Incumbent Strategy with Endogenous Valuations and Party Discipline

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Abstract

Candidates running for election may not choose policy positions to solely maximize their chances of winning. We study one possible reason for this: a value associated with winning that is influenced by policy and congressional committee assignments, where the latter are also affected by policy. This value affects how the party can discipline candidates by influencing them beyond just aiding in their re-election. We construct and estimate a novel model that captures the importance of policy, congressional committees, and endogenous valuations. We consider counterfactual analysis on how the party can use committees to influence members of Congress. We find that committee assignment quality increases the value of winning whereas policy positions have mixed effects. Overall, valuations and committee assignments are moderating forces on incumbents.

Keywords: Elections, Party Discipline, Polarization

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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 reelection (Mayhew 1974). But do they in fact choose policies that maximize their probability of winning? Potential tensions arise when maximizing that probability conflicts with party leaders' perceptions of the optimal policy for the party. Leaders have an incentive to discipline members not to deviate from that optimum more than necessary. 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. If these assignments are conditioned on party loyalty through policy choices, then the incumbent's optimal strategy in an election 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 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, which tells us how much the 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 are 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, but they are influential on the valuation. Finally, assuming that valuations are unaffected by policy or committees biases predictions of candidate behavior.

This paper is related to the work on candidate objectives and the value of holding office (Patty

2002; Diermeier, Keane, and Merlo 2005; Ansolabehere 2006). Our work also relates 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; Curry and Lee 2020; Canen et al. 2021). Curto-Grau and Zudenkova (2018) study party discipline and how candidates are incentivized to follow the party based on discretionary spending in their district.[1] We parallel them by studying congressional committees. While they consider the party leadership's choice and test predictions from the model, we endogenize the value of holding office and estimate the model to conduct counterfactual analysis.[2]

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.[3] 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 electoral channels.

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.

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

[2]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 the voter beliefs of candidate quality and the joint strategy of challengers and incumbents. They find that challengers moderate 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 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.

[3]Similarly, Crisp, Escobar-Lemmon, Jones, Jones, and Taylor-Robinson (2009) study how career decisions of legislators affect committees in Central and South American countries.

2 Model

2.1 Incumbent Policy

We present a model of an incumbent in district i choosing their (left to right) policy/position $p_i \in [-1, 1]$. Their objective is to maximize their chance of winning re-election $P_i \in [0, 1]$ weighted by the value they associate with winning $V_i \geq 0$.[4] The incumbent also receives a congressional committee allotment of quality $c_i \geq 0$. This is a function of policy $c_i(p_i)$, which we formalize in section 2.2. Both policy and committee affect their re-election chances and their valuation. We solve for P_i with a voter discrete choice model in both the primary and general elections, detailed in section 2.3.

$$\max_{p_i} V_i(p_i, c_i(p_i)) P_i(p_i, c_i(p_i)) \tag{1}$$

The incumbent's valuation only influences the optimal policy if there is some benefit to picking a position that is suboptimal for maximizing P_i. 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.[5] We consider an endogenous valuation, meaning it is a function of the incumbent's choice. 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.

2.2 Committee Assignment

The incumbent internalizes how their policy choice affects their relationship with the party leadership. From a single incumbent's perspective, we can express the committee they receive using a simultaneous equations model. The committee assignment for i is influenced by their own policy through the function $f(p_i)$, the assignments of other members through a function $g(c_{-i})$, exoge-

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[4]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.

[5]Alternatively, one could allow the incumbent to have an ideal point independent of P_i, 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.

nous incumbent characteristics X_i, and unobservable μ_i.

$$c_i = f(p_i) + g(c_{-i}) + X_i\beta + \mu_i \tag{2}$$

This captures how policy influences a committee assignment via party discipline and how committee assignments are implicitly correlated across all members. Writing c_i as a function of these inputs can be derived from a party leadership's committee allocation problem.[6]

2.3 Election

Let there be voters j for a given district primary or general election $E \in \{P, G\}$. The utility from choosing candidate i is a function of mean utility $u_i^E(p_i, c_i)$, candidate noise ξ_i^E, and individual noise ε_{ij}^E, where abstaining gives zero mean utility: $U_{ij}^E = u_i^E + \xi_i^E + \varepsilon_{ij}^E$.

