

# Incumbent Policy Strategy and the Value of Winning

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## Abstract

Incumbent politicians are often assumed to prioritize appeasing voters for re-election, but their policy positions may not be solely based on this. We examine the impact of the value associated with winning on incumbent strategy, party discipline, and polarization. We allow this value to be influenced by policy choices and congressional committee assignments, which, in turn, are influenced by policy. To understand these dynamics, we build and estimate a novel model that captures the importance of policy, congressional committees, and endogenous valuations. Through counterfactual analysis, we explore how party leadership can leverage committee assignments to influence members of Congress. We find that the quality of committee assignments enhances the value of winning, while the effects of policy positions are more nuanced. Overall, valuations and committee assignments act as moderating forces.

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# 1 Introduction

It is widely assumed that an incumbent politician’s first-order concern is appeasing voters enough to ensure their re-election (Mayhew 1974). But do they in fact choose policies that maximize their probability of winning? The value of holding office affects their payoff from winning, and it may be altered by their decisions. How policy influences this valuation may cause the incumbent to deviate from voter preferences. In other words, what is the incumbent’s implied willingness to pay, in terms of election odds, for their preferred policy? We study possible causes and effects of this tension, focusing on party discipline and polarization.

Party leaders may want to discipline members for a variety of reasons. The party leadership can affect the incumbent’s win probability and value with congressional committee assignments. Congressional committees are influential bodies that affect the issues and bills that come before Congress. Certain assignments can be valuable to members of Congress, as they can affect their legislative careers and re-election chances (Fowler, Douglass, and Clark Jr 1980; Crain and Sullivan 1997; Grimmer and Powell 2013). When a member is assigned to a committee, it may signal their area of expertise and indicate the issues they are likely to prioritize. Some of the work, such as hearings, are publicized, and voters are likely aware of some committee activity; the term “House Committee” appears over 47,000 times from 2010 to 2023 in digital newspapers and magazines.<sup>1</sup> If these assignments are conditioned on party loyalty through policy choices, then the incumbent’s optimal strategy will reflect these trade-offs.

We consider the politician’s objective, taking into account how their policy directly and indirectly affects the general election, primary election, and value of holding office. We incorporate the primary election as the incumbent has to balance their position between primary and general voters, who may differ in their partisanship.<sup>2</sup> We model and estimate voter behavior, committee assignment decisions, and policy choice. We address the simultaneity of committee allocation with instrumental variables. Our model-based approach allows us to consider counterfactual analysis on how the party leadership can increase the efficacy of party discipline. We also compare observed policy to a hypothetical policy with exogenous valuations; this tells us how much the

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<sup>1</sup>This was calculated with a search on the database “NOW corpus” (Davies 2017).

<sup>2</sup>There is a rich and varied literature on candidate policy and the role of primaries (Brady, Han, and Pope 2007; Hirano, Snyder, Ansolabehere, and Hansen 2010; Boatright 2014; Cintolesi 2022).

incumbent deviates from the policy most preferred by voters for the sake of getting more utility out of office-holding.

We find that valuations and committee assignments act primarily as moderating forces. The main pressure on candidates to be more extreme stems from their primary voters. The threat of primaries in safe seats is evident in our results; incumbents whose general elections are safe deviate from primary voter preferences due to valuations. Party leadership can influence candidates via committee assignments, and they reward moderate candidates with better committees. Committees do not have large effects on re-election chances (similar to Broockman and Butler (2015)), but they are influential on valuations. Finally, assuming that valuations are unaffected by policy or committees biases predictions of candidate behavior. The inability of parties to curtail polarization is partially due to extreme members being unwilling to moderate themselves due to both primary risk and the relatively low benefit of committees.

Our findings suggest that an incumbent's office-holding value, such as careerism, is moderating in that the prospects for advancement in the party may be a counterweight to increased polarization. Many of the more radical members of Congress have less legislative success compared to their more moderate counterparts, albeit with heterogeneity (Volden 2022). Legislative successes help in primary elections (Thomsen et al. 2019), but so do more extreme positions, and thus there may be substitution: members are separated between those that focus on their legislative career via moderation (and policy success) and others that focus on courting primary voters via extreme positions. One avenue for parties to discipline members and reduce extremism is through increasing the benefits of committee assignments. Leadership can maneuver members who are not threatened in their primary elections, but committees and future political ambitions are not worth anything if one loses one's primary. Thus, while safe seats are a likely driver of recent polarization, we show that an additional dynamic is at work through endogenous valuations: the decay of countervailing forces is accelerating the trend.

This paper is related to the work on candidate objectives and the value of holding office (Milyo 2001; Patty 2002; Diermeier, Keane, and Merlo 2005; Ansolabehere 2006; Montagnes and Rogowski 2015). Our work also connects to party discipline (Krehbiel 2000; Grimmer and Powell 2013; Pearson 2015) and the literature on how parties influence candidate decisions and polarization (Heberlig, Hetherington, and Larson 2006; Ensley 2012; Curry and Lee 2020; Canen et al.

2021).<sup>3</sup> Curto-Grau and Zudenkova (2018) study party discipline and how candidates are incentivized to follow the party based on discretionary spending in their district.<sup>4</sup> We parallel them by looking at congressional committees. However, while they consider the party leadership’s choice and test predictions from their model, we focus on the incumbent, endogenize the value of holding office, and estimate our model to conduct counterfactual analysis.<sup>5</sup>

We study congressional committee assignments as a source of party discipline. The literature has found them to be important in a variety of related ways (Pearson 2015; Thomsen et al. 2019; Adler and Cayton 2020; Provins, Monroe, and Fortunato 2022). Katz and Sala (1996) study how career incentives affect committee assignments.<sup>6</sup> We formalize this incentive and demonstrate how committees interact with it throughout the election. In particular, we show how the incumbent internalizes the effects of their policy choice on their committee assignment, which alters their payoff through both their valuation and their re-election chances. While it is not novel to acknowledge that candidates may have policy preferences (Wittman 1977), empirically testing the mechanisms that drive this with a structural model is innovative.

The paper is organized as follows. Section 2 introduces the model. Section 3 describes the data. Section 4 details the estimation. Section 5 presents the results. Section 6 concludes.

## 2 Model

We present a model of an incumbent from party type  $i \in \{D, R\}$ , in district  $j$ , and during election year  $t$ , choosing a policy (ideology/position)  $p_{ijt} \in [-1, 1]$ . The candidate’s party type is

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<sup>3</sup>Primaries and overall electoral systems also affect candidate decisions (Klumpp and Polborn 2006; Gulino 2021).

<sup>4</sup>They consider a model where the party leader’s objective is to show how loyalty is affected by spending. They find evidence for their model’s predictions using House elections. There may be other means of getting committee assignment rewards beyond just policy, such as helping other candidates (Heberlig 2003).

<sup>5</sup>A common approach to modeling candidates is with a personal cost to deviating from a bliss point. Dodlova and Zudenkova (2021) consider this approach. Their model focuses on voters’ beliefs about candidate quality and the joint strategy of challengers and incumbents. They find that challengers moderate themselves after incumbents become more extreme. Instead of a personal belief that the candidate does not want to deviate from, we consider endogenous valuations that are affected by policy and discipline as an alternative view to why a candidate would not maximize their win chances. Candidates with strong personal preferences over policy that differ from voters’ would not do well in the long-run equilibrium (compared to candidates who care more about winning) and thus may select out of running for office. The personal valuation is less affected by this concern, as it is only received upon winning.

<sup>6</sup>Similarly, Crisp, Escobar-Lemmon, Jones, Jones, and Taylor-Robinson (2009) study how legislators’ career decisions affect committees in Central and South American countries.

exogenously assigned. The incumbent also receives a congressional committee allotment of quality  $c_{ijt} \geq 0$ . Both the policy and committee assignment affect their objective. We first describe voter preferences, then the incumbent’s payoff, followed by the relationship between policy and the committee assignment.

Consider voter  $m$  for a given district primary or general election  $E \in \{P, G\}$ . The utility from choosing candidate  $ij$  is a function of mean utility  $u_{ijt}^E$ , candidate valence and noise  $\xi_{ijt}^E$ , and individual noise  $\varepsilon_{mijt}^E$ , where abstaining gives zero mean utility:  $U_{mijt}^E = u_{ijt}^E + \xi_{ijt}^E + \varepsilon_{mijt}^E$ . The voter chooses the candidate who gives them the highest utility. Allowing  $\varepsilon_{mijt}^E$  to be distributed iid Type 1 Extreme Value, the probability of  $m$  voting for  $ij$  is a multinomial logistic function (Train 2009). With a large number of voters, the share of votes can be expressed as  $s_{ijt}^E = \frac{\exp(u_{ijt}^E + \xi_{ijt}^E)}{1 + \sum_{k \in N^E} \exp(u_{kjt}^E + \xi_{kjt}^E)}$ , where  $N^E$  is the set of candidates in each election. The candidate with the highest share wins. Since candidates may be uncertain about how voters perceive them (Cox 2022), we let  $\xi_{ijt}^E$  be distributed iid Type 1 Extreme Value with mean  $E[\xi_{ijt}^E]$  and variance 1.<sup>7</sup>

The mean utility from voting for candidate  $ij$  in election  $E$  and year  $t$  is  $u_{ijt}^E = \gamma^E (p_{ijt} - p_{ijt}^E)^2 + \delta^E c_{ij,t-1} + X_{ijt}^E \beta^E$ . The term  $\gamma^E$  is the penalty voters place on the candidate’s observed position deviating from the district voters’ ideal  $p_{ijt}^E$ . The covariates  $X_{ijt}^E$  contain district and candidate variables. We interact some of these covariates with the candidate’s political party, which captures district specific heterogeneity in voter preferences over the broad policy differences between the two parties. We allow for heterogeneous effects of policy, committees, and covariates across the general election and primaries in both parties.

