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THREE ESSAYS ON MEASUREMENT WITH CONGRESSIONAL ROLL CALL VOTES

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DEPARTMENT OF POLITICAL SCIENCE

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Abstract

The statistical analysis of roll call data is a long-standing practice in Congressional studies. However, recent methodological improvements have narrowed methodological focus to vote scaling procedures at the expense of other worthwhile conceptual and measurement advancement. This dissertation advances the study of congressional politics by offering three perspectives on how Congressional roll call votes are used to understand legislative preferences, procedure, and outcomes. The first chapter offers a nuanced critique of modern scaling procedures, demonstrating its performance under certain institutional constraints and relevance to inference about historical developments in ideology over time. The second and third chapters offer a refreshed conceptualization of bipartisan voting in Congress in a voting outcomes framework. Together, these three essays approach a well-researched area with conceptual clarity to revitalize the study of Congressional voting beyond scaling.

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Introduction

Voting on legislative issues is a central responsibility for members of Congress. As the primary vehicle for legislative action, formally recorded votes are insightful products of legislators' preferences on a variety of political and policy issues. Fortunately for political scientists, roll call votes are among the most prolific and consistent sources of Congressional data over time. Because of this, scholars have long relied on roll call votes for the academic study of Congress, its members, and their preferences (Lowell 1902; Rice 1925; MacRae 1958; Poole and Rosenthal 1985, 2007). Other data sources (such as bill cosponsorship networks, financial networks, and congressional communications) have become increasingly popular among scholars in the past decades, each with rapid methodological and technological advancements to accompany. Yet, only little methodological progress has been made with roll call data beyond iterative improvements to scaling procedures even though a host of important conceptual, theoretical, and empirical questions about Congressional voting remain unsettled.

One methodological challenge inherent to drawing inferences from roll call votes is measurement bias due to selection. If the roll call votes were independent and identically distributed and sufficiently occurring, political scientists could rely on the voting record to understand voting preferences without concern. However, Congressional roll call voting is subject to agenda setting, usually by the majority party, and thus some roll call votes can be expected to be nonramdonly missing from the record. The selection bias present in the observed roll call record and measures relying on the record has been demonstrated and discussed at length (Vandoren 1990; Jackson and Kingdon 1992; Clinton 2012, 2020). While the record and associated measures are commonly known to contain some level of selection bias, researchers are still unclear concerning the magnitude of the bias and how it might affect statistical inferences. Because this problem is rooted in data unobservability, the coupling of theoretical explication and empirical testing is much needed.

Another methodological challenge with analyzing roll call votes is the recent trend of unnecessary conceptual *flattening*. A methodological promise of NOMINATE scores, and their counterparts, is that maximum information can be drawn from all votes regardless of the votes' underlying substance. In the most common scaling procedures, all votes are treated equivalently. While it was perhaps a satisfying response to the more selective approach of "scoreboard" methods that relied on interest group evaluations (for example), removing substantive distinctions among different roll call votes reduces information information to voting coalitions broadly. However, roll call votes contain more information than coalitions on theoretically and normatively important topics such as procedural advancement and bipartisanship. More conceptual development about roll call voting beyond merely plausible operationalization is needed for more accurate, more precise, and more informative statistical analysis.

This dissertation includes three essays on measurement with congressional roll call votes that addresses these issues, including conceptualization (Chapter 2), frameworks for operationalization (Chapters 2 and 3), new measures (Chapters 2 and 3), and empirically evaluating measurement bias (Chapter 1). Each of these essays brings conceptual clarity to practical measurement problems faced by congressional scholars. This effort also works toward the larger goal of broadening the methodological focus of modern analysis of roll call voting in Congress. Votes contain more information than ideological preferences; this dissertation aims to provide additional tools to researchers to extract that information.

Chapter 1 begins with a careful evaluation of a longstanding critique of scaling procedures: the problem of selection bias due to agenda setting. The chapter uses Monte Carlo experiments across a range of institutional conditions to estimate the effect of negative agenda setting on ideological measures. Unlike previous literature, this project aims to characterize an upper-bounds estimate of the magnitude of agenda setting bias under strong conditions (e.g. strict agenda setting policy, low voting error, etc.). Because the true extent of missingness depends on unobservable quantities, this approach allows researchers to consider effect sizes under conditions most likely to be problematic for inference. The results replicate existing findings that roll call-based measures of legislative ideology can be biased by strategic agenda setting in a single legislative session as well as for multiple-session legislatures. Importantly, when extended to data from the U.S. House of Representatives (1963-2025), I find that strong effect size is less substantively concerning than most simulation conditions suggest, though inferences should be drawn more carefully at times. This nuanced critique provides a realistic estimate of agenda setting bias under its most favorable conditions, providing some evidence in favor of the robustness of scaling techniques to generally aggregate information efficiently.

Chapters 2 and 3 consider bipartisanship in Congressional roll call voting. Chapter 2 critiques the common practice of defining bipartisan votes with a multiple-measures approach. I argue that this approach reflects a critical error to mistake alternative measures for increased conceptual coverage; to the extent that coverage is increased, it is often done so without conceptual precision. In this chapter I articulate a conceptual definition, along with minimal and ideal types, of bipartisan voting that can be operationalized by a conceptually exhaustive typology of roll call voting outcomes. The typology is defined and used to measure bipartisan voting trends in the House of Representatives and Senate, highlighting important insights into bipartisan voting not demonstrated by existing measures. Further, ideal type proximity is introduced for measuring bipartisanship as a continuous measure to consider the spatial distribution of voting outcomes. Both of these approaches provide a conceptually fuller picture of bipartisan (and partisan) voting coalitions over time. Further, the project also contributes an important conceptual link between different types of vote outcomes (e.g. bipartisan consensus and rolling) often discussed as disparate topics in the Congressional literature.

Chapter 3 extends the conceptual framework in Chapter 2 by measuring the bipartisanship of individual legislators' voting records. By considering whether a legislator's vote contributed to a bipartisan outcome, this paper offers a unique measure of a legislator's overall likelihood of participating in bipartisan voting coalitions. The resulting Voting Bipartisanship scores are then used to provide exploratory evidence that legislators' bipartisan voting behavior depends on the vote's institutional context. That is, a legislator who is willing to join a consensus bipartisan vote is not necessarily the same legislator who is willing to join a pivotal bipartisan vote. This measure is shown also to be loosely (at most) correlated to other forms of bipartisanship and legislative effectiveness, reinforcing the conceptual framework as providing a unique perspective on bipartisanship in Congressional voting. Theoretical implications are then considered and avenues for future research are discussed.

Congressional roll call voting remains instrumentally essential to representation and policymaking. Congressional scholars are urged to commit more attention to the methodological advancement of roll call voting analysis, from conceptualization to empirical bias estimation. These three essays provide practical methodological insights to better utilize Congressional roll call data in drawing statistical and substantive inferences.

Chapter 1: Negative Agenda Setting and its Consequences for Measuring Ideology in Legislatures

To what extent does agenda setting affect measures of legislative preference? This paper considers the effect of negative agenda setting on measures of ideology by conducting Monte Carlo experiments across a series of institutional conditions. Building on procedural cartel theory, I hypothesize that enforcing an agenda block zone results in an underestimation of majority party polarity and an overestimation of majority party homogeneity. The results suggest that roll call-based measures of legislative ideology can be biased by strategic agenda setting, even when paired with large amounts of data over time. Further, generalizing experimental results to U.S. House of Representatives show that the Democratic party was likely even more polarized in the pre-Republican Revolution era than is currently estimated, resulting in an even greater asymmetry in ideological polarization by party over time.

Roll call votes have long been used as empirical evidence of legislators' preferences (e.g. Lowell 1902). In Congressional scholarship, this research avenue has encompassed important questions about members' behavior (e.g. Bafumi and Herron 2010; Grimmer 2013; Meyer 2022; Rocca, Sanchez and Nikora 2009) and institutional constraints (e.g. Krehbiel 1998; Cox and McCubbins 2005; Clinton 2007). The emergence of computational methods within the past three decades for analyzing large volumes of roll call data (e.g. Poole and Rosenthal 1985, 1991, 2007; Clinton, Jackman and Rivers 2004; Nokken and Poole 2004) has only furthered the disciplinary practice of operationalizing roll call votes as revealed preferences.

Using roll call voting to measure members' preferences is intuitive. Members regularly record official positions on a variety of issues. These official records are well-maintained and plentiful across time. Further, members frequently refer to their voting record when appealing to constituents (e.g. Ansolabehere and Jones 2010; Grose, Malhotra and Van Houweling 2015) while opponents will likewise advertise members' unpopular votes in hopes of gaining electoral support (e.g. Fridkin and Kenney 2019). Despite its promise, the roll call record faces important challenges to valid inference. One of those challenges is the potential for selection bias due to agenda setting.

Scholars have urged caution about inferential limitations due to roll call selection for decades (e.g. Vandoren 1990; Jackson and Kingdon 1992; Ainsley et al. 2020). Theories of Congressional agenda setting have elicited formal expectations of when to expect majority parties to schedule or prevent a vote on a given measure (e.g. Cox and McCubbins 2005; Rohde 1991; Ordeshook and Schwartz 1987; Stiglitz and Weingast 2010; Clinton 2020). Others have also found that some bills that eventually become law may not even receive a roll call vote (Clinton and Lapinski 2008; Lynch and Madonna 2013).

To what extent does agenda setting affect measures of legislative preference? Several have attempted to address these questions through simulation approaches (e.g. Stiglitz and Weingast 2010; Hirsch 2011). Clinton (2012) demonstrates selection effects by simulating a single legislature under various forms of agenda control and voting error. Ainsley et al. (2020)

follow suit by modeling a single legislature with varying levels of roll call vote missingness. Both studies illuminate selection effects on metrics using roll call votes in a single simulated legislature.

In this paper, I consider the effect of negative agenda setting on measures of ideology by conducting Monte Carlo experiments across a series of institutional conditions. Building on procedural cartel theory, I hypothesize that enforcing an agenda block zone results in an underestimation of majority party polarity and an overestimation of majority party homogeneity. The first study uses a single-session legislature model to produce ideological measures under treatment (i.e. agenda block zone) and control. A second study expands the framework into a multi-session legislature model. Finally, experimental findings are extrapolated to roll call data from the U.S. House from 1963 to 2025. The results suggest that roll call-based measures of legislative ideology can be biased by strategic agenda setting, even when paired with large amounts of data over time.

1.1 Measuring ideology in Congress with roll call votes

Roll call votes are among the most plentiful and well-recorded data available for the study of the U.S. Congress. As early as Lowell's (1902) recollection of roll call voting in the English House of Commons and the U.S. Congress, scholars have studied the roll call record to understand legislator preferences and behavior (Rice 1925), partisan influences (Brady and Althoff 1974), policy making (MacRae 1958), and electoral connections (Shannon 1968; Erikson 1971) in Congress. The most prolific demand for roll call vote analysis has pertained to measuring legislators' preferences or ideology, either by various scaling procedures (Rice 1925; MacRae 1958; Poole and Rosenthal 1985, 2007) or by "scoreboard" evaluations from interest groups (Erikson 1971; Groseclose, Levitt and Snyder Jr. 1999; Anderson and Habel 2009).