The voter chooses the candidate who gives them the highest utility. Allowing ε_{ij}^E to be distributed iid Type 1 Extreme Value, the probability of j voting for i is a multinomial logistic function (Train 2009). With a large number of voters, the share of votes can be expressed as equation (3), where N^E is the set of candidates in each election. The candidate with the highest share wins.

$$s_i^E = \frac{\exp(u_i^E + \xi_i^E)}{1 + \sum_{j \in N^E} \exp(u_j^E + \xi_j^E)} \tag{3}$$

Next, candidates may be uncertain about how voters perceive them (Cox 2022); let ξ_i^E be distributed iid Type 1 Extreme Value with mean ψ_i^E and variance σ^E. Then the probability of winning election E can be written as $P_i^E = \frac{\exp((u_i^E + \psi_i^E)/\sigma^E)}{\sum_{j \in N^E} \exp((u_j^E + \psi_j^E)/\sigma^E)}$. 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): $P_i(p_i, c_i) = P_i^P \cdot P_i^G$.

The candidate must balance their position between the primary and general as the voters likely differ. They also have a trade-off between appeasing voters and the party through $c_i(p_i)$, and more fundamentally, the candidate balances their valuation and their re-election chances. In competitive

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[6]Each party $g \in \{D, R\}$ is constrained: $\sum_{i \in N_g} c_i \leq D_g$, where N_g are the districts with a g party incumbent and D_g is the party's given committee assignment allocation. There may be additional political variables X_i that affect seat assignment, captured with an implicit cost function $C(X_i, c_i)$. Then party g's program is: $\max_{c_i \forall i \in N_g} \sum_{i \in N_g} (P_i(p_i, c_i) - C(X_i, c_i))$ $s.t.$ $\sum_{i \in N_g} c_i \leq D_g$. If one writes out a reduced form "best response" of c_i to c_{-i}, it will be a function of c_{-i}, X_i, p_i, election variables, and unobserved constraint noise.

seats, incumbents are at risk due to pressure from general election voters. Incumbents in safe seats have primary election pressure. The extent to which the party leadership can influence the incumbent is a function of these risks and the incumbent's valuation.

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. 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 like voting record partisanship in Congress, and is available for incumbents and challengers.

We capture voter preferences using lagged presidential election results in both the general and primary elections, following the method from Cox and Shapiro (2022). For the general election they use Presidential general election results. For the primary election they weight the Presidential primary results with the ideology scores of each candidate.

Finally, we acquire the list of congressional committee assignments from Charles Stewart's database. We define our measure of seat importance similar to Stewart III and Groseclose (1999), based on the tenure length of each committee they served on and averaged across all committees per member prior to the election. This captures the desirability/quality of the committee.

The party leadership cares about voters nationwide and candidates focus on their districts' preferences. Parties may rewards members who are closely aligned with valuable committees. Figure 1 shows the relationship between the candidate's position and the quality of their committee assignments. Generally, the more moderate incumbents have higher quality positions.

Figure 1: Position & Committee Relationship
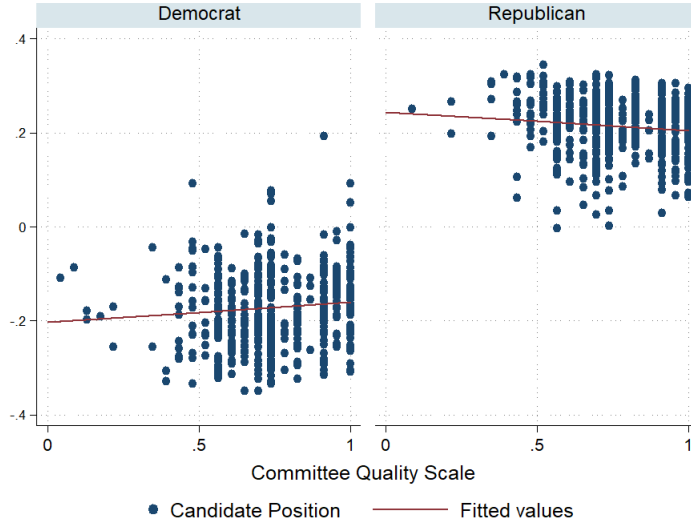
This plots the relationship between candidate position and quality of congressional committee assignment for both parties.