We also allow the committee assignment from a non-freshman incumbent’s current office,  $c_{ij,t-1}$ , to possibly affect the election outcome. The term  $\delta^E$  captures how much committee quality helps in swaying voters, which can happen through various channels, such as more influential reputation, more discretionary spending, or more fundraising ability. The committee assignment may also be a proxy for legislative output or productivity, which voters may support. More generally, one could imagine voters being influenced by some function of committee assignments  $F(c_{ij,t-1})$ , whose input we observe but with unobserved output; we estimate the linear projection of this function with  $\delta^E c_{ij,t-1}$ . The extent to which voters are in reality affected by  $c_{ij,t-1}$  is determined by

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<sup>7</sup>The variance of  $\xi_{ijt}^E$  can be normalized to other values to gage the degree of uncertainty over election outcomes, but estimating it is difficult with the available data.

whether  $\delta^E \neq 0$ . If this is the case, then a model omitting  $c_{ij,t-1}$  could bias  $\gamma^E$  as policy may be correlated with lagged committee assignments. We want to separately identify both channels to see if committee assignments merely act as agenda setting that, conditional on  $p_{ijt}$ , are uninformative to the voter or not. Thus allowing for  $\delta^E \neq 0$  acknowledges the possibility of voters rewarding incumbents from legislative activity beyond the stated policy platform.

The incumbent wants to maximize their chance of winning  $P_{ijt} = \prod_{E \in \{P,G\}} \mathbb{E}_{\xi^E} \{ \mathbb{1}[s_{ijt}^E > s_{kjt}^E \ \forall k \in N^E] \}$ , but they care about winning differentially based on the utility they receive from their value of holding office  $V_{ijt} \geq 0$ .<sup>8</sup> Thus they maximize the product  $V_{ijt}P_{ijt}$ . The incumbent's valuation only influences the optimal policy if there is some benefit to picking a position that is suboptimal for maximizing  $P_{ijt}$ . To see this, consider an exogenous valuation; in this case, one could simply scale the objective by the valuation, and the solution would be unchanged.<sup>9</sup> We allow for an endogenous valuation, meaning it is a function of the incumbent's policy choice.

We specify the valuation as  $V_{ijt} = \exp(\nu_{1ij}p_{ijt} + \nu_{2ij}c_{ijt})$ . The difference in optimal policies between the two cases reveals the extent to which candidates stray from voter preferences due to other incentives stemming from holding office. The valuation is affected by the incumbent's policy choice through the parameter  $\nu_{1ij}$  and the committee assignment following the election through  $\nu_{2ij}$ . We specify the valuations separately for Republicans and Democrats per district: this is crucial as Republicans almost universally choose policy positions to the right of Democrats ( $p_{ijt} > 0$ ), and thus the interpretation of how policy affects the valuation,  $\nu_{1ij}$ , differs between the two parties: a negative coefficient for Republicans effectively implies that moderation increases the value of holding office, which would have the opposite interpretation for Democrats, who largely have  $p_{ijt} < 0$  positions. By allowing for separate parameters across the two parties, we allow for committee assignments to be either a moderating or radicalizing mechanism through  $\nu_{2ij}$ .

We allow the incumbent's committee assignment to be affected by their policy choice. The incumbent internalizes how their policy choice affects their relationship with the party leadership. From a single incumbent's perspective, we express the committee they receive using a simultane-

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<sup>8</sup>The value of winning can also be associated with the possibility of future seat-seeking, such as when the party pushes a candidate towards a different seat.

<sup>9</sup>Alternatively, one could allow the incumbent to have an ideal point independent of  $P_{ijt}$ , which influences their willingness to deviate from it to win. In that case, an exogenous valuation could affect their choice as it weights the marginal benefit and not the marginal cost.

ous equations model. The equation  $c_{ijt} = \alpha_{1i}p_{ijt} + \alpha_{2i}(p_{ijt})^2 + \alpha_{3i}\bar{c}_{-ijt} + X_{ijt}^C\eta_i + u_{ijt}$  defines the reduced form committee assignment equation. The committee assignment for the incumbent from  $j$  is influenced by their own policy, the assignments of other members, exogenous incumbent characteristics  $X_{ijt}$ , and the unobservable  $\mu_{ijt}$ . Since we cannot identify an effect of each  $c_{ikt}$  for  $k \neq j$ , we consider an average effect  $(1/N^h) \sum_{k \in N^h \setminus \{j\}} c_{hkt}$ , denoted by  $\bar{c}_{-ijt}$ , where  $N^h$  is the set of incumbents in each party  $h \in \{D, R\}$ . We allow for non-linearity in  $p_{ijt}$  with the quadratic term and include controls  $X_{ijt}^C$ . This reduced form specification captures how policy influences committee assignments via party discipline and how committee assignments are implicitly correlated across all members.<sup>10</sup> The incumbent's full optimization program is given below:

$$\max_{p_{ijt}} V_{ijt} P_{ijt} \quad s.t. \quad (1a)$$

$$V_{ijt} = \exp(\nu_{1ij}p_{ijt} + \nu_{2ij}c_{ijt}) \quad (1b)$$

$$c_{ijt} = \alpha_{1i}p_{ijt} + \alpha_{2i}(p_{ijt})^2 + \alpha_{3i}\bar{c}_{-ijt} + X_{ijt}^C\eta_i + u_{ijt} \quad (1c)$$

$$P_{ijt} = \prod_{E \in \{Pri, Gen\}} \mathbb{E}_{\xi^E} \{ \mathbb{1}[s_{ijt}^E > s_{kjt}^E \quad \forall k \in N^E] \} \quad (1d)$$

$$s_{ijt}^E = \frac{\exp(u_{ijt}^E + \xi_{ijt}^E)}{1 + \sum_{k \in N^E} \exp(u_{kjt}^E + \xi_{kjt}^E)} \quad (1e)$$

$$u_{ijt}^E = \gamma^E(p_{ijt} - p_{ijt}^E)^2 + \delta^E c_{ij,t-1} + X_{ijt}^E \beta^E \quad (1f)$$

The incumbent must balance their position between the primary and general, as the voters likely differ; if primary voters are more partisan than general election voters, then the optimal policy to win the general election will make winning the primary harder. Ignoring the primary's effects on the incumbent's policy would lead to a biased understanding of why an incumbent might be less moderate than what general election voters prefer.

The incumbent also has a trade-off between appeasing voters and the party through  $c_{ijt}(p_{ijt})$ ; they must balance their valuation and their re-election chances. In competitive seats, incumbents are at risk mainly due to pressure from general election voters. Incumbents in safe seats (non-competitive general) face major primary election pressure. The extent to which the party leadership can influence an incumbent is a function of these risks and the incumbent's valuation. Finally,

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<sup>10</sup>Writing  $c_{ijt}$  as a function of these inputs can be derived from a party leadership's committee allocation problem (see Appendix A.1), from which we abstract away in the estimation.

incumbent specific policy preferences are incorporated through the idiosyncratic valuations, as opposed to a cost of deviating from a policy ideal point.

We assume that the committee assignment function (1c) is private information that only that specific incumbent and the political party leadership observe. As a consequence, any given incumbent cannot predict what committee assignments others will receive. In addition, the incumbent takes the party leadership’s strategy as given. Thus we study an individual incumbent’s policy choice in a decision-theoretic sense.

Existence of an optimal solution to the incumbent’s problem is guaranteed due to the compact domain and finite image of the objective function, but uniqueness is not without parameter restrictions. Whether or not the solution is an interior or corner depends on the parameters. We characterize the conditions for a unique interior solution. We do not require an interior solution for our analysis, but when one does exist, we need to know if it is unique.

**Proposition 1.** *If an interior solution exists for the incumbent’s problem (1a)-(1f), then a sufficient condition for it to be unique is the following:  $\nu_{2ij} \geq 0$ ,  $\alpha_{2i} \leq 0$ , and, for both elections  $E$ ,  $\gamma^E < 0$ .*

This states that the incumbent will have a unique interior solution if committee quality weakly increases valuations, extremism weakly hurts committee quality, and the policy gap hurts voter utility. See the proof of Proposition 1 in Appendix A.2. For the estimation, we check whether the optimal solution is in the interior or on a corner. Our model focuses on the decision-making of a single incumbent, an approach not uncommon in this literature (Iaryczower, Lopez-Moctezuma, and Meirowitz 2022b).

