model of intra-party politics and party behavior that allows for precise predictions of party positions. Previous studies discuss intra-party politics and party platform choice and due to the complexities of deriving specific predictions analytically, they do not model competition between parties directly (Caillaud and Tirole 1999, 2002; Crutzen at al. 2009; Dewan and Squintani 2014). Hence, no clear predictions about parties' policy positions (relative to the median voter) can be derived. This paper makes specific predictions (and presents empirical support for them).

Second, the paper shows that preference heterogeneity within parties matters for intra-party constraints. Up until now, scholars explained the strength of intra-party constraints with reference to leadership accountability and rank-and-file policy influence (Strom and Müller 1999: 17-18); self-selection of policy-seeking members into internally democratic parties (Panebianco 1988); and party organizational strength (Schumacher et al. 2013). While it is natural to concentrate on the the party's ideological center (i.e., the median party member position), this study emphasizes that it is also the dispersion party members around the center that matters (if parties are neither democratic nor undemocratic).

Third, I add to the empirical literature on intra-party constraints on party behavior. In particular, the findings support the claim that higher levels of intra-party democracy are correlated with policy-seeking, and conversely that undemocratic parties' behavior is consistent with office-seeking behavior (Schumacher et al. 2013; Meyer 2010; Bäck 2008; Pedersen 2010; Ceron 2012).

Fourth, this study has implications for our understanding of political representation. While the literature on party strategies emphasizes party-system-level variables (Blais and Bodet 2006; Ezrow 2008b, 2011; Dow 2011), this study suggests that scholars should lower the level of analysis and explicitly consider intra-party institutions, and how these are decisive for how citizen preferences are represented (Müller 2000; Powell 2004).

The Model

The proposed model operates at two levels: At the national level, parties competes against one another for votes by choosing policy positions. At the intra-party level, a party's policy position is determined. The core assumptions of the model relate to trade-offs office-seeking party leaders face when making policy decisions. On the one hand, leaders appeal to the general electorate (i.e., the median voter position at the national level) in order to maximize votes and their chances of forming the government (Roemer 2001, Chapter 1; Schofield 1993; Austen-Smith and Banks 1988; see also Ezrow 2008b). On the other hand, leaders must first be selected by their parties and thus have incentives to cater to party members (i.e., the median party member position at the intra-party level). The model suggests that the extent to which rank-and-file members are enfranchised to select the party leader matters for how close parties position to the median voter position.[1]

Model set-up

In the game, there are three types of players: First, at the intra-party level an incumbent party leader and a challenger compete for party leadership. They campaign for intra-party support by announcing a policy position and promising office to certain party members. Second, intra-party selectors choose the next party leader. They evaluate the candidates' offers when making their

1 The model resembles Bueno de Mesquita et al.'s (2002, 2003) *Selectorate Theory* if one thinks about a parties' policy positions as public goods and office nominations as private goods.

vote choices. The winning candidate's policy position becomes the party's policy position. Third, voters at the national level observe party positions and vote for the party closest to their ideal position.

[Figure 1 about here.]

Incumbents have a decisive disadvantage compare to challengers in intra-party competition: They have to give speeches in public and have to staff crucial positions. This commits them to a policy position as well as to staff. Since challengers do not have this public exposure, they can credibly commit to any policy position as well as to any personnel. The sequence of moves is hence as follows (see Figure 1a).

Each round of the model begins with an incumbent party leader whose policy and office nominations are known. Moreover, voters' policy preferences are well documented by public opinion polls. The first move is made by the challenger who observes voter positions and both the incumbent's position and nominations ("History"). Using this information, the challenger chooses his policy position and nominations strategically. Next, intra-party selectors choose the new party leader by comparing the incumbent's as well as the challenger's policy positions and nominations. If the challenger is elected party leader, the challenger's policy position becomes the party's policy position, the challenger's nominations are implemented, payoffs are realized, and the round ends. If the incumbent is reelected, he rules for another round. I assume that a rounds endures long enough to allow the incumbent to alter the party's policy position and change nominations without losing credibility. Once this happened, payoffs are realized, and the round ends.

Since the model becomes intractable rather quickly, simulation strategies are used to derive hypotheses (see below). To facilitate this, the game is played in turns: one party selects a party leader, thereby selecting a policy position, while other parties' actions are held fixed. The sequence of parties is randomly chosen from all parties that have not moved. When all parties have moved once, the round ends and a new round begins.

In the following, I describe the players' utility functions and their utility maximizing strategies keeping all other players' actions fixed. Note that these are not best responses that can be used to find (subgame perfect) equilibria because strategies ignore the fact that other parties will move before payoffs are realized. Anticipating that simulations will be used to derive predictions from

the model, I express these strategies as decision rules. These are equivalent to formal expressions and can be directly translated into computer code for simulations. Formal expressions and the proof that the decision rules (weakly) dominate any other rule can be found in Web Appendix A.

Voters at the national level

Assume a single policy dimension in the interval $[0, 10]$. Let E an uneven number of voters. The set of their ideal positions, E_{ideal}, contains the ideal points that are Normally distributed around position 5 with standard deviation E_{sd}. Voters observe the K, with $K \geq 2$, parties' policy positions.

Note that voters' decisions are needed only to determine how many votes a party expects to receive when taking a particular policy position (see below).[2] Since this quantity is public knowledge, parties are perfectly informed even if voters use complex decision rules (e.g., strategic voting). Since the purpose of the model is to highlight the effects of intra-party politics and not the effects of a certain voting model, voters' decision rule is kept as simple as possible: Voters vote sincerely for the party closest to their ideal position. They break ties randomly.[3]

Selectors

There is an uneven number, S, of selectors within party k who choose the next party leader (i.e., incumbent or challenger). Similar to voters, selectors have ideal policy positions on the interval $[0, 10]$ that are Normally distributed around some mean selector position S^k_{mean} with standard deviation S^k_{sd}. Note that these parameters are party-specific.

While voters think only about policy proximity when making their decisions, selectors consider office payoffs as well. One popular view about the proportions of office and policy payoffs, dating back to Downs (1957, 28), is that politicians use policy as means to gain office without any loss of utility by doing so, whereas voters maximize policy payoffs only. This implies either that politicians and voters have completely different utility functions or the office and policy terms in these utility functions, respectively, are (relatively) too small to be relevant. One way to express this latter idea is the following utility function for selectors in party k:

2 Therefore, voters do never actually vote in the model (see Figure 1a).

3 Of course, other decision rules can easily be used.

$$U_s = \begin{cases} -|i_s - p_Z| & \text{if not nominated for office by } Z, \\ -|i_s - p_Z| + O(p_Z; E_{ideal}, p_{-k}) & \text{if nominated for office by } Z \end{cases}$$

where i_s denotes selector s's ideal policy positions; p_Z is candidate Z's, $Z \in \{I, C\}$, policy position; $O(\cdot)$ indicates office payoffs which are a function of the number of votes the party gets at policy position p_Z, which in turn depends on voters' ideal positions, E_{ideal}, and other parties' policy positions, p_{-k}. Moreover, office payoffs always exceed maximal policy payoffs, formally $O(\cdot) \gg D$. As a result, a selector's expected utility of voting for candidate Z increases in policy proximity to candidate Z, and conditional on the selector assuming office, her utility increases also in party k's national vote share at position p_Z.

Why do office payoffs, $O(\cdot)$, strictly increase as the share of votes a party expects to gain at its policy position increases? The rationale is that the utility generated by holding office is not independent of a party's electoral performance. For instance, any office that a party may lose in elections (i.e., governmental positions, seats in parliament, and so forth) are subject to election outcomes. Moreover, even offices that the party commands with weak electoral performance (e.g., leader of the parliamentary party, or party secretary) are by far more influential, interesting, and thus utility generating if a party performs well in elections. Put differently: Selectors can be thought to (quasi-)change their ideal policy position to the vote maximizing policy position once they are nominated for office (i.e., they become office-motivated with regard to their favored policy position).

Knowing whether selectors are office motivated is also important to derive their utility-maximizing action. Of course, selectors vote for the candidate with the greater expected utility. Using the model's assumptions, however, this decision can be simplified: Since candidates make offers before selectors make their decisions, selectors know whether they assume office if a certain candidate wins. This implies that when facing a choice between two offers, one with and one without office payoffs, a selector will always opt for the offer with office payoffs, irrespective of the policy positions contained in the offers (i.e., the selector becomes office-motivated also with regard to her vote choice). For instance, when Edward Heath announced that he would stand for Conservative party leadership again, most shadow-ministers articulated their support imme-

diately even though there was a general feeling among MPs that change was needed (Ramsden 1998, 420-421). In the absence of office offers, just like ordinary voters, selectors make vote decisions based on policy proximity to their own ideal policy position (i.e., they are policy-motivated).

If a selector is nominated by both candidates, determining her vote choice is rather complicated (i.e., comparison of candidate vote shares at different positions). A shortcut exists that does not effect the model predictions (see Lemma 1 in Web Appendix A): Simply assume that all selectors who are nominated by both candidates vote for the same candidate (the "advantaged" candidate). Before turning to an example to clarify selector behavior, assume that candidate A is favored in the way just mentioned. Then, selectors' decision rule can be summarized as:

Decision Rule 1 Selectors' Weakly Dominant Decision Rule

```
if nominated by Candidate A then
    vote for Candidate A
else
    if nominated by Candidate B then
        vote for Candidate B
    else
        if both candidates propose the same policy position then
            vote randomly
        else
            vote for the candidate whose policy proposal is closer to own ideal position
        end if
    end if
end if
```

Proof of weak dominance: See Proposition 1 in Web Appendix A.