4 Estimation

The first step is to estimate the vote share as a function of policy and committee assignment. The second step is to estimate the committee assignment as a function of policy. The third step is to estimate the valuation as a function of policy and assignment, which is based on candidate's optimization and the previous two steps.

4.1 Voter Preferences

To estimate the voter preferences, we construct a linear regression based on the share of votes from the general and primary elections. We write the mean utility from voting for candidate i in election E (primary or general) as $u_i^E = \gamma^E (p_i^E - p_i)^2 + \delta^E c_i + X_i^E \beta^E$. The term γ^E is the penalty voters places on candidate deviating from their ideal p_i^E. The term δ^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

covariates X_i^E contain district and candidate variables.[7] To isolate this from the utilities of voting for other candidates, we calculate the log ratio of vote share to absenteeism $\ln(s_i^E/s_i^{E_0})$. We then regress this on the squared policy gap and committee assignments, controlling for district and candidate level factors.[8] The term ξ_i^E is district-candidate specific noise.

$$\ln(s_i^E/s_i^{E_0}) = \gamma^E(p_i^E - p_i)^2 + \delta^E c_i + X_i^E \beta^E + \xi_i^E \tag{4}$$

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.[9]

4.2 Committee Assignment

To estimate the effects of policy on committee assignments, we have to deal with the simultaneity of others' assignments. Since we cannot identify an effect of each c_{-i}, we let $g(c_{-i}) = (1/N^h)\sum_{j \in N^h \setminus \{i\}} c_j$, denoted with $\bar{c}_{-i}$, where N^h is the set of incumbents in each party $h \in \{D, R\}$. We allow for non-linearity in p_i with the quadratic term and include controls X_i^C.[10] We estimate the equation below per party with two-stage least squares, and our first stage equation is $\bar{c}_{-i} = \pi_1 p_i + \pi(p_i)^2 + \pi_3 Z_i + X_i^C \rho + w_i$. We use lagged committee quality, averaged across $j \neq i$ in a given election cycle, as the instrument Z_i.

$$c_i = \alpha_1 p_i + \alpha_2(p_i)^2 + \alpha_3 \bar{c}_{-i} + X_i^C \eta + u_i \tag{5}$$

Note that (p_{-i}, X_{-i}) are excluded from c_j conditional on c_{-i}. As a consequence, the exogenous

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[7]This setup has similarities to Cox and Shapiro (2022), but we deviate by focusing on policy rather than spending. When estimating effects of policy on vote share, we want to incorporate how policy can help things like election fundraising, not just how conditional on spending, policy affects voters. To incorporate that, one would want to regress vote share on policy, not including spending. That way, intuitively, spending is acknowledged as a function of policy, and we are identifying the unconditional effects of policy on votes.

[8]The covariates X_i^E include incumbency, lagged presidential votes, party, lagged incumbent votes, # of senate candidates, if the governor is the same party, Cook's competitiveness ratings, year fixed effects, and select interactions of incumbent/party with age, high-school graduation rate, race, and sex.

[9]We normalize $\sigma^E = 1$ and let $\psi_i^E = \hat{\xi}_i^E$. Estimating them would require more polling data, which is not available for many House races in the general election and unavailable for most primaries.

[10]These are lagged committee quality, lagged general election votes, House party control, and rural district dummy.

covariates X_j of other incumbents influence c_{-i} but are unrelated to one's own assignment beyond c_{-i}. The logic of this instrument has been used in the demand literature (Berry and Haile 2021) and in the context of opponent characteristics in elections (Iarcyzower, Kim, and Montero 2022).