### 3 Data

We estimate the model for the United States House of Representatives from 2002 to 2018. We get primary and general election results from the Federal Election Commission.<sup>11</sup> For candidate positions, we use ideology scores through contributor networks (Bonica 2014), which place candidates along an ideological scale like in our model. This measure correlates strongly with other measures

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<sup>11</sup>Since our voter model is based on a plurality voting system, we drop states that use alternative primary systems, such as California’s top-two system since 2012. We also group challengers that receive a small percent of the vote into the “outside” option as they are not strategically relevant.

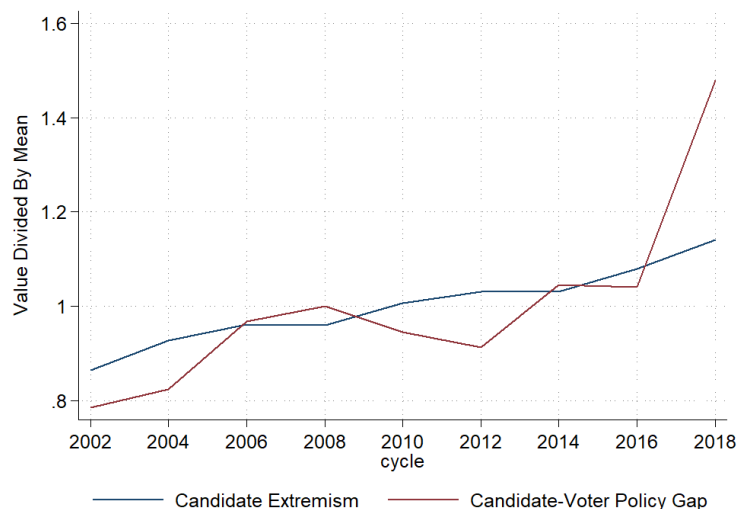


like voting record partisanship in Congress and is available for incumbents and challengers. This gives each candidate an ideology/policy position measure per election cycle.

We measure voter ideal points using lagged presidential election results in both the general and primary elections, following the method from Cox and Shapiro (2022), similar to the Cook Partisan Voting Index. For the general election, we use presidential general election results. This captures between-district left-to-right partisanship. For the primary election, we weight the presidential primary results with the  $[0, 1]$  scaled ideology scores of each candidate. Weighting the primary by the candidate’s within-party policy allows us to gage the extremism of each district’s primary. Note that this is effectively equivalent to calculating the primary voter ideal as a weighted average of lagged presidential candidate’s ideological scores, where the weights are given by their primary vote shares.

Figures 1 and 2 show the growing candidate polarization over time alongside the changing gap with voter policy preferences across the general and primary elections. This suggests that candidate positions are changing in response to electoral pressure, particularly in the primary. As general elections are becoming safer, the candidates are incentivized to pivot to the extremes to ensure primary wins. The recent trend has indicated a degree of overcompensation: they are increasing the gap with general election voters while decreasing with primary election voters.

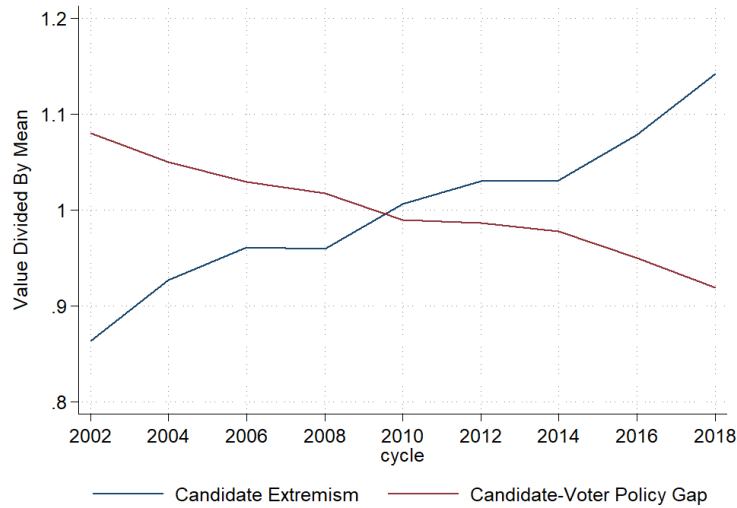
Figure 1: Extremism and General Election Policy Gaps over Time



This plots candidate extremism and the candidate-voter policy gap over time for general elections.

Finally, we acquire the list of congressional committee assignments from Charles Stewart’s

Figure 2: Extremism and Primary Election Policy Gaps over Time



This plots candidate extremism and the candidate-voter policy gap over time for primary elections.

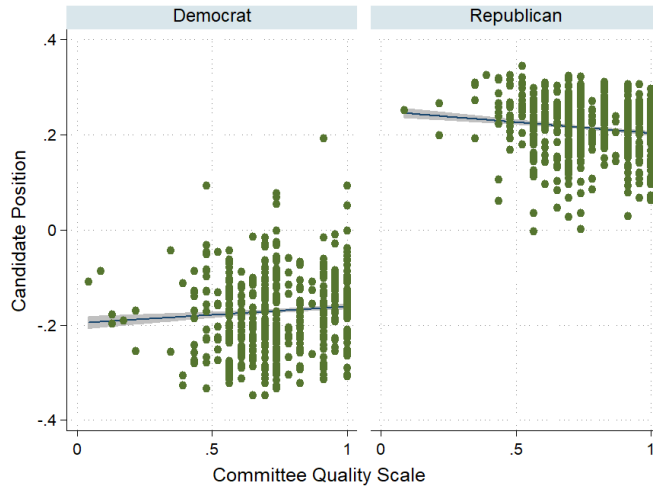
database. We define our measure of committee seat importance similarly to Stewart III and Groseclose (1999), based on the average tenure length of each committee a given member served on and averaged across all committees per member prior to the election. This captures the desirability/quality of the committee.<sup>12</sup>

Parties may reward closely aligned (with the party’s agenda) members with valuable committees. Figure 3 shows the relationship between a candidate’s position and the quality of their committee assignments. Generally, the more moderate incumbents have higher-quality positions. The role of committee assignments in a legislator’s effectiveness is complex, but we can probe into this by using the “Center for Effective Lawmaking” database (Volden and Wiseman 2014). They generate an effectiveness score based on the bill activity for each legislator. We find a positive relationship between this measure and both general election vote share (Figure 4) and committee assignments (Figure 5). Thus committee assignments may be a conduit for effectiveness, which further motivates their inclusion in both the valuation and election win probability.

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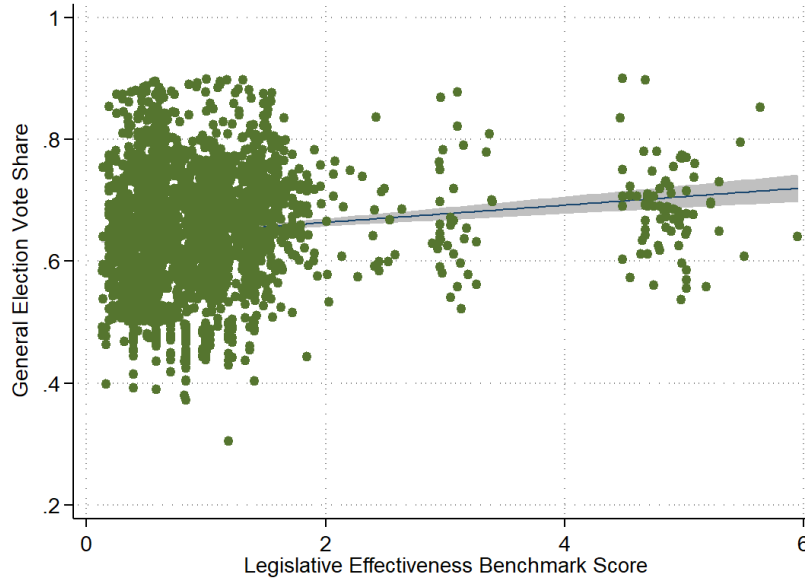
<sup>12</sup>There may be heterogeneity in which committees are valuable, such as agricultural committees for rural districts; results are not significantly different when interacting committee valuation with USDA Rural-Urban Commuting Area Code for rural districts.

Figure 3: Position & Committee Relationship



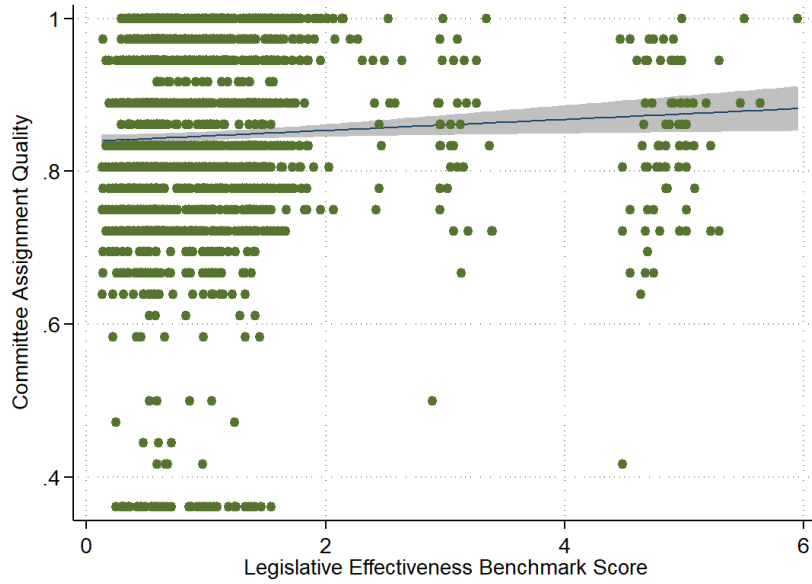
This plots the relationship between candidate position and quality of congressional committee assignment for both parties.