To clarify this decision rule, consider Figure 1b. It shows eleven selectors (labeled 1, 2 ..., 11) and their ideal positions on a single policy dimension. The incumbent party leader, *I*, set her policy position at 3's ideal position, whereas the challenger, *C*, chose 6's ideal position. Downward pointing arrows indicate incumbent nominations and upward pointing arrows challenger nominations. Moreover, all selectors prefer to be nominated by the incumbent. How do selectors vote? Consider selector 4 first. She is not nominated by either candidate and thus chooses according to policy proximity. Since *I*'s policy position is closer to her than *C*'s policy offer, she votes for *I*. Next, consider selector 1. Though *I*'s policy position is closer to her ideal position, she votes for *C* due to the office nomination. Finally, consider selector 7. She is nominated by both candidates but prefers the incumbent and votes thus for *I* even though *C*'s policy position is closer to her ideal position. Continuing in this fashion, *I* wins six votes (those of selectors 2, 3, 4,

7, 8, and 9) and therefore remains party leader even though C's position is closer to the median selector position. It turns out that the share of selectors candidates can nominate for office is crucial to understand policy outcomes (see below).

Candidates for party leadership

Candidates for party leadership are the central players of the game. Similar to selectors, they are motivated by office and policy. Again, office clearly outweighs policy: Since being party leader is a political office in its own right and the prerequisite to obtain government offices, party leaders compete for party leadership in the first place. Only to the extent that they can be sure to be elected party leader, they compete for votes at the national level since this maximizes their odds of becoming a cabinet member, implement policy, and so forth.[4] Formally, the corresponding utility function reads:

$$U_Z = \begin{cases} O(p_k; E_{ideal}, p_{-k}) & \text{if elected party leader,} \\ 0 & \text{otherwise,} \end{cases}$$

where $O(\cdot) > 0$.

Unlike other players that cast a single vote per round, candidates for party leadership take two actions: they choose a policy position and nominate selectors for office. To simplify the following explanations, label a combination of office nominations and a policy position a "candidate offer". Since the challenger knows how selectors respond to her offers, she can compute the probability that she is elected party leader for each offer.[5] Knowing this, we can turn to the challenger's utility maximizing strategy as expressed in Decision Rule 2. This rule simply states that the challenger maximizes the probability of winning in the first place and expected vote share in the second place.

4 Essentially, this is a Downsian assumption (Downs 1957, 28) because party leaders care about policy only in the second place. For an alternative perspective see Wittman (1983).

5 For most offers, this probability will either equal 1 or 0, however, whenever selectors who vote randomly are pivotal, this probability lies strictly between 0 and 1.

Decision Rule 2 Challenger's Weakly Dominant Decision Rule

if more than one offer maximizes the probability of becoming party leader **then**
find among these offers the ones that maximize the expected vote share in national elections and choose among them randomly
else
choose the single offer that maximizes the probability of becoming party leader
end if

Proof of weak dominance: See Proposition 2 in Web Appendix A.

Recall that the incumbent moves only if re-elected. Her utility maximizing response to the challenger offer and the voter distribution, provided she can move (i.e., she is re-elected), is expressed in Decision Rule 3:

Decision Rule 3 Incumbent's Weakly Dominant Decision Rule

remain nominations unchanged and move to vote-maximizing party position

Proof of weak dominance: See Proposition 2 in Web Appendix A.

The next step in the analysis is to use these utility maximizing strategies to predict agent behavior which can be used to derive hypotheses about real world phenomena.

Deriving Predictions from the Model of Party Competition

Quantity of Interest: Average Relative Party Proximity

Even though the model can be used to obtain various predictions (e.g., frequency of party leadership change, policy positions of office holders, and many more), the application here focuses on parties' policy positions when competing for votes. In particular, policy proximity to the median voter position and the median selector position is considered. To express this in a single number, I compute the very straightforward Average Relative Party Proximity Index (ARPP) for each party, k:

$$ARPP^k = \frac{1}{n}\sum_{i=1}^{i=n}\left(\left|x_i^k - s_m^k\right| - \left|x_i^k - V_m\right|\right)$$

where x_i^k is party k's policy position after its move in round i, for $i \in \{1, 2, \ldots, n\}$, s_m^k is the party's median selector position, and V_m is the median voter position. Assuming a single round (i.e., $n = 1$), if a party locates right in the middle between the median selector position and the median voter position (or these positions coincide), the ARPP equals zero. An ARPP of 1.2 indicates that

the party locates 1.2 policy units closer to the median voter than to the median selector. Negative numbers denote relative proximity to the median selector. Now assume multiple rounds ($n > 1$). If the party's policy position, x^k, is not in equilibrium (i.e., the party moves in the policy space), then the ARPP is the average of the round-specific proximities and provides useful information about the expected party position across rounds.

In the following, I discuss how the ARPP for different parties can be extracted from the model using analytical methods and simulation modeling.

Strategies for Obtaining Predictions

The most straightforward method to derive ARPPs from the model is to analytically demonstrate where parties position. However, the analysis of party competition in the Downsian tradition with multiple parties, on which the suggested model is based, suffers from the problem that equilibria do not exists (Roemer 2001, 103-116). Hence, analytical methods often fail to provide this information.

As an alternative, researchers turn to simulation modeling (Kollman et al. 1992; Adams 2001; Adams et al. 2005; Laver 2005; Fowler and Laver 2008; Laver and Sergenti 2012). The basic idea is to substitute analytic proofs by "playing the game" for many times with different input parameters while keeping track of players' actions, and analyzing the model output. In particular, if the model's outcomes are generated with random numbers as input, well-known regression techniques can be used to reveal the data generating process — that is the way the model translates parameter input into model outcomes (Plümper and Martin 2008, 431-433).[6]

If equilibria exists and given utility maximizing strategies, players will eventually play Nash-equilibrium strategies only, which is reflected in the data the researcher extracts from her simulations, and enables her to detect the equilibrium. Moreover, if no equilibrium exists, simulations will still show what non-equilibrium outcomes evolve.

Nevertheless, abandoning analytical proofs comes at a cost. For instance, analytical solutions are more general since they are not constrained by being derived from observations limited to a certain parameter space. Moreover, simulations can never proof the existence of equilibria. Also,

6 For alternative approaches for deriving hypotheses from simulation models of party competition see Laver and Sergenti (2012, 56-82) and Fowler and Smirnof (2007, 24-25).

the decision when to stop collecting data from simulations is somewhat arbitrary (Sergenti 2012). Similarly, output data analysis is not always straightforward and hence conclusions drawn from simulations tend to be more mistrusted than analytical statements (Law 2007, Chapter 9).

Due to the many caveats brought forward against simulations, researchers prefer solving games analytically — if possible. If analytical solutions, however, are either intractable, generally infeasible, or end at stating that no clear prediction can be made, simulations clearly outperforms its counterpart. Therefore, I use analytical methods whenever possible and proceed with simulations only when necessary.

Analytical Insights

The model's major determinant of party proximity is the share of selectors that expect office payoffs. To see this, consider the offices-to-selectors ratio within the party, $\frac{N}{S}$, where N is the number of offices a party leader commands and S is selectorate size. In particular, three cases arise.[7]

First, if the share of selectors motivated by office payoffs is zero, $\frac{N}{S} = 0$, the well known Downsian model with two office-seeking candidates and proximity vote choices applies. Thus, both candidates, and therefore the party, will position at the median selector ideal position. Letting the distance between the median voter position and the median selector position be d, this implies $ARPP_{democratic} = -d$.

In real world applications, making office nominations completely irrelevant in intra-party elections requires the size of the selectorate to be large (e.g., all party members form the selectorate). Therefore, I label this type of party "democratic" because it must have democratic intra-party institutions with regards to party leadership selection.

Second, if more than half of the selectors make their vote choice based on office considerations, $\frac{N}{S} > \frac{1}{2}$, the advantaged candidate can dictate the party's policy position because all selectors nominated by her vote for her irrespective of the other candidate's offer. Being vote-seeking

7 Proposition 3 in Web Appendix A expresses the following statements formally for those cases for which analytical solution are available.

herself, the party position will always be the vote-maximizing policy position.[8] Since national voters make their choices based on relative party proximity, the vote-maximizing position may change if another party changes its position. Except for very few cases, these vote-maximizing movements are thus intractable and are further investigated using simulations (i.e., analytically $ARPP_{non-democratic} = ?$).

In order to allow for a rather small number of offices that parties typically command to be enough to be distributed to a majority of selectors, this type of party must have non-democratic leadership selection institutions (e.g., institutions that enfranchise only party elites and/or MPs). Therefore, I refer to it as a "non-democratic" party.

Third, if some but less than a majority of selectors are motivated by office payoffs, i.e., $0 < \frac{N}{S} \leq \frac{1}{2}$, winning coalitions contain both policy-motivated and office-motivated selectors. One the one hand, this implies that party policy is constrained by intra-party politics because policy-motivated selectors provide incentives not to deviate from their positions too much. On the other hand, candidates do not necessarily target the same selectors when formulating their policy position. This happens in particular when the challenger strategically nominates policy-motivated selectors that the incumbent relies on (to which the incumbent cannot respond). This can make the incumbent be far away from policy-motivated selectors which, in turn, allows the challenger to deviate almost as far. As a result, parties' policy positions are not clearly specifiable analytically (i.e., $ARPP_{hybrid} = ?$). Simulations will be used below, to obtain more precise predictions.

