The Quality of District Representation in U.S. House Committees

Josh M. Ryan*
Department of Political Science
Utah State University

Abstract

How well do members of the House adhere to the preferences of their constituents within standing committees? Roll call voting behavior on the floor largely reflects district preferences, but voting in committees is not easily monitored by constituents. This may allow legislators to disregard constituent preferences without suffering electoral consequences. I use a dataset of individual committee votes to create Optimal Classification scores for legislators within committee-congresses. Two-way fixed effects estimates and a redistricting natural experiment show that members of the House are largely responsive to district preferences, but the quality of representation declines over time as the district changes. Representation quality is also conditioned by committee heterogeneity and electoral security. In committees where jurisdictional complexity is high and party preferences are outlying, legislators' voting records diverge from the preferences of their district, though low incumbent vote share strengthens the relationship between district preferences and committee voting.
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*Department of Political Science, Utah State University, 0725 Old Main Hill, Logan, UT 84322. josh.ryan@usu.edu. I thank Ryan Bell for helping collect and format the committee votes data, and Gary Jacobson for sharing his House elections data. I also thank Carlos Algara, Josh McCrain, James Lo, Greg Goelzhauser, Michael Touchton, Jim Curry, Jon Rogowski, Adam Dynes, Zoe Nemerever, Kevin Grier, Joel Sievert, Kevin Banda, Frank Thames, and other seminar participants at Texas Tech University for their feedback and suggestions.

In republican government, elections should ensure legislators behave in ways that reflect their constituents' preferences (Downs 1957; Madison 1961; Mayhew 1974). While there is substantial evidence that House members are (mostly) faithful agents on visible legislative activities like floor voting, much of the recent representation literature explores the limits of the electoral connection as members of Congress may be less responsive when voters cannot monitor their behavior. This work also suggests legislators are unable or unwilling to adjust their voting behavior as their district's preferences shift over time, suggesting that voters "elect, rather than affect" policy outcomes (Lee, Moretti and Butler 2004, 807).

The consequences of greater representational slack may be to encourage representatives to behave as Burkean trustees, especially for issues on which their party has outlying preferences or for which legislators have policy-based expertise. The result may be more competent, though potentially less responsive, legislative outcomes. Alternatively, and less normatively appealing, reduced monitoring may empower individual legislators, interest groups, or parties to produce policy that is inconsistent with voter preferences.

Standing committees offer an ideal institutional setting in which to test the quality of congressional representation in a low visibility environment. Committees are at the center of legislative creation and bureaucratic oversight, but do not attract the same level of public attention as floor activity. Even recent omnibus legislative vehicles constructed by the party leadership are largely composed of text taken from bills written in committee (Wilkerson, Smith and Stramp 2015).[1] Member behavior within committees is not easily observed, and quantifiable measures of responsiveness, such as recorded votes, are not readily obtainable. This would seem to give members significant autonomy, allowing them to cast votes or take positions that might otherwise damage their reputations with constituents.[2] If legislative behavior at the committee stage is inconsistent with district preferences, subsequent floor action may have little more than symbolic value.

[1] In the 117th Congress, the Democratic leadership planned on bringing a reconciliation bill to the floor which encompassed the Biden Administration's policy priorities. The language in this reconciliation bill was largely developed in five committees. See, "House panels begin writing the $3.5 trillion social policy and climate bill," *The New York Times*, Sept. 9, 2021, https://www.nytimes.com/2021/09/09/us/politics/house-climate-bill.html.

[2] As evidence for this, vote switching is common when public scrutiny increases (Hamm 1982; Odom, Norris and Meyer 2018)

To determine how representative members of Congress are in committees, I use an original dataset of member-level recorded votes within committees to create Optimal Classification (OC) scores as a measure of legislator ideology. The identification strategies are two-way fixed effects and a redistricting natural experiment. The results show, consistent with evidence from floor voting, legislator-district congruence occurs when legislators are first elected, but legislators are not responsive to district changes. Further, legislators who represent moderate districts but serve on committees which induce extreme partisan and information-based preferences produce roll call voting records which diverge from their district's preferences. However, legislators are more responsive to district preferences when their electoral prospects are more tenuous.

These findings inform current debates about making the legislative process more visible to constituents. During periods of congressional polarization in which legislators are electorally punished for insufficient extremity, reduced voter oversight may encourage compromise. The House Modernization Committee, reauthorized through the 117th Congress (2021-2023), has proposed creating an easily accessible online database of all committee roll call votes.[3] Critics suggest that this will only further polarization within the institution because legislators will change their behavior if they are closely monitored (see Harden and Kirkland 2021 for a summary of this argument). The results here demonstrate that legislators' voting behavior in committees is similar to their floor behavior, suggesting that increased committee transparency will have only limited effects.

Roll Call Voting and District Representation

Theories of representation in two-party plurality elections suggests electoral competition incentivizes legislators' to set their roll call voting ideal point at the ideal point of the voter (Downs 1957).[4] There are two mechanisms that ensure electoral-based constraints on floor voting. First, members of Congress *believe* their actions are closely monitored by their constituents. Fenno (1978) observes that legislators do not know *ex ante* which votes will be

[3]Select Committee on the Modernization of Congress, "Recommendations," at https://modernizecongress.house.gov/recommendations.

[4]In equilibrium both legislators should set their ideal point at that of the voter, but in practice this may not occur for a variety of reasons.

important to constituents, leading them to exercise caution when considering potentially controversial issues. Similarly, Matthews and Stimson (1975) find that legislators are cognizant of the risk their voting record might be used against them, while surveys of Representatives show that they carefully weigh information from a variety of sources to help make an informed roll call decision (Kingdon 1973; Sullivan et al. 1993).

Second, voters mete out electoral punishment if members are incongruent or unresponsive. Legislators' district reputations decline as their roll call voting behavior diverges from the preferences of their constituents (Ansolabehere, Snyder and Stewart 2001; Binder, Maltzman and Sigelman 1998; Erikson 1990; Peskowitz 2017; Shor and Rogowski 2018), resulting in a corresponding decline in vote share (Canes-Wrone, Brady and Cogan 2002; Carson et al. 2010). Even casting "incorrect" votes on a small number of bills results in lower approval (Ansolabehere and Kuriwaki 2020).

The strength of this relationship is conditioned by the extent to which constituents can monitor their representative (Kalt and Zupan 1990). Legislators incur electoral punishment when they cast unpopular votes on high salience issues (Nyhan et al. 2012) but voter constraints decrease when the issue is low salience, unfamiliar to voters, or receives little press coverage (Canes-Wrone and Shotts 2004; Snyder and Stromberg 2010). Votes taken within committees seem to offer members the opportunity to drift from voter preferences while (potentially) avoiding electoral sanction (Hall and Wayman 1990). Thus, within the context of the institutionalized committee system, it is unclear whether legislators anticipate voter preferences and make decisions based on those preferences, as theories of congressional representation suggest (Arnold 1990).

Committee-Based Influences on Legislator Roll Call Voting

Parties and information-induced preferences are two additional committee-based influences external to the legislator-voter relationship that affect member voting (Kingdon 1989), and because committee activity and roll call votes are not easily accessible to the public, legislators may weight these factors heavily. Other influences on roll call voting exist (e.g., legislator socio-economic characteristics, Carnes 2013), but I am concerned with representation within

and across committees, and focus on the effects of committee-based heterogeneity.[5]

Parties use inducements and punishments to encourage members to vote the party's position in an effort to enforce collective action (Cox and McCubbins 1993). For example, parties may reward or punish legislators using committee assignments or campaign finance money (Cann 2008; Grimmer and Powell 2013). Parties will use similar strategies to influence legislator voting at the committee level, as they exploit the committee system to exert agenda control and prevent internally divisive votes on the floor (Cox and McCubbins 2005). Jones (1961), in his study of the Agriculture Committee during the "textbook" post-war congressional period, finds party preferences play an important conditioning role on legislator committee roll call voting behavior.

The committee system allows legislators to specialize in issue areas, minimize uncertainty, and produce competent policy (Cooper 1970; Fenno 1973; Gilligan and Krehbiel 1990; Kingdon 1973; Krehbiel 1991). Legislators incorporate policy-based information into their beliefs, and greater expertise changes their voting and position-taking behavior (Fong 2020; Zelizer 2018). As a result, legislators may substitute their own policy preferences developed from information acquired on committees in place of constituent preferences, consistent with Burkean trustee representation (Burke 1986; Howell, Jackman and Rogowski 2013).

There is substantial evidence that while legislators represent districts well when first elected, they are unwilling or unable to change their behavior over time, and the quality of representation degrades as the district changes (Lo 2013; Poole and Rosenthal 2007). This is due, in part, to members acquiring expertise and using their own policy beliefs to guide their roll call voting decisions (Bianco, Spence and Wilkerson 1996; Kau and Rubin 1993; Lindstadt and Vander Wielen 2011).

These three competing pressures—voters, parties, and committee-based policy information—influence legislator roll call voting records.[6] Because constituents are less able to monitor within-committee voting, members may develop roll call voting records which maximize

[5]The estimation strategy also controls for factors at the legislator-level.

[6]Interest groups are also a possible factor, but these groups are usually characterized as subsidizing information acquisition (Hall and Deardorff 2006; Moncrief and Thompson 2001), and as a result, I fold their influence into that category. Their exclusion does not affect the inferences drawn from the theory though explicitly incorporating interest groups presents an interesting avenue for future research.

benefits from their party or minimize policy uncertainty and produce what the legislator views as optimal policy.

Committee Roll Call Voting Behavior

To determine whether legislators' voting behavior in committees reflects district preferences, I develop a model in which a legislator seeks to maximize utility from their roll call record, accounting for the influence of voters, parties, and policy information. Similar to Lindstadt and Vander Wielen's (2011) "calculus of position taking" and Levitt's (1996) model of senator voting behavior, I assume votes are cast in a one dimensional policy space where legislator $i's$ utility depends on their roll call voting record, ω, and its proximity to the ideal points of other relevant influences: their district median voter, their party, and information induced preferences from committee service. Party preferences represent the ideological location that the party median would like their co-partisans' committee roll call voting record to reflect (Cox and McCubbins 2005).[7] This ideal point varies across committees as the legislator's party may have extreme ideological preferences on one committee (e.g., Rules), and moderate ideological preferences on another committee (e.g., Small Business).

Committee service promotes the revelation of policy information not known to those outside of the committee. Information-induced preferences represent the ideal point a legislator would set their voting record at due exclusively to the private information they acquire from serving on the committee. The effect of information varies across committees due to different levels of jurisdictional complexity. For example, Veterans' Affairs may reveal less policy information than Ways and Means.

Given these influences, legislator i's utility as a result of their roll call voting record is:

$$U_i = -[\gamma|\omega_i - v_i| + \theta|\omega_i - l_j| + (1-\gamma-\theta)|\omega_i - d_j|] \tag{1}$$

where v_i is the ideal point of legislator i's district median voter, l_j is the legislator's ideal point based on information acquisition on committee j, and d_j is the party's ideal point on committee

[7] I assume the party is a unitary actor and the ideal point is that of the party leader.

j. γ and θ represent the relative weights of each factor on the legislator's utility. Both party and information-induced preferences vary by committee, but their influences on ω are constant across legislators on committee j.[8]

Rearranging terms, a legislator's overall voting record (ω) is equal to the weighted average of all three ideal points:

$$\omega_i = \gamma v_i + \theta l_j + (1 - \gamma - \theta) d_j \tag{2}$$

The empirical expectations and data focus on legislator responsiveness and congruence to district preferences, or the extent to which legislators match their voting behavior to their district and change their voting behavior as their district changes. Consistent with the literature on floor voting, a baseline expectation is that legislators, on average, are congruent with their district's median voter. As the location of the median voter (v_i) varies across districts, legislator voting records will reflect that variation. This implies that one of three conditions is true. First, the district median, the legislator's information-based ideal point, and the party's ideal point are approximately equal to each other ($v_i \approx l_j \approx d_j$). If this is true, the legislator will set their voting record at that point and it will reflect their district's preferences. The second possible condition requires that the district median's ideal point is located between the information- and party-based ideal points. If each ideal point is weighted equally by the legislator, they maximize their utility by minimizing the cumulative distance between these ideal points and their roll call voting record (ω), done by setting it to the median ideal point. The last possible condition is that the weights assigned to the party- and information-based ideal points approach zero. If the legislator places zero weight on these two other influences, they set their roll call voting record at the district median's ideal point. Hypothesis 1A specifies this baseline empirical relationship between district ideological preferences and legislator committee voting behavior. In the next sections I relax each of these conditions.

Hypothesis 1A: As district liberalism (conservatism) increases, a legislator's roll call voting record will be increasingly liberal (conservative).

[8]Due to space constraints, I am interested in characterizing average effects across committees (d and l), rather than effects across both committees and legislators (at the ij level). Future research should explore how legislator characteristics interact with committee heterogeneity to produce variation at the legislator-committee level.

There is some evidence that legislators, despite being directionally consistent, produce more ideologically extreme floor roll call records than would be predicted by district extremity (Bafumi and Herron 2010). I test whether this is true in committee voting by hypothesizing that an increase in the extremity of the district median should produce a more extreme legislator voting record relative to other legislators.

Hypothesis 1B: As district extremity increases, a legislator's roll call voting record will be increasingly extreme.

I also test responsiveness by examining legislator-level changes to district-level variation over time. The relative weights of party- or information-based preferences may increase as a legislator gains seniority, reducing congruence between the legislator's roll call voting record and their district preferences. Poole (2007, 435) claims that members "die in their ideological boots," being unwilling or unable to adapt to changes in their district's ideological orientation. For these reasons, as districts change over time, the quality of representation will degrade as ω and v_i diverge.

Hypothesis 1C: As district liberalism (conservatism) changes over time, a legislator's roll call voting record will be less responsive to district ideology.

Incorporating Committee-Based Heterogeneity

I examine committee-induced heterogeneity by allowing information-based (l_j) and party-based (d_j) ideal points to diverge from the district median voter while holding the weights equal to each other at $\gamma = \theta = 1 - \gamma - \theta$ (in the next section I vary the weights assigned to each). In a one dimensional policy space with three competing ideal points (the party's, information-based, and the district voter's), a legislator maximizes their utility by setting their roll call voting record at the median of these three points as it minimizes the total distance between their voting record and each ideal point. If the voter is the median within the policy space, then the legislator simply matches the voter's ideal point. In this situation, even significant divergence by both information-induced preferences and party preferences is irrelevant because the legislator's roll call voting record will reflect the preferences of their district median voter.

For committee-level factors to affect legislator voting behavior, the voter's ideal point must

be exterior to both. For example, assume the ideal point of the party and of the legislator's information-based preference is more conservative than the district median voter. The influence closest to the district median will be the location at which the legislator sets their voting record; the divergence of one ideal point only matters insomuch as the *other* ideal point is closer to the edge of the policy space than the other two ideal points. As one ideal point diverges, it pulls the legislator's voting record away from the ideal point of the voter (until it moves past the other committee-based ideal point).