4.3 Candidate Valuation

Finally we estimate the incumbent's policy stage. They care about winning but differentially based on the utility they receive from their valuation, which we parameterize as $V_i = \exp(\nu_1 p_i + \nu_2 c_i(p_i))$. We estimate the valuation parameters by fitting the observed candidate positions to the model predictions. We solve for equilibrium positions in the model p_i^* for a given parameter value V_0, compare it to observed positions p_i^{obs}, and then iterate to minimize the nonlinear least squares objective below. Inference is by bootstrap; we evaluate P_i and c_i at each $p_i^*(\nu)$ using parameters estimated from vote share and committee regressions per bootstrap sample. We estimate district specific parameters per party.

$$\min_{\nu} \sum_i (p_i^{obs} - p_i^*(\nu))^2 \quad s.t. \quad p_i^*(\nu) = \arg\max_{p_i} V_i(p_i, c_i(p_i)|\nu) P_i(p_i, c_i(p_i)) \tag{6}$$

The valuation parameters are identified off the variation in 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_i. The gap between that and their chosen policy informs us of their implicit valuation.

5 Results

5.1 Parameter Estimates

Table 1 show the vote share results for the primary and general elections. We find that deviations from voter preferences are negatively correlated with election chances; extremism hurts in the general and helps in the primary. We find that congressional committee quality slightly helps in the general election, but the effect is smaller and noisier than policy. Table 2 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.

Table 1: Vote Share Regressions

DV: Diff. in Log Shares with Absent.	General	R Primary	D Primary
Can-Voter Policy Gap	-0.4439***	-0.2561**	-0.0725
	(0.0389)	(0.0990)	(0.0678)
Committee Assignment Quality	0.1045	0.0354	-0.0003
	(0.0689)	(0.1234)	(0.1299)
Incumbent Indicator	32.7800***	35.3437***	-60.8749***
	(4.7758)	(9.7518)	(10.6153)
Lagged Repub. Pres. Votes	-0.0663	2.0989***	-1.8895***
	(0.1629)	(0.2565)	(0.2641)
Republican Party	-2.4797***		
	(0.7378)		
Incumbent Lagged Votes	-0.1403***	-0.2614***	-0.0645
	(0.0379)	(0.0742)	(0.0661)
# Senate Candidate Running	0.0013	0.0054**	0.0059*
	(0.0010)	(0.0020)	(0.0023)
Governor Same Party	-0.0118	-0.1186***	-0.0153
	(0.0126)	(0.0347)	(0.0353)
Cook's Competitiveness Ratings	-0.0451***	-0.0244*	0.0787***
	(0.0106)	(0.0105)	(0.0105)
Observations	6573	4087	3991
R^2	0.703	0.550	0.443
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.

We estimate the valuation parameters for every district per party. Bootstrapped 95% confidence intervals are in brackets. The mean of Republican ν_1 is 0.5391 [-0.3255, 0.6400] and the ν_2 mean is 2.7807 [2.0436, 3.2177]. While more extreme policy slightly (and noisily) 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 decrease valuations. This is a consequence of matching observed positions to the model, where most incumbents have moderate positions. For Democrats, their mean ν_1 is 0.0094 [-0.0473, 0.0577] and the ν_2 mean is 1.5903 [-0.1370, 1.8203]. Since most Democratic positions

Table 2: Committee Regressions

	Dem 1st Others' Com.	Dem 2nd Com. Quality	Rep 1st Others' Com.	Rep 2nd 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

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.

are to the left of zero, the positive ν_1 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).

We find similar heterogeneity in valuation parameters and equilibrium valuations (see Appendix Figure 5 for the latter), as both distributions have positive skewness. Incumbents with very high equilibrium valuations have positions more closely aligned with the 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 the 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.

A major source of party weakness is the free-riding problem by individual members; they may

not internalize the risk of their decisions on the party as a whole. Incumbents choose policy to maximize their own payoff, which is a function of their own valuation and win probability. The may not consider the effects of their policy choice on other districts, others' committee assignments, and the leadership's goals. The candidate internalizes the risk of going along with the party in as much 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 ν_2 as the marginal influence of the committee assignment means the incumbent is willing to sacrifice some win probability to substantially increase their valuation.[11]

5.2   Model Fit and Counterfactuals

Beyond the R^2 of the voter and committee regressions, we can check the fit of model's position prediction. We solve the model at the estimated parameters; the conditions for existence and uniqueness of an optimal position choice can be checked at the estimated values.[12] For Republicans, the mean position in the data is 0.2146 and the model mean is 0.2104. Their correlation coefficient is 0.8093. For Democrats, the data mean is -0.1709 and the model mean is -0.1724, with a fit of 0.7613. The Republican (Democrat) median in the data is 0.2275 (-0.1783) and the model median is 0.2139 (-0.1752). Appendix Figure 4 shows their overlapping distributions.