Since this type of party selectorate is a mix between both of the above types, I label it "hybrid". Empirically, these are parties that choose their party leader by delegates that vote in party conferences. Since many MPs will either be among the delegates or are entitled to vote by party constitution, this type of party is distinct from the democratic type. However, as the selection process is not dominated by office-holders, this kind of party does not correspond to the (fully) non-democratic party either.

[Table 1 about here.]

8 Recall that according to Lemma 1 in Web Appendix A an advantaged candidates who maximizes the chance of becoming party leader and votes returns the same policy position as two equal, vote-seeking candidates.

Table 1 summarizes these analytical intra-party results. The next subsection discusses how these can be used to obtain prediction for party proximity evolving from competition between parties.

Numerical Insights

Model set-up

As specified by the game, the simulations take place in a one-dimensional policy environment,[9] with 101 distinct policy positions between 0 and 10. Also, 101 voters are Normally distributed around this policy dimension's center. In total, 10,000 of these voter distributions are created, each time randomly drawing voters' standard deviation about the center, E_{sd}, and the number of parties competing for votes, K. Below, I refer to these as model runs.

Similarly, model parameters are randomly and independently chosen within each party. In particular, the eleven Normally distributed selectors' median position, S^k_{mean}, their standard deviation, S^k_{sd}, as well as the number of offices the party commands, N^k, are drawn.

For the first round of the game, one of the candidates is chosen as an incumbent. Parties are located at their corresponding median selector positions and some randomly chosen selectors are holding office. Also, one candidate is selected to be preferred by all selectors who are nominated by both candidates.

Each round of the game starts with one party being randomly chosen to make the first move. Subsequent moves are randomly chosen among the parties that have not moved. When all parties have moved once, the round ends and the next round starts with any party as potential first mover. Within each party, players move according to their decision rules.[10] Before turning to the analysis of the model output, I discuss next how I verify that the obtained data is a valid and unbiased representation of the model.

9 Details of simulation set-up and summary statistics of model input are provided in Web Appendix B.

10 If a party's policy position can be analytically derived (i.e., for democratic and non-democratic parties), intra-party politics is not simulated. See Web Appendix B.

Obtaining unbiased simulation data

The suggested simulations can be understood as a Markov chain.[11] In particular, the model is a discrete-time Markov chain that is defined by having a finite state space (due to the 101 policy positions the parties can take) and a discrete time framework (i.e., rounds can be counted). Moreover, the Markov chain is stochastic because the order in which parties move is random. As a result, the Markov chain is ergodic which implies that for each combination of input parameters the chain converges to a single steady state distribution of ARPPs (Laver and Sergenti 2012, 64). In practice, this means that if we can verify that the single steady state is reached (which I do shortly), neither a discussion of parties' starting positions nor of iterating model runs with different random number generators is needed.

Obtaining simulation data from Markov chains that allow for correct conclusions requires two aspects: First, the data should not be "contaminated" by transient state data. I find that a burn-in period of 303 rounds (i.e., 303 movements per party) is sufficient to meet that condition. Second, the steady state should be mapped-out in the data. This happens after 3000 rounds. To verify these numbers, I simulated 100 model runs with 6010 rounds and computed their ARPPs twice: The first time using only 303 burn-in rounds and 3000 rounds to compute ARPPs. The second time I repeated the exercise, expanding the burn-in period to 1001 rounds and using 5000 rounds for ARPP computation. Both versions yield ARPPs substantially indistinguishable from one another. Also, their correlation is almost perfect ($r = 0.9999$). These findings strongly suggest that the steady state is correctly mapped-out after 3101 rounds of which 101 are burn-in rounds. Thus, I use this procedure to compute ARPPs and to derive hypotheses from them. In total, I simulate 10,000 model runs letting the dispersion of voters at the national level, E_{sd}, the number of parties, K, the position of each party's median selector position, i_s^k, as well as each party's selector dispersion, i_{sd}^k, and the number of offices in each party, N^k, vary.

Deriving hypotheses from simulations data

As mentioned before, regression techniques can help to derive hypotheses about how certain model parameters are linked to certain ARPPs. Since ARPPs can be virtually any number be-

11 For an introduction to Markov chain representations of simulation models of party competition see chapter 4 in Laver and Sergenti (2012).

tween -10 and 10 an OLS regression is the appropriate statistical tool. However, the correct model specification remains unclear.

In order to benchmark different model specifications, I tested them in predicting 3903 out-of-sample ARPPs generated in an additional 1000 model runs.[12] The model specification that performs best at predicting out-of-sample observations is obtained as follows: First, the sample is split between hybrid and non-democratic parties (democratic parties are not analyzed using simulations). This is justified by the analytically derived expectation that these parties take different policy positions which are also dependent on different determinants (see Table 1). Formally speaking, their data generating process is expected to be fundamentally different. Second, all model parameters are interacted with each other and themselves such that there are at most three-way-interactions.[13] Third, for both the hybrid and the non-democratic subsample, these parameters and their interactions are used as independent variables in an OLS regressions. Fourth, from these regressions, the statistically insignificant ($p > .05$) independent variables are dropped. Given the large number of observations (N_{hybrid}=18,257 and $N_{non-democratic}$=20,379 respectively), this is an appropriate strategy to distinguish between important and unimportant effects. Fifth, a new OLS regression is estimated using only the remaining variables.

[Table 2 about here.]

To ease comparison with the empirical application (see below), I do not present these two regressions' results individually. Instead, I pool the data for non-democratic and hybrid parties, interact all variables with corresponding party type dummies, and present results of this regression in Table 2. Mathematically, this is identical to computing both regressions individually and hence both coefficients and standard errors are identical to the party-type-specific results. Only the number of cases (N_{hybrid}=18,257 and $N_{non-democratic}$=20,379 respectively) and the goodness-of-fit measures (R^2_{hybrid}=.98 and $R^2_{non-democratic}$=.92) differ as they now report overall results instead of party-type-specific results.

12 Those cases whose ARPPs could be analytically derived were excluded from both the regression as well as the prediction exercise.

13 For instance, let a, b, and c be three model parameters. Then the regressions will include $a, a^2, a^3, (a \times b), (a^2 \times b), (a \times b \times c)$, and so forth but not $(a^2 \times b^2)$ because this would interact four variables $(a \times a \times b \times b)$.

Three checks highlight that these results are in fact capable of describing the data generating process well: First, the high adjusted R^2 values ($R^2_{hybrid} = .98$, $R^2_{non-democratic} = .92$, $R_{pooled} = .95$) indicate that the regressions indeed capture almost all of the variation in the data. Second, it makes sense that the adjusted R^2 value for hybrid parties is greater than the one for non-democratic parties. Recall that non-democratic parties can move freely in the policy space, whereas, hybrid parties are constrained by intra-party politics. Therefore, non-democratic parties' behavior should, on average, be harder to predict. This is expressed in the lower adjusted R^2 value for hybrid parties. Third, while R^2 measures the regression's power in within-sample predictions, I also conducted out-of-sample predictions. Across non-democratic and hybrid parties, 95% of out-of-sample predictions deviate less than .68 policy units from their actual ARPPs. (The ratio of absolute bias to the true value for 95% of predictions is less than .02%). In 90% of cases, predictions are less than .53 units (.007%) away, and 50% of predictions are closer than .12 units (.00005%) to the true value. Overall, these results indicate that the regression captures the data generating process that is implied by the suggested model very well. Hence, we can use it to make theoretically derived, counter-factual predictions about ARPPs.

Focusing on the independent variables in Table 2, note that for hybrid parties ARPPs depend only on two variables: the distance between the median party selector position and the median voter position, and the dispersion of the party selectorate. Even though the distance between medians matters for non-democratic parties as well, the intra-party selector dispersion does not matter at all. Instead, more "classical" variables of party competition such as the number of parties in the party system and the dispersion of voters around the median voter are relevant.

Despite the limited number of relevant variables, their functional form is rather complex. Therefore, Figure 2 depicts expectations for different scenarios. In each of the panels, solid lines indicate expected ARPPs and dashed lines show the corresponding 95% confidence intervals (y-axis). Distance between median voter position and median selector position is shown on the x-axis.[14] For democratic parties analytical predictions are available and they are hence plotted without confidence intervals. Across the figure's columns, the type of party (i.e., their intra-party institutions) varies, and across rows Selector Dispersion varies. Recall, that positive values

14 All other values are held constant: Voter Dispersion = 2.5 and Number of Parties = 4. These values are (close to) the means of the empirical data used below.

of ARPPs indicate that a party is closer to the median voter position than to the median selector position while negative values show relative median selector proximity.

[Figure 2 about here.]

As can be seen in Figure 2, a party's response to a large difference between its median selector position and the median voter position clearly depends on the party's type (i.e, the columns in Figure 2). Simply by applying the Median Voter Theorem to intra-party competition, we find that democratic parties (right column) locate exactly at the median selector position. For non-democratic parties (left column), by contrast, the larger the distance between median voter position and median selector position, the more selectorate representation is neglected. Put differently: Even though party leaders in both types of parties would like to position close to the median voter position, those in democratic parties are chained to the median selector position and therefore cannot position close to the median voter. Expressed as hypotheses this reads:

> *Democratic Party Hypothesis:* Democratic parties position closer to the median selector position than to the median voter position, *ceteris paribus*.

> *Non-Democratic Party Hypothesis:* Non-Democratic parties position closer to the median voter position than to the median selector position, *ceteris paribus*.