Even when other factors play a role in determining a legislator's voting record, there are strong incentives for the legislator to vote in a manner consistent with their district. Only when both other influences (information and partisan preferences) pull the legislator away from their median voter will the legislator diverge from their district's preferences, and even then, only to the closer (relative to the district median) influence. Roll call voting which significantly diverges from district preferences requires *both* partisan and information-based preferences to significantly diverge, in the same direction, from what voters want.

To develop hypotheses based on the conditional effects claim, I define conditions in which party and information-based preferences on a committee are likely to be extreme. I use the percentage of committee seats controlled by the majority party as a proxy for the party's latent ideological preference on the committee. Committee seats are distributed to the parties roughly according to their distribution in the chamber, though the majority party typically "stacks" certain committees to protect the party's preferences (Cox and McCubbins 1993; Jackman 2013; Sinclair 1994). Larger majority party sizes pull the committee median toward the party median (Wiseman and Wright 2008) and indicate the majority party has ideologically extreme committee preferences. I expect that as the percentage of seats on a committee increases, the more extreme the party's preference is for that legislative jurisdiction.

To capture heterogeneity in information-induced preferences in legislators across committees, I use a measure of issue-area complexity, the number of staff which serve on committee j in congress t (Olson and Rogowski 2020). Higher staffing levels indicate the committee deals with greater complexity on issues within its jurisdiction and thus reveals more information to a member.

Hypothesis 2A: An increase in the percentage of the committee controlled by the majority party will mitigate the relationship between district liberalism (conservatism) and a legislator's roll call voting record when jurisdictional complexity on the committee is also high.

Hypothesis 2B: An increase in the percentage of the committee controlled by the majority party will mitigate the relationship between district extremity and the extremity of a legislator's roll call voting record when jurisdictional complexity on the committee is also high.

Similarly, committees with high jurisdictional complexity will mitigate the relationship between district ideology and legislator committee voting when party preferences are also outlying. While information complexity is expected to result in divergence from district preferences, there is no theoretical reason to expect information-induced preferences affect legislator extremity.

Hypothesis 2C: An increase in jurisdictional complexity will mitigate the relationship between district liberalism (conservatism) and a legislator's roll call voting record when the percentage of the committee controlled by the majority party on the committee is also high.

Because I do not directly observe party- or information-induced ideal points, I cannot rule out that district voter preferences are never exterior to both. This may occur if *both* ideal points are never extreme, or if district voters are not sufficiently moderate. For example, information-based preferences may make legislators more moderate, or move their preferences in a direction opposite from their party's, which would not produce voting divergence from the district. Theoretically, this is unlikely as party and personal preferences developed from jurisdictional expertise have been shown to be very similar to each other (Krehbiel 1993). Empirically, if party and information based preferences are not extreme relative to the district median voter, there will be no conditioning effect of committee partisanship or jurisdictional complexity on the relationship between district ideology and legislator voting.

Varying Ideal Point Weights

I next relax the restriction that all three roll call voting influences are weighted equally by the legislator. If the weight given to the voter's preference, γ=1, then the weight given to the other two influences, θ and $1-\gamma-\theta$, both equal zero. When this is true, the legislator sets their

roll call voting record at the district median's ($\omega = v_i$), regardless of the location of the other two influences (l_j and d_j). As the weight given to the voter decreases, the legislator's roll call voting record is increasingly affected by the location of information and partisan preferences, and given that the district voter's ideal point is not the median in the policy space, the legislator's roll call voting record will move toward the location of either the partisan or information-based preference, whichever is closer to the voter.

Thus, an increase in the weight given to district i's median voter by legislator i will reduce the level of divergence from the voter even as information and partisan preferences move away from the voter. I measure the weight given to a legislator's district median using the incumbent's vote share in the previous election. As vote share decreases for a legislator, the more they will adhere to the preferences of their constituents. I expect the marginal effect of district partisanship or extremity on roll call voting to be larger when vote share is low.

Hypothesis 3A: An increase in incumbent vote share will weaken the relationship between district liberalism (conservatism) and a legislator's roll call voting record.

Hypothesis 3B: An increase in incumbent vote share will weaken the relationship between district extremity and the extremity of a legislator's roll call voting record.

Measuring Committee Ideology, District Preferences, and Committee Heterogeneity

The dependent variable is a measure of a legislator's committee-congress ideology as captured by their roll call voting record. Previous research has constructed committee- or jurisdiction-specific ideal points using floor votes related to the jurisdiction (Fortunato 2013; Maltzman 1995), but I estimate a legislator's roll call voting record, ω, using a unique dataset of all standing committee roll call votes from the 104th through 114th Congresses. Committee membership is taken from the Stewart committee data (Stewart and Woon 2016). I use the *oc* package in R to produce Optimal Classification (OC) scores from the roll call voting data. These scores are similar to W-NOMINATE scores (Poole and Rosenthal 2007) and are a single-dimension ideological measure ranging from most liberal (-1) to most conservative (one).

The scores are not comparable across congresses or committees because the underlying

ideological dimensions across these settings are not the same. To produce a comparable measure, I find the average OC score for each committee-congress, then develop a z-score for each legislator-committee-congress. As the z-score increases, a legislator is more conservative compared to other members on the committee within the same congress. Some committees may have inherently more partisan agendas than others, but standardizing these scores and including committee fixed effects in the empirical models capture these baseline ideological differences. The result is a one-dimensional measure of relative legislator ideology that can be pooled across committees and congresses.

For robustness checks, I also create party unity scores for legislator i on committee j in congress t using the proportion of times a member votes with their party on roll call votes in which a majority of both parties oppose each other (Carson et al. 2010). These scores measure partisan extremity, where members from more partisan districts should have a higher party unity score.

The key independent variable in the analysis is the difference in the Democratic candidate's in-district presidential vote share from the national average, a commonly used measure of a member's district partisanship (Carson and Engstrom 2005; Carson, Engstrom and Roberts 2006; Erikson and Wright 1980).[9] Legislators observe this value in the election previous to the start of the congressional term and gauge the extent to which their district differs from the country as a whole. Negative values indicate the district was more Republican than the nation, while positive numbers indicate the district was more Democratic. I also take the absolute value as an indicator of district extremity. Figure A1 in the Online Appendix shows a scatter plot of district partisanship and legislator z-score by party, Figure A2 shows the same data by committee, Figure A3 shows the range of OC z-scores by committee and congress, and Figure A4 shows the distribution of district partisanship.

The conditional hypotheses concern committee-based party preferences and jurisdictional complexity. I use the percentage of seats controlled by the majority party on committee j in congress t as a proxy for party preferences on the committee, and the logged number of

[9]District partisanship is not identical to district ideology, but remains the best proxy given data limitations. Tausanovitch and Warshaw have estimated district-level ideology (2013), but the data only vary following a Census, not frequently enough to draw conclusions about congress-to-congress behavior. I plot their measure with the legislator z-scores as a validity check (see Online Appendix Figure A9).

committee staff on committee j in congress t as a proxy for the committee's jurisdictional issue complexity. Both of these measures are exogenous and causally prior to committee votes within a congress. This measure is used rather than the difference between majority party committee control and percentage in the chamber because chamber percentage is controlled for by congress-level fixed effects in the models.

Committees stacked with majority party members are those in which both majority and minority party members are likely to be pressured by their party to pursue outlying policy (though the role of minority party members is to limit policy gains by the majority).[10] Parties make a strategic trade-off as they cannot aggressively stack every committee given limitations on their majority size and the number of committees on which a member may serve (Groseclose 1994). As a result, committees for which the party has strong, outlying preferences will be stacked to a greater extent that committees for which the party has weaker preferences.

In the sample, the share of majority party control ranges from .52 on Science, Space, and Technology in the 106th Congress to .73 on the Rules Committee in the 112th, values consistent with expectations about which committees have moderate and extreme party preferences. Figure A5 in the Online Appendix shows the distribution of proportion of committee controlled by the majority party.

The logged number of committee staff for committee j in congress t is taken from CRS reports. I find the committee average across the two years within a congress; there is a minimum of 28 on the Rules Committee in the 114th Congress, and a maximum of 156 on the Appropriations Committee in the 104th Congress, consistent with expectations about the relative complexity of each committee's jurisdiction. For robustness checks, I also use the raw number of committee staff, and find each committee's percentage of total staff across all committees in congress t, as staff numbers have declined over the years, though these alternative measures do not affect the results. Figure A6 in the Online Appendix shows the distribution of committee staff.

Finally, I use lagged incumbent vote share to measure the weight a legislator places on their

[10]Conversely, while legislators serving in committees with narrow majorities may be pressured to vote the party line, parties avoid placing legislators with moderate constituencies on committees where they will have to be a crucial vote on committee matters.

district median voter (Jacobson 2015). Vote share is matched to the legislator for the election prior to the start of the congress (i.e., 1994 vote share predicts voting in the 104th Congress); it is therefore exogenous to voting within a committee-congress because the legislator observes their vote share before casting a committee roll call vote. Figure A7 in the Online Appendix shows the distribution of lagged incumbent vote share.

Estimation Strategy for Predicting Committee Voting

Because I observe members and districts across time, I measure changes in representation behavior using a two-way fixed effects model. The estimation strategy requires that panel values are unique within time periods (congressional term), which is not the case for legislators because they often serve on more than one committee within a congress (similarly, districts are represented on more than one committee). To create appropriate panels, I construct legislator- or district-assignment level data so that while each legislator/district has multiple assignments within a congress, each assignment identifier occurs only once within a congress.[11] For example, if legislator *i* serves on two committees within a congress, the units are legislator/district *i*-assignment one and legislator/district *i*-assignment two. If the legislator leaves one committee and remains on a second committee, the assignment number of the committee they left moves to the subsequent committee while the assignment number of the committee on which they stayed remains the same. Thus, the panel units are district/legislator assignment-committee-congress. Legislator-assignment fixed-effects identify the model based on within-legislator changes, while (separately) district-assignment fixed-effects identify the model based on within-district changes. These differ because legislators change districts over time (usually, but not exclusively, due to redistricting.)

In addition to district/legislator-assignment fixed effects, the models also include committee and congress fixed effects to control for baseline committee differences that do not vary, and for time-varying characteristics across congresses such as increased partisan polarization. To summarize, I estimate the following panel regression models:

[11] No legislator has no more than three assignments per congress. About 58% of assignments are the legislator's only assignment, 35% are a second assignment, and about 7% are a third assignment. Both parties have rules about the number of committees a legislator can serve on, and legislators serving on three committees are likely serving on two low-valued committees, while legislators serving on one committee have one prestige assignment.

$$\hat{y}_{ijt} = \alpha_{ij} + \delta_t + \gamma_j + \beta_1 D_{it} + \varepsilon_{ijt} \tag{3}$$

where the outcome is legislator/district$_i$ OC z-score or absolute OC z-score on committee j in congress t, α_{ij} is either a legislator- or district-assignment fixed effect, δ_t is a congress fixed effects, γ_j is a committee fixed effect, D is a continuous variable for absolute district partisanship or district partisanship, and ε_{ijt} is the standard error clustered on either legislator or district. I also estimate models with committee-by-congress fixed effects to control for variation at the committee-congress level. The district-assignment fixed effects models also control for party to estimate the effect of partisan orientation on committee voting.[12] As a robustness check, I also estimate first-differences models where $\hat{y} = y_{ijt} - y_{ijt-1}$ and $D = D_{it} - D_{it-1}$, and α_{ij} is excluded.

District presidential vote share does not capture jurisdiction-specific ideology and a district may be ideologically outlying on an issue in a way that does not correspond to its overall partisanship, though the relationship shown in Figure A1 indicates this is not the case. Using z-scores partially protects against this problem because each district/legislator is compared to all other districts/legislators on the same committee, effectively holding jurisdiction constant. I also correlate OC z-scores with other accepted measures of overall legislator and district ideology; OC z-scores correlate with DW-NOMINATE scores at .72 (see Online Appendix Figure A8) and with Tausanovitch-Warshaw MRP district estimates of ideology (Tausanovitch and Warshaw 2013) at .45 (see Figure A9). I conduct separate analyses on distributive committees, where legislators may be "high-demanders" from issue outlying districts, and non-distributive committees and find the results are consistent across the two types (see Online Appendix D). Finally, I use the Groseclose-Levitt-Snyder adjustment (Groseclose, Levitt and Snyder Jr. 1999) to create district-committee-congress level conservative vote probabilities (Fowler and Hall 2012) and OC scores (see Figure A10 and Online Appendix E for additional details and coefficients table of main results replication).

[12] Party is not included in the legislator-assignment fixed effects models because it does not change over time.

Leveraging Exogenously Imposed District Changes to Predict Committee Voting

As described above, OC scores should not be compared across congresses because the underlying ideological dimensions may differ. However, Poole (2005) and Poole et al. (2007) describe a natural experiment in which legislator *i* shifts ideal points across congresses, while all other legislators are constrained to have one ideal point. This approach can be combined with examining changes in district partisanship post-redistricting as redistricting is exogenous to a member's previous representation style (Bertelli and Carson 2011; Carson et al. 2007; Glazer and Robbins 1985; Lo 2013).

All legislators which sit on the same committee in the pre- and post-redistricting congresses included in the committee votes data (the 2000 cycle, 107th-108th Congresses, and the 2010 cycle, 112th-113th congresses) are selected into the dataset. For each legislator *i*, an OC score is found in the pre- and post-redistricting congresses, while one ideal point is found for all other legislators using their roll call voting record in both congresses. This allows, according to Lo, to hold "the scale and rotation of the ideological space constant over time [9]."

Though the technique allows for the comparisons of OC scores across congresses, I still cannot compare them across committees, and as a result I use OC z-scores as the dependent variable. The treatment effect of redistricting for each legislator is the change in their OC z-score between the two congresses, pre- and post-redistricting, accounting for party, redistricting cycle, and committee assignment.

The Effect of District Partisanship on Committee Roll Call Voting

The dependent variable in models 1 and 2 of Table 1 is legislator-committee-congress z-score, and has both a directional component (liberal or conservative, compared to other members), and extremity component, with smaller negative values and larger positive values indicating a more outlying member. Increasing values of the independent variable, district Democratic presidential support, indicates a more liberal district and should have a negative coefficient. Models 3 and 4 capture the relative ideological extremity of a member, with more liberal or conservative legislators having a higher value. Increasing values of absolute Democratic vote

share indicates a more ideologically extreme district and should have a positive coefficient. The models are panel linear regression with two-way fixed effects for district-assignment, congress, and committee separately, or committee-by-congress (models 2 and 4).