The use of modern vote scaling procedures, namely DW-NOMINATE (Poole and Rosenthal 2007) and IDEAL scores (Clinton, Jackman and Rivers 2004), has earned widespread acceptance in the study of congressional politics. Assuming a spatial theory of voting, these methods rely on the roll call agenda to differentiate between legislators' preferred policy positions. If a legislator's ideal point in policy preference space lies closer to the alternative proposal's point than to the status quo's point, the legislator should be expected to vote for the proposal; if the status quo's point is closer to the legislator's point, the expected vote is against the proposal. This scenario can also be characterized by a proposal's cutpoint, or the point in preference space that bifurcates the legislators who are closer to the proposal from those who are closer to the status quo. Under this voting rationale and a roll call agenda with sufficient coverage of the policy preference space, legislators' revealed preferences vis-a-vis roll call votes can be scaled in the legislature across time. An empirical strength of this approach is that roll call votes can be analyzed agnostically — without regard to substantive content. The required assumption of these methods is that legislators vote sincerely and that the roll call agenda differentiates between differentiable legislators.

The scoreboard approach to measuring legislator ideology relied on substantive evaluations of roll call votes. A group would identify roll call votes important to the group's cause and then publish members' records on those votes, usually in the form of a percentage score reflecting how often the member voted with the group's interest. This measurement was straightforward and provided a simple interpretation: a member who votes with a liberal interest group 90% of the time is probably more liberal than one who votes with that group only 60% of the time. After their introduction in the late 1940s, congressional voting scoreboards became increasingly popular among interest groups and were widely distributed to the public, especially during election time. While an empirical strength of this approach is that roll call votes are considered substantively with different scores for different policy topics, scholars have tended away from this method amidst mounting concerns that interest group evaluations were biased and unstable (Clausen 1973; Fowler 1982; Charnock 2018). As Charnock states, "[interest group scores] are charged political instruments, designed with particular strategic aims in mind" (2018, 50).

Yet while interest group scores have fallen on hard times, vote scaling techniques are subject the to same criticism of being "charged political instruments" guided by "particular strategic aims in mind." Scaling techniques that agnostically utilize the entire roll call record remain unwittingly subject to the strategic selection of votes in the data generating process.

1.2 Selection bias in the roll call record

Scaling procedures require the assumption that legislators vote sincerely on an differentiating agenda[1]. That is, the basis for ideological measurement using roll call votes assumes that any missingness in the roll call record is non-strategic – or at least not strategic enough to be consequential. Yet, much work has focused on the untenability of this assumption. Voting records can exhibit missingness for individual legislators who strategically abstain from roll call votes (Rosas, Shomer and Haptonstahl 2015) or for entire votes that received voice votes instead of roll calls (Lynch and Madonna 2013). The composition of the roll call agenda itself is subject to partisan (Rohde 1991; Rohde and Aldrich 2001) and procedural (Roberts and Smith 2007; Crespin, Rohde and Vander Wielen 2013; Crespin and Rohde 2010; Lynch, Madonna and Roberts 2016; Jessee and Theriault 2014; Bussing and Lerner 2022) dynamics that can complicate otherwise straightforward analysis.

Procedural cartel theory provides a direct theory of strategic missingness in the roll call record. The negative agenda setting tradition has focused on the majority party's ability to prevent unintended outcomes through veto rights (Cox and McCubbins 1993, 2005). While the majority party has an presumable interest in maximizing policy gains, their foremost legislative goal is to minimize potential loss – both in terms of policy and elections. In policy terms, the majority party needs to keep control of the process to prevent "chaos" (e.g. McKelvey 1976)—or the proliferation of ad hoc issue coalitions that can amend legislation far

[1]By "differentiating agenda", I refer to a voting agenda wherein each legislator pair with different ideal points will experience at least one vote where each vote differently.

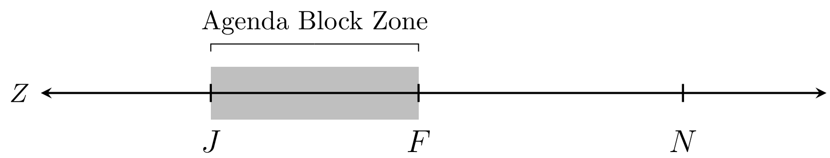


Figure 1.1. Spatial model of legislative agenda control. The shaded region between the majority party median (J) and the floor median (F) represents the *agenda block zone*—the set of policy proposals the majority party is expected to block from reaching the floor. N denotes the minority party median.

beyond its original intention (e.g. Finocchiaro and Jenkins 2008). Electorally, the majority party wants to refrain from putting marginal members at risk of backlash against unpopular votes – especially when the majority is slim (e.g. Lee 2016). Among the goals are to achieve majority party preferred policy outcomes and position the minority party unfavorably for the next elections. The strategy is to maximize majority cohesion and maximize minority disunity.

The tool of the procedural cartel is exercising veto rights, particularly in service of the so-called "first commandment of party leadership" to not allow bills that split the majority party (Cox and McCubbins 2005, 24). The majority party's agenda setting efforts are negatively focused on preventing consideration of those bills that would garner a majority of the floor but not a majority of the majority party. The result is ideological space in which roll call votes are unlikely to occur: an agenda block zone. Consider a legislature comprised of members distributed across unidimensional preference space Z, where the floor median ideal point F, majority point J, and minority point N are distributed as in Figure 1.1. In spatial terms, the majority party should work to prevent any vote that would have a cutpoint on the range $[J, F]$ as these votes could create a coalition between a majority party faction and the minority party to roll the majority of the majority party on that vote.

Preventing votes on the range $[J, F]$ have other benefits for the majority party as well. First, by blocking votes that would require moderate majority members to take an vote contrary to the majority, the majority party can prevent difficult votes for ideological moderates who tend to be more electorally vulnerable. Second, by requiring the majority party to be generally in agreement prior to holding a vote, the majority party can appear as more cohesive while the minority party can be perceived as divided. While the public is not expected to pay regular attention to the legislative agenda, roll call votes are frequently publicized during campaigns and have electoral consequences (Hare and Poole 2014*a*; Lapinski 2004; Canes-Wrone, Brady and Cogan 2002; Ansolabehere and Jones 2010). Majority party control over the agenda is strategic because the roll call record is electorally relevant. Posturing the majority party favorably and the minority party unfavorably is a key goal in agenda setting.

Procedural cartel theory provides a rational justification to indicate potential strategic missingness in the roll call agenda and insight to the strategies and tools of the majority party in determining the voting agenda. With this theoretical grasp, methodological concerns about the potential bias of ideological measures due to missingness can be investigated.

1.3 Consequences of selection bias for measuring ideology

The central threat vote missingness poses to valid measurement of legislator ideal points occurs when legislators possess a true but unobserved difference. This limitation emerges from the data generating process (i.e. the voting agenda and preference distribution) and not from the measurement methods themselves. For example, take the previously shown unidimensional preference space Z and with legislators distributed in that space ($\{j_1, j_2, ..., j_8\}$ for the majority party; $\{n_1, n_2, ..., n_8\}$ for the minority party). Consider two voting agendas, both shown in Figure 1.2. In Figure 1.2(a), votes occur at cutting points $v_1, v_2, ..., v_{13}$ so that all legislators are differentiated by the voting agenda. When scaled into estimated preference space Z' (Figure 1.2(b)), legislators are measured with transposable space between them, maintaining the internal structure occurring in the true but unobserved space Z. This represents the ideal data generating process: members are differentiated and any other votes that could have occurred could not have differentiated members any more than the current voting agenda. That is, any vote-level missingness in the roll call record is inconsequential to differentiation.

Figure 1.2(c) and 1.2(d) show the spatial implications of enforcing an agenda block zone. Votes occurring at $\{v_4, v_5, v_6\}$ are blocked from the agenda so that the ideal positions of legislators $\{j_4, j_5, j_6, j_7\}$ are not differentiated (1.2(c)). The consequence is that the estimated space Z' maintains space between differentiated legislators but collapses on the non-differentiated agenda block zone because there is no observed difference (1.2(d)). The undifferentiated legislators are observationally equivalent, given the roll call agenda, even though there are real differences in the true ideal points.

When the majority party's negative agenda setting collapses the estimated space on $[J, F]$, two theory-relevant biases occur. First, the majority party median is estimated to be closer to the floor median than if that agenda setting had not occurred. This characteristic is straightforward: if the space between $[J, F]$ is unobservable, then the difference between J and F will be unobserved. The theoretical consequence is that measurement will bias inferences toward observing a more moderate majority party than what truly exists.

Distance Asymmetry Hypothesis (H1)[2]: Enforcing an agenda block zone will decrease the majority party's median distance to the floor median relative to the minority party's.

Second, the majority party appears to be more unified, more homogeneous than if the agenda setting had not occurred. This characteristic is also straightforward: the collapse of space $[J, F]$ occurs only for the majority party, meaning that less variation is observed for the majority party than for the minority party. A theoretical consequence is that measurement will bias inferences toward observing a more ideological homogenous majority party that what truly exists.

Dispersion Asymmetry Hypothesis (H2): Enforcing an agenda block zone will

[2]Hypotheses are stated with party estimates' being relative to another to reflect non-comparability of absolute latent spaces between models.