As can be seen in the center column of Figure 2, party leaders in hybrid parties are also chained to the median selector position. However, their chains allow for some leeway to move the party toward the median voter position. To illustrate this, consider the two bottom panels of the center column in Figure 2. We see that in bottom panel the line's slope is less steep. Put differently, greater selector dispersion helps the party leadership to resist the median selector position's gravity.

In fact, the amount of leeway that hybrid party leaders have to deviate from the median selector position increases with the dispersion of selectors around the median selector position (see rows in Figure 2). It is easy to understand why selector dispersion in hybrid parties directly translates into policy leeway: Recall that unlike in non-democratic or democratic parties, winning coalitions in hybrid parties are formed of both policy-motivated and office-motivated selectors.

Hence similar to democratic parties, policy competition between candidates takes place. However, it is not determined to be at the median selector position. Instead, parties compete at the median position of those selectors that are both pivotal and policy-motivated. For example, let those selectors that position between the median voter position and the median selector be pivotal. Unless there are more selectors at the median selector position than offices that candidates can allocate, candidates will "buy-off" the median selector with office pay-offs. Then, the median voter is no longer policy-motivated and the party positions at least a little closer to the median voter position. This leads to the following hypothesis:

> *Hybrid Party Hypothesis:* The more dispersed a hybrid party's selectors, *ceteris paribus*, the closer the party positions to the median voter position relative to the median selector position.

Empirical Test

In the following, I summarize the most important results of an empirical assessment of the hypotheses. Even though I briefly describe what data is used and how the presented model is developed here, more details can be found in the Web Appendix. Overall, the results are in line with the theoretical expectations.

As the regression presented above describes the data generating process very well, a good empirical test should directly translate it into an empirical model. In particular, empirical model choice, model specification, and measurement matter.

The empirical model as well as the model specification can be derived directly from the theoretical model. Since there is no reason why empirical data should not follow the same data generating process, I adopt the same regression equation (i.e., OLS with the model specification given in Table 2) in the empirical application. The only change is that I add Distance Medians as a single explanatory variable for democratic parties. This follows directly from the theoretical argument that they always position at the median selector position.

With regard to measurement, the theoretical variables are not always easy to observe empirically. Here, I abbreviate the description of operationalizations. An exhaustive discussion of measurements can be found in Web Appendix (C).

The central predictor of relative party proximity is *party type*. Following the discussion about party types above, I consider parties that let MPs or party elites only vote on the party leader as non-democratic parties. Democratic parties are categorized by one-member-one-vote leadership elections. Finally, hybrid parties choose their leaders in party conferences in which delegates from local party branches vote on the party leadership. Since MPs are among the most prominent party activists in their local branch, they are delegated to party conferences rather frequently. However, rank-and-file members are delegated to party conferences as well. This data is provided by Kenig (2009), Katz and Mair (1992), and Cross and Blais (2012).

Information on the other variables is taken from various sources. *Party Policy Positions* are retrieved from the rile-index of the Comparative Manifesto Project (CMP) dataset (Budge et al. 2001; Klingemann et al. 2006; Volkens et al. 2012). *Median Voter Position* and *Voter Dispersion* are obtained from respondents' self-placements in Eurobarometer surveys (Schmitt et al. 2008) or national election studies. *Median Selector Position* and *Selector Dispersion* use the same source but limit the sample to those respondents that state a vote intention for a certain party. Finally, the *Number of Parties* is measured using the Effective Number of Parliamentary Parties (ENPP, Gallagher 2012).

[Table 3 about here.]

As a result, I obtain 282 cases of 58 party panels from 10 democratic countries between 1964 and 2010. After testing for outliers,[15] panel-specific heteroscedasticity, and autocorrelation, I decide to use an OLS model with Panel Corrected Standard Errors (PCSE) to test the hypotheses. The corresponding results can be found in Table 3.

[Figure 3 about here.]

To ease interpretation, consider Figure 3. Again, columns show results for different types of parties, whereas columns indicate different levels of selector dispersion.[16] The gray areas in the

15 Eventually, 17 cases are excluded because they are outliers.

16 In particular, these are the mean level of Selectorate Dispersion in the empirical data (1.87 policy units), more or less one standard deviation (0.46 policy units)

plots are the theoretical predictions. Black lines show empirical expected values and the corresponding 90% confidence intervals. The small black lines at the bottom of the panels express the distribution of cases. Darker colors indicate a higher density of cases.

As it is unlikely that the data follow exactly theoretical data generating process, I also test the hypotheses stated above. They predict that the black lines should be positive for non-democratic parties (Non-Democratic Party Hypothesis) and negative for democratic parties (Democratic Party Hypothesis). For hybrid parties, its slope should increase with Selector Dispersion (Hybrid Party Hypothesis). In fact, a first glance at Figure 3 shows that empirical expectations approximate the strict theoretical predictions. This means that intra-party democracy does indeed affect policy proximity to the median voter position and the median selector position.

With regard to the Non-Democratic Party Hypothesis, the expected values of the empirical model predict non-democratic parties to consistently position closer to the median voter position than to the median selector position. For those regions of the parameter space with relatively few observations, however, this effect is not always statistically significant. Nevertheless, the results (weakly) support the Non-Democratic Party Hypothesis.

Democratic parties are always expected to position closer to the median supporter position than to the median voter position. This effect is not statistically significant which, yet, is not surprising given the small number of cases in this category ($N_{hybrid} = 22$). These results, in turn, weakly support the Democratic Party Hypothesis.

Finally, the center column of Figure 3 shows that as Selector Dispersion increases (going from the top row to the bottom row), parties position relatively closer to the median voter position than to the median selector position. This effect is statistically significant. This finding corroborates the claim that intra-party constraints on party leaders in parties which enfranchise both rank-and-file members and party elites depend on the party's ideological cohesion (Hybrid Party Hypothesis).

Since all three hypotheses find at least weak empirical support in the data, we can be confident that the model captures a significant share of real world processes.

Conclusion and Extensions

This study finds that intra-party democracy matters for explaining and predicting party policy positions. The composition of intra-party selectorates (i.e., the level of intra-party democracy) affects party proximity to both the median voter position and the median party member position. This supports the predictions made by a combined model of intra-party politics and party competition.

In particular, the Democratic Party Hypothesis states that internally democratic parties position closer to their median party member position than to the median voter position. The opposite holds true for internally undemocratic parties (Non-Democratic Party Hypothesis). Finally, for parties that are neither fully internally democratic nor internally entirely undemocratic, it depends on the dispersion of party members' ideals where the party positions (Hybrid Party Hypothesis). Data from 10 democracies in the period 1964-2010 support these hypotheses.

These findings trigger several interesting future research questions: In particular, does the suggested model of intra-party politics also apply to other aspects of party behavior? For example, do internally democratic parties act differently when forming, negotiating, or maintaining a coalition government (Giannetti and Benoit 2009; Bäck 2008; Maor 1995; Pedersen 2010)? Or more general: To what extant does intra-party democracy affect whether parties seek policy, office, or votes (Strøm and Müller 1999; Strøm 1990; Pedersen 2012)?

This study also raises questions with regard to political representation. Since 1945 there is a general trend that parties become more internally democratic (Kenig 2008). Given that these parties position closer to their party members, how does this affect the patterns of political representation in democracies (Müller 2000; Powell 2000; Miller and Stokes 1963)? Moreover, since internally democratic parties are restricted in their policy range, do parties become less competitive when turning internally democratic (Ezrow 2008a; Adam and Somer-Topcu 2009)?

These and many other questions are raised by the findings of this study, namely that the level of intra-party democracy matters for party behavior.

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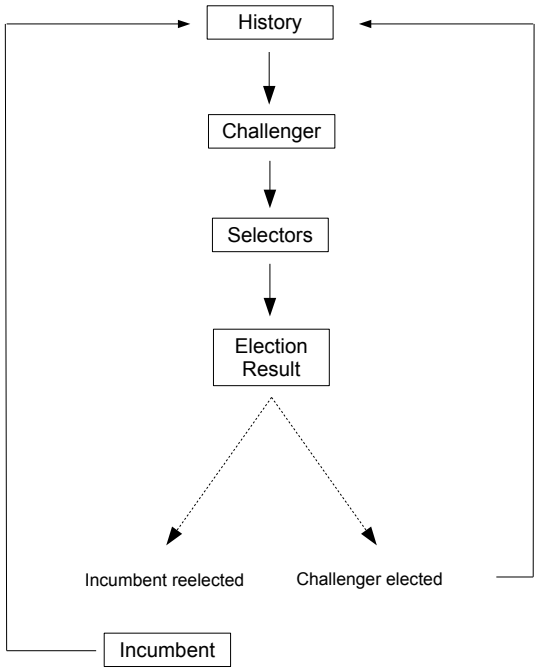
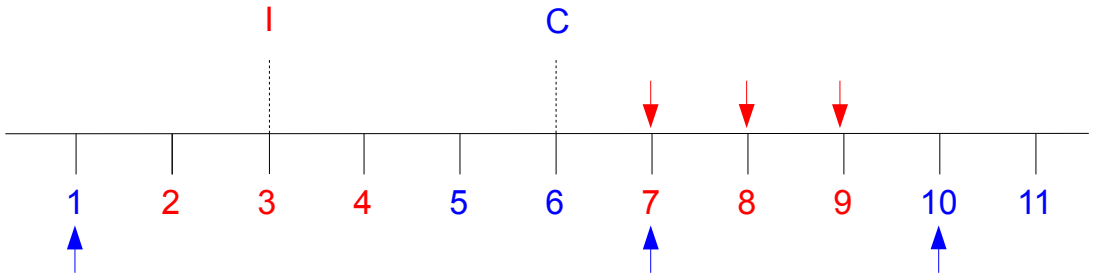
Figure 1 Details of the Intra-Party Game