Table 1: District-Assignment Estimates for Ideology, 104th-114th Congresses

	DV=Ideology		**DV=Absolute Ideology**	
	(1)	(2)	(3)	(4)
District Dem. Presidential Support	-3.41*	-3.45*		
	(0.293)	(0.299)		
Absolute Dem. Pres. Support			0.587*	0.581*
			(0.124)	(0.122)
Legislator Party (GOP=1)			-0.066*	-0.065*
			(0.023)	(0.024)
District-Assignment Fixed Effects	Yes	Yes	Yes	Yes
Committee Fixed Effects	Yes		Yes	
Congress Fixed Effects	Yes		Yes	
Committee-by-Congress Fixed Effects		Yes		Yes
No. of Unit Fixed Effects	983	983	983	983
R-Squared	0.316	0.312	0.044	0.071
N	5,162	5,162	5,162	5,162

*p<.05. Models are panel linear regression where the dependent variable is a district's ideology z-score on committee *j* in congress *t* (models 1-2), or a district's absolute ideological z-score (models 3-4). Number of unit fixed effects indicate number of observed districts. Standard errors clustered by district (number of clusters equals number of unit fixed effects).

In models 1 and 2, the estimates for district partisanship are negative and statistically significant, consistent with Hypothesis 1A: as districts become more Democratic, member OC z-scores become increasingly liberal. In model 1 moving from the minimum to maximum value on district Democratic support produces an ideology score that is about 2.73 standard deviations more liberal (95% CI: 2.27 SDs to 3.20 SDs). The estimated coefficient in model 2 shows a similar substantive effect.

Models 3 and 4 estimate the effect of absolute district Democratic presidential support on ideological extremity (Hypothesis 1B). More partisan districts, for members of both parties, are a significant predictor of ideological extremity in committee voting; increasing absolute district presidential support from the minimum to the maximum produces a change in OC z-score of about .76 standard deviations (95% CI: 0.45 SDs to 1.08 SDs) in model 3. The negative coefficient on party in model 3 indicates Democrats are about .18 standard deviations more extreme than Republicans (95% CI: .05 SDs to .31 SDs). This test does not differentiate

between conservative and liberal extremity and it is possible, though counter-intuitive, that Democrats become outlying and conservative, while Republican extremity could be increasing in a liberal direction. The first two models predicting relative ideology, however, demonstrate this is not the case.

Table 2: Legislator-Assignment Estimates for Ideology, 104th-114th Congresses

	DV=Ideology		**DV=Absolute Ideology**	
	(1)	(2)	(3)	(4)
District Dem. Presidential Support	-0.128	-0.147		
	(0.351)	(0.355)		
Absolute Dem. Pres. Support			0.174	0.213
			(0.155)	(0.155)
Legislator Party (GOP=1)			0.635	0.736
			(0.542)	(0.591)
Legislator-Assignment Fixed Effects	Yes	Yes	Yes	Yes
Committee Fixed Effects	Yes		Yes	
Congress Fixed Effects	Yes		Yes	
Committee-by-Congress Fixed Effects		Yes		Yes
No. of Unit Fixed Effects	1,742	1,742	1,742	1,742
R-Squared	0.004	0.032	0.823	0.140
N	5,162	5,162	5,162	5,162

*p<.05. Models are panel linear regression where the dependent variable is a legislator's ideology z-score on committee *j* in congress *t* (models 1-3), or a legislator's absolute ideological z-score (models 4-6). Number of unit fixed effects indicate number of observed districts. Standard errors clustered by legislator (number of clusters equals number of unit fixed effects, in models 3 and 6 number of clusters is 946). In model 6 legislator party cannot be estimated because it does not change within legislator across time.

In Table 2, OC z-score is predicted using changes within legislators across time, measuring the extent to which members change their roll call voting behavior to match changing district preferences. The models use the same two-way fixed effects specifications as in the district-assignment estimates. Neither district Democratic presidential support nor absolute Democratic support are statistically significant, indicating that changes in district partisanship at the legislator-level do not result in corresponding changes in roll call voting. I also estimate committee-level party unity in Online Appendix B and find the results are nearly identical to ideology, with an increase in party unity driven by an increase in absolute district partisanship when identified using district fixed effects, but not when identified using legislator fixed effects.

One explanation for these results is that as legislators gain seniority or institutional prestige, they put less value on voters' preferences and more on other factors. I examine this by

interacting district Democratic presidential support and a variable measuring the number of terms a legislator serves. Of course, legislators who stray *too* far from their voters' preferences are more likely to lose their reelection and exit the sample. Further, if legislators are well-aligned at their initial election and their district's ideology never substantially changes, then the legislator will never drift from the district's preferences, regardless of the legislator's level of responsiveness.

Thus, I am interested in the extent to which district changes over time produce ideologically congruent legislators, conditional on time in office. I use first differences models to explicitly account for term-to-term changes in district ideology. I also interact number of terms with change in district Democratic presidential support to predict change in legislator ideology.

Table 3: First Differences Estimates for Ideology, 104-114th Congresses

	DV=Δ Ideology			**DV=Δ Absolute Ideology**		
	(1)	(2)	(3)	(4)	(5)	(6)
Δ District Dem. Presidential Support	-2.37*	-2.42*	-3.50			
	(0.470)	(0.470)	(0.709)			
Legislator Terms Served			-0.002			0.001
			(0.003)			(0.001)
Δ District Dem. Support x Legislator Terms			0.178*			
			(0.08)			
Δ Absolute Dem. Pres. Support				0.383	0.347	0.525
				(0.073)	(0.215)	(0.411)
Legislator Party (GOP=1)				-0.044*	-0.041*	-0.044*
				(0.010)	(0.010)	(0.010)
Δ Absolute Dem. Pres. Support x Legislator Terms						-0.021
						(0.050)
Committee Fixed Effects	Yes		Yes	Yes		
Congress Fixed Effects	Yes		Yes	Yes		
Committee-by-Congress Fixed Effects		Yes			Yes	
R-Squared	0.024	0.051	0.026	0.433	0.429	0.433
N	3,332	3,332	3,327	3,332	3,332	3,327

*p<.05. Models are panel linear regression where the dependent variable is change in a district's ideology z-score on committee *j* in congress *t* (models 1-3), or a district's absolute ideological z-score (models 4-6). Standard errors clustered by district (number of clusters is 740 in all models). There are five missing values in models 3 and 6 because five legislators switched party affiliation and are coded as missing in the term they switched by the Stewart committee assignment data.

Models 1-2 and 4-5 in Table 3 estimate the effects of district Democratic presidential support and absolute district Democratic support using first differences rather than two-way fixed effects, though the models also include fixed effects for committee and congress (and

committee-by-congress in models 2 and 4). These estimates validate the previous results; change in district Democratic presidential support is negatively and significantly related to change in legislator ideology (models 1 and 2), and the substantive effects are similar to those previously estimated. The effects in models 4 and 5 are statistically suggestive (p=.07 in model 4 and p=.1 in model 5), and the substantive effect is slightly smaller than that estimated using two-way district fixed effects, with a change of .58 standard deviations (90% CI: 0.49 SDs to 1.12 SDs).

The interaction between number of terms served by a legislator and change in district Democratic support (model 3) is positive and statistically significant, indicating that number of terms conditions the relationship between district preferences and legislator ideology. As the number of terms increases, congruence between the district and legislator weakens. At 15 terms (about 3% of observations in the sample served 15 terms or longer), the relationship between district Democratic support and legislator ideology becomes statistically insignificant (see Figure B1 in the Online Appendix for a graph of the marginal effects). Column 5 shows the interaction between absolute district Democratic support and number of terms is not statistically significant, indicating that there is no conditioning effect of legislator terms on the relationship between absolute district partisanship and relative ideological extremity.[13]

Taken together, these results suggest that while district characteristics affect roll call voting behavior, indicating high congruence, responsiveness is low. Across districts, the voting behavior of the representative reflects the district's preferences, though the relationship is stronger for a legislator's relative ideology than their extremity. But within districts, individual legislators do not change their voting behavior to match the district as the preferences of their district evolve, consistent with Hypothesis 1C and with previous research on congressional floor voting. Districts are represented well, but only because they elect members who initially reflect the district's ideology, not because legislators respond well to district changes over time.

[13]I also interacted change in district partisanship and absolute partisanship with logged terms and find similar results. An interaction between committee leader (chair or ranking member) and district partisanship is insignificant.

Identifying District Effects on Committee Roll Call Voting Using Redistricting

I use redistricting as a natural experiment to conduct an additional analysis of whether district changes produce commensurate changes in roll call voting within committees. In these models, OC z-scores are created for legislator *i* pre- and post-redistricting while other members are pooled across congresses.

In Table 4, district Democratic presidential support (models 1-2) and absolute district Democratic presidential support (models 3-4) predict OC z-scores for members in the 108th and 113th Congresses, after each redistricting cycle when exogenous changes to district partisanship occur. District Democratic presidential support is negative and significant, indicating that post-redistricting, legislators from more Democratic districts have more liberal voting records. Likewise, an increase in absolute district Democratic presidential support results in a more ideologically extreme roll call voting record. The substantive effects for district Democratic support are very similar to those previously estimated from the two-way fixed effects models, while the point estimates for absolute district support are slightly smaller, an increase in a member's z-score of about .46 of a standard deviation (95% CI: to .07 SDs to .85 SDs) in model 3.

Table 4: Predicting OC Z-Scores Using Redistricting

	Post-Redistricting				**Redistricting Change**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
District Dem. Presidential Support	-3.39*	-3.39*			-0.01	-0.01		
	(0.208)	(0.209)			(0.006)	(0.006)		
Absolute Dem. Pres. Support			0.359*	0.347*			-0.228	-0.311
			(0.157)	(0.155)			(0.551)	(0.480)
Legislator Party (GOP=1)			-0.209*	-0.208*			-0.133*	-0.130*
			(0.029)	(0.030)			(0.042)	(0.041)
Committee Fixed Effects	Yes		Yes		Yes		Yes	
Redistricting Cycle Fixed Effects	Yes		Yes		Yes		Yes	
Redistricting-Committee Fixed Effects		Yes		Yes		Yes		Yes
R-Squared	0.274	0.274	0.162	0.177	0.004	0.004	0.201	0.278
N	776	776	674	674	737	737	737	737

*p<.05. Models are linear regression where the dependent variable is a member's OC z-score on committee *j* in congress *t* (models 1-2), absolute z-score (models 3-4), change in OC z-score (models 5-6), or change in absolute member ideological z-score (models 7-8). Standard errors clustered by member (595 clusters in models 1 and 2, 595 clusters in models 3 and 4, 564 clusters in models 5-8).

Models 5 through 8 estimate changes in OC z-scores from the pre-redistricting to the post-redistricting congresses. If legislators change their behavior based on district changes, both district partisanship and absolute presidential support would be positive and statistically significant. In models 7 and 8, the coefficients are negative, the opposite direction from expectations, and not significant.

These analyses again support the claim that most districts are well represented in committee roll call voting. More liberal districts have members who produce more liberal voting patterns, for example, and more partisan districts have members who develop extreme voting records, consistent with Hypotheses 1A and 1B. High quality representation is a function of legislators who are well aligned with their district when elected, rather than flexible in their behavior. Even after redistricting, most districts do not change substantially, and as a result, inflexible members still represent their district well. But, for those districts which do change over time, legislators become increasingly out-of-step with their voters, consistent with Hypothesis 1C.

Committee Heterogeneity and Committee Roll Call Voting

Differences across committees, based on majority party preferences and information-induced preferences, will condition the relationship between district partisanship and roll call voting. The theory predicts that outlying partisan committee preferences will only matter when information-induced preferences are also outlying (and vice versa). I interact the percentage of committee seats controlled by the majority party and number of committee staff (logged) with district and absolute district partisanship. The marginal effect of district partisanship should weaken as each variable increases, holding the other at its maximum.

The models are again two-way fixed effects estimating OC z-scores and absolute z-scores, with fixed effects for committees and congress, and (separately) committee-by-congress, with clustered standard errors by district. Because the committee variables are constant within committees, but vary across congresses, the committee-by-congress level fixed effects are collinear, and the models include only committee and congress fixed effects estimated separately.

To substantively interpret the effects of the three-way interaction term predicting OC z-scores, Figure 1 shows the marginal effect of district Democratic presidential support (coeffi-

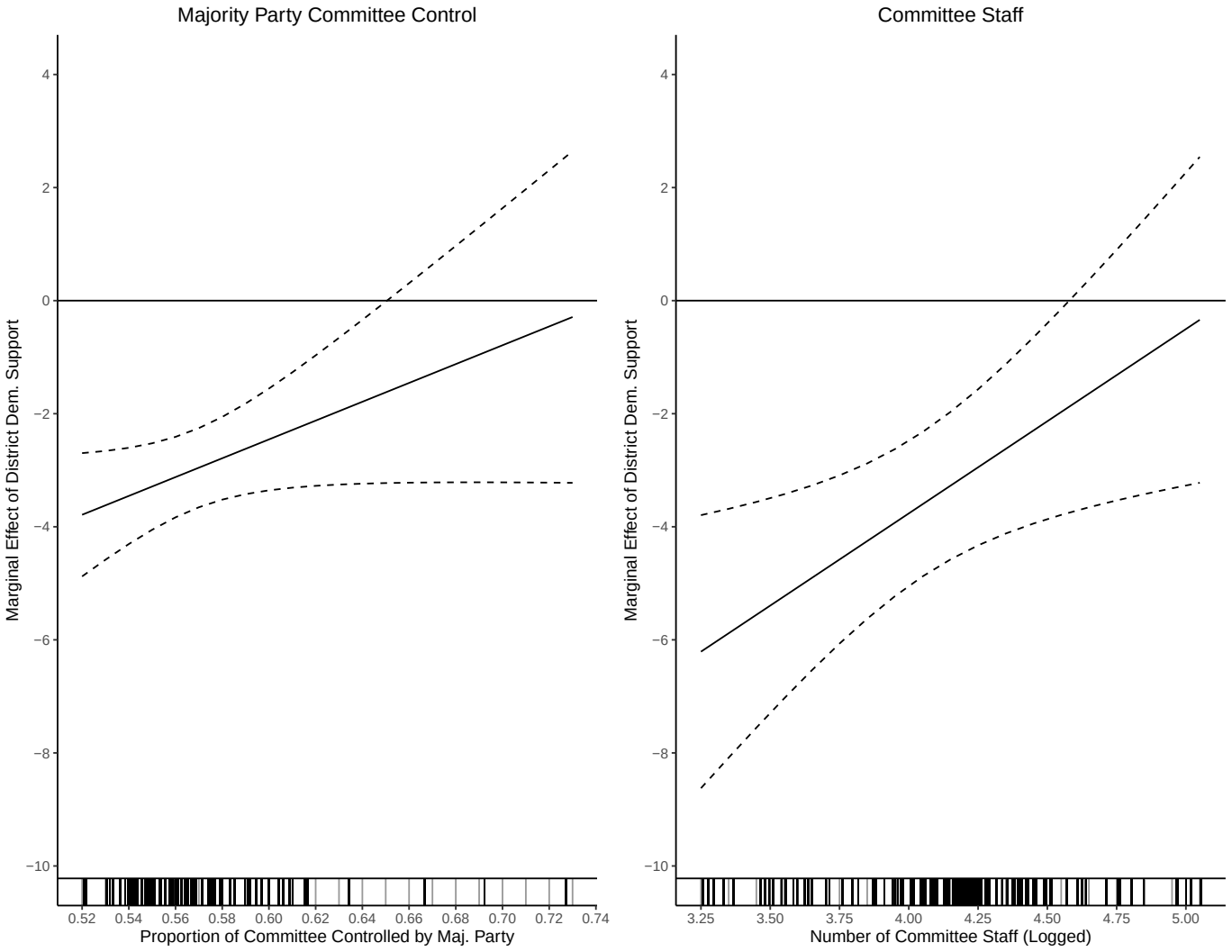
cients table shown in Online Appendix C1). In the left panel, the effect of district partisanship on committee ideology is negative and statistically significant when the committee has a low proportion of majority party members. Consistent with theoretical expectations, when the party division on a committee is narrow, legislators in more Democratic (Republican) districts develop roll call voting records that are increasingly liberal (conservative), evidence that their representation is congruent with district preferences. But, as party preferences become more outlying, the marginal effect increases and is not significantly different from zero, "breaking" the relationship between district characteristics and representation. As the committee's majority party preferences become more extreme, legislators from both parties are not responsive to their constituents' preferences, as predicted by Hypothesis 2A.