Figure 4: Vote Share and Legislative Effectiveness



This plots the relationship between general election vote share and legislative effectiveness benchmark scores. The line of best fit is given alongside the 95% confidence interval.

Figure 5: Committee Assignment and Legislative Effectiveness



This plots the relationship between committee assignment quality and legislative effectiveness benchmark scores. The line of best fit is given alongside the 95% confidence interval.

## 4 Estimation

We estimate the model iteratively. The first step is to estimate the vote share (equation (1e)) as a function of policy and committee assignment. The second step is to estimate the committee assignment (equation (1c)) as a function of policy. The third step is to estimate the valuation (equation (1b)) as a function of policy and assignment, which is based on the incumbent's optimization (program (1a)), taking the previous two steps into account. We estimate the model by pooling over the set of districts  $j$  and years  $t$ .

### 4.1 Voter Preferences

To estimate voter preferences, we construct a linear regression based on the share of votes from the general and primary elections. We calculate the log ratio of vote share to absenteeism  $\ln(s_{ijt}^E/s_{ijt}^{E_0})$  following Berry (1994). This is a function of the squared policy gap, committee assignments, and district-candidate level factors.<sup>13</sup> Since the policy choice  $p_{ijt}$  may be correlated with  $\xi_{ijt}^E$ , we

<sup>13</sup>The covariates  $X_{ijt}^E$  include incumbency, lagged presidential votes, party, lagged incumbent votes, number of senate candidates, if the governor is in the same party, Cook's competitiveness ratings, state and year fixed effects, and select interactions of incumbent/party with age, high-school graduation rate, race, and sex.

instrument for policy with the mean incumbent policy gap for other districts in the same state  $Z_{ijt}^E$ ; this instrument correlates with the political climate of the state, but is unrelated to district in question conditional on  $p_{ijt}$ .

Conditional on the extensive set of controls, within-state out-of-district policy gaps may correlate with a given House incumbent’s policy, as it relates to the state’s current level of partisanship, but does not directly affect the election outcome. The logic of this instrument has been used in other election studies (Iaryczower, Moctezuma, and Meirowitz 2022b; Cox 2022) and is similar to Hausman instruments from the demand literature (Berry and Haile 2016).<sup>14</sup> We estimate the parameters from equation (1e) and back out the unobserved heterogeneity  $\xi_{ijt}^E$  with an instrumental variables regression with the first-stage equation and structural equation written below.

$$(p_{ijt}^E - p_{ijt})^2 = \pi_1^E Z_{ijt}^E + \pi_2^E c_{ij,t-1} + X_{ijt}^E \pi_3^E + w_{ijt}^E \quad (2)$$

$$\ln(s_{ijt}^E / s_{ijt}^{E_0}) = \gamma^E (p_{ijt}^E - p_{ijt})^2 + \delta^E c_{ij,t-1} + X_{ijt}^E \beta^E + \xi_{ijt}^E \quad (3)$$

We estimate this for the general election, Republican primary, and Democratic primary separately. We then calculate the incumbent’s probability of winning as a function of these parameters and variables. We abstract away from election advertising as a choice variable, as spending has been shown to have mixed effects: some find non-trivial effects (Erikson and Palfrey 1998; Franz and Ridout 2010), while others find limited effects in equilibrium, particularly for incumbents (Jacobson 1990; Levitt 1994; Cox 2022).

## 4.2 Committee Assignment

To estimate the effects of policy on committee assignments, we have to deal with the simultaneity of others’ assignments. We estimate equation (1c) per party  $i$  with an instrumental variables regression with the first-stage and structural equations written below. The controls are lagged committee quality, lagged general election votes, House party control, and a rural district dummy. We use

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<sup>14</sup>Results are similar but noisier using lagged out-of-district policy gaps.

lagged committee quality, averaged across  $k \neq j$  in a given election cycle, as the instrument  $Z_{ijt}^C$ .

$$\bar{c}_{-ijt} = \rho_{1i}p_{ijt} + \rho_{2i}(p_{ijt})^2 + \rho_{3i}Z_{ijt}^C + X_{ijt}^C\rho_{4i} + w_{ijt} \quad (4)$$

$$c_{ijt} = \alpha_{1i}p_{ijt} + \alpha_{2i}(p_{ijt})^2 + \alpha_{3i}\bar{c}_{-ijt} + X_{ijt}^C\eta_i + u_{ijt} \quad (5)$$

The policies and covariates for incumbents from  $k \neq j$  are excluded from  $c_{ijt}$  conditional on  $c_{-ijt}$ . As a consequence, the exogenous covariates  $X_{ikt}$  of other incumbents influence  $c_{-ijt}$  but are unrelated to one's own assignment beyond  $c_{-ijt}$ . The logic of this instrument has been used in both election and demand contexts (Iarcyzower, Kim, and Montero 2022a; Berry and Haile 2021).

### 4.3 Candidate Valuation

Finally, we estimate the incumbent's policy stage. We estimate the valuation parameters by fitting the observed candidate positions to the model predictions. Using the estimated probability of winning  $\hat{P}_{ijt}$  based on the previously estimated parameters, we solve for optimal positions in the model  $p_{ijt}^*$  for a given parameter value  $\nu_0$ , compare it to observed positions  $p_{ijt}^{obs}$ , and then iterate to minimize the nonlinear least squares objective below.<sup>15</sup> This estimation stage is dependent on the estimated parameter values from the election and committee stages. Thus we use a nonparametric bootstrap for the confidence intervals of the valuation parameters; we evaluate  $P_{ijt}$  and  $c_{ijt}$  at each  $p_{ijt}^*(\nu)$  using parameters estimated from vote share and committee regressions per bootstrap sample.<sup>16</sup> We estimate district-specific parameters per party. Thus  $\nu = \{[\nu_{1ij}, \nu_{2ij}] \forall i \forall j\}$  is a vector of parameters with length  $2 * N^R + 2 * N^D$ , where  $N^i$  is the number of districts with at least one election year observed in the data for incumbent of party  $i = \{D, R\}$ .

$$\min_{\nu} \sum_t \sum_i (p_{ijt}^{obs} - p_{ijt}^*(\nu))^2 \quad s.t. \quad p_{ijt}^*(\nu) = \arg \max_{p_{ijt}} \exp(\nu_{1ij}p_{ijt} + \nu_{2ij}\hat{c}_{ijt}(p_{ijt}))\hat{P}_{ijt}(p_{ijt}) \quad (6)$$

Note that the probability of winning is affected by the committee assignment prior to the election, thus it is not affected by the policy choice during the election; this differs from the valuation,

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<sup>15</sup>All but one condition from Proposition 1 can be validated prior to estimating this step, and the uniqueness condition can be checked in each iteration of the minimization algorithm.

<sup>16</sup>The standard errors for these two sets of regressions do not need to be bootstrapped; the robust standard errors directly calculated from the regression are sufficient.

which is affected by the future committee assignment that is dependent on the policy choice.

The valuation parameters are identified from how incumbent policy varies with the degree to which their marginal win probability is close to zero. If valuations were not influenced by policy, then the incumbent would optimize their policy by just maximizing  $P_{ijt}$ . The gap between that and their chosen policy informs us of their implicit valuation. The parameters  $\nu_{1ij}$  and  $\nu_{2ij}$  are separately identified off the nonlinear relationship between committee assignments and policy.

## 5 Results

### 5.1 Parameter Estimates

Table 1 shows the vote share results for the primary and general elections (first stages are in Table 2). We find that deviations from voter preferences are negatively correlated with election chances; extremism hurts in the general election and helps in the Republican primary election. Democratic primary voters do not seem to penalize based on policy to the same degree, but rather have a bias against incumbents conditional on policy. We find that congressional committee quality slightly helps in the general election, but the effect is smaller and noisier than that of policy. Table 3 reports the results for the committee regressions. We find that policy extremism hurts committee quality and that there is crowding-out of committee quality by others; this is natural due to the constrained allocation. Results are robust to including district fixed effects (see Appendix A.3), with slightly noisier committee quality estimates.