(a) Sequence of Moves in the Intra-Party Game

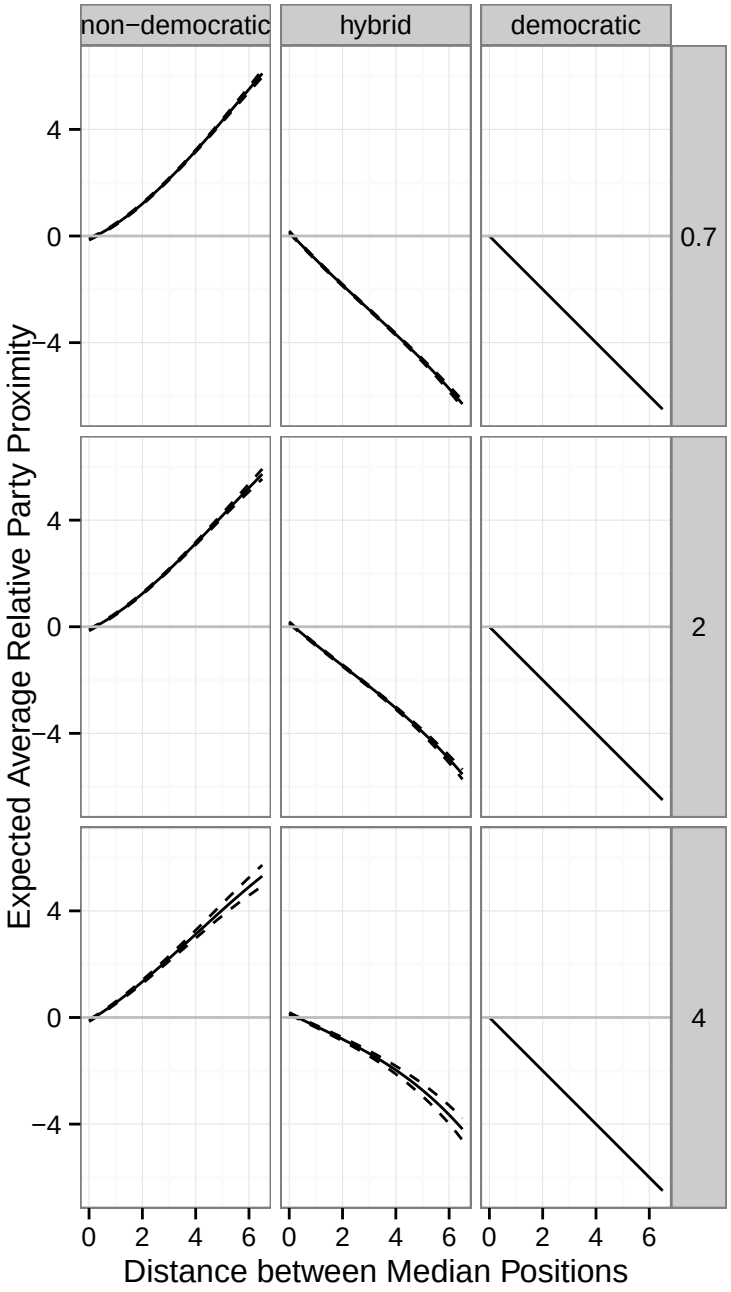


(b) Selectorate Vote Choices



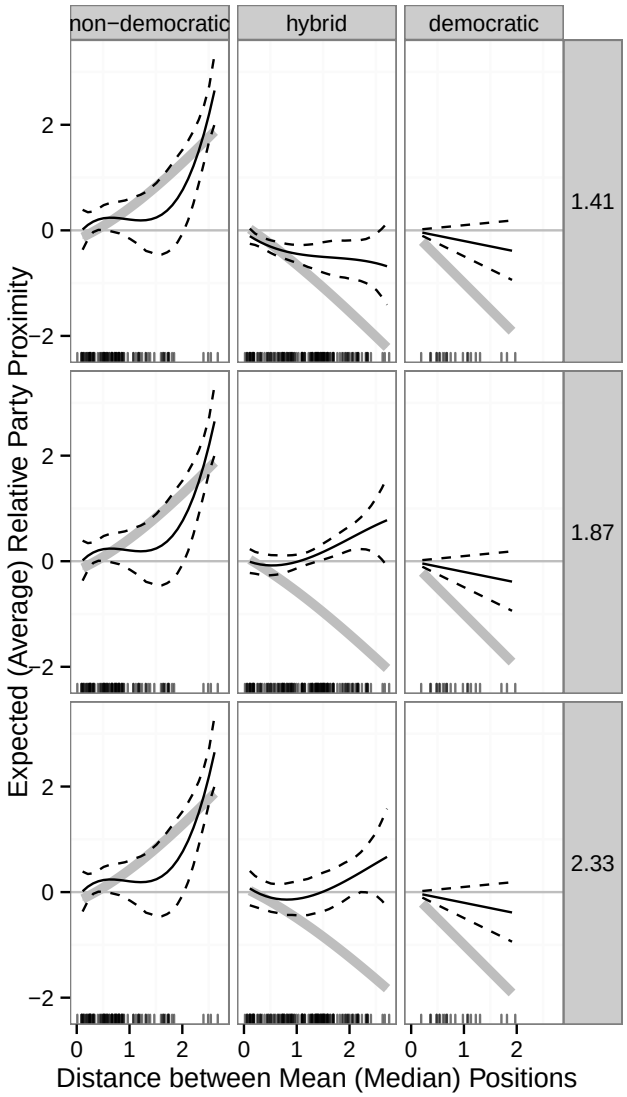
Notes: Numbers represent selectors and their ideal policy positions. They either vote for the incumbent or the challenger to be next party leader. Downward pointing arrows indicate incumbent nominations, whereas upward pointing arrows indicate challenger nominations. All selectors favor nominations by the incumbent over nomination by the challenger. Both candidates can nominate three out of eleven selectors. As a result, the incumbent wins with support of selectors 2, 3, 4, 7, 8, and 9.

Figure 2 Expected Average Relative Party Proximity to Median Voter and Median Party Selector as Distance between Median Selector Position and Median Voter Position varies for different types of parties and different values of Selectorate Dispersion



Notes: Rows show results for different values of Selectorate Dispersion. Columns depict results for different types of parties. The share of office-motivated selectors in non-democratic parties (left column) is greater than 50%, in hybrid parties (center column) it is betwenn 1% and 49%, and in democratic parties (right column) it equals 0%.
Expectations are based on Table 2. All values are at means (see Table A1 in Web Appendix B). In all panels, the y-axis shows the expectation of how much closer a party positions to the median voter position than to the median selector position. Positive values indicate that the party positions closer to the median voter position than to the median party selector position and vice versa. The x-axis indicates the distance between the median voter position and median party selector position. All positions and distances are measured on an eleven-point scale between 0 and 10.

Figure 3 Comparison of Theoretical (and Empirical) Expected (Average) Relative Party Proximity as Distance between Mean (Median) Selector Position and Mean (Median) Voter Position varies for different types of parties



Notes: This figure combines theoretical and empirical expectations. Theoretical expectations are shown by gray lines and are obtained using the same definitions and model as in Figure 2.
Black lines show empirical predictions based on Table 3. Solid black lines indicate empirical expectations of how much closer a party positions to the mean voter position than to the mean party selector position (y-axis) as the distance between these positions varies (x-axis). Dashed lines are the corresponding 90% confidence intervals. The small lines at the bottom of each panel indicate the empirical distribution of cases. All positions and distances are measured on an eleven-point scale between 0 and 10.
Rows indicate different level of Selectorate Dispersion. Columns depict results for different types of parties. In non-democratic parties the party leader is chosen by the party elite or MPs, in hybrid parties a party conference selects the party leader, and in democratic parties all members participate in leadership elections.

Table 1. Analytical Predictions of the Intra-Party Game

Party Type	Size of $\frac{N}{S}$	Policy Position	ARPP
Democratic	$\frac{N}{S} = 0$	Median Selector Position	$-d$
Hybrid	$0 > \frac{N}{S} \geq \frac{1}{2}$	Close to Median Selector Position	?
Non-Democratic	$\frac{N}{S} > \frac{1}{2}$	Vote-Maximizing Position	?

Notes: Proposition 3 in Web Appendix A expresses and proves these statements formally. ARPP is Average Relative Party Proximity, N denotes the number of offices candidates for party leadership can allocate, S denotes the number of intra-party selectors, and d indicates the distance between median voter position and median selector position. Missing ARPPs are obtained using simulation modeling below.