A similar effect for committee staff is seen in the right panel of Figure 1. As the number of committee staff increases, the relationship between district partisanship and ideology moves toward zero, and in committees with the greatest number of staff, there is no relationship between the two, consistent with Hypothesis 2C. In both panels, the maximum and minimum marginal effects are statistically distinct from each other at the .07 level for proportion of the committee controlled by the majority party and the .02 level for committee staff. These results support Hypotheses 2A and 2C; legislators represent their districts well in committee voting, but the quality of representation declines if the committee induces preferences that are not well-aligned with district voters.

The results for absolute district partisanship show a significant marginal effect for percentage of the committee controlled by the majority party (Hypothesis 2B). As shown in Figure 2, when the proportion of the committee controlled by the majority is low, the effect of absolute district partisanship on extremity is .69. As the percentage of the majority party on the committee increases to its maximum, however, the effect of absolute district partisanship on ideological extremity becomes statistically indistinguishable from zero, reflecting no relationship between the two. As expected, there are no significant results for absolute district partisanship on committee extremity conditional on committee staff.

Overall, district partisanship affects members' roll call voting record in standing committees, but that relationship is conditioned by outlying partisan and information preferences pro-

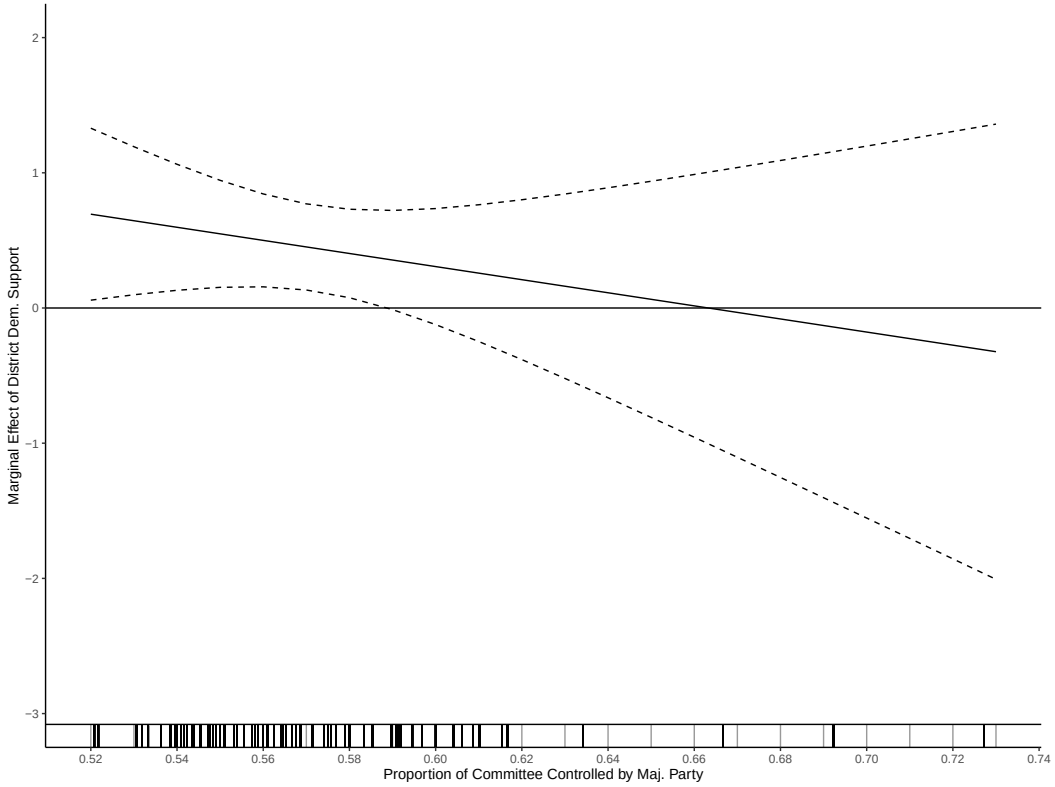
Figure 1: Marginal Effect of District Partisanship Conditional on Percentage of Committee Seats Controlled by Majority Party and Committee Staff



Marginal effects from model 1 in Table C1. The left y-axis is the marginal effect of district partisanship, and the x-axis is the value of percentage of committee controlled by majority party (left panel) or the number of logged committee staff (right panel). Rug plots at bottom show distribution of proportion of committee controlled by the majority party (left panel) and number of logged committee staff (right panel). Wald chi-square test indicates maximum and minimum marginal effects are statistically different from each other, χ^2=3.46, p=0.07 in the left panel and χ^2=6.16, p=0.02 in the right panel.

duced by the committees. As committee characteristics exert pressure on legislators to diverge from their district preferences, they may not provide substantive representation, especially if the committee has outlying preferences on *both* dimensions. This is also true for ideological extremity, though only committees with outlying partisan-based preferences produce a statistically significant effect on extremity.

Figure 2: Marginal Effect of Absolute District Partisanship Conditional on Percentage of Committee Seats Controlled by Majority Party



Marginal effects from model 2 in Table C1. The left y-axis is the marginal effect of district partisanship, and the x-axis is the value of percentage of committee controlled by majority party. Rug plot at bottom shows distribution of proportion of the committee controlled by the majority party.

The Conditional Effect of Incumbent Vote Share

In the final set of analyses, I use incumbent vote share in the previous election to measure how a legislator weights the preferences of their district voters. The theory predicts that as vote share declines, the legislator will more closely adhere to their district voter's preferences, and the negative effect of district Democratic presidential support on conservative ideological voting will be strengthened. The models are again two-way fixed effects predicting ideology and absolute ideology, with additional controls for proportion of the committee controlled by the majority party and committee staff (logged).

The results are shown in Online Appendix Table C2 and marginal effects for district and absolute district Democratic presidential support are shown in Figure 3. As the left panel shows, when incumbent vote share is small, the relationship between district Democratic presidential

support and roll call voting ideology is very strong, with a marginal effect of -4.29 (95% CI: -3.54 to -5.04). This is a large substantive change of 3.44 standard deviations in ideology. When incumbent vote share is at the maximum of one hundred (legislators who ran unopposed), the effect of district Democratic presidential support is still negative and statistically significant, but much smaller at -2.69 (95% CI: -2.02 to -3.36). These coefficients are statistically different from each other (p=.0001) indicating that the relationship between district Democratic presidential support and ideology is substantially weaker when the incumbent receives a large vote share, though notably, their roll call voting behavior is still congruent with the district's preferences, consistent with Hypothesis 3A.

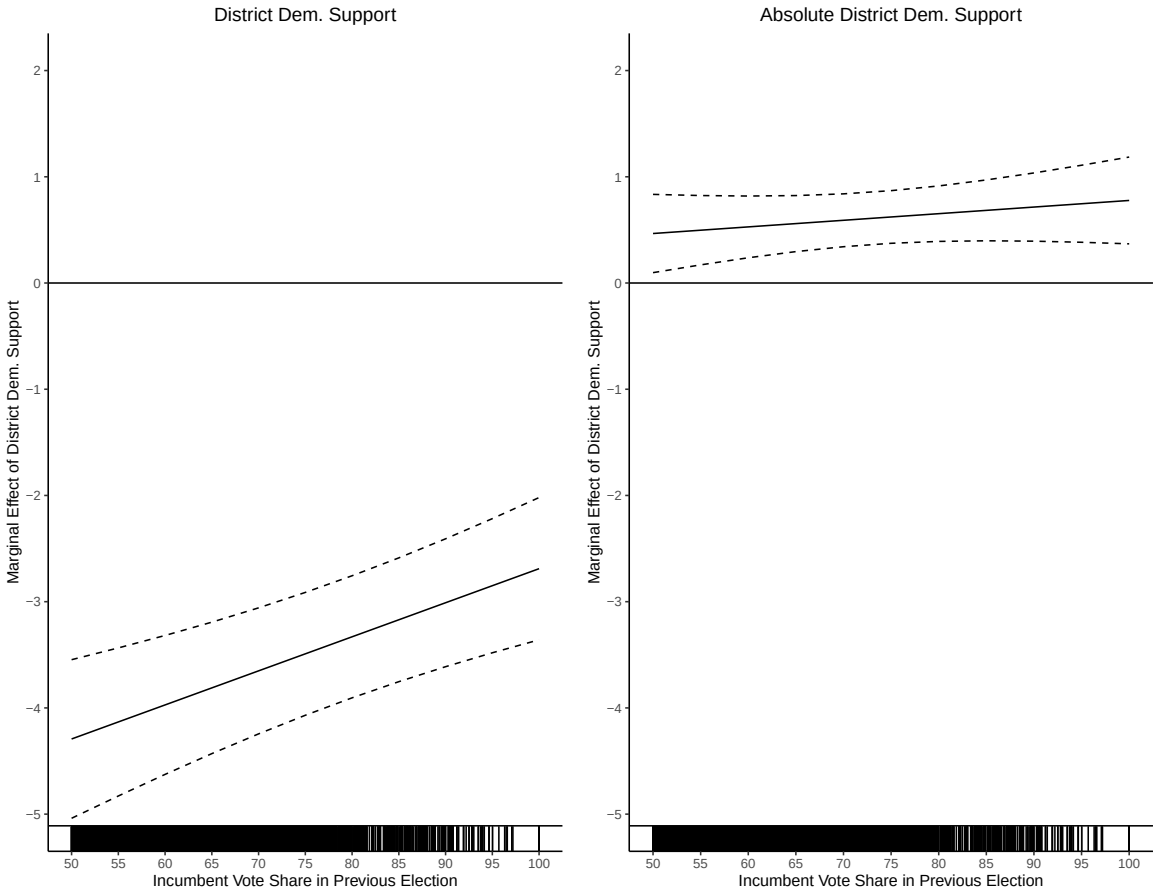
The right panel shows the relationship between absolute Democratic support and absolute ideology, varying vote share. The relationship between these two variables is expected to be positive, and as vote share increases, the marginal effect should approach zero. As the graph shows, there is virtually no change in the relationship between district partisanship and legislator extremity as vote share increases. The relationship is always positive and the marginal effects at the minimum value of vote share and the maximum value are not statistically different from each other. This does not support Hypothesis 3B, but suggests that, similar to the dynamics with floor voting, even legislators who are electorally tenuous do not behave any differently with respect to the relationship between district preferences and ideological extremity.

While legislators are more sensitive to the ideological preferences of their district when they are electorally weak, their ideological extremity adheres to district preferences and is not affected by their previous vote share. In short, voting extremity is driven by constituent preferences and by party preferences, but electorally tenuous and safe members are equally as congruent with their district when it comes to their roll call voting extremity.

Discussion

The findings demonstrate that legislators, by and large, do a good job of representing district preferences within standing committees. The relationship is conditioned by extremely strong party or information-induced preferences, and somewhat by electoral tenuousness. Though both committee-level factors affect representation, parties likely have more powerful, though

Figure 3: Marginal Effect of District Partisanship Conditional on Incumbent Vote Share



Marginal effects from models 1 and 2 in Table C2. The y-axis is the marginal effect of district Democratic support or absolute support, and the x-axis is the vote share received by the incumbent in the district in the previous election. Rug plots at bottom show distribution of incumbent vote share. Wald chi-square test indicates maximum and minimum marginal effects are statistically different from each other in the left panel, χ^2=14.46, p=0.0001. The minimum and maximum marginal effects are not different from each other in the right panel, χ^2=1.03, p=0.309.

subtle, effects on committee voting behavior. Legislators do not seek out committees that need strong partisans if that behavior would put them at odds with their constituents. Similarly, parties are not likely to assign legislators in marginal seats to committees that force them to take tough partisan votes. The committee assignment process produces a selection effect that ensures only legislators who are likely to be congruent with the committee's partisanship sit on the committee. As a result, it is not surprising to see modest, though not overwhelming, effects of committee partisanship on district-legislator ideological congruence.

What sustains this behavior within committees is not directly addressed here, and offers an interesting avenue for future research. But, similar to research on floor voting, the evidence suggests that the story is not a simple one of electoral sanction. Instead, voters may be choosing

the ideologue closest to their ideal point in any given election. Importantly, however, over time the relationship between the legislator's voting and district preferences breaks down. While legislators care about winning reelection, they may not be particularly skilled at adapting over time. As the legislator drifts from the district, a future opponent, interest group, or the media may eventually allow voters to discover that their legislator is no longer a good representative, resulting in an election loss. Thus, while voters may not closely monitor committee votes, legislators must still exercise caution when casting roll call votes.

This research also engages with the recent debate on transparency in congressional activity. While committee votes are "publicly" available, they are not easy to access for congressional observers or the public. The House, through the creation of the Select Modernization Committee, has indicated it wants to make these data more publicly available, but no concrete steps have yet been taken. The suggestion by the Modernization committee that Congress create, "One-click access to see how Members of Congress vote in committees" has been met with some skepticism. Some observers believe this will only increase political polarization as legislators become more beholden to their constituents if their voting behavior is public. While the results here do not speak directly to the effects more transparent committee voting might have on polarization, they do suggest that for the most part, legislators already represent their constituents well in their committee voting.

With respect to polarization, deviation from district preferences on ideological extremity is largely driven by extreme partisan preferences on certain committees. If the member serves on a committee which has extreme party preferences, they are increasingly likely to develop an ideological voting record which does not correspond to the preferences of their district. While I do not observe committee votes prior to the polarized period, the results suggest that for moderate districts, representation quality is becoming worse, regardless of the transparency level of legislators' voting behavior.