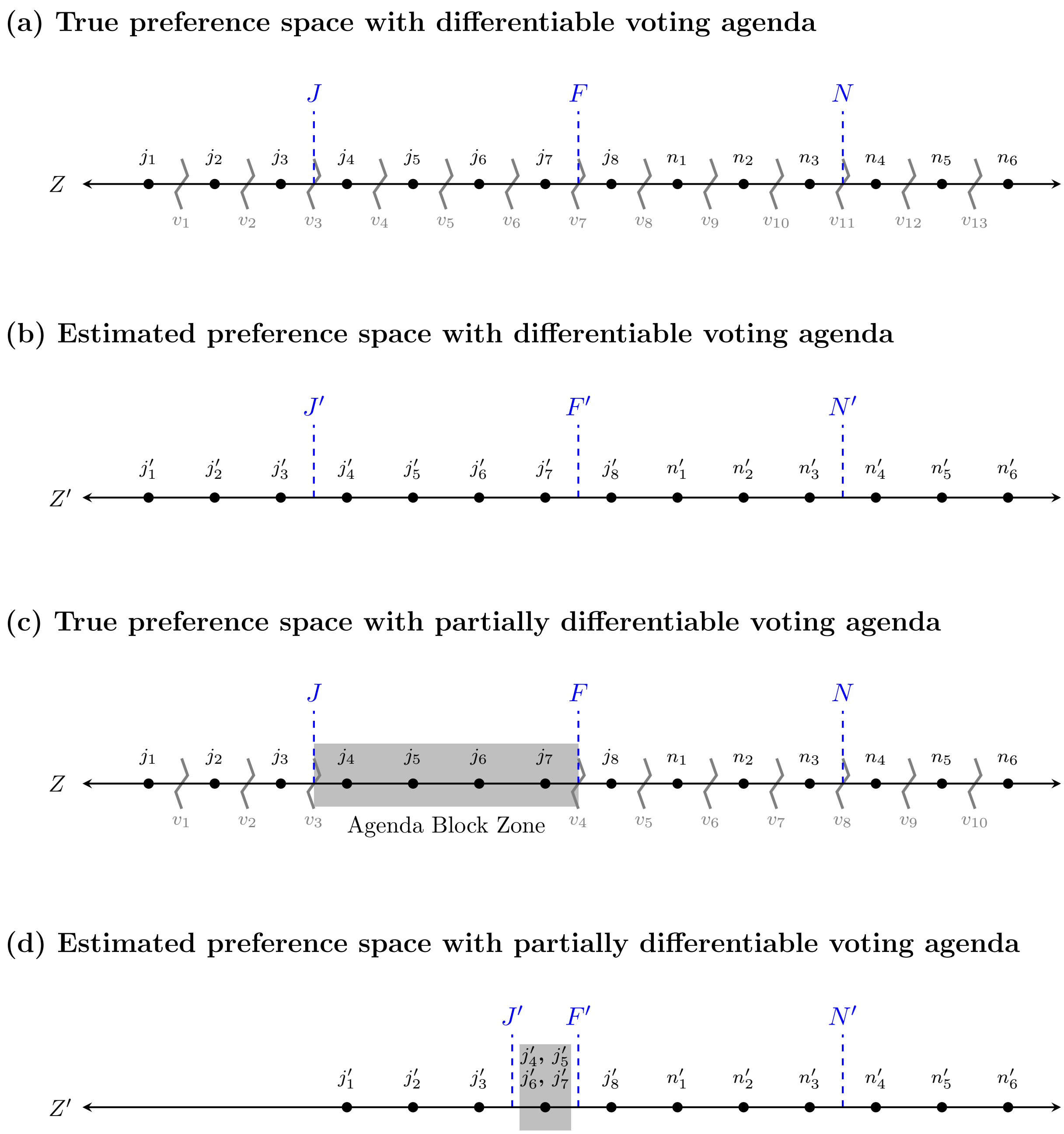


Figure 1.2. Ideal point estimation under differentiable and partially differentiable voting agendas. **(a)** True ideal points of majority-party legislators (j_1–j_8) and minority-party legislators (n_1–n_6) with a voting agenda (v_1–v_{13}) that differentiates between each legislator's position in preference space (Z). **(b)** Estimated preference space (Z') and positions of legislators (j'_1–j'_8, n'_1–n'_6), given the voting agenda in (a). **(c)** True ideal points of majority-party legislators and minority-party legislators with a voting agenda (v_1–v_{10}). According to procedural cartel theory, any potential votes on the range $[J, F]$ are expected to be blocked by the majority party. **(d)** Estimated preference space and positions of legislators, given the voting agenda in (c).

decrease the majority party's dispersion relative to the minority party's.

1.4 Agenda setting bias in single-session legislatures

1.4.1 Data and Methods

The motivating research question regards how a specific type of unobservability affects measurement. To evaluate the above hypotheses, I use Monte Carlo experiments to test the causal impact of negative agenda setting rule on measuring ideology. Monte Carlo experiments are well-aligned to the research question as the researcher can define distributional properties of the data generating process and conduct a large number of simulations that sample across those distributions. Because the data generating processes in each simulation are known, the researcher may observe the unit under both control and treatment – producing an observed counterfactual for each unit.

To evaluate H1 and H2, a single-session legislature is modeled. There are two types of defined data generating parameters: legislator parameters and agenda parameters. The legislator-defining parameters consist of the following: number of seats in the legislature, majority proportion, shape parameters of the ideological distribution, and amount of ideological overlap. These parameters are defined at the legislature level. Individual legislator information, including party and true ideal points, are sampled from legislature-level distributions defined by these parameters. The agenda parameters consist of the following: coverage intervals and voting error. Additional descriptive information about legislator and agenda parameters is included in the appendix.

These legislator and agenda parameters are used to generate roll call votes for which each legislator will be assigned a vote consistent with the spatial logic of cutpoints (e.g., all to the left of a cutpoint will vote one way and all to the right of a cutpoint will vote the other way, given the legislator's ideal point and voting error rate). The control group are those simulations where each vote at the defined coverage interval is observed. The treatment group are those simulations where only those votes *not* located in the legislature-specific agenda block zone are observed.[3]

Finally, using the roll call matrices developed by the Monte Carlo simulations, I calculate ideal point estimations from Clinton, Jackman and Rivers's (2004) procedure for legislators in the control and treatment groups. Rather than compare individual members' scores across conditions, I assess causal effects of agenda setting on ideological measures by looking at legislature-level measures of polarization. Because the comparisons occur between latent spaces that are not directly comparable, the quantities of interest are ratios of distance (H1) and dispersion (H2). Using ratios allows comparison of the relative, i.e. internal, structures of latent models across a range of simulations.

For a single-session legislature, t_i is the ratio t of the distance between the majority party median J from the floor median F to the distance between the minority party median N and the floor median for that legislature i.

$$t_i = \frac{|J_i - F_i|}{|N_i - F_i|}$$

The causal effect of the agenda setting treatment d on t for i is defined as τ_i.

$$\tau_i = (t_i|d_i = 1) - (t_i|d_i = 0)$$

Finally, the quantity of interest for testing H1 is the average causal effect on distance ratio τ.

$$\tau = \frac{1}{N}\sum_{i=1}^{n} \tau_i \tag{1}$$

Similarly, for a single-session legislature, p_i is the ratio p of the standard deviation of the majority party's ideological distribution to that of the minority party's ideological distribution, where x is the estimated ideal point for legislator l belonging to either the majority

[3]The block zone is defined as X for every simulation. Because legislator parameters are randomly selected from the relevant distribution, the block zone is defined relative to the legislature's ideological distribution.

party ($j = 1$) or not ($j = 0$).

$$p_i = \frac{\sqrt{\frac{\sum_{l=1}^{n_{j=1}} (x_{l,j=1} - \bar{x}_{j=1})^2}{n_{j=1} - 1}}}{\sqrt{\frac{\sum_{l=1}^{n_{j=0}} (x_{l,j=0} - \bar{x}_{j=0})^2}{n_{j=0} - 1}}}$$

The causal effect of the agenda setting treatment d on p for i is defined as ϕ_i.

$$\phi_i = (p_i | d_i = 1) - (p_i | d_i = 0)$$

Finally, the quantity of interest for testing H2 is the average causal effect on dispersion ratio ϕ.

$$\phi = \frac{1}{N} \sum_{i=1}^{n} \phi_i \tag{2}$$

1.4.2 Results

H1 states that the enforcement of an agenda block zone causes a decrease in the majority party's distance to the floor median relative to the minority party's distance to the floor median. Table 1.1 reports the mean standardized, $N(0, 1)$, values for the majority, minority, and floor medians across the simulations for the control and treatment conditions. These descriptive results demonstrate the expected structure from the designed experiment. Compared to baseline absolute differences between the floor median and the respective party medians, the majority party's absolute distance decreases (-0.18) while the minority party's absolute distance increases (+0.05).

	Mean Control	Abs. Diff from Floor	Mean Treatment	Abs. Diff from Floor	**Diff in Abs. Diff**
Floor	0.00		-0.08		
Majority party	-0.53	0.53	-0.43	0.35	**-0.18**
Minority party	0.56	0.56	0.53	0.61	**+0.05**

Table 1.1. Average floor and party medians by experimental group. Each simulation's estimated ideal points are normalized $N(0, 1)$ prior to averaging.

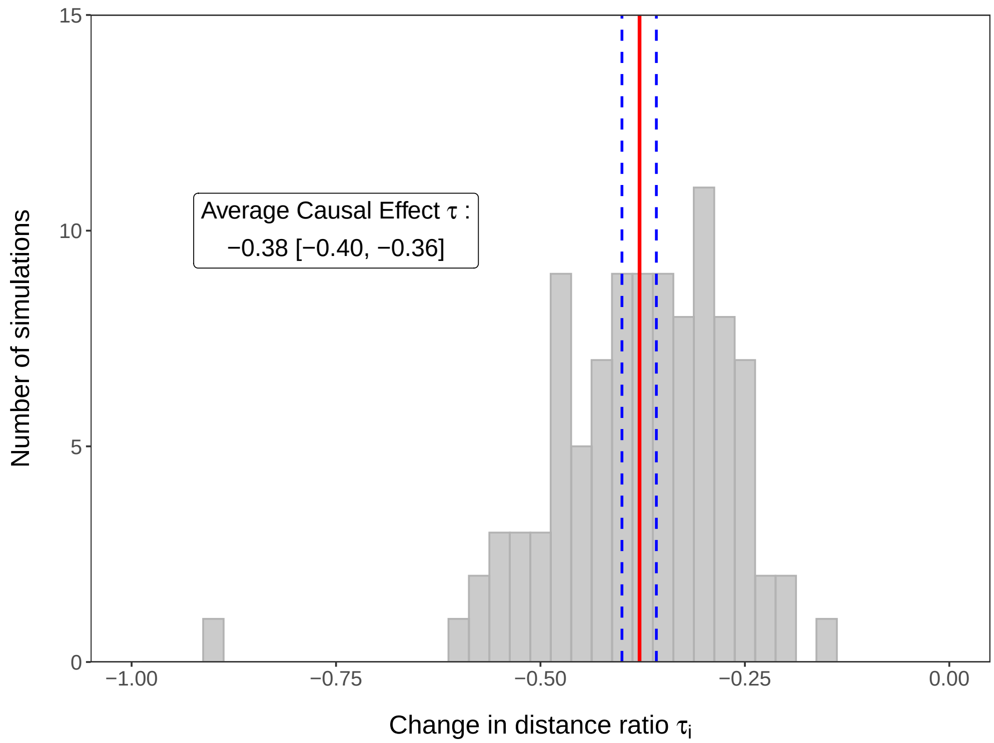


Figure 1.3. Distribution of simulated causal effects of negative agenda setting on distance ratio τ_i. The solid red line represents the average causal estimate among the simulations ($\tau = -0.38$). The dotted blue lines represent the bias-corrected and accelerated (BcA) bootstrapped 95% interval with a lower bound of -0.40 and upper bound of -0.36.

Figure 1.3 shows the distribution of τ_i in controlled comparisons across 100 simulations. A positive value for τ reflects that the majority party's distance to the floor median increases relative to the minority party's distance to the floor median; a negative τ value reflects the contrary.[4] The mean difference in relative distance τ is -0.38, with bias-corrected and accelerated (BcA) bootstrapped 95% interval at a tight range of $[-0.40, -0.36]$. A τ of -0.38 means that the majority party is measured to be 38% closer to the floor median than is the minority party, on average, when an agenda block zone is enforced. For example, on a $[-1, 1]$ range with a true majority party median of -0.5, a true minority party median of 0.5, and a true legislature median of 0.0, a τ of -0.38 could result in measuring the majority party median as -0.31, or downwardly biased by nearly one-fifth of the scale's negative domain.