Table 2. OLS Estimates of Parameter Impact on Average Relative Party Proximity in Simulated Data

	OLS Estimates (Standard Errors)	
Hybrid Parties		
Distance Medians	-0.89	(0.02)
Distance Medians^2	-0.07	(0.01)
Distance Medians^3	0.01	(0.00)
Selectorate Dispersion	0.15	(0.03)
Selectorate Dispersion^2	-0.06	(0.02)
Selectorate Dispersion^3	0.01	(0.01)
Distance Medians$\times$Selectorate Dispersion	0.12	(0.01)
Distance Medians$\times$Selectorate Dispersion^2	0.02	(0.00)
Distance Medians$^2\times$Selectorate Dispersion	-0.02	(0.00)
Non-Democratic Parties		
Distance Medians	0.89	(0.02)
Distance Medians^2	0.04	(0.01)
Distance Medians^3	-0.02	(0.00)
Voter Dispersion^2	0.13	(0.03)
Voter Dispersion^3	-0.03	(0.01)
Two-Party System	0.15	(0.05)
Distance Medians$\times$Voter Dispersion$\times$Number of Parties	-0.04	(0.00)
Distance Medians$\times$Voter Dispersion$\times$Two-Party System	-0.19	(0.03)
Distance Medians$\times$Two-Party System	-0.44	(0.05)
Distance Medians$\times$Number of Parties^2	0.00	(0.00)
Distance Medians$^2\times$Voter Dispersion	0.03	(0.00)
Distance Medians$^2\times$Two-Party System	0.08	(0.01)
Distance Medians$^2\times$Number of Parties	0.02	(0.00)
Voter Dispersion$\times$Two-Party System	-0.29	(0.09)
Voter Dispersion$\times$Number of Parties	-0.09	(0.01)
Voter Dispersion$\times$Number of Parties^2	0.01	(0.00)
Voter Dispersion$^2\times$Two-Party System	0.13	(0.04)
Number of Observations	38636	
Adjusted R^2	0.95	

Notes: The dependent variable is Average Relative Party Proximity (ARPP). Data is generated by 1000 rounds of 9374 ABM model runs of party competition with intra-party competition. See text for procedure to find presented model specification. All variables within categories "Hybrid Parties" or "Non-Democratic Parties" are multiplied by a corresponding party type dummy variable which, for ease of presentation, is left implicit.

Table 3. OLS estimates of Impacts on Relative Party Proximity in Democracies 1964-2010

	OLS Estimates (Panel Corrected Standard Errors)
Democratic Parties	
Distance Medians	-0.20 (0.18)
Hybrid Parties	
Distance Medians	-5.07 $(1.53)^{***}$
Distance Medians^2	0.13 (0.75)
Distance Medians^3	-0.08 (0.17)
Selector Dispersion	-0.10 (0.74)
Selector Dispersion^2	0.03 (0.74)
Selector Dispersion^3	0.02 (0.17)
Distance Medians$\times$Selector Dispersion	5.20 $(1.36)^{***}$
Distance Medians$\times$Selector Dispersion^2	-1.39 $(0.34)^{***}$
Distance Medians$^2\times$Selector Dispersion	0.18 (0.29)
Non-Democratic Parties	
Distance Medians	2.43 (4.52)
Distance Medians^2	-3.37 (4.33)
Distance Medians^3	0.58 (0.43)
Voter Dispersion^2	-1.01 (1.21)
Voter Dispersion^3	0.35 (0.35)
Two-Party System	-6.43 (8.18)
Distance Medians$\times$Voter Dispersion$\times$ENPP	0.14 (0.63)
Distance Medians$\times$Voter Dispersion$\times$Two-Party System	-1.15 (1.21)
Distance Medians$\times$Two-Party System	1.44 (2.99)
Distance Medians$\times$ENPP^2	-0.13 (0.14)
Distance Medians$^2\times$Voter Dispersion	0.13 (0.90)
Distance Medians$^2\times$Two-Party System	0.11 (1.04)
Distance Medians$^2\times$ENPP	0.36 (0.52)
Voter Dispersion$\times$Two-Party System	7.05 (7.87)
Voter Dispersion$\times$ENPP	0.07 (0.47)
Voter Dispersion$\times$ENPP^2	0.01 (0.06)
Voter Dispersion$^2\times$Two-Party System	-1.73 (1.78)
Number of Observations	265
Number of Democratic Parties	22
Number of Hybird Parties	147
Number of Non-Democratic Parties	96
Adjusted R^2	0.30

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Notes: Panel The dependent variable is Relative Party Proximity. Model specification is taken from Table 2 and inclusive intra-party competition is added as reference category with its single explanatory variable. All variables within categories "Hybrid Parties" and "Non-Democratic Parties" are multiplied by a party type dummy variable which, for ease of presentation, is left implicit. ENPP is the Effective Number of Parliamentary Parties.

A Web Appendix: Omitted Proofs

Optimality of selectors' choices

Proposition 1. *Let σ_s be the vote choice of selector s and let $v_A > v_B$ be the proportion of candidates' valence values respectively. Since each selector can choose between two candidates only, it is convenient to express her utility maximizing action, θ_s, in terms of the probability that she votes for A, $Pr(\sigma_s = A|p_A, p_B, 1_A, 1_B)$, where p_A and p_B are candidate A and B's policy positions respectively, and 1_A and 1_B the indicator functions equal to unity if s is nominated by the corresponding candidate and equal to zero otherwise. Then,*

$$\theta_s(p_A, p_B, 1_A, 1_B) = Pr(\sigma_s = A|p_A, p_B, 1_A, 1_B) = \begin{cases} 1 & if\, 1_A = 1 \\ 0 & if\, 1_A = 0 \; and \; 1_B = 1 \\ 1 & if\, 1_A = 1_B = 0 \; and \; |x_s - p_A| < |x_s - p_B| \\ 0 & if\, 1_A = 1_B = 0 \; and \; |x_s - p_A| > |x_s - p_B| \\ \frac{1}{2} & if\, 1_A = 1_B = 0 \; and \; |x_s - p_A| = |x_s - p_B| \end{cases}$$

weakly dominates any other strategy.

Proof. If *s*'s vote is not pivotal in the leadership election, then *s*'s vote choice does not matter for her final payoff and hence any strategy is utility maximizing. Recall that D is the maximal cost generated by policy distance and that their proportion to office benefits, O, is $O > D$. The following shows that Proposition 1 expresses the utility maximizing strategy if *s*'s vote is pivotal as well.

- *Case 1:* $1_A = 1$

  Since $O > D$, $1_A = 1$, and $v_A > v_B$, B can never compete with A because even if $1_B = 1$, $v_A > v_B$ and thus $Pr(\sigma_s = A|p_A, p_B, 1_A, 1_B) = 1$.

- *Case 2:* $1_A = 0$ *and* $1_B = 1$

  Since $O > D$ and $1_A = 0$ but $1_B = 1$, O is realized if candidate B wins only, thus, $Pr(\sigma_s = A|p_A, p_B, 1_A, 1_B) = 0$.

- *Case 3:* $1_A = 1_B = 0$ *and* $|x_s - p_A| < |x_s - p_B|$

  Since the selector cannot expect to receive any office payoffs, she opts for the candidate that yields the higher policy utility. Hence, $Pr(\sigma_s = A | p_A, p_B, 1_A, 1_B) = 1$.

- *Case 4:* $1_A = 1_B = 0$ *and* $|x_s - p_A| > |x_s - p_B|$

  Since the selector cannot expect to receive any office payoffs, she opts for the candidate that yields the higher policy utility. Hence, $Pr(\sigma_s = A | p_A, p_B, 1_A, 1_B) = 0$.

- *Case 5:* $1_A = 1_B = 0$ *and* $|x_s - p_A| = |x_s - p_B|$

  Since the candidates' offers are equal, the selector is indifferent between the candidates and votes with probability $Pr(\sigma_s = A | p_A, p_B, 1_A, 1_B) = \frac{1}{2}$. □

Optimality of candidates' choices

Proposition 2. *Let ω_Z for $Z \in \{I, C\}$ be a candidate's offer (i.e., a combination of nominations and policy position), Ω_Z a set of candidate offers, ω_{-Z} the other candidate's offer, E_{ideal} the distribution of voter ideal positions, $\pi(\omega_Z; \omega_{-Z}, E_{ideal})$ the probability that candidate Z becomes party leader, and let $V_Z(\omega_Z; \omega_{-Z}, E_{ideal})$ be the expected number of votes at the national level with offer ω_Z. Then,*

$$\sigma_Z = \{\Omega_Z^* : \pi(\omega_Z) = max(\pi(\Omega_Z)) \ \ \& \ \ V_Z(\omega_Z^*) = max(V(\Omega_Z))\}$$

weakly dominates any other strategy.

Proof. Note that $O \gg D$ and deviating to a strategy with lower $\pi(\cdot)$ is harmful even for small changes in $\pi(\cdot)$. Moreover, among offers with equal $\pi(\cdot)$, not maximizing $V_Z(\cdot)$ is harmful since utility is strictly increasing in $V_Z(\cdot)$ as $\pi(\cdot)$ is constant. This proof holds for both incumbent and candidate choices.

□

Selectors' tie-breaking assumptions

Let R_{votes} be the decision rule that selectors who are nominated by both candidates vote for the candidate with the higher expected vote share. Let $R_{valence}$ be the decision rule that these selectors vote for the "advantaged" candidate.

Lemma 1. *The policy position that a party chooses is the same under R_{votes} as under $R_{valence}$ if the size of the selectorate, S, is uneven.*

Proof. Let N be the number of office candidates for party leadership can allocate. There are three cases:

- *Case 1:* $N = 0$

  No selector considers office payoffs and therefore the tie breaking rule cannot matter.

- *Case 2:* $0 < N \leq \frac{S}{2}$

  Showing that the decision rules lead to the same party policy position implies that under both rules the challenger's policy position and the challenger's likelihood to replace the incumbent must be equal.