We estimate the valuation parameters for every district per party, reported in Table 4 with bootstrapped 95% confidence intervals. For Republicans, the mean  $\nu_{1ij}$  is 0.8184 [0.0424, 1.0667], and the mean  $\nu_{2ij}$  is 4.0581 [3.1818, 4.1709]. While more extreme policy slightly increases valuations conditional on committee assignments, the derivative  $\partial c/\partial p$  is negative and large, and thus the overall marginal effect of policy on valuations is on average negative. However there is curvature, which indicates that being completely moderate (near zero) does not predict a high valuation, and extreme positions can decrease valuations. This is a consequence of matching observed positions to the model, where most incumbents have moderate positions. For Democrats, the mean  $\nu_{1ij}$  is 0.0423 [-0.0476, 0.1070], and the mean  $\nu_{2ij}$  is 1.5041 [-0.3690, 1.8015]. Since most Democratic

Table 1: Vote Share Regressions

DV: Diff. in Log Shares with Absent.	General	D Primary	R Primary
Can-Voter Policy Gap	-0.6609*** (0.1529)	-0.1247 (0.0752)	-0.4040** (0.1276)
Can Com. Assignment	0.1038 (0.0684)	0.0062 (0.1288)	0.0487 (0.1224)
Incumbent	34.4838*** (4.7958)	-61.4289*** (10.5177)	35.1452*** (9.6755)
Lagged Repub. Pres. Votes	0.1293 (0.2025)	-1.9055*** (0.2617)	2.1405*** (0.2601)
Republican Party	-2.3244** (0.7496)		
Incumbent Lagged Votes	-0.1090* (0.0436)	-0.0654 (0.0655)	-0.2617*** (0.0736)
Number of Senate Candidates Running	0.0013 (0.0010)	0.0059* (0.0023)	0.0054** (0.0020)
Governor Same Party	-0.0121 (0.0126)	-0.0144 (0.0349)	-0.1171*** (0.0343)
Cook's Competitiveness Ratings	-0.0398*** (0.0110)	0.0782*** (0.0104)	-0.0246* (0.0104)
Observations	6573	3991	4087
$R^2$	0.700	0.443	0.549
F	220.2587	59.8381	95.5126
State & Year Fixed Effects	yes	yes	yes
Demographics & Interactions	yes	yes	yes

Robust standard errors in parentheses; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . The dependent variable is the log ratio of the candidate vote share and the absentee share. "Demographics & Interactions" are select interactions of incumbent/party with age, high school graduation rate, race, and sex.



Table 2: Vote Share First-Stage Regressions

DV: Can-Voter Policy	General	D Primary	R Primary
In-State Out-of-District Positions	0.3877*** (0.0585)	0.9538*** (0.0131)	0.9135*** (0.0184)
Can Com. Assignment	-0.0108 (0.0240)	0.0090 (0.0069)	0.0228* (0.0089)
Incumbent	7.6080*** (1.9686)	-4.4314*** (0.9012)	-0.6955 (1.0280)
Lagged Repub. Pres. Votes	0.7869*** (0.0724)	-0.1053** (0.0333)	0.2756*** (0.0493)
Republican Party	0.1748 (0.2960)		
Incumbent Lagged Votes	0.1413*** (0.0155)	0.0017 (0.0086)	-0.0079 (0.0112)
Number of Senate Candidates Running	-0.0002 (0.0004)	-0.0002 (0.0002)	-0.0001 (0.0003)
Governor Same Party	0.0028 (0.0043)	0.0095*** (0.0028)	0.0029 (0.0037)
Cook's Competitiveness Ratings	0.0333*** (0.0034)	0.0005 (0.0013)	-0.0081*** (0.0016)
Constant	-6.2419** (1.9524)	4.8640*** (0.9142)	0.9174 (1.0240)
Observations	6573	3991	4087
$R^2$	0.578	0.821	0.667
F	109.2590	577.6426	159.0553

Robust standard errors in parentheses; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

Table 3: Committee Regressions

Party/Stage	Dem 1st	Dem 2nd	Rep 1st	Rep 2nd
Dependent Variable	Others' Com.	Com. Quality	Others' Com.	Com. Quality
Others' Lagged	0.0016***		0.0004***	
Committee Quality	(0.0001)		(0.0000)	
Incumbent Position	-0.0102	-0.1000	0.0012	1.0465***
	(0.0071)	(0.1009)	(0.0101)	(0.1687)
Position Squared	-0.0435*	-0.3462	-0.0303	-3.1326***
	(0.0220)	(0.3146)	(0.0281)	(0.4638)
Rural District	0.0004**	-0.0077***	0.0000	0.0025
	(0.0001)	(0.0021)	(0.0001)	(0.0016)
Lagged Committee Quality	0.0001**	0.0051***	0.0000	0.0046***
	(0.0000)	(0.0003)	(0.0000)	(0.0002)
Incumbent Lagged Votes	-0.0056***	-0.0440***	-0.0030***	-0.0636***
	(0.0006)	(0.0111)	(0.0004)	(0.0127)
Rep. House Control	-0.0295***	-0.0963***	-0.0009**	-0.0005
	(0.0004)	(0.0260)	(0.0003)	(0.0072)
Others' Committees		-2.4217**		-7.9089**
		(0.9128)		(2.5430)
Constant	0.8203***	2.8515***	0.8423***	7.4097***
	(0.0028)	(0.7846)	(0.0012)	(2.1657)
Observations	1504	1504	1628	1628
$R^2$	0.731	0.225	0.071	0.130
F	971.7961		61.9766	

Robust standard errors in parentheses; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . "Com. Quality" refers to the average congressional committee assignment quality the member receives prior to the election, defined by the average tenure length. "Others' Com." is the mean quality of other members' committees per party. The first-stage F-statistic is 971 for Democrats and 62 for Republicans.

positions are to the left of zero, the positive  $\nu_{1ij}$  indicates that moderation increases value directly (albeit noisily), contrasting with Republicans. Thus, there may be non-electoral benefits to a Republican for being more extreme; this is consistent with the trends of asymmetric polarization (Mann and Ornstein 2016; DeSilver 2022).

Table 4: Valuation Parameters

Parameter	Mean	Confidence Interval
$\nu_{1ij}$ for $j = R$	0.8184	[0.0424, 1.0667]
$\nu_{2ij}$ for $j = R$	4.0581	[3.1818, 4.1709]
$\nu_{1ij}$ for $j = D$	0.0423	[-0.0476, 0.1070]
$\nu_{2ij}$ for $j = D$	1.5041	[-0.3690, 1.8015]

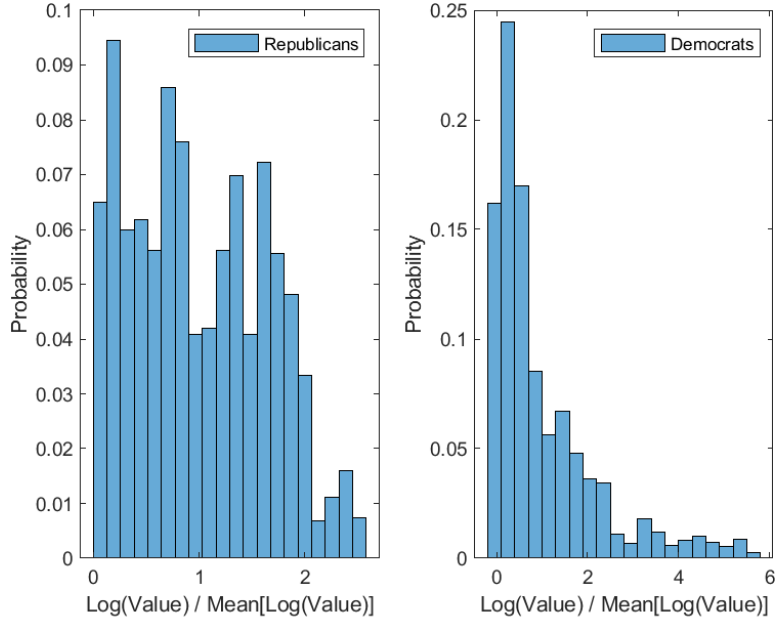
Non-parametric percentile-bootstrapped 95% confidence intervals.

We find similar heterogeneity in valuation parameters and optimal valuations (see Figure 6 for the latter), as both distributions have positive skewness. Incumbents with very high valuations have positions more closely aligned with those of their party or are in districts with large benefits. This heterogeneity contributes to party weakness, as incumbents whose valuations are not significantly affected by committee assignments are not easily influenced by their party. We do not find a strong correlation between valuations and safe seats, which indicates that the endogenous value to holding office is an additional contributor to party weakness. The full degree of party weakness cannot be estimated here as we do not formally estimate the party leadership’s program, but our model can illustrate how each member’s idiosyncrasies contribute to the problem.

A major source of party weakness is the problem of free-riding by individual members; they may not internalize the risk of their decisions to the party as a whole. Incumbents choose policy to maximize their own payoff, which is a function of their own valuation and win probability. They may not consider the effects of their policy choices on other districts, others’ committee assignments, and the leadership’s goals. The candidate internalizes the risk of going along with the party inasmuch as it affects their own re-election chances, but the party faces the systemic risk across all districts. An optimal strategy for the party is to target members who have high  $\nu_{2ij}$ , as the marginal influence of the committee assignment means the incumbent is willing to sacrifice some win probability to substantially increase their valuation.<sup>17</sup>

<sup>17</sup>Incumbents with  $|\nu_{1ij}|$  close to 0 are naturally inclined to align with leadership, so there is less need for discipline.