[4]The quantity of interest (τ) is determined irrespective of whether the change in absolute difference occurs in the majority party or minority party. This is an important feature, given that absolute differences are non-comparable across latent modeling strategies.

For example, an analogous shift in DW-NOMINATE scores is between the Democratic party in 1944 (-0.22) and the Democratic party today (-0.39). With 95% BcA confidence intervals clearly below zero, H1 is supported.

H2 states that the enforcement of an agenda block zone causes a decrease in the majority party's dispersion relative to the minority party's dispersion. Table 1.2 reports the average legislature-normalized ($N(0,1)$) standard deviations by party and experimental group. As the magnitude of difference in dispersion between the majority party and minority party increases from control (-0.01) to treatment (-0.06), the uncontrolled group comparisons demonstrate that enforcement of the block zone results in measuring the minority party to be less cohesive than it would have been measured otherwise.

	Mean Control	Mean Treatment
Majority party	0.71	0.70
Minority party	0.72	0.76
Difference	-0.01	-0.06

Table 1.2. Average party dispersion by experimental group. Dispersion is measured as standard deviation. Each simulation's estimated ideal points are legislature-normalized $N(0,1)$ prior to grouping and averaging.

As with interpreting τ, H2 states that ϕ will be negative, reflecting that the majority party's dispersion decreases relative to the minority party's dispersion. Figure 1.4 shows the distribution of ϕ_i. The average causal effect of enforcing the agenda block zone on dispersion ratio ϕ is -0.08 $[-0.09, -0.07]$, signifying support for H2. A ϕ of -0.08 means that the majority party is measured to be 8% more condensed (in terms of standard deviation) than is the minority party, on average, when an agenda block zone is enforced. If the entire effect were from one party's consolidation, a 0.08 decrease in a party's ideological standard deviation, or increased ideological cohesion, is similar to the transformation that occurred in the Democratic party between 1955 and 2015.

The potency of the agenda setting treatment is determined by the block zone's coverage

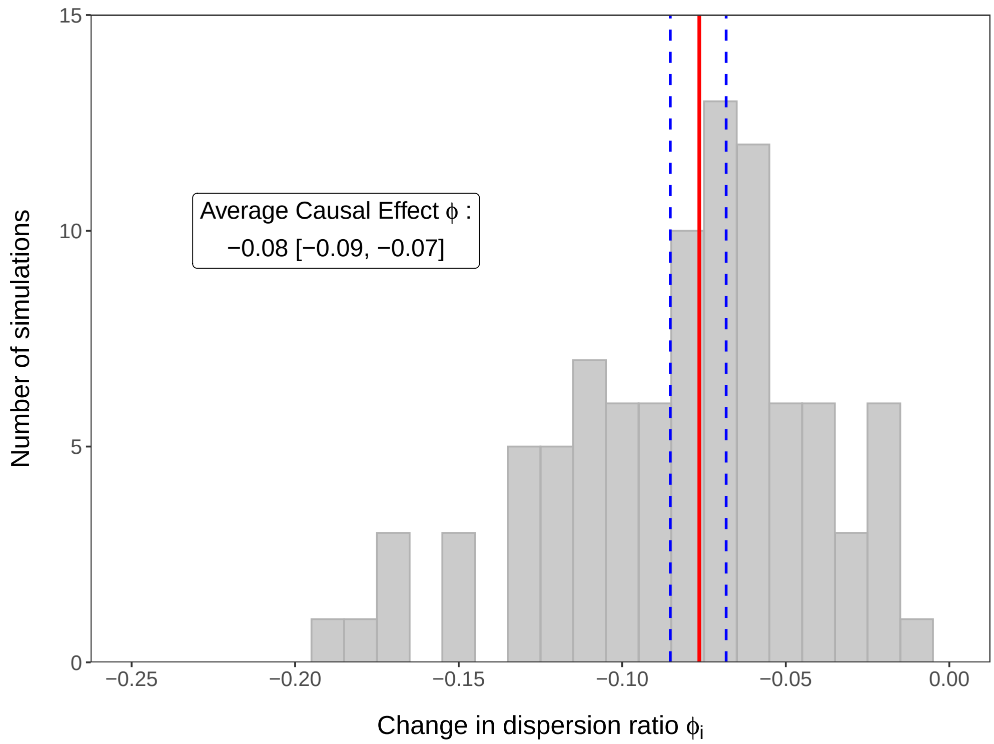
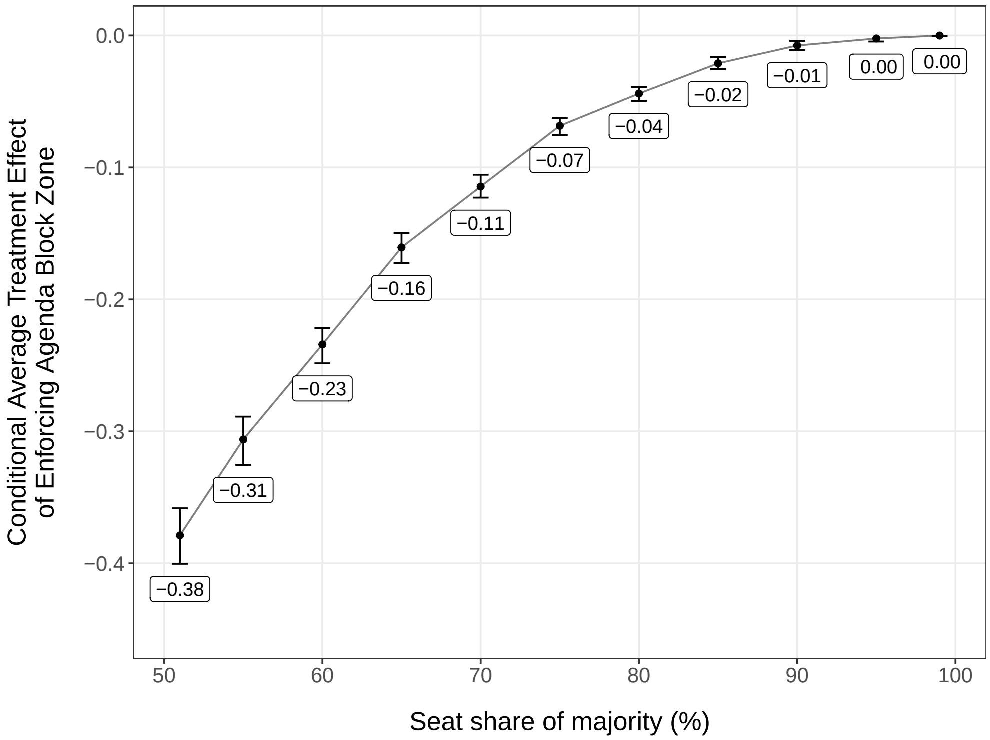


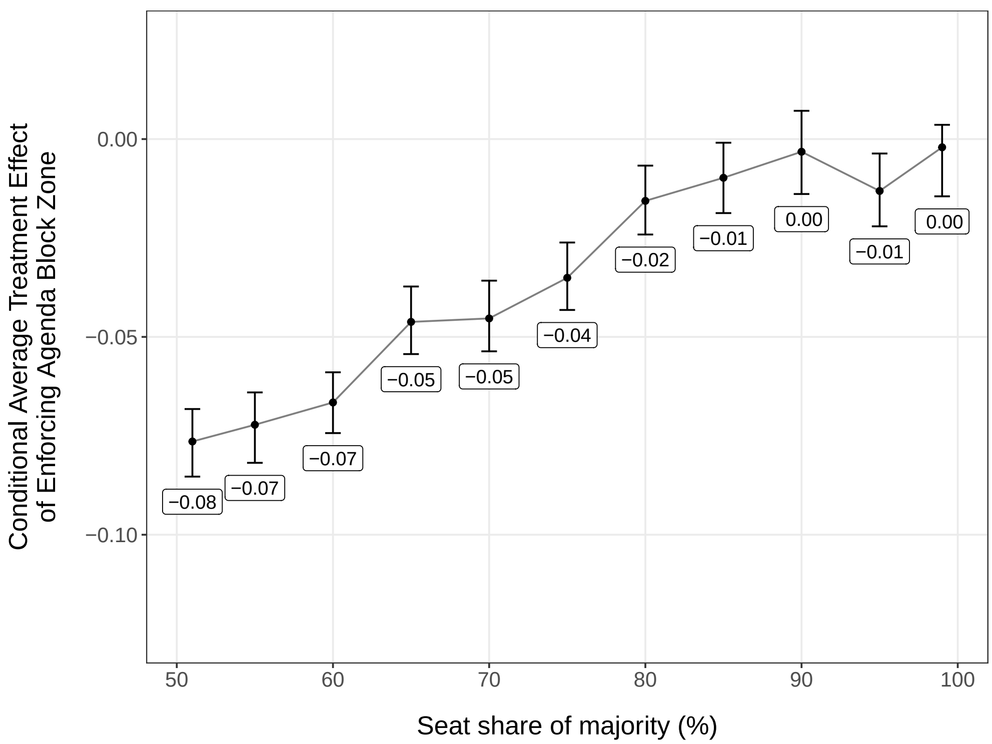
Figure 1.4. Distribution of simulated causal effects of negative agenda setting on distance ratio ϕ_i. The solid red line represents the average causal estimate among the simulations ($\phi = -0.08$). The dotted blue lines represent the 95% confidence interval (BcA) with a lower bound of -0.09 and upper bound of -0.07.

area. The domain of an agenda block zone ranging $[J, F]$ converges to zero as seat share approaches 100 percent because $J = F$ when the majority party controls all seats in the legislature. Conversely, assuming non-perfectly overlapping ideology across parties, the domain of a block zone should increase as the seat share approaches 50 percent. Thus, agenda setting effects should be most pronounced when seat share is near 50 percent and gradually dissipate as seat share increases. Figure 1.5 shows the agenda setting treatment effect on distance (τ) and dispersion (ϕ) conditional on majority seat share.

Figure 1.5a shows the treatment effect of agenda setting on the distance ratio τ conditional on majority seat share. At a slim margin of 51 percent, the block zone has its greatest effect (-0.38) before quickly reducing by nearly half at 60 percent (-0.23) to eventually approaching zero effect at 90 percent. Likewise, Figure 1.5b shows the treatment effect of agenda setting on the dispersion ratio ϕ conditional on majority seat share. Though



(a) Causal effects on distance ratio τ by majority seat share



(b) Causal effects on dispersion ratio ϕ by majority seat share

Figure 1.5. Causal effects of agenda block zone enforcement conditional on majority seat share. Estimates presented with 95% confidence intervals (BcA).

dissipating more gradually, the conditional treatment effect of enforcing the block zone also begins more pronounced at a slim margin (-0.08) before approaching zero at 100 percent. Together, Figure 1.5 corroborates H1 and H2 by emphasizing the agenda block zone as a key mechanism by which the measurement bias due to agenda selection can be exacerbated.