We find that ignoring valuations decreases the fit of the model, as the correlation with the data for Republicans (Democrats) decreases to 0.2930 (0.1085). Thus exogenous valuations cannot explain the observed positions adequately. This also leads to a Republican (Democratic) mean change in position of 0.1360 (-0.1428).[13] 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 to extremism are largely just increased support in primaries.

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 af-

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[11]Incumbents with a low ν_1 are naturally inclined to align with the leadership so there is less need for discipline.

[12]There are multiple critical points: for Republicans, there is an asymptotic global minimum for positions left of 0 approaching -1. There is a single maximum between 0 and 1 (in most cases) and there is an asymptotic local minimum at 1. The results for Democrats are (in most cases) symmetric.

[13]See Appendix Figure 6 for the distribution of position changes per party.

fects the general election, primary election, and valuation, and indirectly affects all three stages through committee assignments.[14] We test two counterfactuals for changing the efficacy of party discipline via positions and committees. For each counterfactual, the full set of statistics are displayed in Appendix Table 3. 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 valuations by doubling ν_2. This leads to a Republican counterfactual mean of 0.1910 [0.1412, 0.2379], which represents a mean -0.0194 point change. The effect is similar but noisier for Democrats, with a new counterfactual mean of -0.1639 [-0.3333, 0.2869], representing a 0.0085 point change. Recall that moderation is when a Republican position goes down and a Democratic position goes up. See Figure 2 for the distribution of changes per party. Republicans (Democrats) moderate by an average of 6% (1%) with large variances. Since the party rewards moderation through committees, their increased return makes sacrificing primary election win probability worthwhile.[15]

Second, we suppose the party can commit to stricter discipline in assigning committees, incorporated as doubling the quadratic term a_2 in the assignment function. This leads to a Republican (Democratic) counterfactual mean of 0.1111 [0.1060, 0.1286] (-0.1137 [-0.3865, 0.1192]), which represents a mean -0.0993 (0.0587) absolute change. The imprecise effects for Democrats across both counterfactuals are due to their noisy valuation parameter estimates. See Figure 3 for the distribution of changes per party. The large moderating effects (47% more moderate for Republicans and 33% for Democrats) are due to the valuation benefits ν_2 of committees. The electoral benefits are small and ignoring valuations attenuate the counterfactual results.

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[14]We take challenger decisions, such as policy and entry, as given. All candidates are incentivized to appease voters, and thus the equilibrium 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.

[15]There is variation in how much voters benefit from this change, with very little change in general election voter utility; see Appendix Figure 7 for the distribution.

Figure 2: Counterfactual Change in Positions From More Valuable Committees
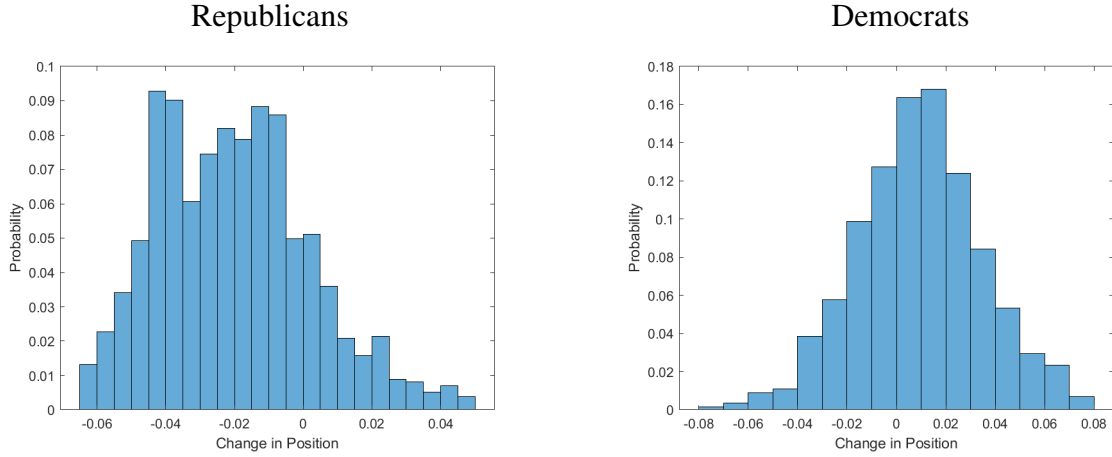
The left (right) graph shows Republican (Democratic) distributions for change in positions from the counterfactual of valuations being more affected by committee quality.