  To see that the tie breaking rule does not affect the challenger's policy choice, note that a potential winning coalition can contain maximally N nominated selectors and if S is uneven, it must at least contain $\frac{S+1}{2} - N$ non-nominated selectors. Moreover, let there exists a specific policy position, p, that allows for this minimal number of $\frac{S+1}{2} - N$ policy-motivated selectors' support given the incumbent's policy position as well as her nominations. Since these selectors are nominated by neither candidate, they only consider policy positions when making vote choices and hence their vote choices are not affected by the tie breaking rule. Therefore, it cannot affect the challenger's choice of policy positions.

  To see that the tie breaking rule does not affect the challenger's probability to become incumbent, suppose the challenger nominates N of the selectors that have not been nominated by the incumbent. Then, there are $S - 2N$ unnominated selectors left. Since $S - 2N \geq \frac{S+1}{2} - N$ if S is an uneven integer, the challenger can form a winning coalition at policy position p without nominating any of the selectors that the incumbent nominated. Hence, her likelihood to form a winning coalition is not affect by the tie breaking rule either.

- *Case 3:* $N > \frac{S}{2}$

  If selectors use $R_{valence}$, this candidate wins due to her nominations and thus positions at her most preferred position, the vote-maximizing position. If use R_{votes}, both candidates maxi-

mize the probability of winning a majority of selectors by locating at the vote-maximizing position. Thus, the policy position does not depend on the tie breaking rule.

□

Winning Candidate's Policy Positions

Proposition 3. *Let N be the number of offices candidates can allocate and let S be the number of selectors. Then,*

1. *parties with $\frac{N}{S} = 0$ position at their median party selector position,*
2. *parties with $0 < \frac{N}{S} \leq \frac{1}{2}$ have no clear policy position that can be derived from intra-party politics,*
3. *parties with $\frac{N}{S} > \frac{1}{2}$ position at the vote-maximizing policy position.*

Proof. There are three cases:

- *Case 1:* $\frac{N}{S} = 0$

  In this case, no candidate can make any selector office-motivated and hence competition is about policy only. This is classical Downsian party competition in a single policy dimension. Hence, candidates position at the median selector position.

- *Case 2:* $0 < \frac{N}{S} \leq \frac{1}{2}$

  Note that the challenger always has at least a positive probability to replace the incumbent (see Lemma 2). There are two sub-cases to proof:

  Sub-case 1: The challenger can replace the incumbent with certainty. This implies that the challenger takes a different policy position than the incumbent and hence the party policy position is not stable and cannot be clearly predicted.

  Sub-case 2: The challenger can replace the challenger only with some positive probability. Then, the party positions either at the vote-maximizing position (i.e., if the incumbent wins) or at its current position (i.e., if the challenger wins). This implies that the position cannot be clearly predicted.

- *Case 3:* $\frac{N}{S} > \frac{1}{2}$

  In this situation, a majority of selectors is office-motivated and thus vote for the advantaged candidate irrespective of her policy position. Hence, she can position at her favored policy position (i.e., the vote-maximizing policy position).

□

Challenger's chance to become incumbent

Lemma 2. *In hybrid parties, the challenger has always a positive probability to become party leader if S is uneven.*

Proof. Note that in hybrid parties, $0 < N \leq \frac{S}{2} - \frac{1}{2}$ for uneven S. Suppose N of S selectors are nominated by the incumbent. Then, the challenger can nominate N of the $S - N$ selectors that have not been nominated yet. He needs another $\frac{S+1}{2} - N$ selectors to be supported by a majority. There are always $\frac{S+1}{2} - N$ policy-motivated selectors left since $S \geq S - 2N + (\frac{S+1}{2} - N)$ for uneven S and $N \leq \frac{S}{2} - \frac{1}{2}$. Thus, the challenger can position at the same position as the incumbent, thereby making all policy-motivated selectors vote randomly which in turn implies a positive probability of becoming party leader. □

B Web Appendix: Simulation Experiment Set-Up

- Choose Number of Cases

  1. Choose the number of model runs to run, e,
  2. Choose the number of burn-in rounds, b,
  3. Choose the number of rounds within each simulation experiment to run, r,

- Generate Experiment Parameters

  4. Take 101 draws from a Normal Distribution with mean 5 and standard deviation E_{sd}, where E_{sd} is drawn from the set $\{.1, .2, \ldots, 3\}$. Round the values to one decimal place, rescale them linearly to lie between 0 and 10 if necessary, and call the resulting set E_{ideal}, the voters' ideal positions,
  5. Set the value of office payoffs O to 10.000,
  6. Draw the number of parties in the party-system, K, from the set $\{2, 3, 4, 5\}$,
  7. Let an elevated k denote an individual party ID. Draw S^k_{mean} uniformly from the range of voters' ideal positions,
  8. Draw S^k_{sd} from the set $\{.1, .2, \ldots, 3\}$,
  9. Take eleven draws from a Truncated Normal Distribution $\mathcal{TN}(S^k_{mean}, S^k_{sd})$ bounded between 0 and 10. Round the values to one decimal place and call the set of resulting numbers, S^k_{ideal}, the selector's ideal positions,
  10. Draw the number of offices, N^k, from the the set $\{0, 1, \ldots, 11\}$,
  11. Randomly nominate N^k of the selectors and position the party at its median selector position,
  12. Set one candidate's valence value, v_Z with $Z \in \{A, B\}$, greater than the valence value of her opponent,
  13. Repeat step 7-12 another $(K - 1)$ times for the remaining parties in the party system,

- Run the Experiment

14. Among those parties that have not moved this round yet, choose one randomly and call it k,
15. If party k is democratic, move it to its median selector position. If party k is non-democratic, choose randomly among the vote maximizing positions. If party k is a hybrid party, obtain its nominations and policy position from the intra-party game (see below),
16. Repeat steps 14-15 K times,
17. Repeat steps 14-16 b times and another r times, saving the input parameters and the quantities of interest,
18. Repeat steps 4-17 e times.

- Intra-Party Game

1. Within party k, the challenger finds all combinations of nominations and policy positions that make him incumbent with some positive probability. Among the combinations with the highest probability, he chooses the one that maximizes votes in inter-party competition. If no such combination exists, he randomly chooses nominees and policy position,
2. Selectors vote for the single candidate who nominated them. If both nominated them, they vote for the candidate with greater V_Z. If neither candidate nominated them, they vote for the candidate that positions closer to their ideal position. If neither candidate nominated them and candidate policy positions are equal, they vote randomly,
3. If the challenger is elected, his policy and nomination choices are returned to the major game, the challenger becomes next round's incumbent and the intra-party game ends. Otherwise, the incumbent chooses the vote maximizing position in inter-party competition, leaves nominations unchanged and the intra-party game ends.

Table A1. Summary Statistics of Input Parameters for Simulation Models

Parameter	Min	Mean	Median	Max
Voter Dispersion	0.1	1.4	1.5	2.7
Number of Parties	2.0	4.5	5.0	6.0
Median Selector Position	0.1	5.0	5.0	10.0
Selector Dispersion	0.1	1.3	1.3	3.8
Number of Offices	1.0	6.0	6.0	11.0

C Web Appendix: Empirics

Data, Measurement, Estimation Technique

Testing the hypotheses requires data on party policy positions, selector policy positions, voter policy positions, the party type for each party, as well as the number of parties competing in the party system. I discuss their measurements in turns.

Party Positions. Scholars have suggested many different ways to measure parties' policy positions (Budge et al. 2001; Laver et al. 2003; Slapin and Proksch 2008; Huber and Ingelhart 1995; Benoit and Laver 2006; Hix et al. 2006). The data used here is taken from the Comparative Manifesto Project (CMP, Budge et al. 2001; Klingemann et al. 2006; Volkens et al. 2012). Data is collected by specially trained coders who read party manifestos and divide their content into predefined categories. In order to extract a single left-right index, the relative frequency of left and right statements is compared. Equal shares are understood as very centrist positions whereas higher frequencies for one side indicate left or right positions respectively.

The CMP data's major advantaged over alternative measurements is its broad coverage of elections around the world. Moreover, different studies have shown that this method performs well compared to other methods (Hearl 2001; McDonald and Mendes 2001; Laver et al. 2003; see also: Marks 2007).

Median Voter Position and Voter Dispersion: Voter positions are <extracted from two sources: Eurobarometer surveys (Schmitt et al. 2008) in election years and, if not avaible in the Eurobarometer, from national election studies. In either case, respondents answer a question about their self-placement on a left-right scale.[17] Since these scales vary across surveys, I rescale all of them to an eleven-point scale between 0 (left) and 11 (right). Voter Dispersion is simply this variable's standard deviation in an election year.

As the median voter in these surveys is almost always located at 5, I approximate her position using the mean voter position. This allows for more variation in the variable and is justified by the fact that voters are approximately Normally distributed (Budge et al. 2012, 35-36) and thus median voter and mean voter coincide.

17 For example, in Eurobarometer surveys this question is posed as: "In political matters people talk of 'the left' and 'the right'. How would you place your views on this scale?"

Party Type: Empirically, party leaders are selected by one of six types of selectorates (Kenig 2009) of which four are relevant here. Parties that either have a single person selecting the party leader or let MPs only choose the party leader, are labeled "non-democratic" because all selectors are office holders. This matches the theoretical definition of a "non-democratic" party perfectly.

Parties that let all members select the party leader are the empirical equivalent of the theoretical "democratic" parties because it is very unlikely that a party controls enough offices (or is small enough) to see a significant share of selectors running for meaningful offices. Thus, these parties are called "democratic" parties.