1.5 Agenda setting bias in multi-session legislatures

Evidence from a single-session legislature shows that negative agenda setting can bias the estimated preference space of a legislature. This bias empirically reflects the majority party's strategic motivations: to increase majority party cohesion and make the minority party appear more ideologically extreme.

The methodological promise of using the roll call record is that these votes are plentiful over time. Given that legislators serve bridging tenures across composition changes in the legislature, scholars are usually assuaged by the premise that bias is alleviated given that the agenda block zone in Z is not perpetually covered across all legislatures. This requirement can be met by changes in the majority party. For example, consider a two-party legislature where Party A is the majority party in session 1 and Party B is the majority party in session 2. With ideologically sorted parties where all legislators are present in both sessions, the preference space underlying the block zone in session 1 will be revealed in session 2 and thereby differentiate among all legislators. Thus, the proliferation of roll call votes over time provides confidence in ideal point estimation as long as the space is eventually differentiated for all legislators in a block zone.

The 20th-century Congress presents a difficult case. From 1931 to 1995, the Republican party controlled the House of Representatives only twice – and not once after 1955. The significant bias observed in the previous section can be mitigated by changes in party control as long as legislators don't exit the legislature prior to differentiation. However, this condition is extremely unlikely as the 84th to 103rd Congresses featured continued Democratic party control of the House agenda. Given the previous findings in a single-session legislature, are agenda setting effects on ideology measures solved over time or do they persist?

1.5.1 Data and Methods

I expand the previous Monte Carlo framework to account for multi-session legislatures wherein individual legislators are present for a tenure and then replaced over time. In addition to those parameters previously mentioned, the following tenure and replacement parameters are now included: duration, tenure, Democratic starting and ending seat share, and a seat share stochastic term. Duration and seat share variables are given fixed values; a legislator's tenure is randomly drawn from a probability distribution. Additional descriptive information about replacement parameters is included in the appendix.

Roll call matrices and ideal point estimations are conducted under the same specifications as for the single-session legislatures. With multiple legislative sessions for each simulation, the block zone changes from session to session. Because of this, agenda setting effects can be assessed conditionally by session s. The effect of agenda setting on distance ratio t for simulation iteration i in session s is defined as τ_{is}.

$$\tau_{is} = (t_{is}|d_i = 1) - (t_{is}|d_i = 0)$$

The quantity of interest is the average effect of agenda setting on distance ratio conditional on session τ_s.

$$\tau_s = \frac{1}{N_s} \sum_{i=1}^{n_s} \tau_{is} \tag{3}$$

Likewise, the effect of agenda setting on dispersion ratio p for simulation iteration i in session s is defined as ϕ_{is}.

$$\phi_{is} = (p_{is}|d_i = 1) - (p_{is}|d_i = 0)$$

The quantity of interest is the average effect of agenda setting on dispersion ratio conditional on session ϕ_s.

$$\phi_s = \frac{1}{N_s} \sum_{i=1}^{n_s} \phi_{is} \tag{4}$$

1.5.2 Results

As mentioned above, the multi-session model contains parameters for majority party control: starting and ending Democratic seat share and a stochastic term. Figure 1.6 shows the average Democratic seat share across simulations with boundaries at the 5th and 95th percentiles. The Democratic majority begins at 65 percent seat share with the average share dipping below 50 percent by the 30th legislative session. To note, 46 percent of simulations experienced the first change in majority party by the 20th legislative session and 67 percent by the 25th.

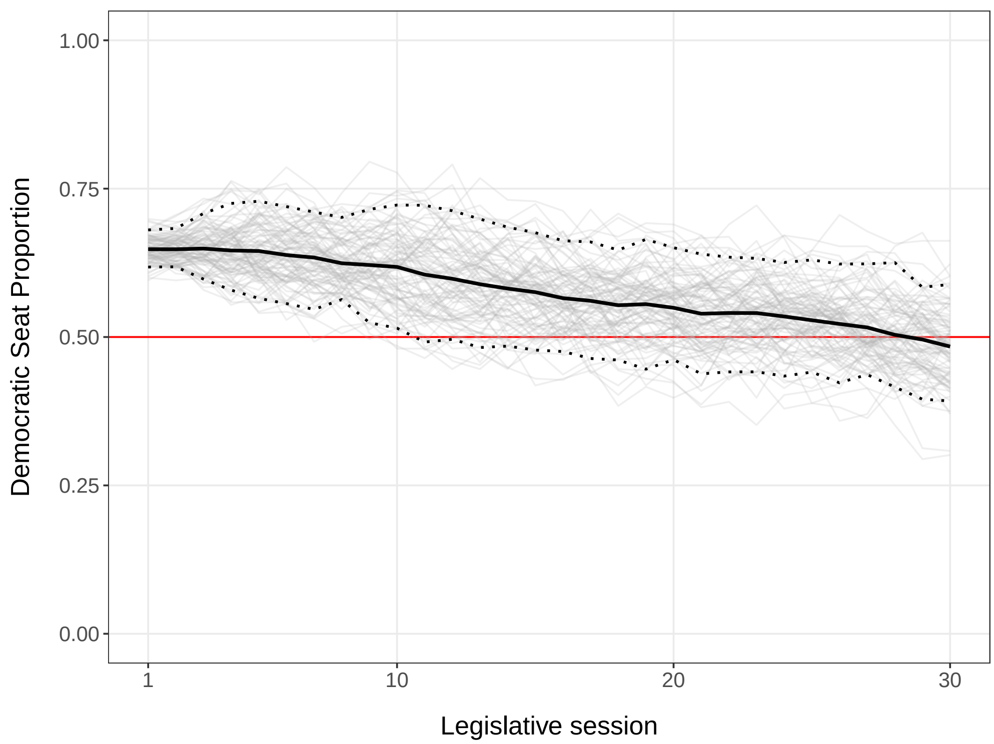


Figure 1.6. Democratic seat share by session. Dark solid line represents the average Democratic seat share by session across simulations. Solid dotted lines represent the 5% and 95% percentiles of simulated seat shares. Light solid lines represent Democratic seat share for individual simulations by session.

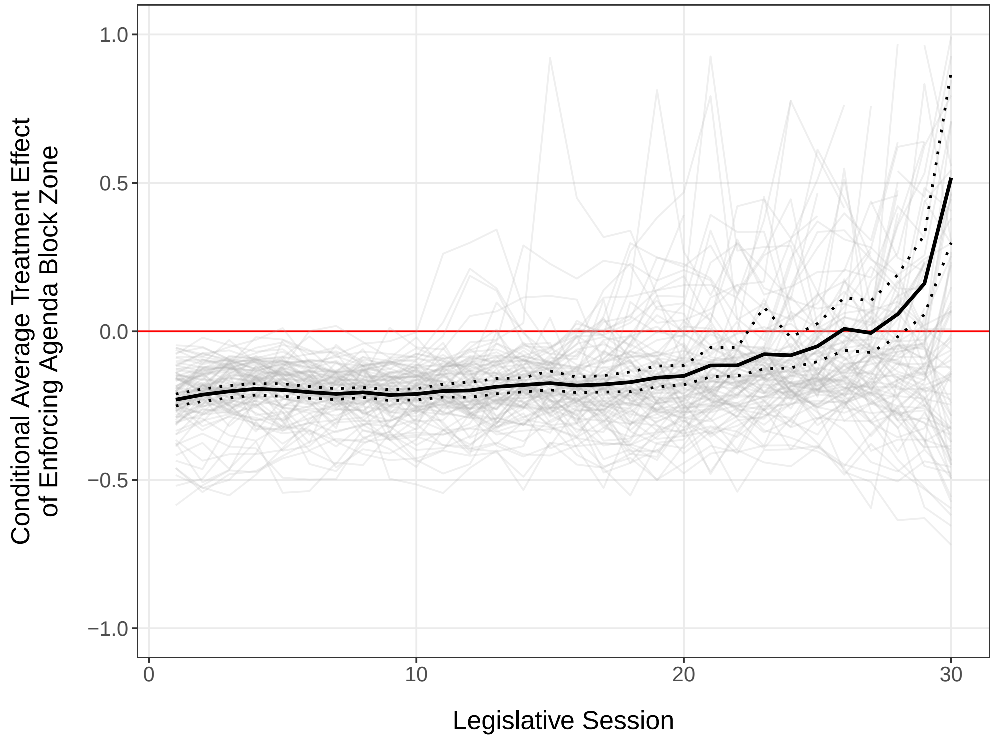


Figure 1.7. Causal effects of agenda block zone on distance ratio by session. Dark solid line represents the average causal effect on distance ratio by session τ_s. Solid dotted lines represent the 95% confidence interval (BcA) for the causal effect estimate. Light solid lines represent estimated causal effects for individual simulations by session τ_{is}.

Figure 1.7 shows the conditional average treatment effect (CATE) on distance ratio of enforcing a block zone by legislative session, τ_s. The CATEs for sessions furthest from a Republican majority ($0 < s < 15$) are considerably lower than the ATE in a single legislature but remain consistently negative: $(\tau_s | 0 < s < 15) = -0.20$ for the multi-session legislature versus $\tau = -0.38$ in the single-session legislature. This negative τ_s means that ideology estimates under-estimate Democratic distance to the floor relative to that for Republicans. Only as sessions approach a switch in the majority party do CATE estimates begin to change, eventually reaching a CATE near zero on average in sessions 26 and 27 before ultimately becoming increasing positive. Positive τ_s means that ideology estimates begin overestimating the distance of the Democratic (newly minority) median to the floor median relative to that for the Republican (newly majority) median.