Figure 3: Counterfactual Change in Positions From Stronger Discipline
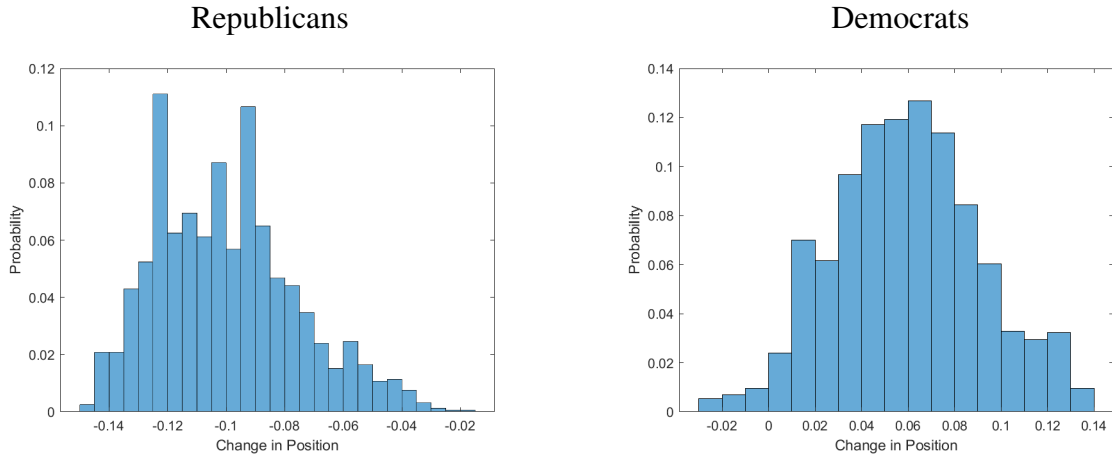
The left (right) graph shows Republican (Democratic) distributions for change in positions from the counterfactual of party discipline being stricter in regards to assigning committees based on policy.

6   Concluding Remarks

In this paper we empirically studied incumbent positioning with a theoretical foundation. We incorporated primary and general election pressure, allowed for party discipline via congressional committee assignments, and let the incumbent have an endogenous value to 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 litera-

ture 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.

Our findings also indicate that party leadership is a possible moderating force for incumbents, but they have 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 moderate. We do not explicitly study other disciplining 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.

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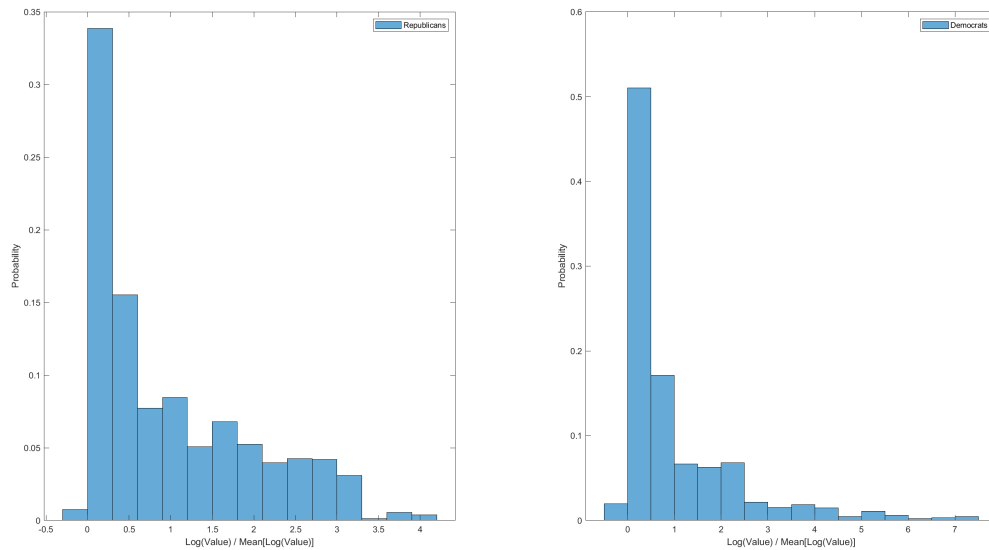
A Appendix