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Online Appendix/Supplemental Information—The Quality of District Representation in U.S. House Committees

Appendix Table of Contents

Appendix A: Descriptive Statistics

Table A1: Number of Legislators With an OC Score by Committee and Congress, 104th-114th Congresses

	Congress											
	104	105	106	107	108	109	110	111	112	113	114	Total
Agriculture	42	0	0	0	0	0	0	32	42	42	0	158
Appropriations	53	58	59	63	64	0	0	57	48	53	48	503
Armed Services	50	44	51	50	52	0	59	59	58	60	60	543
Budget	40	20	41	40	42	6	0	0	30	0	0	219
Education and the Workforce	40	41	46	48	45	45	42	43	38	38	33	459
Energy and Commerce	45	42	47	52	50	51	52	55	53	51	53	551
Financial Services	44	51	54	63	57	59	65	64	48	57	55	617
Homeland Security	0	0	0	8	0	28	0	24	28	0	28	116
House Administration	0	0	0	0	0	6	8	4	0	0	0	18
Intelligence (Permanent)	0	0	0	0	17	16	16	21	0	0	0	70
International Relations	38	0	0	35	42	42	0	0	37	0	0	194
Judiciary	32	33	34	35	37	39	39	38	37	35	31	390
Natural Resources	44	36	41	46	23	17	43	43	41	39	37	410
Oversight and Government Reform	46	0	0	0	35	0	0	0	36	0	34	151
Rules	13	12	12	13	12	11	11	13	12	12	13	134
Science, Space, and Technology	48	0	18	0	24	0	0	0	0	0	32	122
Small Business	0	0	0	0	0	0	0	0	20	0	0	20
Transportation and Infrastructure	55	0	0	0	0	0	0	0	0	46	0	101
Ways and Means	34	20	35	36	38	37	38	38	36	35	39	386

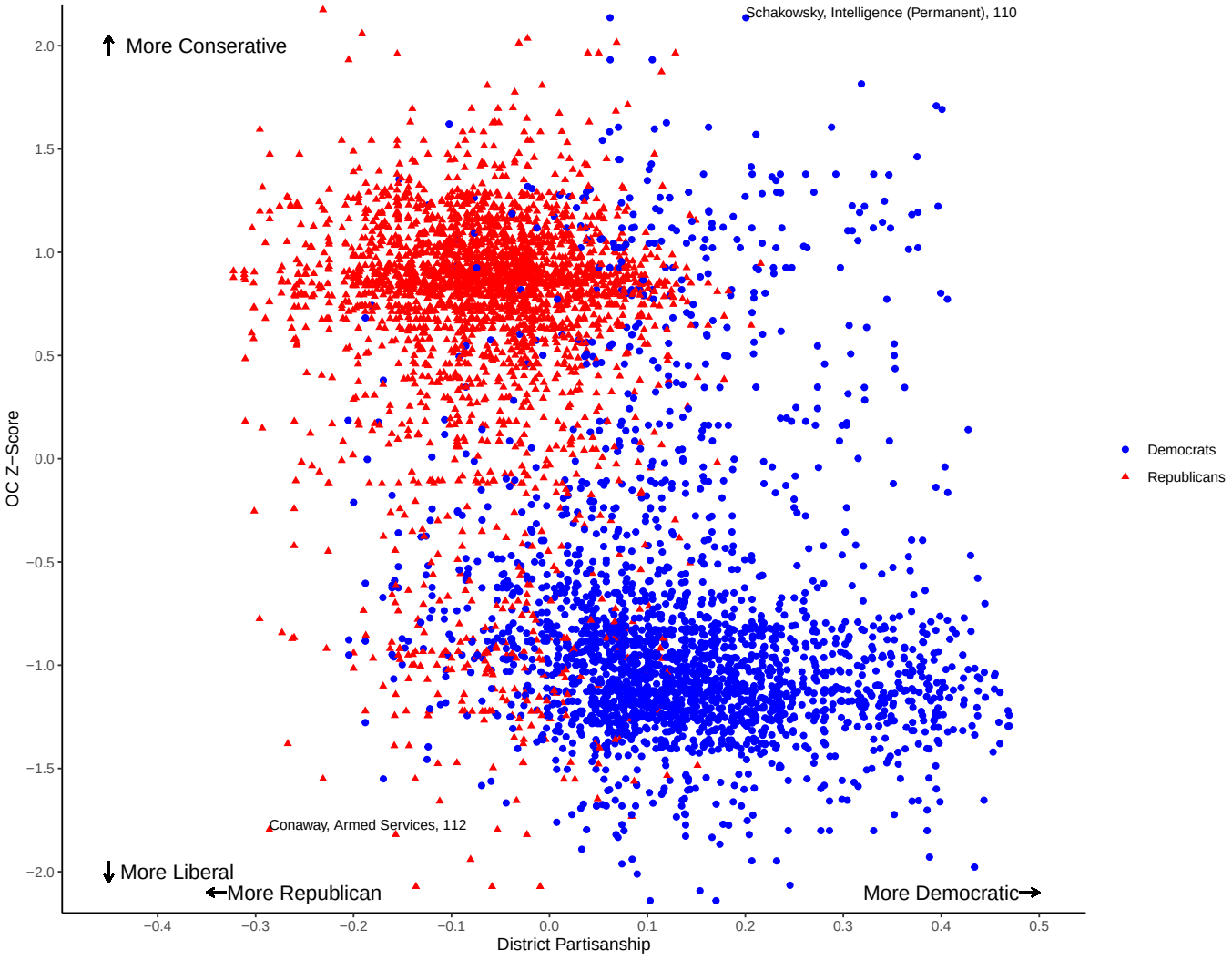
Members do not receive an OC score if they voted fewer than ten times on committee j in congress t. Some committees excluded if they have no observations across all congresses (e.g., Veterans' Affairs).

Table A2: Summary Statistics of OC Z-Scores by Congress and Committee

	Minimum	1st Quartile	Median	3rd Quartile	Maximum
Overall					
	-5.66	-1.01	0.28	0.88	4.05
By Committee					
Agriculture	-1.83	-0.92	0.27	0.89	2.06
Appropriations	-1.41	-1.07	0.58	0.91	1.40
Armed Services	-1.98	-0.97	0.25	0.91	2.25
Budget	-1.82	-1.03	-0.12	0.87	1.97
Education and the Workforce	-2.26	-1.07	0.46	0.88	1.61
Energy and Commerce	-2.07	-1.03	0.30	0.86	2.0
Financial Services	-2.07	-0.96	0.23	0.90	2.01
Homeland Security	-1.77	-0.85	-0.11	0.85	3.45
House Administration	-2.47	-0.60	0.36	0.50	0.91
Intelligence (Permanent)	-3.46	-0.79	-0.24	0.55	2.14
International Relations	-2.42	-0.97	-0.08	0.94	2.04
Judiciary	-1.55	-1.09	0.47	0.87	2.17
Natural Resources	-2.14	-1.00	0.42	0.87	1.67
Oversight and Government Reform	-5.66	-0.73	0.17	0.85	1.68
Rules	-2.09	-0.76	0.30	0.68	2.57
Science, Space, and Technology	-1.60	-0.92	0.31	0.79	4.05
Small Business	-1.24	-1.24	0.72	0.72	1.26
Transportation and Infrastructure	-1.94	-1.19	0.40	0.65	1.47
Ways and Means	-2.35	-0.94	0.51	0.89	1.70
By Congress					
104	-1.98	-1.03	0.45	0.85	1.96
105	-2.26	-1.03	0.37	0.87	2.02
106	-1.95	-1.06	0.29	0.89	1.67
107	-2.42	-1.04	0.34	0.90	2.25
108	-2.42	-1.02	0.29	0.88	4.05
109	-3.46	-1.10	0.50	0.85	1.78
110	-2.47	-0.92	-0.53	1.09	2.14
111	-1.96	-0.88	-0.56	1.16	2.06
112	-1.83	-1.13	0.60	0.84	1.93
113	-1.94	-1.12	0.46	0.80	2.57
114	-5.66	-1.09	0.18	0.84	3.45

OC z-scores shown for the entire sample, by committee, and by congress. Because these are z-scores, mean is approximately zero for all rows.

Figure A1: Scatter Plot of District Partisanship and OC Z-Score by Legislator Party, 104th-114th Congresses



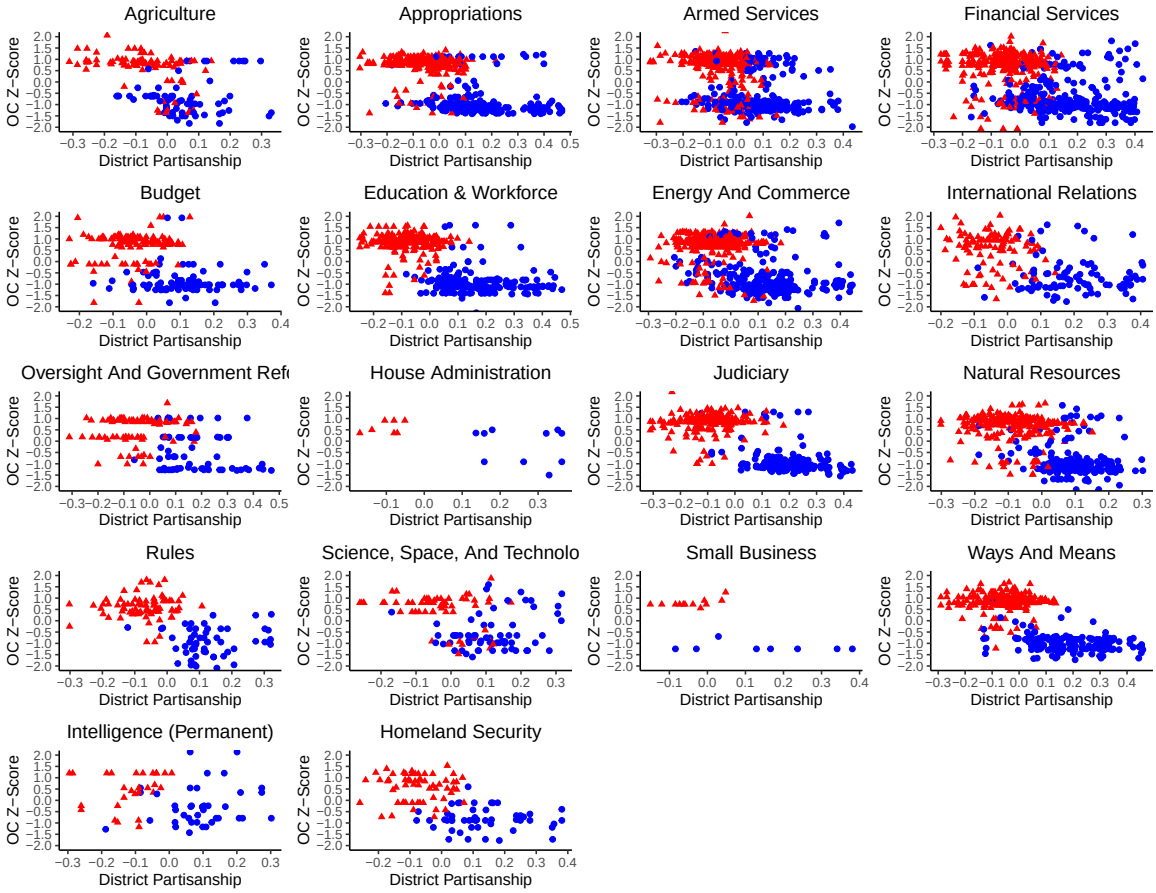
Points are legislator-committee-congress in 104th-114th Congresses. Some outlying district-assignments are omitted if their OC z-score is greater than two or less than -2.

Figure A1 shows the range for OC z-scores for each committee across all congresses (top panel) and for each Congress across all committees (bottom panel). The gray dot in each bar represents the median, and larger ranges indicate greater ideological dispersion within the committee/Congress. Because most House committee votes are partisan, a legislator casting even a small number of cross-party votes produces a more moderate OC z-score. Table A2 in Appendix A shows the minimum, quartiles, and maximums by committee and Congress.

Figure A1 shows a scatter plot of OC z-scores for all legislator-committee-congresses. The x-axis is district partisanship where lower values indicate a more Republican district, and the

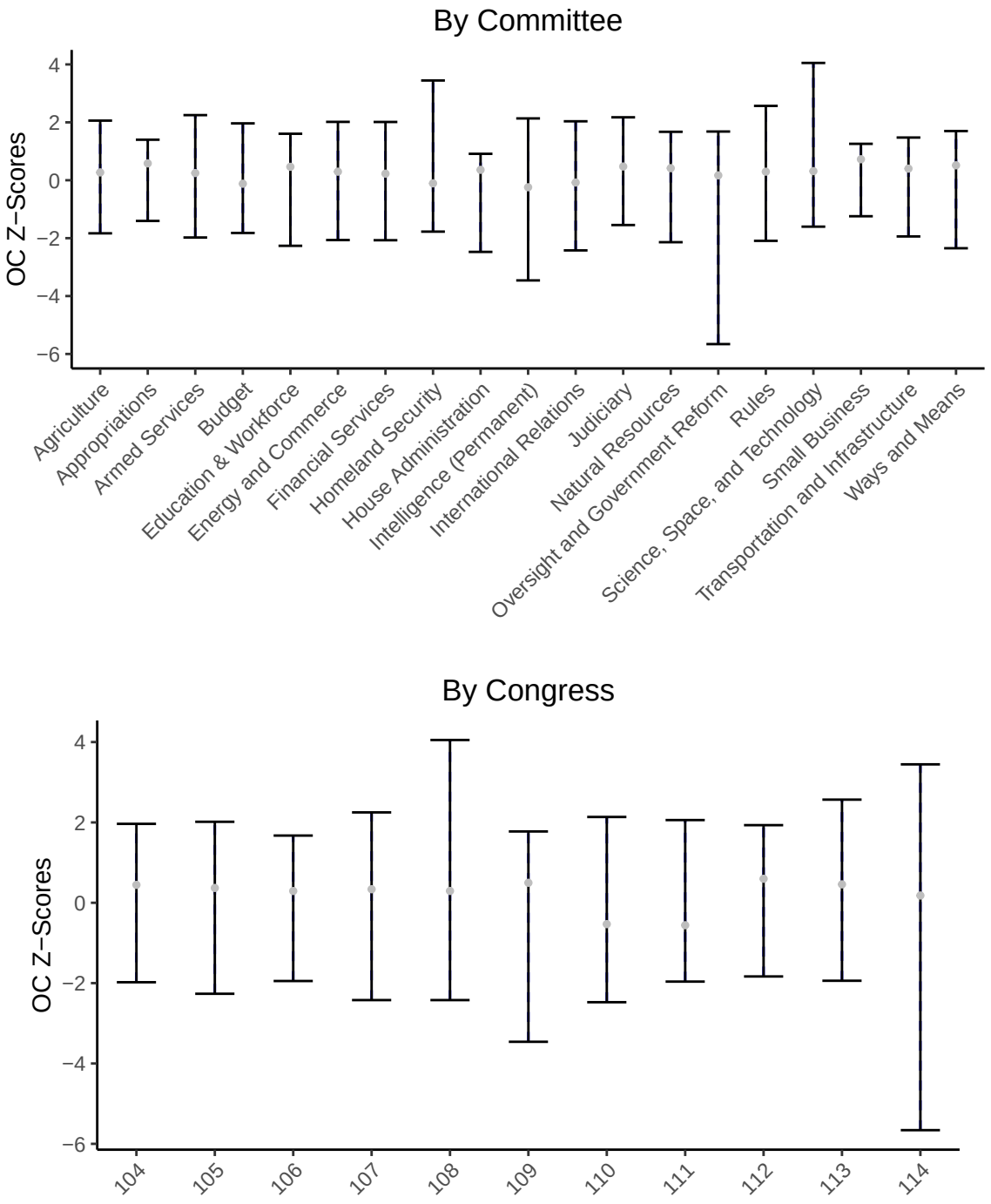
y-axis shows OC z-scores increasing from most liberal to most conservative. As the plot shows, Democrats and Republicans exhibit markedly different roll call voting behavior, as expected, with Republicans being far more conservative, on average. There is substantial variation within the parties, however, with some Democrats having conservative OC z-scores and some Republicans having liberal OC z-scores. For example, Michael Conaway's (TX-11) OC z-score on Armed Services in the 112th Congress is notable for being among the most liberal, despite having a very conservative district. Conversely, Jan Schakowsky compiled a very conservative voting record on Intelligence in the 110th Congress despite representing a relatively Democratic district. Figure A2 shows the same scatter plots separated by committee.