Reconsidering H1 in a dynamic context, these results coincide with previous findings:

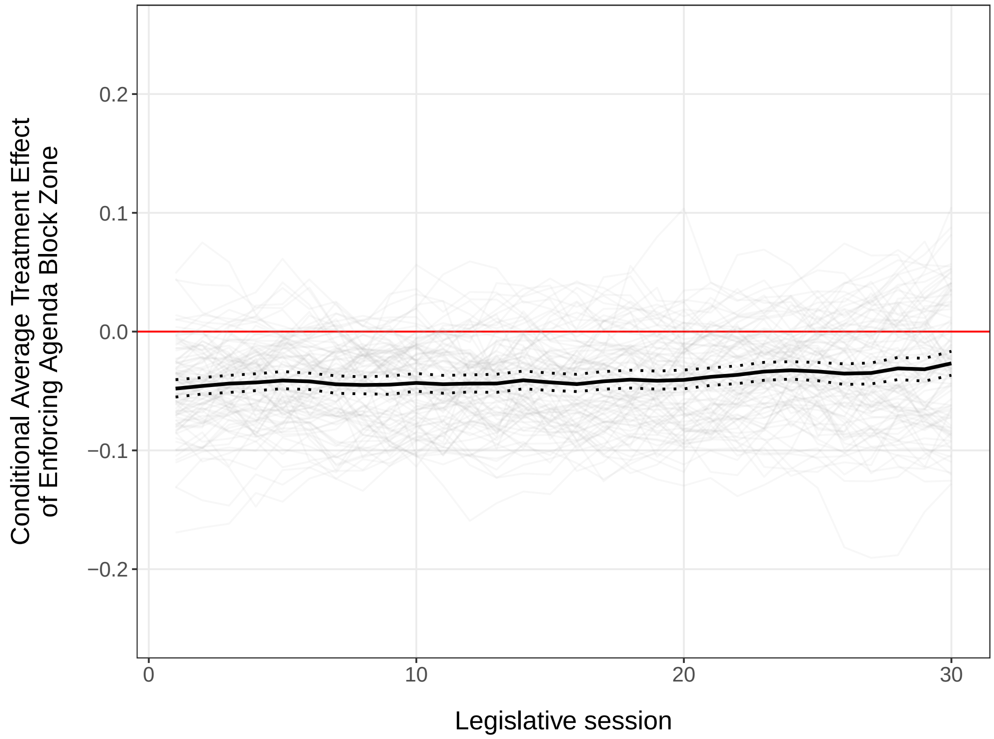


Figure 1.8. Causal effects of agenda block zone on dispersion ratio by session. Dark solid line represents the average causal effect on dispersion ratio by session ϕ_s. Solid dotted lines represent the 95% confidence interval (BcA) for the causal effect estimate. Light solid lines represent estimated causal effects for individual simulations by session ϕ_{is}.

the majority party can effectively manipulating the revelation of preferences in a way that strategically advantages the majority. As an important caveat, these results suggest that agenda setting effects in a multi-session context are not uniform. Bias due to agenda setting may be more pronounced in some sessions than in others, particularly during periods of prolonged majority party control. While the bias consistently favors the majority party, the bias may be decreased in sessions adjacent to majority status changes. H1 is further supported by this extended framework.

Figure 1.8 shows the conditional average treatment effect on dispersion ratio of enforcing a block zone by legislative session, ϕ_s. In contrast to the estimated CATEs on distance ratio, we find that the CATE on dispersion ratio is stable over time at an average of 0.04. Again, the negative ϕ_s means that ideology estimates under-estimate Democratic dispersion (i.e. intraparty heterogeneity) relative to Republicans. The stable effect over time suggest that agenda setting effects on relative dispersion are more impervious to correction over time than effects on relative distance. The multi-session context provides further evidence of H2, adding that the collapse in preference space resulting from selection bias is durable over time.

These findings show that agenda setting bias in relative partisan distance is likely to be most pronounced during extended periods of partisan control. During these periods, legislators with ideal points within the party's block zone may enter and exit the legislature without experiencing differentiating votes from others in the block zone. The result is that scaling procedures are unable to recover the true latent space for those legislative sessions.[5] The resulting bias on distance is not static, given changes in majority party; the effects are likely to "see-saw" based on extended majority party control and legislator replacement rates. Nonetheless, the substantial challenge for political scientists is that under certain conditions our ideological measures reflect partisan efforts. Beyond a mere empirical or methodological concern, this presents a real challenge to making inferences about legislative polarization.

1.6 Discussion: Polarization in the U.S. House, 1963-2025

Established above is that negative agenda setting can distort the estimated preference space of a legislature. This distortion can occur in two ways: by underestimating the ideological polarity of majority party and by overestimating the ideological homogeneity of the majority party. The magnitude of measurement bias due to agenda selection was shown to be related to majority seat share, majority status changes over time, and tenure among undifferentiated legislators. These findings emerge from Monte Carlo simulations that are especially helpful in determining the structural conditions under which unobserved but theory-defined

[5]So called *bridges* between legislatures connect latent space in s=1 to that in s=2. On their own, bridges cannot solve latent space distortion due to selection. Legislators must experience differentiation.

missingness is expected to be most pervasive. A remaining question is how these results generalize to observed trends in legislative politics.

The U.S. Congress is polarizing – and it is doing so asymmetrically. Researchers have shown that not only are congressional parties increasingly distant from each other but that the rate is more pronounced among Republican legislators than among Democratic legislators (Theriault 2008; Hare and Poole 2014*b*; McCarty, Poole and Rosenthal 2016; Grossmann and Hopkins 2016). Given the experimental findings presented in this paper, there is reason to think that some portion of the asymmetric polarization in congressional ideology is an artifact of an extended period of majority party status.

Again considering dynamics reflecting the 20th-century U.S. House of Representatives, I show estimated party medians for the 88th through 118th Congresses adjusted for modeled negative agenda setting bias. First, the full roll call record for the 88th through 118th Congresses was used to estimate legislator positions using real legislator party and tenure data. This establishes a baseline measure that reflects current measures. Second, Monte Carlo simulations are performed with fixed legislator party and tenure data from the U.S. House for the time period. These simulations are conducted to estimate τ_s. Third, majority party median values are adjusted to account for the expected bias due to agenda setting using the estimated values of τ_s.[6]

Figure 1.9 shows the baseline and adjusted estimated median values for the Democratic and Republican parties in the U.S. House. Solid lines represent baseline values; dashed lines represent adjusted values. Given that τ_s is defined as a difference in ratios, adjusted medians for a party should be interpreted against the baseline median for the opposing party. When adjusted for agenda setting bias, parties' ideological medians show that the Democratic (Republican) party's polarity is underestimated (overestimated) from 1963 to the Republican Revolution in 1994. The bias adjustment becomes less influential after the Republican party became competitive again in the House after 1995, with majority status changing parties

[6] More information about the adjustment calculations is provided in the appendix.

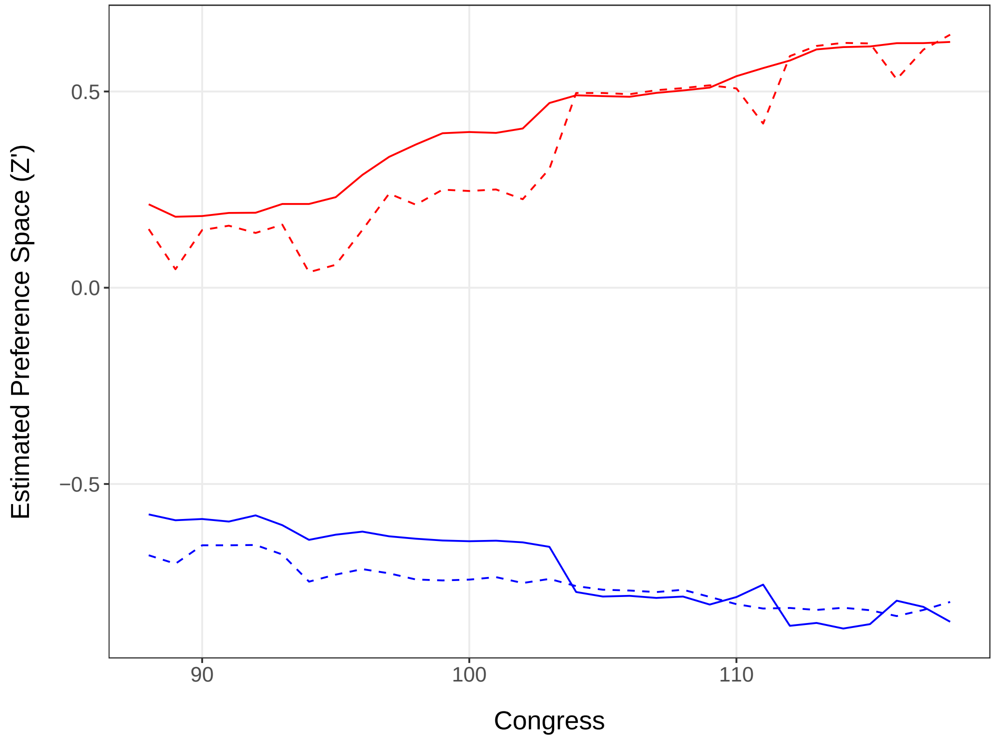


Figure 1.9. Baseline and adjusted party medians in the U.S. House, 1963-2025. Solid lines represent the baseline median values for each party. Dashed lines represent the party median values adjusted for agenda setting bias. Adjusted party medians are interpreted against the baseline median for the opposing party.

more frequently. Considering polarization asymmetry, the baseline change in the Republican party median is estimated to be +0.41 while adjusted change is +0.43; baseline change in the Democratic party median is estimated to be -0.27 while adjusted change is -0.17. Because the Democratic party's baseline ideological polarity is underestimated early in the time period, the Republican party's estimated polarization rate was adjusted from a 50 percent increase to 155 percent increase over the Democratic party's polarization rate since 1963.

Similarly, Figure 1.10 reports the baseline and adjusted differences in party medians over time. Bias adjustment produces only minor differences to the baseline measure. As in Figure 1.9, the differences are mostly concentrated in the period of prolonged Democratic control: the adjusted distance is 10 percent higher than baseline on average from 88th to 103rd Congress and only 1 percent higher on average thereafter.

Extrapolating experimental findings to to ecological conditions in the U.S. House demon-

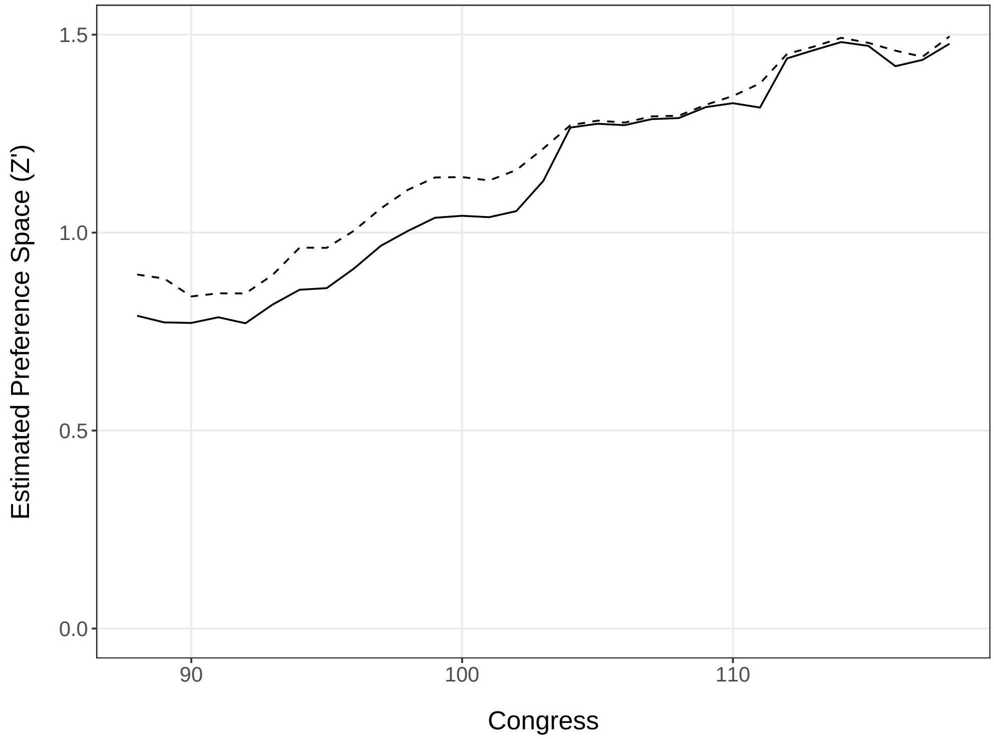


Figure 1.10. Baseline and adjusted party distance in the U.S. House, 1963-2025. Solid line represents the baseline distance between party medians. Dashed line represents the distance between party medians adjusted for agenda setting bias.

strates that the anticipated agenda setting bias is present but that its magnitude is curtailed over time. The adjusted values show that U.S. House has asymmetrically polarized over time by an even larger margin than estimated with baseline measures.