## A.1 Additional Figures and Tables

Figure 4: Model Fit
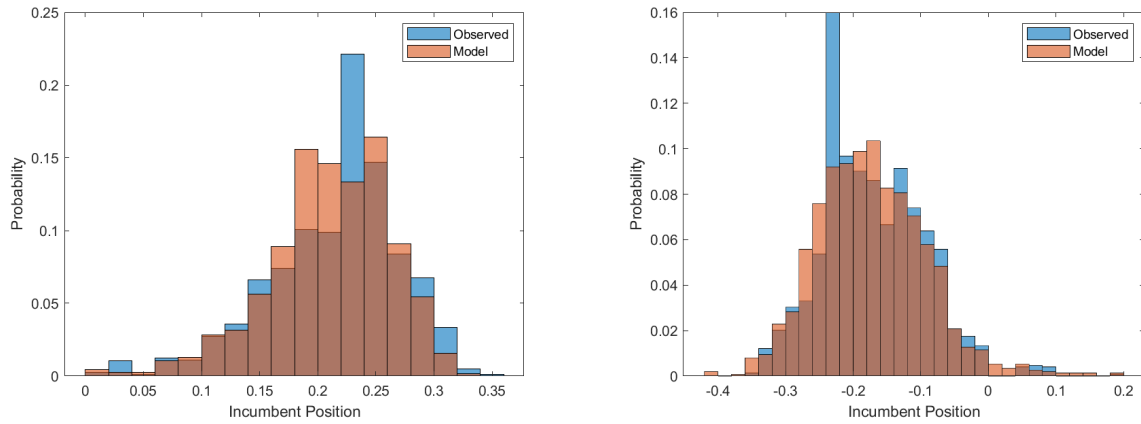
The left (right) graph shows Republican (Democratic) distributions for observed and model predicted policy positions.

Figure 5: Valuations at Observed Positions

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

Figure 6: Change in Position with Exogenous Valuations
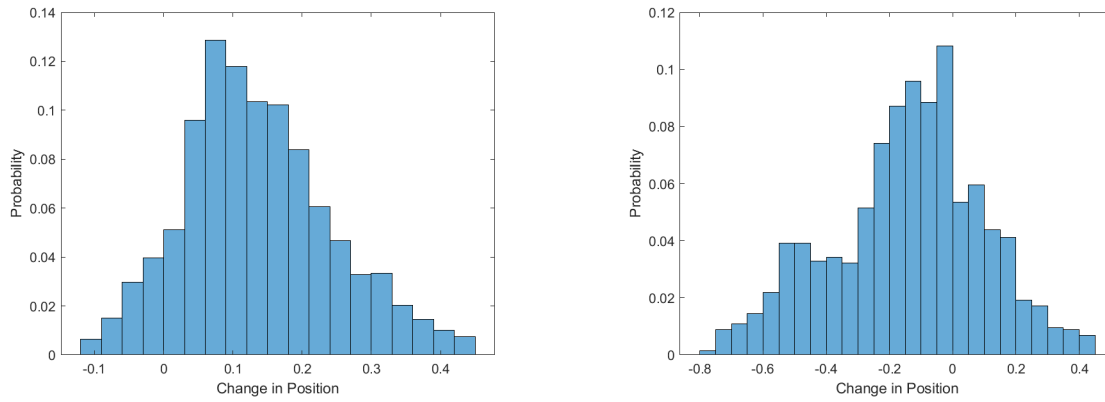
The left (right) graph shows Republican (Democratic) distributions for change in positions from exogenous valuations.