Figure A2: Scatter Plot of District Partisanship and OC Z-Score by Legislator Party and Committee, 104th-114th Congresses



Points are district-assignments by committee in 104th-114th Congresses. Some extreme district-assignments are omitted if their OC z-score is greater than two or less than -2.

Figure A3: OC Z-Score Summary Statistics by Committee and Congress



Bars show minimum and maximum OC z-scores by committee (top panel) and Congress (bottom panel). Gray dots represent median. Because these are z-scores, mean is approximately zero for all committees/Congresses.

Figure A4: Density of Democratic Presidential Support for Districts Used in Analysis

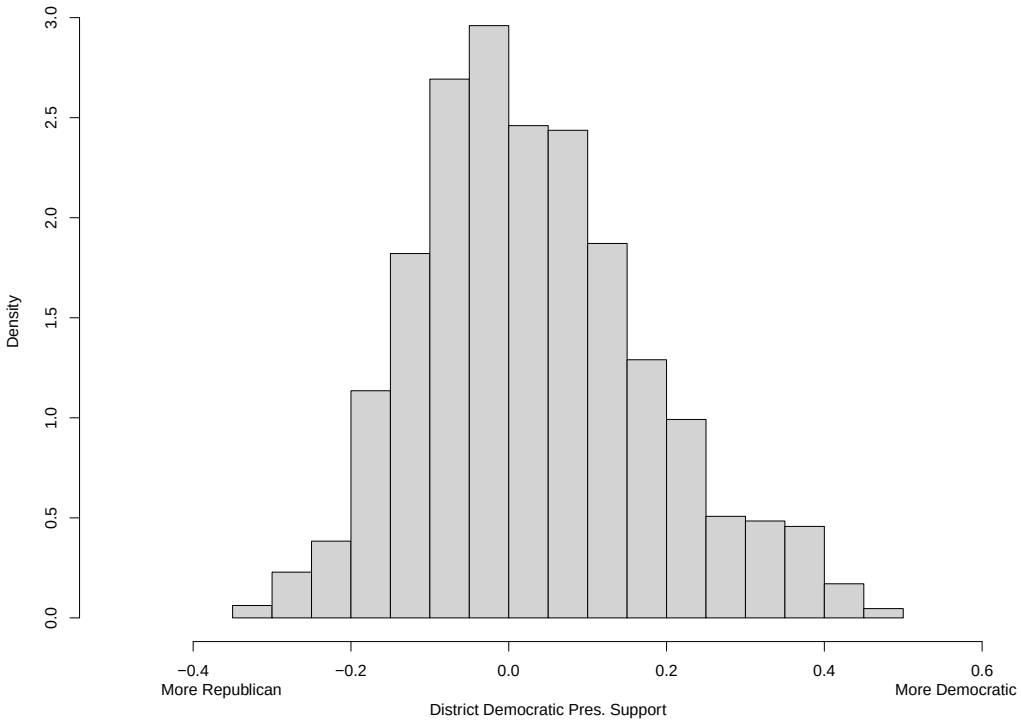


Figure A5: Density of Proportion of Committee Controlled by Majority Party Used in Analysis

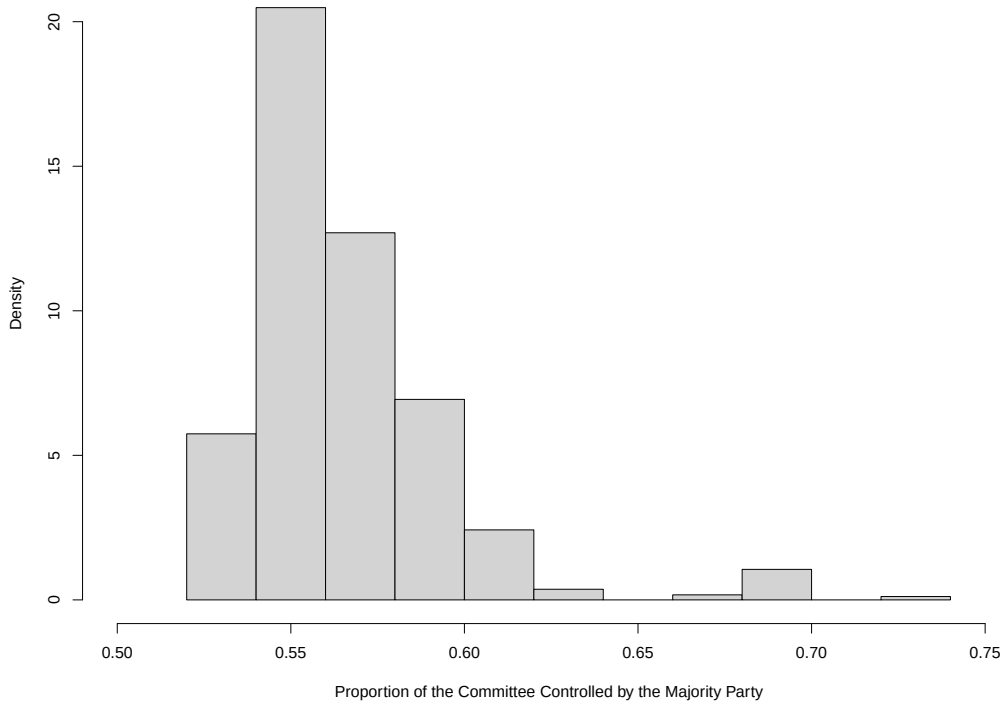


Figure A6: Density of Committee Staff Used in Analysis

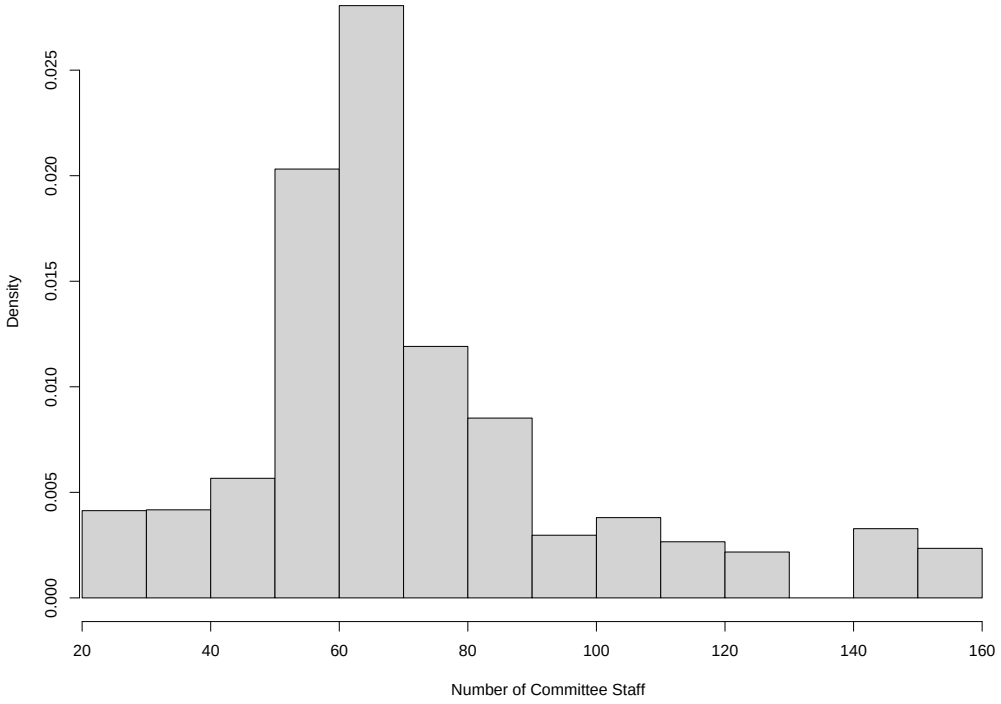


Figure A7: Density of Incumbent Vote Share Used in Analysis

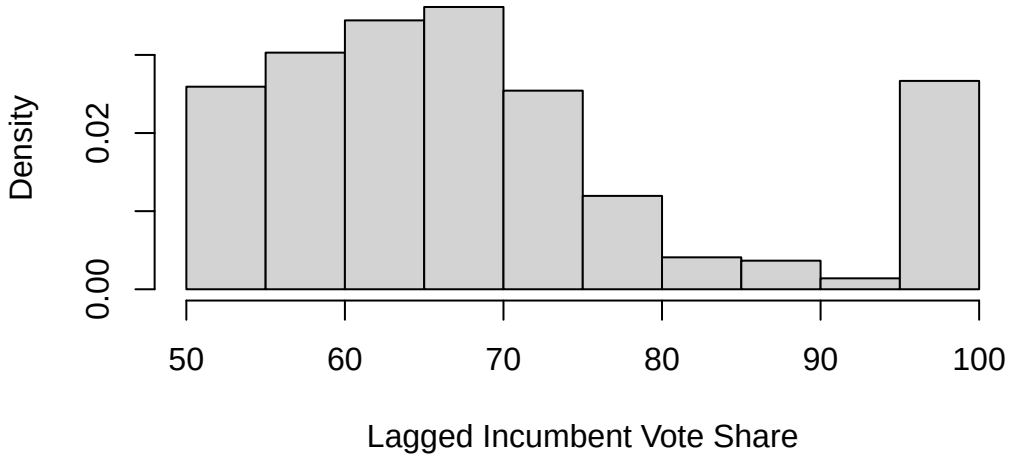
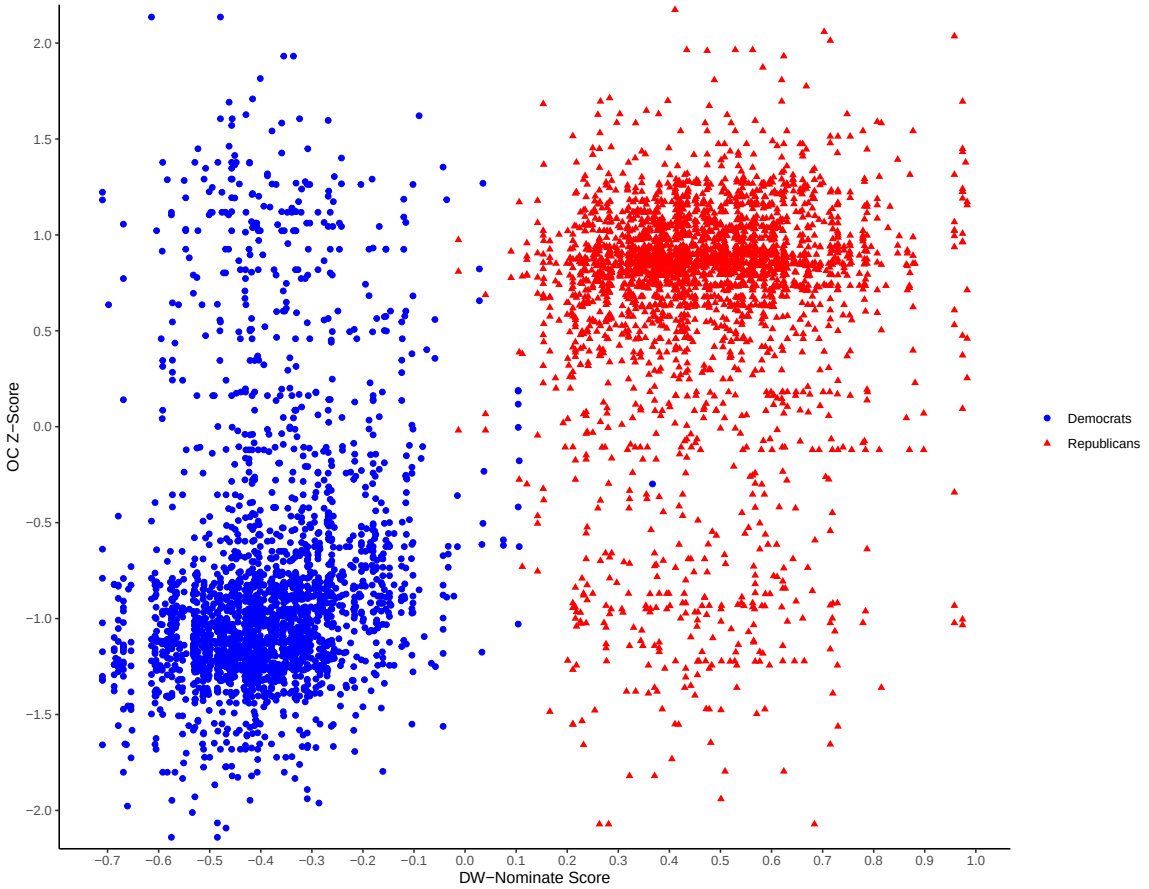


Figure A8 shows a scatter plot with DW-NOMINATE scores on the x-axis and OC z-scores on the y-axis. If the two scores were highly correlated, one would expect Democrats, with low DW-NOMINATE scores indicating greater liberalness to also have low OC z-scores, indicating greater liberal extremity relative to other committee members. Conversely, Republicans with high DW-NOMINATE scores should have high outlier OC scores on committees. Both claims are true in the figure. The correlation between OC z-scores and DW-NOMINATE scores is .72.