1.7 Conclusion

Roll call-based measures of legislative ideology can be biased by strategic agenda setting, even when paired with large amounts of data over time. This paper has demonstrated the causal effect of negative agenda setting on measures of ideology. In the single-session legislature model, enforcing an agenda block zone results in measures that point to a more moderate and ideologically homogeneous majority party. The multi-session legislature model also shows ideological measures underestimate majority party polarity. Finally, the experimental results were generalized to structural conditions of the U.S. House from 1963 to 2025. Results show that the Democratic party was more polarized in the pre-Republican Revolution era, resulting in an even greater asymmetry in ideological polarization by party over time. These results carry three primary implications for legislative research.

First, the magnitude of agenda setting bias present in ideological measures is conditional on the legislature's structural features. Researchers should consider at least two structural features when assessing the potential for negative agenda setting bias: margin of majority party status and duration of sustained majority party control. Majority party margins affect the magnitude of potential agenda setting bias: slimmer margins produce wider agenda block zones and larger margins produce narrower agenda block zones. The duration of sustained majority party control affects whether the preference space underlying the agenda block zone in session s will be observed in $s + 1$, $s + 2$, ..., etc. Longer durations will likely experience higher levels of agenda setting bias as legislators enter and exit the legislature without being differentiated by the roll call record on the block zone interval. Especially if performing research with roll call or ideological data from periods of prolonged majority party control, the quantitative scholar should be cautious to acknowledge the increased localized potential for bias.

Second, while the bias-correcting adjustments presented here for the U.S. House may be modest on average, the structural conditions favorable to agenda setting bias are also present elsewhere. Researchers interested in state legislatures should be especially cautioned about the potential for agenda setting bias. Single party dominance of state legislative institutions is far more common than in Congress, though also usually with higher margins. Additionally, legislator turnover rates are generally 1.5-2 times higher in state legislatures than in Congress. These conditions suggest that negative agenda setting bias may be more present in other American legislatures.

Third, researchers should further investigate the theoretical grounds for roll call missingness. This paper provides a thorough glance at the implications of negative agenda setting as defined in procedural cartel theory. While this theory provides the clearest rationale for vote missingness, it is not the only one. Legislative research utilizing roll call records should acknowledge the potential for missingness and sign its potential bias. The roll call record is large and plentiful but it is also strategic. As with any quantitative study, researchers should explicitly consider the possible limitation of selection bias prior to drawing inferences.

Chapter 2: Types of Bipartisanship in Congressional Voting

Existing measures of bipartisanship in congressional voting confuse *definition* and *degree* in their operational definitions. This paper offers a robust conceptual definition of bipartisan voting that can be operationalized by a conceptually exhaustive typology of bipartisan voting. Using this typology, bipartisan voting trends in the U.S. House of Representatives and U.S. Senate are measured and discussed. Further, the typology is expanded to account for proximity to ideal types of bipartisanship, providing a continuous measure of bipartisan types. Results show that congressional behavior is clustered near these ideal types, suggesting that researchers should account for institutional behavior when aligning operational measures to important concepts. Descriptive conclusions and practical recommendations for future studies of bipartisan voting in Congress are discussed.

In a partisan and polarized political climate, bipartisanship is increasingly valued among the public. While the public continues to reward their representatives' partisanship (Case and Ommundsen 2024; Barron and McLaughlin 2024), they are also more likely to reward politicians for their bipartisan efforts and messaging (Morris and Witting 2001; Harbridge, Malhotra and Harrison 2014; Paris 2017). The public widely values bipartisanship as good, even if survey respondents have difficulty defining it (Westwood 2022).

Bipartisanship also remains important in Congress. It is important for passing legislation (Curry and Lee 2019, 2020*a*,*b*) and legislative effectiveness (Harbridge-Yong, Volden and Wiseman 2023). Members regularly engage in constituent-focused messaging on bipartisanship (Harbridge and Malhotra 2011; Lee 2016) – and they often follow-through (Case, Ommundsen and Porter 2025).

Despite its uncontested importance in theory and practice, there has been little development in the conceptualization and measurement of bipartisanship in congressional voting. Existing measures lack conceptual clarity and spatial coverage of plausible bipartisan voting outcomes in Congress. In this paper, I offer a conceptual definition of a bipartisan vote and elicit corresponding typology of bipartisan voting. This approach requires researchers to define the relevant institutional contexts for a vote and measuring bipartisanship relative to that context. The typology is used to measure prevalence of bipartisanship in congressional voting from 1990 to 2025. Further, the typology framework is extended to measure a vote's proximity to ideal types of bipartisanship, providing a continuous measure of the spatial position of voting outcomes.

The paper makes three concluding remarks. First, not all bipartisan votes are meaningful in the same way. Second, the inferential strength of studies on bipartisanship in congressional voting is proportional to the amount of conceptual space its operationalization covers. Third, researchers are encouraged to focus on the ideal type of bipartisan voting that is most relevant to their research question and then draw inferences by bipartisanship type.

2.1 Measuring bipartisanship in Congress

Congressional bipartisanship can be defined broadly as a member's engaging in, or demonstrating willingness to engage in, legislative work involving member(s) of the opposing party. Bipartisanship at different stages in the legislative process can include some mixture of collaboration, coordination, coalition, and communication.

A popular approach to measuring congressional bipartisanship focuses on bill cosponsorship patterns (e.g. Fowler 2006; Dobson and Lollis 2026). Cosponsorship is when a member of congress formally attaches their name to another member's legislation. This legislative action at least involves the cosponsoring member's clear position-taking on the issue (Desposato, Kearney and Crisp 2011; Koger 2003) but often translates into additional legislative work (Sulkin 2011) and effective lawmaking (Harbridge-Yong, Volden and Wiseman 2023; Sotoudeh, Porter and Krishnagopal 2026). Cosponsorship is especially important as members aim to connect their legislative work to constituency needs and reelection goals (Campbell 1982; Koger 2003; Sulkin 2011; Harbridge 2015) while maintaining legislative relationships (Curry and Roberts 2025). Measures of congressional bipartisanship via bill cosponsorship are commonly measured by cosponsorship coalitions (Harbridge 2015), members' likelihood of giving or receiving bipartisan cosponsorship support (The Lugar Center 2026; Dobson and Lollis 2026), and network analysis (Fowler 2006; Kirkland and Gross 2014; Victor 2025; Lo, Olivella and Imai 2026).

Another trend in measuring congressional bipartisanship has focused on legislators' bipartisan messaging. Members of congress frequently translate their actions–or intent to act–into communication with peers and constituents, aiming to publicize their efforts. Examined sources of messaging include legislative speech (Morris and Witting 2001; Case and Ommundsen 2024), social media posts (Gelman and Wilson 2022), and peer-to-peer messaging (Craig 2023). Bipartisan rhetoric is valued by constituents and thereby electorally beneficial (Morris and Witting 2001; Paris 2017; Westwood 2022; though see Case and Ommundsen

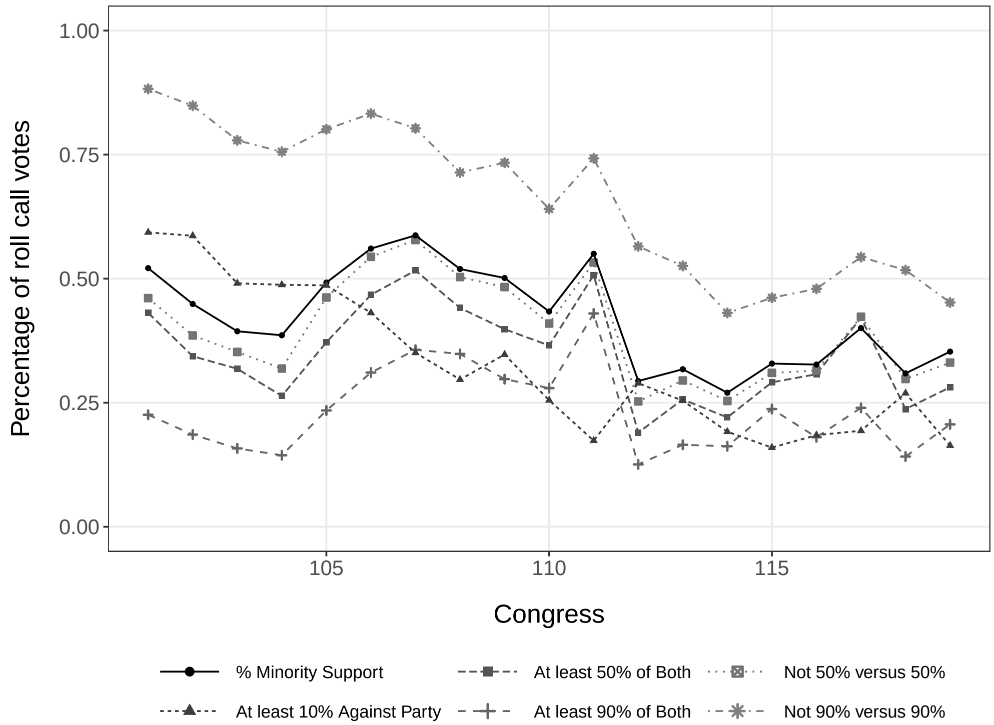
2024). These measures of congressional bipartisanship generally classify messages as being bipartisan if there is a direct appeal to bipartisanship or self-identification as bipartisan (Gelman and Wilson 2022; Craig 2023; Case and Ommundsen 2024).

The traditional approach to measuring congressional bipartisanship uses roll call votes to determine the bipartisanship, or conversely party unity, of voting coalitions. As early as Rice (1925), congressional scholars have measured partisanship in voting patterns as party discipline and/or party unity voting. This historical focus is warranted: while coordination and collaboration throughout the legislative process is important, their relevance to lawmaking is established by a *vote*. This point is made especially clear in recent studies on bipartisan lawmaking in Congress (Curry and Lee 2020*b*, 2019, 2020*a*) and Congress's relationship to the president in foreign policy (McCormick and Wittkopf 1990; Bryan and Tama 2022; Tama 2025).