Finally, similar to the theoretical concept, there also exists a real world "hybrid" party. These are parties that choose their party leader by delegates that vote in party conferences. Since many MPs will either be among the delegates or are entitled to vote by party constitution, this type of party is distinct from the democratic type. However, as the selection process is not dominated by office-holders, this kind of party does not correspond to the non-democratic party either. It is thus labeled "hybrid" party. Data on democraticness in party leadership elections is based on Kenig (2009), Katz and Mair (1992), and Cross and Blais (2012).

Median Selector Position and Selector Dispersion: Ideally, data on selector positions would consider that the selectorate can be composed of party members, the party elite, or a mixture of two. Unfortunately, neither group has been surveyed comparatively. As a proxy for members' positions, I rely on party supporters' left-right self-placements. Respondents are considered party supporters if they intend to vote for the focal party in the next general election.[18] This measure is highly correlated with party members' left-right self-placements.[19] Moreover, it is reasonable to assume that MPs and the party elite are located relatively close to their mean party member position.[20]

18 In Eurobarometer surveys, respondents are considered supporters of the party they mention as the answer to the question: "Which party would you be included to vote for?"

19 Relying on 190 mean party supporter and mean party member self-placements in Eurobarometer surveys between 1988 and 1991, I find a correlation of .85 between the two estimates.

20 The hypothesis claiming that party elites have other policy preferences than rank-and-file members, May's Special Law of Curvilinear Disparity (1973; see also Kitschelt 1989), is empirically not well supported (Norris 1995; Narud and Skare 1999; Kennedy et al. 2006; Scarow and Gezgor 2010).

Table A2. Summary Statistics of Empirical Variables

Variable	Min	Mean	Median	Max
Voter Dispersion	2.0	2.3	2.2	3.8
ENPP	1.7	3.8	3.5	7.6
Distance Means	0.0	1.1	1.0	5.0
Selector Dispersion	0.7	1.9	1.8	4.0
Non-Democratic	0.0	0.3	0.0	1.0
Hybrid	0.0	0.6	1.0	1.0
Democratic	0.0	0.1	0.0	1.0

Number of Parties. The number of parties competing in the party system is measured by the Effective Number of Parliamentary Parties (ENPP, Gallagher 2012). I opt for the ENPP for two reasons: First, simple counts of parties running for parliament, for instance, disregard the fact that almost every party system contains very small but electorally irrelevant parties who are not considered as viable vote choices for many voters. Second, the Effective Number of *Electoral* Parties disregards the effects of majority manufacturing electoral institutions which are certainly considered by parties.

In total, I obtain 282 cases of 58 party panels from 10 democratic countries[21] between 1964 and 2010 whose summary statistics are shown in Table A2. Since the data generating process is "given" by the regression depicted in Table 2, estimator choice and model specification are very straightforward: they are simply the same as in Table 2 (i.e., OLS with the given model specification). Moreover, basic tests do not indicate any autocorrelation within panels.[22] Table A3 shows in its first column the result of an accordingly specified OLS regression.

Analyzing its residuals, I find that there are 14 cases whose absolute residuals are more than two standard deviations greater than the mean absolute residual. Table A3 Model 2 shows a model excluding these cases. Some coefficients change considerably which indicates that the excluded cases are in fact outliers that bias the estimation results. Thus, I continue to exclude these cases.

Even after excluding these outliers, there are two more cases that distort the results. These are two cases for the Italian *Movimento Sociale Italiano* (MSI) in 1976 and 1979 respectively. In these

21 These are Australia, Belgium, Canada, Denmark, Germany, Ireland, Italy, New Zealand, The Netherlands, and the United Kingdom.

22 Trying to predict an observation's residual with its previous election's residual using an OLS regression does not return a significant relationship (p-value = 0.762).

elections, Italy had the most leftist mean voter position of all elections in the sample whereas MSI's mean supporter position was the most rightist of all parties in the sample. Even though MSI's extremism is not surprising, it's relative extremism compared to other right-wing, populist parties is: While all other parties have a maximal Median Distance of 3 units, it is 5 for the MSI cases. Given that [Distance Medians^3] is included in the regression equation which is, therefore, especially vulnerable to outliers, I re-estimated the model excluding these two cases. Results are shown in Model 3 of Table A3.

Besides autocorrelation, panel data oftentimes suffer from panel-specific heteroscedasticity. In order to adjust for this potential problem, the fourth model in Table A3 uses Panel-Corrected Standard Errors (PCSE, Beck and Katz 1995, 1996). These differ slightly from their ordinary counterparts and change statistical significance conclusions for some estimates. Since using PCSEs makes inferences marginally more robust, I continue to use the fourth model which excludes outliers and uses PCSEs to draw conclusions about the accuracy of the hypotheses. It is the model presented in the article in Table 3 and on which the article's Figure 3 is based.

Table A3. OLS estimates of Impacts on Relative Party Proximity in Democracies 1964-2010

	Model 1 Full Sample (Standard Errors)	Model 2 Outliers Excluded (Standard Errors)	Model 3 Outliers and MSI Excluded (Standard Errors)	Model 4 Outliers and MSI Excluded (Panel Corrected Standard Errors)
Inclusive Parties				
Distance Medians	−0.03 (0.18)	−0.20 (0.16)	−0.20 (0.16)	−0.20 (0.18)
Hybrid Parties				
Distance Medians	−2.63 (1.93)	−5.15 (1.78)***	−5.07 (1.79)***	−5.07 (1.53)***
Distance Medians^2	0.75 (0.55)	−0.20 (0.73)	0.13 (0.95)	0.13 (0.75)
Distance Medians^3	−0.03 (0.05)	0.05 (0.05)	−0.08 (0.21)	−0.08 (0.17)
Selector Dispersion	−0.53 (1.23)	−0.08 (1.10)	−0.10 (1.10)	−0.10 (0.74)
Selector Dispersion^2	0.55 (1.16)	−0.04 (1.01)	0.03 (1.02)	0.03 (0.74)
Selector Dispersion^3	−0.14 (0.27)	0.03 (0.23)	0.02 (0.23)	0.02 (0.17)
Distance Medians×Selector Dispersion	1.87 (1.57)	5.62 (1.42)***	5.20 (1.59)***	5.20 (1.36)***
Distance Medians×Selector Dispersion^2	−0.31 (0.36)	−1.46 (0.38)***	−1.39 (0.41)***	−1.39 (0.34)***
Distance Medians^2×Selector Dispersion	−0.31 (0.18)*	0.10 (0.31)	0.18 (0.32)	0.18 (0.29)
Exclusive Parties				
Distance Medians	5.05 (6.35)	2.43 (5.29)	2.43 (5.30)	2.43 (4.52)
Distance Medians^2	−7.82 (5.36)	−3.37 (4.62)	−3.37 (4.63)	−3.37 (4.33)
Distance Medians^3	0.80 (0.48)*	0.58 (0.41)	0.58 (0.41)	0.58 (0.43)
Voter Dispersion^2	−1.16 (2.00)	−1.01 (1.65)	−1.01 (1.66)	−1.01 (1.21)
Voter Dispersion^3	0.42 (0.59)	0.35 (0.48)	0.35 (0.48)	0.35 (0.35)
Two-Party System	−9.31 (13.79)	−6.43 (11.39)	−6.43 (11.42)	−6.43 (8.18)
Distance Medians×Voter Dispersion×ENPP	0.06 (0.94)	0.14 (0.78)	0.14 (0.78)	0.14 (0.63)
Distance Medians×Voter Dispersion×Two-Party System	−2.33 (1.84)	−1.15 (1.56)	−1.15 (1.57)	−1.15 (1.21)
Distance Medians×Two-Party System	2.96 (4.95)	1.44 (4.10)	1.44 (4.11)	1.44 (2.99)
Distance Medians×ENPP^2	−0.23 (0.21)	−0.13 (0.18)	−0.13 (0.18)	−0.13 (0.14)
Distance Medians^2×Voter Dispersion	0.83 (1.40)	0.13 (1.17)	0.13 (1.17)	0.13 (0.90)
Distance Medians^2×Two-Party System	1.08 (1.27)	0.11 (1.10)	0.11 (1.11)	0.11 (1.04)
Distance Medians^2×ENPP	0.87 (0.75)	0.36 (0.64)	0.36 (0.64)	0.36 (0.52)
Voter Dispersion×Two-Party System	9.62 (13.16)	7.05 (10.86)	7.05 (10.89)	7.05 (7.87)
Voter Dispersion×ENPP	−0.13 (0.74)	0.07 (0.62)	0.07 (0.62)	0.07 (0.47)
Voter Dispersion×ENPP^2	0.06 (0.10)	0.01 (0.08)	0.01 (0.08)	0.01 (0.06)
Voter Dispersion^2×Two-Party System	−2.27 (3.01)	−1.73 (2.48)	−1.73 (2.49)	−1.73 (1.78)
Number of Observations	282	267	265	265
Number of Inclusive Parties	23	22	22	22
Number of Hybird Parties	161	149	147	147
Number of Exclusive Parties	98	96	96	96
Adjusted R^2	0.13	0.29	0.26	0.30

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Notes: Standard errors in parentheses (Panel Corrected Standard Errors for Model 4). The dependent variable is Relative Party Proximity. See section "Measurement, Estimation Technique, and Model Specification" for operationalizations. Model specification is taken from Table 2 and inclusive intra-party competition is added as reference category with its single explanatory variable. All variables within categories "Hybrid Parties" and "Exclusive Parties" are multiplied by a party type dummy variable which, for ease of presentation, is left implicit. ENPP is the Effective Number of Parliamentary Parties.