Figure 6: Valuations at Observed Positions



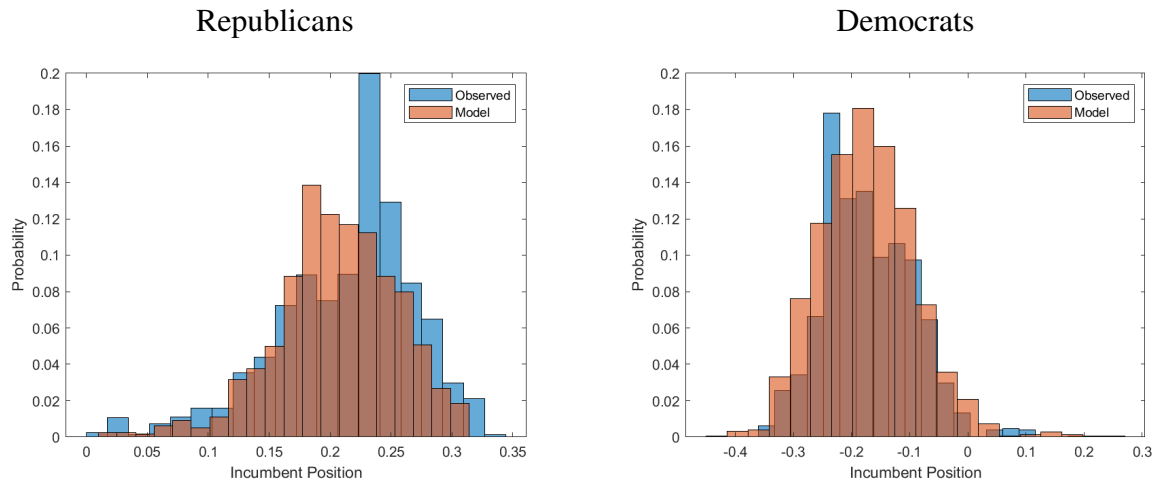
This plots the distributions of log valuations (relative to mean) for incumbents of both parties with the observed policies.

## 5.2 Model Fit

Beyond the  $R^2$  of the voter and committee regressions, we can check the fit of the model’s position prediction. We solve the model with the estimated parameters; the conditions for the uniqueness of an optimal position choice can be checked with the estimated parameters as detailed in Proposition 1 and are satisfied.<sup>18</sup> For Republicans, the mean position in the data is 0.2146, and the model mean is 0.2058. Their correlation coefficient is 0.7946. For Democrats, the data mean is -0.1709 and the model mean is -0.1730, with a fit of 0.7321. The Republican (Democratic) median in the data is 0.2275 (-0.1783), and the model median is 0.2071 (-0.1753). Figure 7 shows their overlapping distributions, and Table 5 displays the data and model fit statistics.

<sup>18</sup>At the estimated parameters for Republicans (evaluated in various districts), there is an asymptotic global minimum for positions left of 0 approaching -1. There is a single maximum between 0 and 1, and there is an asymptotic local minimum at 1. The results for Democrats are (in most districts) symmetric.

Figure 7: Model Fit



The left (right) graph shows Republican (Democratic) distributions for observed and model-predicted policy positions.

Table 5: Data and Model Statistics

Variable	Mean	Confidence Interval
Rep data mean	0.2146	
Rep data median	0.2275	
Rep model mean	0.2058	[0.1901, 0.2240]
Rep model median	0.2071	[0.1894, 0.2207]
Rep Correlation	0.7946	[0.7108, 0.8381]
Dem data mean	-0.1709	
Dem data median	-0.1783	
Dem model mean	-0.1730	[-0.2910, -0.0596]
Dem model median	-0.1753	[-0.2206, -0.1472]
Dem Correlation	0.7321	[0.1461, 0.8031]

This shows statistics for the data and model. The correlation is between the data and the model prediction. Confidence intervals are 95% percentile-bootstrapped.

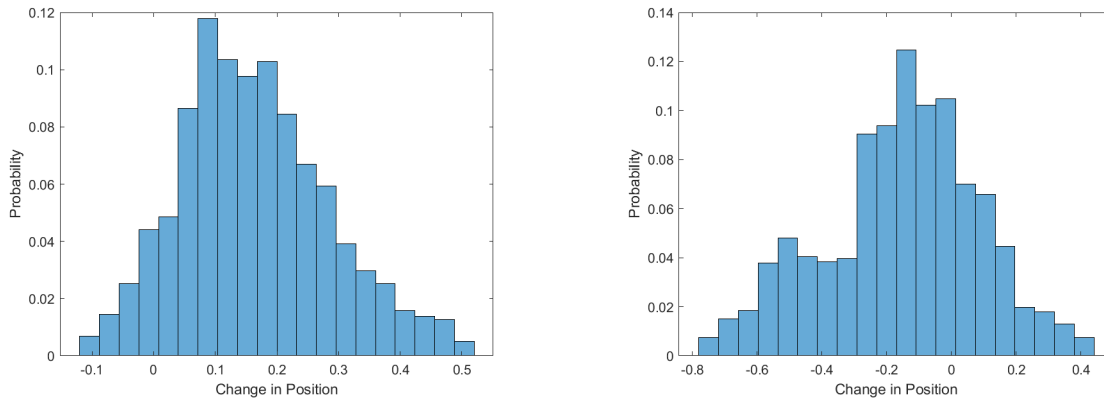
### 5.3 Counterfactuals

Committee assignments can act as a source of moderating discipline through two distinct channels: affecting election chances and affecting the value associated with winning. This is captured by solving the entire model where the incumbent takes into account how their choice directly affects the general election, the primary election, and their valuation and indirectly affects all three stages

through committee assignments.<sup>19</sup> Since the committee allocation function is reduced form, the counterfactuals should be interpreted as changing a single district at a time, holding the others constant.

First, we suppose neither committees nor positions affect valuations (exogenous valuation). Ignoring valuations decreases the fit of the model, as the correlation with the data for Republicans (Democrats) decreases to 0.2986 (0.1074). Thus, exogenous valuations cannot explain the observed positions adequately. This also leads to a Republican (Democratic) mean change in position of 0.1646 (-0.1543); see Figure 8 for the distribution of position changes per party. Thus valuations act as moderating forces. This is intuitive, as staunch extremism can negatively affect career outcomes like promotions within the party, whereas the benefits of extremism are largely just increased support in primaries.

Figure 8: Change in Position with Exogenous Valuations



The left (right) graph shows Republican (Democratic) distributions for changes in positions from exogenous valuations.

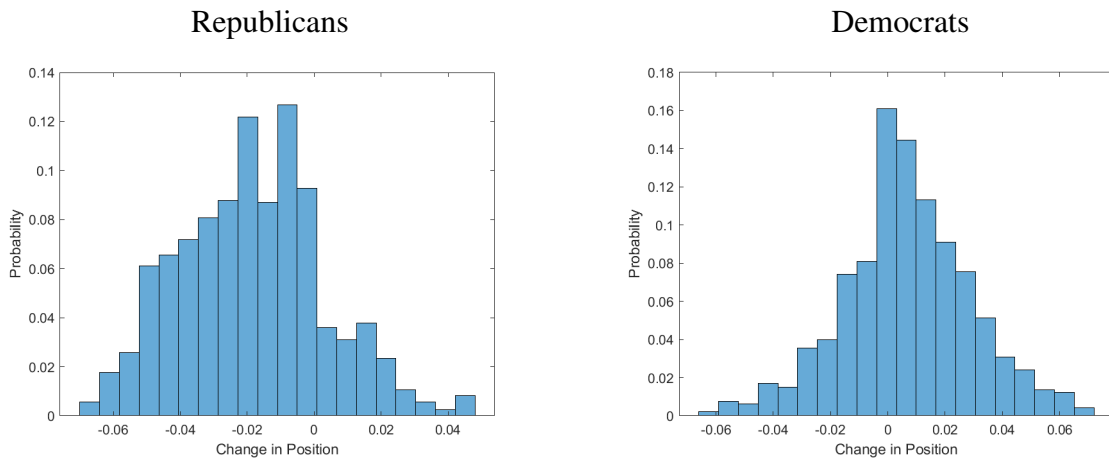
Next, we test two counterfactuals for changing the efficacy of party discipline via positions and committees. For both counterfactuals, the full set of statistics is displayed in Table 6. All confidence intervals are 95% percentile-bootstrapped. Most Republican positions are above zero and Democratic positions are below 0 on a scale of -1 to 1.