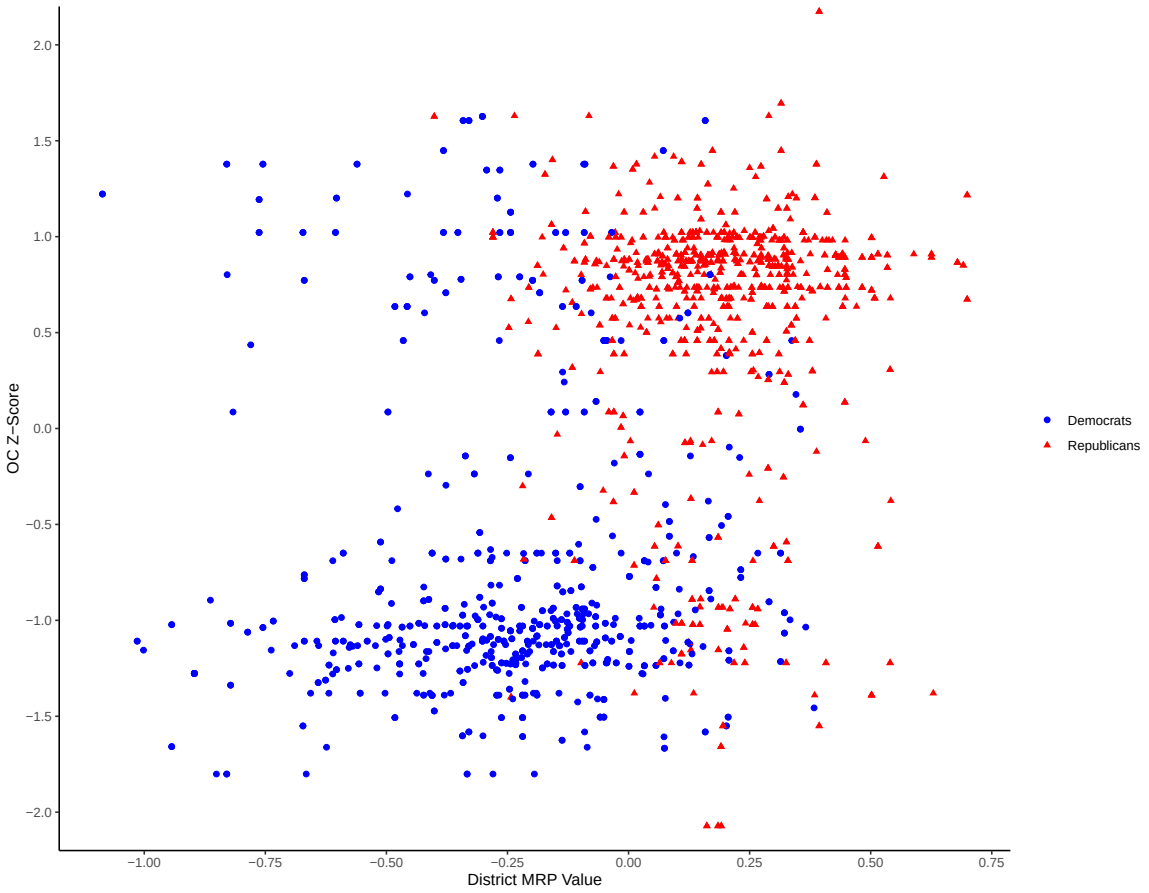
Figure A8: Scatter Plot of DW-NOMINATE and OC Z-Score by Legislator Party and Committee, 104th-114th Congresses



Points are district-assignments by committee in 104th-114th Congresses. Some extreme district-assignments are omitted if their OC z-score is greater than two or less than -2.

Figure A9 shows a scatter plot with Tausanovitch and Warshaw district MRP Values on the x-axis and OC z-scores on the y-axis. If the two scores were highly correlated, one would expect Democrats, with low MRP values, indicating they represent more liberal districts, to also have low OC z-scores. Conversely, Republicans with high MRP scores should have high outlier OC scores on committees. Both claims are true in the figure. The correlation between OC z-scores and MRP values is .45. MRP values are calculated after redistricting, so they are correlated with the first Congress after a redistricting in the dataset (108th and 113th).

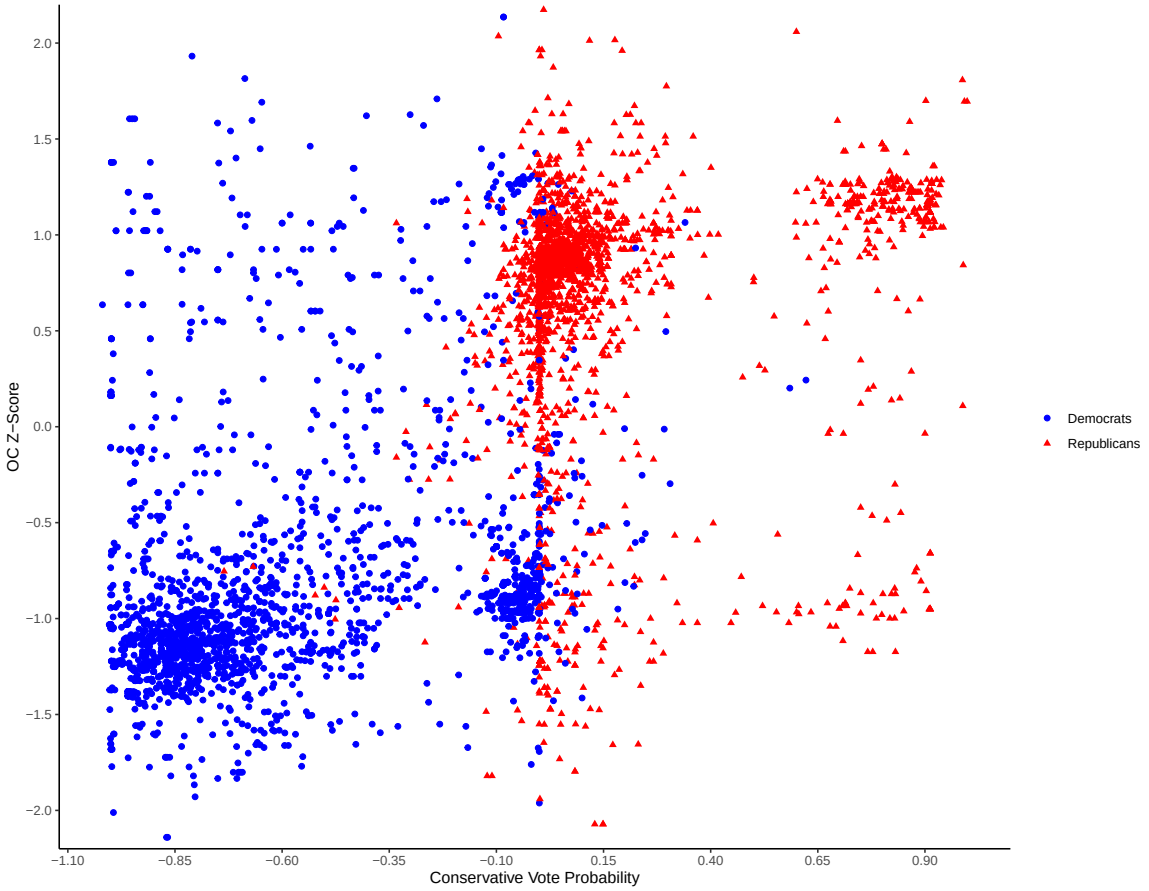
Figure A9: Tausanovitch and Warshaw MRP Values by Legislator Party, 108th and 113th Congresses



Points are district-assignments by committee in 108th and 113th Congresses. Some extreme district-assignments are omitted if their OC z-score is greater than two or less than -2.

Figure A10 shows a scatter plot with Folwer and Hall Conservative Vote Probabilities on the x-axis and OC z-scores on the y-axis. If the two scores were highly correlated, one would expect Democrats, with low conservative vote probability values, indicating they represent more liberal districts, to also have low OC z-scores. Conversely, Republicans with high conservative vote probability scores should have high outlier OC scores on committees. Both claims are true in the figure.

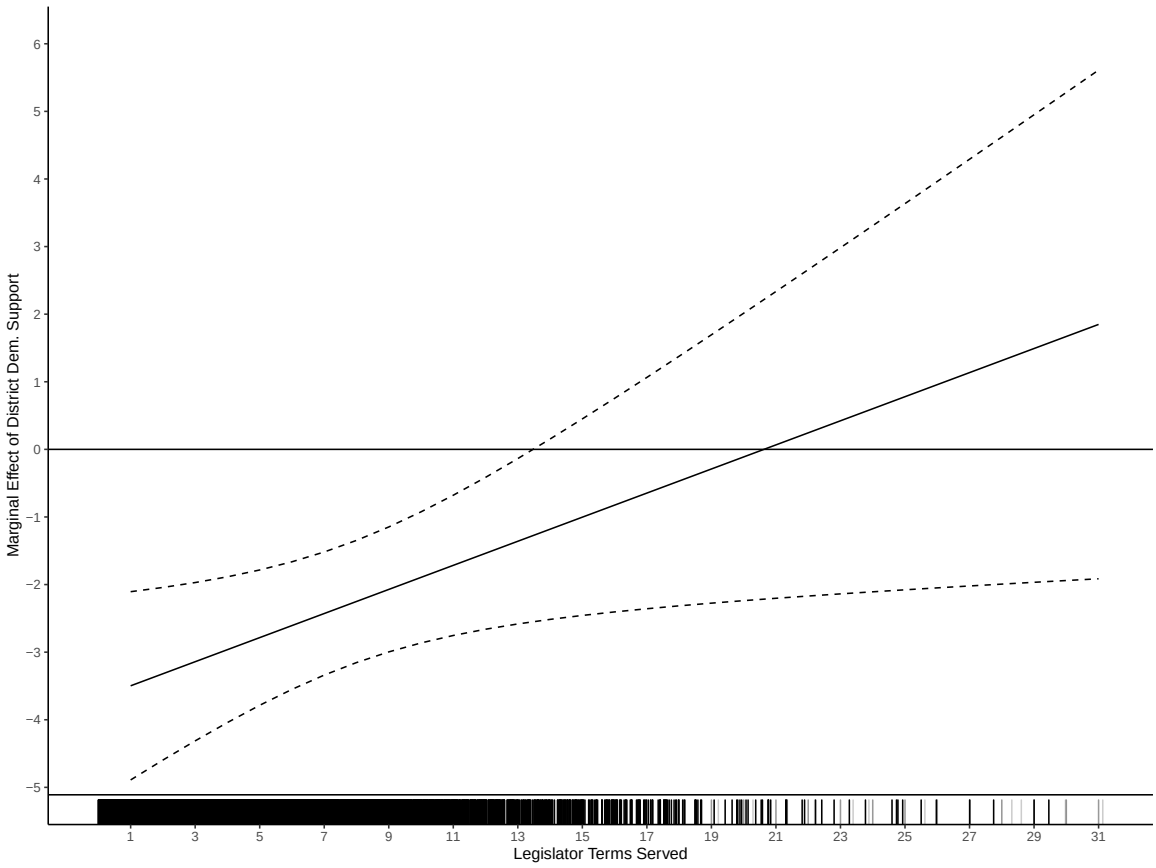
Figure A10: Fowler and Hall Conservative Vote Probabilities by Legislator Party, 104th-114th Congresses



Points are district-assignments by committee in 104th-114th Congresses. Some extreme district-assignments are omitted if their OC z-score is greater than two or less than -2.

Appendix B: Legislator Term Interaction Marginal Effects and Party Unity Results

Figure B1: Marginal Effect of District Partisanship Conditional on Legislator Terms Served



Marginal effects from model 3 in Table 3. The y-axis is the marginal effect of district Democratic support, and the x-axis is the number of terms served by a legislator. Rug plot at bottom shows distribution of number of legislator terms (values jittered).

The first three models in Table B1 leverage within district changes over time to predict party unity, and also include committee and congress fixed effects (model 1) and committee-by-congress fixed effects (model 2). Model 3 estimates first-difference changes within district. The independent variables are the absolute district partisanship as measured by the district's difference from the Democratic presidential vote share in the previous presidential election, where higher values indicate a more partisan district, and legislator party.

In each of the first three models, as a district becomes more partisan, the party unity score of the member from that district increases by about by .071% for each additional percentage more partisan the district is compared to the country. An increase from the minimum level of district partisanship to the mean produces an increase in party unity voting of about 3.33% (95% CI:

Table B1: Two-Way Fixed Effects Estimates for Party Unity, 104th-114th Congresses

	District F. E.			**Member F. E.**		
	(1)	(2)	(3)	(4)	(5)	(6)
Absolute District Partisanship	7.11*	7.62*	8.03*	1.46	1.46	9.20*
	(2.20)	(2.32)	(3.48)	(2.43)	(2.63)	(4.26)
Legislator Party (GOP=1)	1.98*	2.05*	1.91*	89.40*	90.88*	
	(0.627)	(0.632)	(0.966)	(0.444)	(1.50)	
Unit Fixed Effects	Yes	Yes		Yes	Yes	
Committee Fixed Effects	Yes		Yes	Yes		
Congress Fixed Effects	Yes		Yes	Yes		
Committee-by-Congress Fixed Effects		Yes			Yes	
First Differences			Yes			Yes
No. of Unit Fixed Effects	983	983		1,001	1,001	
R-Squared	0.017	0.025	0.005	0.001	0.001	0.032
N	5,162	5,162	3,332	5,162	5,162	3,002

*p<.05. Models are panel linear regression where the dependent variable is a district's (models 1-3) or legislator's (models 4-6) party unity score on committee *j* in congress *t*. Cases indicate number of district or legislator fixed effects. Standard errors clustered by unit (number of clusters equals number of unit fixed effects, in model 3 number of clusters is 790 and in model 6 number of clusters is 794). In model 6 legislator party cannot be estimated because it does not change within legislator across time.

1.31% to 5.36%) (model 1). While not a huge substantive increase in party unity voting, it is equal to about .45 of a standard deviation. Party unity voting on committees is extremely high especially in recent congresses, and only 45 district-assignments out of 463 in the 114th Congress, had a party unity score 3.33 percentage points less than 100. The substantive effects are very similar in models 2 and 3, and combined, these result demonstrate that more partisan districts produce greater party unity within committee voting.

Legislator party is also positive and statistically significant. Consistent with research on asymmetric polarization (Thomsen 2009), even when accounting for district partisanship, Republicans have a higher party unity score than Democrats. Republican party unity scores are about 1.98% higher than Democrats, or slightly less than half of the effect size as absolute district partisanship.

The results in models 4 and 5 of Table B1 show two-way fixed effects estimates leveraging variation within members rather than within districts. There are no significant results for either district partisanship or party, indicating that party unity voting in committees is responsive to

district characteristics, but due to replacement of members rather than changes in behavior. The estimate for the differenced value is significant at the .05 level, and in the expected direction. This is the only significant estimate from the legislator-assignment identified models, however. These results are consistent with those for OC z-scores.

Appendix C: Coefficients for Committee Heterogeneity Interaction Models

Table C1 shows the coefficients for the substantive results plotted in Figure 1. The marginal effects in the left panel use the results from model 1, and are calculated by varying percentage of the committee controlled by the majority party, holding committee staff (logged) at its maximum. The marginal effects of district Democratic support in the right panel also use model 1 and are calculated by varying committee staff, holding percentage of the committee controlled by the majority party at its maximum. Figure 2 plots the substantive effects of absolute district partisanship from model 2 by varying percentage of the committee controlled by the majority party, holding committee staff (logged) at its maximum.