Figure 7: Percent Change in Voter Utility from Valuation Counterfactual
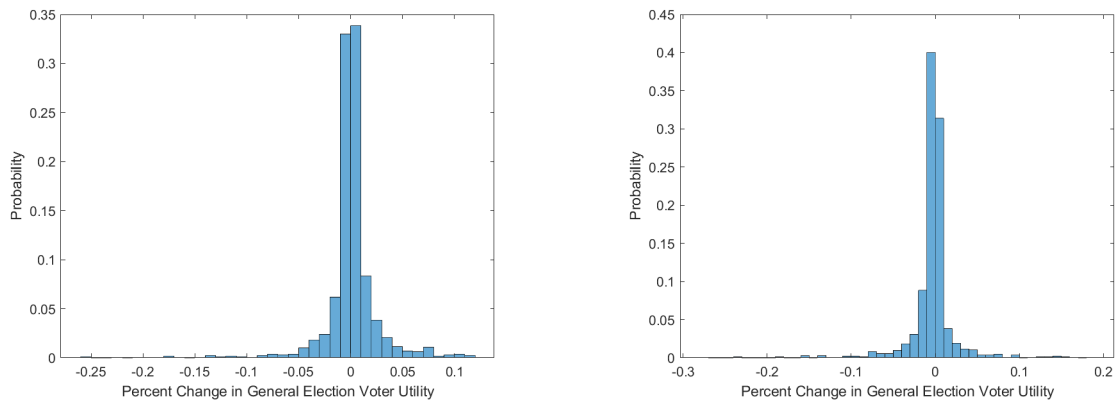
The left (right) graph shows Republican (Democratic) distributions for % change in general election voter utility from the counterfactual of valuations being more affected by committee quality.

Table 3: Data, Model, and Counterfactual Statistics

Variable	Mean	Confidence Interval
Rep data mean	0.2146	
Rep data median	0.2275	
Rep model mean	0.2104	[0.2000, 0.2362]
Rep model median	0.2139	[0.2059, 0.2390]
Rep Correlation	0.8093	[0.4914, 0.8388]
Dem data mean	-0.1709	
Dem data median	-0.1783	
Dem model mean	-0.1724	[-0.3662, 0.1223]
Dem model median	-0.1752	[-0.2701, -0.1014]
Dem Correlation	0.7613	[0.0426, 0.8088]

CF: Increase ν_2 (More Valuable Committees)

Variable	Mean	Confidence Interval
Rep mean	0.1910	[0.1412, 0.2379]
Rep median	0.1929	[0.1436, 0.2491]
Rep change	-0.0194	[-0.0306, 0.0163]
Rep % change	-0.0621	[-0.3619, 0.4577]
Dem mean	-0.1639	[-0.3333, 0.2869]
Dem median	-0.1641	[-0.2808, -0.0319]
Dem change	0.0085	[-0.0316, 0.2454]
Dem % change	0.0088	[-0.3714, 1.8308]

CF: Increase a_2 (Stronger Discipline)

Variable	Mean	Confidence Interval
Rep mean	0.1111	[0.1060, 0.1286]
Rep median	0.1127	[0.1079, 0.1266]
Rep change	-0.0993	[-0.1080, -0.0630]
Rep % change	-0.4715	[-0.4813, -0.4110]
Dem mean	-0.1137	[-0.3865, 0.1192]
Dem median	-0.1111	[-0.2369, -0.0687]
Dem change	0.0587	[-0.0412, 0.0709]
Dem % change	-0.3437	[-0.4295, 0.6732]

This shows statistics for the data, model, and counterfactuals (CF). The correlation is between the data and the model prediction. The "change" is the change in position between the model and counterfactual. Confidence intervals are 95% percentile-bootstrapped. "Increase ν_2 is the counterfactual of valuations being more affected by committee quality. "Increase a_2" is the counterfactual of party discipline being stricter in regards to assigning committees based on policy.