First, suppose the party can increase how valuable committees are through incumbent valua-

<sup>19</sup>We take challenger decisions, such as policy and entry, as given. All candidates are incentivized to appease voters, and thus the optimal policy strategy for challengers may not be significantly affected by the counterfactuals. The aspect we cannot capture is the inducement of challenger entry by the incumbent becoming too moderate; we control for how moderation affects primary win chances conditional on entry. Including entry would help explain extreme positions by unchallenged incumbents, and omitting it can bias their valuation position coefficient.

tions by doubling  $\nu_{2ij}$ . This leads to a Republican counterfactual mean of 0.1874 [0.1634, 0.2183], which represents a mean -0.0184 point change. The effect is similar but noisier for Democrats, with a new counterfactual mean of -0.1664 [-0.3520, 0.1336], representing a 0.0065 point change. Recall that moderation is when a Republican position goes down and a Democratic position goes up. See Figure 9 for the distribution of changes per party. Republicans (Democrats) moderate themselves by an average of 5% (25% with large variance). Since the party rewards moderation through committees, their increased return makes sacrificing primary election win probability worthwhile. There is variation in how much voters benefit from this change, with very little change in general election voter utility; see Figure 10 for the distribution.

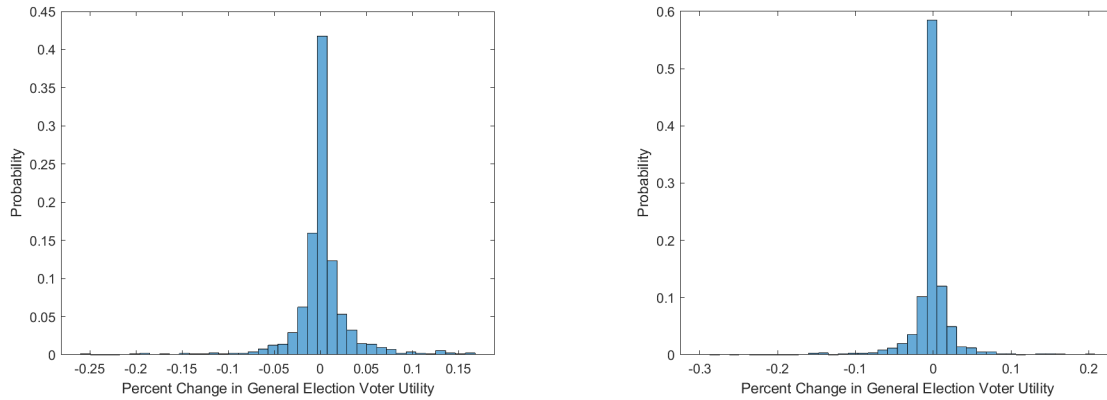
Figure 9: Counterfactual Changes in Positions from More Valuable Committees



The left (right) graph shows Republican (Democratic) distributions for changes in positions from the counterfactual of valuations being more affected by committee quality.

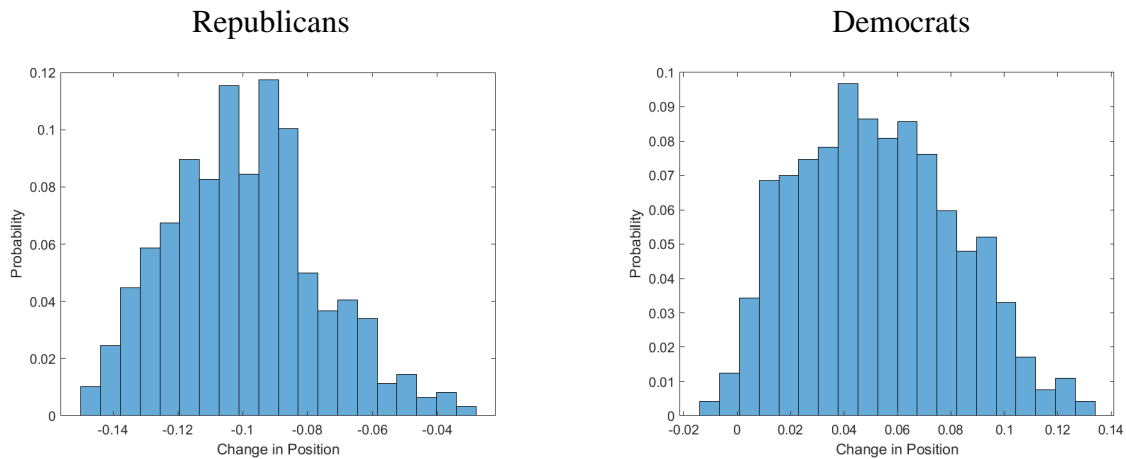
Second, we suppose the party can commit to stricter discipline in assigning committees, incorporated as doubling the quadratic term  $\alpha_{2i}$  in the assignment function. This leads to a Republican (Democratic) counterfactual mean of 0.1066 [0.0977, 0.1160] (-0.1207 [-0.3038, -0.0477]), which represents a mean -0.0992 (0.0523) point change. The relatively less precise effects for Democrats across the counterfactuals are due to their noisier valuation parameter estimates. See Figure 11 for the distribution of changes per party. The large moderating effects (48% more moderate for Republicans and 31% for Democrats) are due to the valuation benefits  $\nu_{2ij}$  of committees. The electoral benefits are small, and ignoring valuations attenuates the counterfactual results.

Figure 10: Percent Change in Voter Utility from Valuation Counterfactual



The left (right) graph shows Republican (Democratic) distributions for % change in general election voter utility from the counterfactual of valuations being more affected by committee quality.

Figure 11: Counterfactual Changes in Positions from Stronger Discipline



The left (right) graph shows Republican (Democratic) distributions for changes in positions from the counterfactual of party discipline being stricter in regard to assigning committees based on policy.



Table 6: Counterfactual Statistics

Variable	Mean	Confidence Interval
CF: Increase $\nu_{2ij}$ (More Valuable Committees)		
Rep mean	0.1874	[0.1634, 0.2183]
Rep median	0.1877	[0.1636, 0.2180]
Rep change	-0.0184	[-0.0246, -0.0060]
Rep % change	-0.0491	[-0.3000, 0.1729]
Dem mean	-0.1664	[-0.3520, 0.1336]
Dem median	-0.1646	[-0.2514, -0.0955]
Dem change	0.0065	[-0.0452, 0.1916]
Dem % change	-0.2526	[-4.3811, 2.4374]
CF: Increase $\alpha_{2i}$ (Stronger Discipline)		
Rep mean	0.1066	[0.0977, 0.1160]
Rep median	0.1060	[0.0976, 0.1145]
Rep change	-0.0992	[-0.1067, -0.0924]
Rep % change	-0.4819	[-0.4923, -0.4613]
Dem mean	-0.1207	[-0.3038, -0.0477]
Dem median	-0.1137	[-0.2041, -0.0829]
Dem change	0.0523	[-0.0182, 0.0651]
Dem % change	-0.3128	[-0.3950, 0.0019]

This shows statistics for two counterfactuals (CF). The “change” is the change in position between the model and counterfactual. Confidence intervals are 95% percentile-bootstrapped. “Increase  $\nu_{2ij}$ ” is the counterfactual of valuations being more affected by committee quality. “Increase  $\alpha_{2i}$ ” is the counterfactual of party discipline being stricter in regards to assigning committees based on policy.

## 6 Concluding Remarks

In this paper, we empirically study incumbent positioning with a theoretical foundation. We incorporate primary and general election pressure, allow for party discipline via congressional committee assignments, and let the incumbent have an endogenous value of holding office. This approach captures the salient disciplining aspects in this environment, and our model fits the data well. Our election and committee regression estimates are both consistent with previous literature and illustrate the trade-offs that candidates face. Our valuation estimates and counterfactual analysis are intuitive and indicate that incumbents are generally not rewarded in their careers with extreme positions beyond appeasing primary voters. The results suggest that the party leadership needs to increase the marginal value of holding office with respect to party loyalty.

Our findings indicate that party leadership is a possible moderating force for incumbents, but it has not been effective in yielding this power; the trends in polarization indicate the parties are weak. If the parties could be stricter, which may not be feasible, members of Congress in both parties could be motivated to become more moderate. We do not explicitly study other disciplinary aspects like discretionary or election spending. Our emphasis is on capturing how policy, directly and indirectly, affects the incumbent's payoff. A promising direction to further study endogenous valuations is with data on promotions or post-congressional career outcomes. This will further help disentangle the extent to which extreme members cannot be shifted due to their simply not caring about advancement or if there are other benefits to extremism beyond aiding in primaries.

Finally, a historical analysis may also be fruitful: Speaker of the House Newt Gingrich's upending of the committee seniority system in 1995 arguably made disciplining easier, as the leadership had more power to help loyal members.<sup>20</sup> Party leaders were procedurally less able to discipline extreme members prior to the overhaul, but there were fewer extreme members requiring disciplining in the first place. Thus, despite this advantage, the party has been ineffectual in stopping polarization (or they may even indirectly contribute to it (Canen et al. 2021)). This further confirms the current weakness of US political parties.

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<sup>20</sup>Although the influence of senior members did not necessarily diminish afterwards (Taylor 2019).