Table C2 shows the coefficients for the substantive results plotted in Figure 3. The left panel shows the marginal effect of district Democratic presidential support varying incumbent vote share in the previous election while holding all other variables at their mean. The right panel does the same, but shows absolute district Democratic presidential vote.

Table C1: District-Assignment Two-Way Fixed Effects Estimates of the Conditional Effect of Partisan- and Information-Induced Preferences on Ideology, 104th-114th Congresses

	DV=Ideology (1)	**DV=Absolute Ideology** (2)
District Dem. Presidential Support	34.07	
	(18.18)	
Absolute District Presidential Support		1.09
		(10.76)
Legislator Party (GOP=1)		-0.065*
		(0.024)
Percent of Committee Controlled by Majority	3.45	0.576
	(4.86)	(3.45)
Committee Staff (Logged)	0.395	0.245
	(0.741)	(0.471)
District Dem. Support x Percent of Comm. x Staff	17.16*	-0.946
	(7.94)	(4.58)
District Dem. Support x Percent of Comm.	-69.98*	0.453
	(32.10)	(18.73)
District Dem. Support x Staff	-9.21*	0.355
	(4.50)	(2.63)
Percent of Comm. x Staff	-0.885	-0.341
	(1.24)	(0.816)
District-Assignment Fixed Effects	Yes	Yes
Committee Fixed Effects	Yes	Yes
Congress Fixed Effects	Yes	Yes
No. of Unit Fixed Effects	980	980
R-Squared	0.315	0.046
N	5,154	5,154

*p<.05. Models are panel linear regression where the dependent variable is a district's ideology z-score on committee *j* in congress *t* (model 1), or a district's absolute ideological z-score (model 2). Standard errors clustered by district (number of clusters equals number of unit fixed effects).

Table C2: District-Assignment Two-Way Fixed Effects Estimates of the Conditional Effect of Vote Share on Ideology, 104th-114th Congresses

	DV=Ideology	**DV=Absolute Ideology**
	(1)	(2)
District Dem. Presidential Support	-5.90*	
	(0.724)	
Vote Share	0.014	-0.170*
	(0.111)	
Absolute District Presidential Support		0.155
		(0.463)
Legislator Party (GOP=1)		-0.062*
		(0.024)
Percent of Committee Controlled by Majority	0.042	0.576
	(0.988)	(0.559)
Committee Staff (Logged)	-0.058	0.025
	(0.076)	(0.036)
District Dem. Support x Vote Share	3.21*	0.622
	(0.838)	(0.612)
District-Assignment Fixed Effects	Yes	Yes
Committee Fixed Effects	Yes	Yes
Congress Fixed Effects	Yes	Yes
No. of Unit Fixed Effects	980	980
R-Squared	0.328	0.045
N	5,128	5,128

*p<.05. Models are panel linear regression where the dependent variable is a district's ideology z-score on committee *j* in congress *t* (model 1), or a district's absolute ideological z-score (model 2). Number of unit fixed effects indicate number of observed districts. Standard errors clustered by district (number of clusters equals number of unit fixed effects).

Appendix D: Main Results Separated by Constituent and Non-Constituent Oriented Committee

The dependent variables capture overall district ideology. It is possible that within-issue ideology for some districts is orthogonal to overall district ideology. This may be especially true for issues which are distributive in nature. As a robustness check, I replicate the main results separating committee jurisdiction using the Frisch and Kelly (2004) and Deering and Smith (1997) committee classification scheme which characterizes some committees as "constituent oriented". These committees are: Agriculture, Armed Services, Natural Resources, Transportation and Infrastructure, Science, Space, and Technology, and Small Business. To these, I add Appropriations, which Deering & Smith/Frisch & Kelly classify as a "prestige" committee. There are 3,305 observations (64.03%) not on these committees and 1,857 observations (35.97%) on these committees. As the results in Table D1 show, the results for each set of committees are nearly identical.

Table D1: District-Assignment Estimates for Ideology, 104th-114th Congresses

	DV=Ideology			DV=Absolute Ideology		
	Constituent Committees					
	(1)	(2)	(3)	(4)	(5)	(6)
District Dem. Presidential Support	-3.23*	-3.27*	-2.66*			
	(0.440)	(0.434)	(0.958)			
Absolute Dem. Pres. Support				0.583*	0.544*	0.189
				(0.188)	(0.186)	(0.332)
Legislator Party (GOP=1)				-0.074	-0.085*	-0.052*
				(0.040)	(0.039)	(0.017)
District-Assignment Fixed Effects	Yes	Yes		Yes	Yes	
Committee Fixed Effects	Yes		Yes	Yes		Yes
Congress Fixed Effects	Yes		Yes	Yes		Yes
Committee x Congress Fixed Effects		Yes			Yes	
First Differences			Yes			Yes
No. of Unit Fixed Effects	579	579		579	579	
R-Squared	0.249	0.244	0.032	0.058	0.065	0.021
N	1,857	1,857	1,083	1,857	1,857	1,083
	Non-Constituent Committees					
	(1)	(2)	(3)	(4)	(5)	(6)
District Dem. Presidential Support	-3.13*	-3.22*	-2.25*			
	(0.438)	(0.421)	(0.527)			
Absolute Dem. Pres. Support				0.658*	0.629*	0.481
				(0.195)	(0.190)	(0.265)
Legislator Party (GOP=1)				-0.101*	-0.095*	-0.040*
				(0.038)	(0.039)	(0.012)
District-Assignment Fixed Effects	Yes	Yes		Yes	Yes	
Committee Fixed Effects	Yes		Yes	Yes		Yes
Congress Fixed Effects	Yes		Yes	Yes		Yes
Committee x Congress Fixed Effects		Yes			Yes	
First Differences			Yes			Yes
No. of Unit Fixed Effects	780	780		780	780	
R-Squared	0.337	0.330	0.020	0.039	0.068	0.007
N	3,305	3,305	2,209	3,305	3,305	2,209

*p<.05. Models are panel linear regression where the dependent variable is a district's ideology z-score on committee *j* in congress *t* (models 1-3), or a district's absolute ideological z-score (models 4-6). Number of unit fixed effects indicate number of observed districts. Standard errors clustered by district (number of clusters equals number of unit fixed effects, in models 3 and 6 number of clusters is 364).

Appendix E: Main Results Using Groseclose-Levitt-Snyder Adjusted Conservative Vote Probabilities and OC Scores.

This robustness check replicates the main results using conservative vote probabilities (Fowler and Hall 2012). Conservative vote probabilities indicate the probability a given legislator votes conservatively relative to the median legislator. The measure uses bill and legislator fixed effects to develop these probabilities. Note however, that the measure is not constrained between 0 and 1 because it captures the difference relative to the median legislator. For example, a value of .1 indicates a legislator is 10% more likely to vote conservatively than the median. The measure also requires an anchor (similar to W-NOMINATE scores); here, the anchor is the first Republican ICPSR identifier for any given set of votes.

To scale these across committees and congresses, I apply the transformation articulated by Groseclose, Levitt and Snyder Jr. (1999) in the context of ADA scores. These adjusted (sometimes called "turbo") ADA scores account for differences across chambers and congresses by allowing the ideological space to shift and stretch. (This stretching and shifting of the ideological space is also why OC scores should not be compared across time or across committees). The Groseclose-Levitt-Snyder adjustment corrects for these problems by deriving an index, which they compare to an inflation index. Adjusted conservative vote probabilities correlate with OC z-scores at .74, while adjusted OC scores correlate with OC z-scores at .88.

I apply the adjustment to both the conservative vote probabilities measure and the committee-congress level OC scores I create in the paper. As the tables below show, both show robust effects for the main results using the two-way fixed effects models. For conservative vote probabilities, a change in district Democratic presidential support from the minimum to the maximum results in a 168% (95% CI: 147% to 188%) decrease in the chances of voting conservative compared to the median voter. The results for the other specifications are substantively similar. Table E2 shows the same change in district Democratic presidential support decreases the adjusted OC z-score by 2.31, similar to the main effect of 3.41 in the main results (Table 1). The effect of absolute district Democratic presidential support on adjusted OC z-scores is not statistically significant, but the coefficients are in the correct direction. Because OC Z-scores are more easily interpretable, I present those in the main results rather than the adjusted values.

Further, adjusted OC z-scores may be over-determined or too manipulated to be substantively meaningful.

Finally, Tables E1 and E2 are identified using two-way effects with district as the panel. Consistent with the main results, there is no significant effect on district Democratic presidential support when the models are identified with legislators as the panels (results not shown, but code provided in replication file). Again, this suggests that legislators do not change their behavior over time to adapt to their district.

Table E1: District-Assignment Estimates for Adjusted Conservative Vote Probabilities, 104th-114th Congresses

	DV=Ideology			**DV=Absolute Ideology**		
	(1)	(2)	(3)	(4)	(5)	(6)
District Dem. Presidential Support	-2.12*	-2.15*	-1.77*			
	(0.132)	(0.132)	(0.195)			
Absolute Dem. Pres. Support				0.206*	0.209*	0.642*
				(0.045)	(0.046)	(0.139)
Legislator Party (GOP=1)				-0.653*	-0.655*	-0.08*
				(0.009)	(0.009)	(0.007)
District-Assignment Fixed Effects	Yes	Yes		Yes	Yes	
Committee Fixed Effects	Yes		Yes	Yes		Yes
Congress Fixed Effects	Yes		Yes	Yes		Yes
Committee x Congress Fixed Effects		Yes			Yes	
First Differences			Yes			Yes
No. of Unit Fixed Effects	963	963		963	963	
R-Squared	0.560	0.196	0.116	0.899	0.902	0.086
N	4,906	4,906	3,129	4,906	4,906	3,129

*p<.05. Models are panel linear regression where the dependent variable is a district's adjusted conservative vote probability *j* in congress *t* (models 1-3), or a district's absolute adjusted conservative vote probability (models 4-6). Number of unit fixed effects indicate number of observed districts. Standard errors clustered by district (number of clusters equals number of unit fixed effects, in models 3 and 6 number of clusters is 719).

Table E2: District-Assignment Estimates for Adjusted OC Scores, 104th-114th Congresses

	DV=Ideology			**DV=Absolute Ideology**		
	(1)	(2)	(3)	(4)	(5)	(6)
District Dem. Presidential Support	-2.31*	-2.34*	-1.32			
	(1.06)	(1.18)	(2.82)			
Absolute Dem. Pres. Support				1.83	0.877	3.72
				(1.16)	(0.623)	(2.51)
Legislator Party (GOP=1)				-0.50*	0.108	-0.12
				(0.189)	(0.009)	(0.069)
District-Assignment Fixed Effects	Yes	Yes		Yes	Yes	
Committee Fixed Effects	Yes		Yes	Yes		Yes
Congress Fixed Effects	Yes		Yes	Yes		Yes
Committee x Congress Fixed Effects		Yes			Yes	
First Differences			Yes			Yes
No. of Unit Fixed Effects	983	983		983	963	
R-Squared	0.002	0.02	0.06	0.194	0.737	0.173
N	5,162	5,162	3,332	5,162	4,906	3,332

*p<.05. Models are panel linear regression where the dependent variable is a district's adjusted OC scores *j* in congress *t* (models 1-3), or a district's absolute adjusted OC score (models 4-6). Number of unit fixed effects indicate number of observed districts. Standard errors clustered by district (number of clusters equals number of unit fixed effects, in models 3 and 6 number of clusters is 740).

Appendix F: Additional Details on the Committee Votes Data Collection Process

The data were scraped from committee report text and include member names and recorded vote positions, along with the vote type (vote to report or not), the committee report number, and the bill number to which the committee report pertains. Votes to report bills were identified using the vote descriptions contained in the committee reports. Names and committees were matched with Stewart's Committee Data (Stewart and Woon 2016) and with DW-NOMINATE data to identify individual members (Poole and Rosenthal 2007).

The text of committee reports was collected through a variety of sources, including Congress.gov and ProQuest's electronic collection of the U.S. Government's Serial Set. A number of points about the data bear mentioning. First, votes within House committees are classified according to the name of the committee as of the 114th Congress. Though the substantive focus and jurisdiction of committees largely stays the same, the names frequently change. For example, in the last few years, the Education and Labor Committee has been called the Economic and Educational Opportunities Committee and the Education and the Workplace Committee. I treat all votes taken in these committees as belonging to the same committees and I also consider the Select Committee on Homeland Security and the Homeland Security Committees as the same committee, as the Select Committee was created before the committee became permanent in 2005.

All roll call votes to report to the House floor taken in committee and listed in the report issued by the committee which accompanies the bill are recorded. Only committee reports which contain the term "vote" were examined for a committee vote. Far more committee reports mention the word "vote" than actually contain a recorded vote, but this strategy was used to screen out hundreds of committee reports which do not contain a roll call vote. A significant number of votes are reported in tables which are not machine-readable. These votes were hand-coded.

A number of votes are embedded in the committee report of a different committee. This is the case for a large number of votes taken by other committees and reported in the Budget Committee's report for reconciliation bills. Where identified, these votes are considered to be votes in the committee of record for the members, not for the Budget Committee. Finally, the

level of detail in the extracted data varies significantly in how member names are reported with some committees reporting full names, some reporting last names, and some reporting states. In some committees where two members have the same last name and no state identification is given, members cannot be matched. These discrepancies were ignored if members voted the same or if they were of the same party as these two factors do not affect inferences on party votes as described below. Still, there are approximately 1,200 member-votes out of the roughly 325,000 total votes that cannot be matched due to insufficient information reported in the committee report. Given that a non-matched member is the result of a random process (i.e.g, having the same last name as another member on the same committee in the same Congress), these non-matched members should not affect the causal claims drawn.

Voice votes and unanimous consent votes are not included in the data for a number of reasons. First, some committees report voice votes and some do not, and even among the committees which do report voice votes, record-keeping appears to be inconsistent over time. Voice votes, when reported, are often mentioned in the text of the committee report rather than in the reporting votes section of the report. Unanimous consent votes do not appear to be recorded by any committee. Division votes are occasionally taken by committees, but not reported in the committee reports. Both division votes and unanimous consent votes are more likely on bills which are less substantive or important (e.g., naming federal buildings, commemorating people or events).

Additional Details on the Creation of OC Scores

OC scores differ from W-NOMINATE scores in that they maximize the correct classification of legislators' choices; it is a "non-parametric procedure that requires no assumptions about the parametric form of the legislators' preference functions, other than assuming that they are symmetric and single-peaked," (Lo 2020, 1, also see Poole 2000). OC scores are a single-dimension ideological measure ranging from most liberal (-1) to most conservative (1).

To be included in the sample, a legislator must have taken ten votes within a committee-congress. Further, while legislator i may cast more than ten votes, for some committee-congresses there are not enough other legislators to scale legislator i's voting record. See Table

A1 in the Appendix for the number of legislators within each committee-congress who have an OC score.