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## A Appendix

### A.1 Possible Party Framework

Each party  $i \in \{D, R\}$  is constrained:  $\sum_{j \in N_{it}} c_{ijt} \leq D_{it}$ , where  $N_{it}$  are the districts with a  $i$  party incumbent and  $D_{it}$  is the party's given committee assignment allocation. There may be additional political variables  $X_{ijt}$  that affect seat assignment (alongside the positions of others beyond the constraint), captured with an implicit marginal cost function  $m(X_{ijt}, c_{-ijt})$ . Then party

$g$ 's program could be the following, where  $W_{ijt}$  is some value per district affected by policy and committees:

$$\max_{c_{ijt} \forall j \in N_{it}} \sum_{j \in N_{it}} (W_{ijt}(p_{ijt}, c_{ijt}) - c_{ijt} \cdot m(X_{ijt}, c_{-ijt})) \quad s.t. \quad \sum_{j \in N_{it}} c_{ijt} \leq D_{it} \quad (7)$$

The value  $W_{ijt}$  could be the incumbent's win probability if the party valued each district equally and simply wanted to maximize seats. If we assume that  $W_{ijt}$  is monotonic in  $c_{ijt}$ , then the first order condition per  $ij$  can be transformed such that equilibrium  $c_{ijt}$  will be a function of  $p_{ijt}$ ,  $c_{-ijt}$ ,  $X_{ijt}$ , and the shadow value of the party's allocation constraint.

## A.2 Proof of Proposition 1

**Proposition 1:** *If an interior solution exists for the incumbent's problem (1a)-(1f), then a sufficient condition for it to be unique is the following:  $\nu_{2ij} \geq 0$ ,  $\alpha_{2i} \leq 0$ , and, for both elections  $E$ ,  $\gamma^E < 0$ .*

*Proof.*

$$\max_{p_{ijt}} V_{ijt} P_{ijt} \quad s.t. \quad (8a)$$

$$V_{ijt} = \exp(\nu_{1ij} p_{ijt} + \nu_{2ij} c_{ijt}) \quad (8b)$$

$$c_{ijt} = \alpha_{1i} p_{ijt} + \alpha_{2i} (p_{ijt})^2 + \alpha_{3i} \bar{c}_{-ijt} + X_{ijt}^C \eta_i + u_{ijt} \quad (8c)$$

$$P_{ijt} = \prod_{E \in \{Pri, Gen\}} \mathbb{E}_{\xi^E} \{ \mathbb{1}[s_{ijt}^E > s_{kjt}^E \quad \forall k \in N^E] \} \quad (8d)$$

$$s_{ijt}^E = \frac{\exp(u_{ijt}^E + \xi_{ijt}^E)}{1 + \sum_{k \in N^E} \exp(u_{kjt}^E + \xi_{kjt}^E)} \quad (8e)$$

$$u_{ijt}^E = \gamma^E (p_{ijt} - p_{ijt}^E)^2 + \delta^E c_{ij,t-1} + X_{ijt}^E \beta^E \quad (8f)$$

We express the incumbent's objective in terms of  $P_{ijt}^E$  instead of  $s_{ijt}^E$ . The probability of winning election  $E$  is  $\mathbb{E}_{\xi^E} \{ \mathbb{1}[s_{ijt}^E > s_{kjt}^E \quad \forall k \in N^E] \}$ , which can be written as:

$$P_{ijt}^E = \frac{\exp(u_{ijt}^E + E[\xi_{ijt}^E])}{\sum_{k \in N^E} \exp(u_{kjt}^E + E[\xi_{kjt}^E])}$$

The probability of winning the overall election is the probability of winning the primary election

times the general election win probability (conditional on winning primary):  $P_{ijt} = P_{ijt}^P \cdot P_{ijt}^G$ .

Suppose an interior solution exists. Then the first order condition is as follows:

$$FOC_{p_{ijt}} : dV_{ijt}/dp_{ijt}P_{ijt} + V_{ijt}dP_{ijt}/dp_{ijt} = 0$$

The two derivative terms are as follows:

$$dV_{ijt}/dp_{ijt} = V_{ijt}(\nu_{1ij} + \nu_{2ij}dc_{ijt}/dp_{ijt}) \ \& \ dc_{ijt}/dp_{ijt} = \alpha_{1i} + 2\alpha_{2i}p_{ijt}$$

$$dP_{ijt}/dp_{ijt} = d\left(\prod_E P_{ijt}^E\right)/dp_{ijt} = P_{ijt} \sum_E (1 - P_{ijt}^E) du_{ijt}^E/dp_{ijt}$$

where

$$du_{ijt}^E/dp_{ijt} = 2\gamma^E(p_{ijt} - p_{ijt}^E)$$

Then we can rewrite the first order condition:

$$FOC_{p_{ijt}} : V_{ijt}P_{ijt} \underbrace{\left( \nu_{1ij} + \nu_{2ij}dc_{ijt}/dp_{ijt} + \sum_E (1 - P_{ijt}^E)(2\gamma^E(p_{ijt} - p_{ijt}^E)) \right)}_{\Omega_{ijt}} = 0$$

Next evaluate the second order condition with the condensed notation:

$$SOC_{p_{ijt}} : FOC_{p_{ijt}}\Omega_{ijt} + V_{ijt}P_{ijt}d\Omega_{ijt}/dp_{ijt}$$

The derivative of  $\Omega_{ijt}$  is as follows:

$$\begin{aligned} d\Omega_{ijt}/dp_{ijt} &= \nu_{2ij}2\alpha_{2i} + \sum_E ((-dP^E/dp_{ijt})(2\gamma^E(p_{ijt} - p_{ijt}^E)) + (1 - P_{ijt}^E)2\gamma^E) \\ &= \nu_{2ij}2\alpha_{2i} + \sum_E ((-P^E(1 - P_{ijt}^E))(2\gamma^E(p_{ijt} - p_{ijt}^E))^2 + (1 - P_{ijt}^E)2\gamma^E) \\ &= \nu_{2ij}2\alpha_{2i} + \sum_E (1 - P_{ijt}^E) ((-P_{ijt}^E)(2\gamma^E(p_{ijt} - p_{ijt}^E))^2 + 2\gamma^E) \end{aligned}$$

Sufficient for a unique solution is  $SOC_{p_{ijt}} < 0$  which occurs when  $d\Omega_{ijt}/dp_{ijt} < 0$ . Sufficient

for  $d\Omega_{ijt}/dp_{ijt} < 0$  is  $\nu_{2ij}2\alpha_{2i} \leq 0$  &  $2\gamma^E < 0$ .<sup>21</sup> Sufficient for this is when simultaneously:  $\nu_{2ij} \geq 0$ ,  $\alpha_{2i} \leq 0$ , and for both elections  $E$ , and  $\gamma^E < 0$ . □

### A.3 Additional Results

Table 7: Vote Share Regressions with District FE

DV: Diff. in Log Shares with Absent.	General	D Primary	R Primary
Can-Voter Policy Gap	-0.6123*** (0.1410)	-0.1754* (0.0781)	-0.4350*** (0.1292)
Can Com. Assignment	0.0784 (0.0614)	0.1193 (0.1619)	-0.0273 (0.1460)
Incumbent	33.2983*** (4.3828)	-48.8328*** (11.3370)	29.3193** (9.5546)
Lagged Repub. Pres. Votes	-0.7833*** (0.2342)	-1.8579*** (0.4046)	0.6999* (0.3416)
Republican Party	-2.3591*** (0.5973)		
Incumbent Lagged Votes	-0.0309 (0.0330)	0.0722 (0.0661)	-0.1277 (0.0703)
Number of Senate Candidate Running	0.0014 (0.0008)	0.0048* (0.0022)	0.0057** (0.0019)
Governor Same Party	-0.0104 (0.0106)	-0.0117 (0.0337)	-0.1241*** (0.0297)
Cook's Competitiveness	-0.0501*** (0.0093)	0.0646*** (0.0132)	-0.0375*** (0.0106)
Observations	6573	3991	4087
$R^2$	0.794	0.530	0.656
District & Year Fixed Effects	yes	yes	yes
Demographics & Interactions	yes	yes	yes

Robust standard errors in parentheses; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . The dependent variable is the log ratio of the candidate vote share and the absentee share. "Demographics & Interactions" are select interactions of incumbent/party with age, high school graduation rate, race, and sex.

<sup>21</sup>Note that weaker conditions exist but depend on the magnitude of  $P_{ijt}^E$ .



Table 8: Committee Regressions with District FE

Party/Stage Dependent Variable	Dem 2nd Com. Quality	Rep 2nd Com. Quality
Others' Committees	-33.7466 (22.0407)	-59.1232 (32.4653)
Incumbent Position	-0.3197* (0.1569)	0.7442*** (0.2209)
Incumbent Position × Incumbent Position	-1.1116* (0.4898)	-2.4576*** (0.6998)
Rural District	-0.0188** (0.0069)	0.0011 (0.0028)
Incumbent Lagged Votes	0.0034 (0.0091)	-0.0197* (0.0098)
Rep. House Control	-0.4739 (0.3000)	0.3784 (0.2067)
Constant	29.6291 (18.8225)	50.7474 (27.4587)
Observations	1504	1628
$R^2$	0.805	0.846
District & Year Fixed Effects	yes	yes

Robust standard errors in parentheses; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . "Com. Quality" refers to the average congressional committee assignment quality the member receives prior to the election, defined by the average tenure length. "Others' Com." is the mean quality of other members' committees per party.