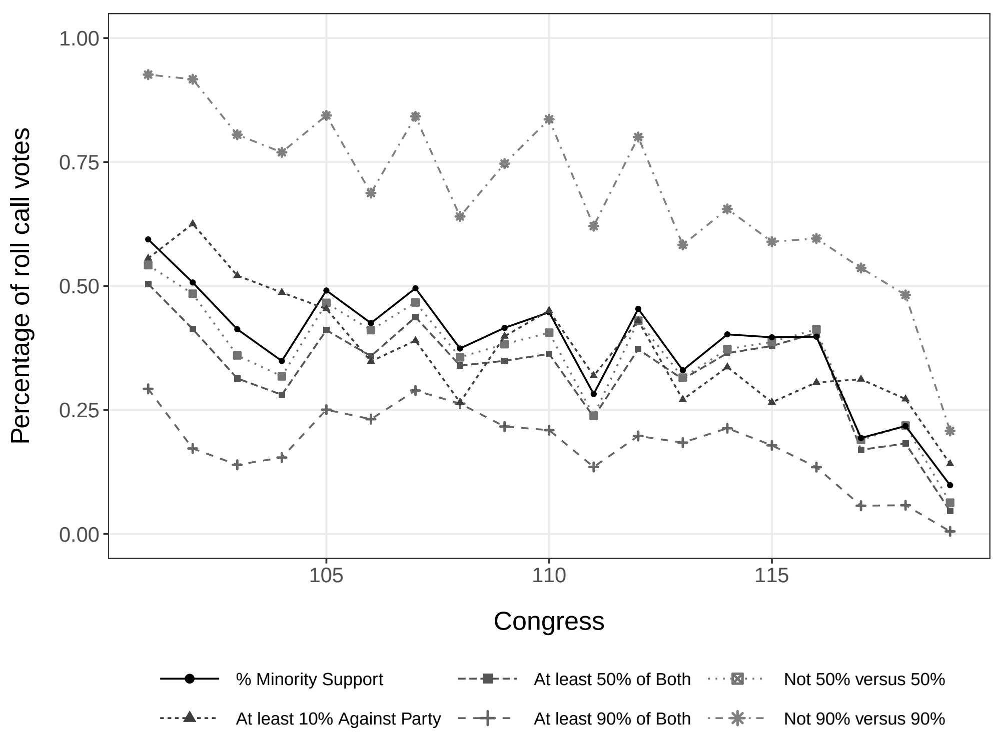
Despite scholars' efforts over time, there is not a shared operational definition of a *bipartisan vote*. For example, Curry and Lee (2020*b*) conduct their analyses using three alternative measures defining a bipartisan vote: (1) whether at least 50 percent of both paries vote the same way, (2) whether at least 90 percent of both paries vote the same way[7], and (3) the percentage of the minority party voting for the measure. Tama (2025) define a bipartisan vote as one in which at least 10 percent of all votes are against the voter's respective party's position. Further, Souva and Rohde (2007) negatively define a bipartisan vote as when there is not a majority-against-majority outcome.

The resulting proportions of bipartisan votes by Congress according to these different approaches are shown in Figure 2.1. Measured bipartisanship levels in the House of Representatives (2.1a) vary greatly across operational definitions. Starting with the 101st Congress, the proportion of votes that were measured as bipartisan ranges over 0.60, from about 25 percent to nearly 90 percent; that range closes by about half in the 119th Congress. Even

[7]While the measure is described as whether 50 (90) percent of both parties vote the same way, Curry and Lee select on bills that are ultimately enacted. This results in an effective measure of only including whether 50 (90) percent of both parties vote *for* a measure.



(a) Measures of bipartisan voting in the House of Representatives



(b) Measures of bipartisan voting in the Senate

Figure 2.1. Common measures of bipartisan voting in Congress.

discounting the supermajority definitions, there remains a steady 20 percentage point range between the remaining measures. Additionally, while the percentage minority support, 50 percent of both parties, and not 50 percent versus 50 percent measures are well-correlated, the 10 percent against party measure shows a clearly different trajectory of bipartisan voting over time: a steep decrease from the 101st Congress to the 111th with a plateau thereafter. Conversely, the other measures show plateaus from the 101st to 111th and from the 112th to the 119th with a sharp decline occurring between the 111th and 112th. From these measures, the researcher is left with an unclear inference as to the significance of the 112th House: was it a tectonic shift in voting coalitions or the solidification of decades-long decline?

Patterns in the Senate (2.1b) share the same concern about the overall range in estimates: approximately a 60 percentage point between supermajority definitions with a 10 percentage point range for the non-supermajority definitions. Similarly, though to a lesser degree, questions about the steepness of decline in bipartisan voting remains a question among varying operational definitions of bipartisanship.

More critically, these operational definitions demonstrate a confusion of *type* and *degree*. These prevailing approaches aim to determine the type of vote (i.e. bipartisan or not) but end up relying on coalition threshold specifications for definition. Some specifications (namely the supermajoritarian and 10 percent against party position) are arbitrary and exhibit a sense of institutional agnosticism: *voting coalitions with 90 percent of both parties' votes are bipartisan but those with only 80 percent are not?* What is the institutional significance of this distinction? Obviously the consensus is stronger at the 90 percent threshold – but that there is strong, supermajoritarian bipartisan consensus at 80 percent is apparent. Further, even the more institutionally-aware definitions can lack enough conceptual coverage to include certain instances of meaningful bipartisanship. While a threshold of 50 percent is institutionally relevant given that party caucus/conference strategy is usually influenced by simple majorities, that operational definition will omit votes that exhibit a small but pivotal number of minority party defectors required to pass legislation. While bipartisan votes with

50 percent of both parties certainly exhibits more between-party consensus than a pivotal vote, parties may also reach across the aisle to build more limited but still necessarily bipartisan coalitions. In tying the operational definition of a bipartisan vote to the degree of consensus among congressional parties, our measures lack conceptual coverage and risk missing institutionally-important displays of bipartisanship.

2.2 What is a bipartisan vote?

Bipartisanship was broadly defined above to be a legislator's engaging in legislative work with member(s) of the opposing party. Limiting consideration to the legislative work of voting, a bipartisan vote can can be defined as a formal vote on which legislators from both parties vote for the same outcome. The vote must be formal, meaning that it must be recorded by roll call or some other type of official record. The vote also requires the casting of individual votes, meaning that under consideration are votes for the affirmative or negative but not abstentions.[8]

This conceptual definition of a bipartisan vote is a permissive one: any vote where at least one legislator votes with at least one legislator from the opposite party is defined as *bipartisan*. The permissive approach is preferred for three reasons. First, in the simplest sense, the term "bipartisan" has the straightforward meaning that there is some level of agreement between members of opposing parties, that the two parties experienced some level of effort toward the same outcome. *Whether* there is agreement between members of opposing parties and *how much agreement* are related but distinct questions. In this regard, this conceptual boundary definition does nothing in itself to distinguish between apparent cases of bipartisan consensus and the rogue grandstanding of a single partisan defector. This is a feature not a flaw. Second, the latitude of this conceptual definition mirrors the vagueness

[8]Abstentions may be very well be strategic vehicles for bipartisan cooperation or for bipartisan ends, but an abstention cannot be properly defined as a vote. Thus, any bipartisan work involved in such strategic abstention belongs to another category than vote as its mechanism is aimed at manipulating (rather than meeting) a required threshold.

in vernacular use of the term "bipartisan" (Westwood (2022)). For example, given a near-unanimous vote and a close vote that required support from the minority party for passage, there is little sense to saying that one vote is "more bipartisan" than another. There may be other qualifiers adjoining "bipartisan" that may have degrees, such as a vote's exhibiting more bipartisan consensus, but the comparative "more" is rightly understood to modify the level of consensus not the condition of being bipartisan. Likewise, the prevalence of bipartisanship observed in a legislature may be described as more or less in a given year, but again the modifier refers to its prevalence. Because common usage is boolean, the conceptual definition is presented here without respect to gradation. Third, and most importantly, there is no singular concept of an ideal form of bipartisanship in voting. The difference between votes demonstrating bipartisan consensus and those demonstrating bipartisan close votes represent cases where bipartisanship works toward different goals: the difference between building broad coalitions and securing minimal winning coalitions. Thinking towards operational measurement, bipartisanship on these votes would be observationally dissimilar even though they represent similarly ideal forms of their respective goals. To account for this range of ideal forms, the conceptual definition ought to be broad with narrowing to occur at a different stage.

Previous work analyzing bipartisan voting in Congress has generally foregone specifying a conceptual definition of a bipartisan vote and proceeded to defending a particular operational definition. Instead of providing a conceptual definition, the literature has largely accepted differently specified operational degrees. The consequence of this practice is that researchers are left with operational measures that cannot give a full account of the conceptual space, that cannot account for what has been left unmeasured.[9] To demonstrate the conceptual space under consideration here, the universe of yea-nay voting outcomes in a two-party legislature can be represented by a bounded euclidean space $J \times N$ where J is the domain of all possible yea vote outcomes for the majority party, given n_j majority members voting; and

[9]While dichotomous measures based on agreement thresholds may appear to conceptualize the positive case, they can hardly be said to conceptualize the negative.

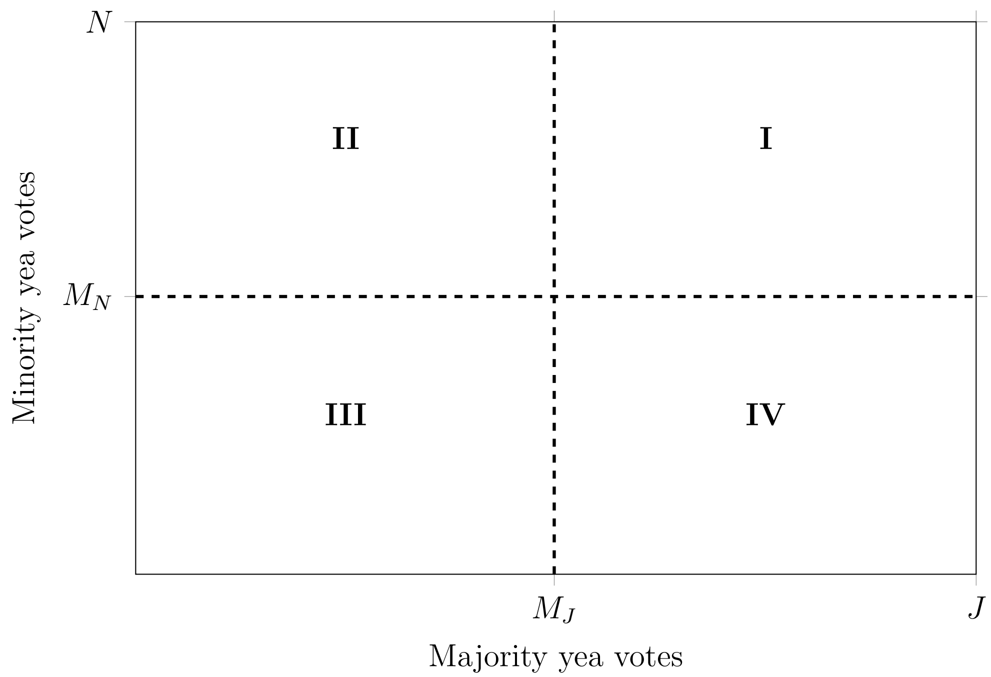


Figure 2.2. Representation of voting outcome space $J \times N$.

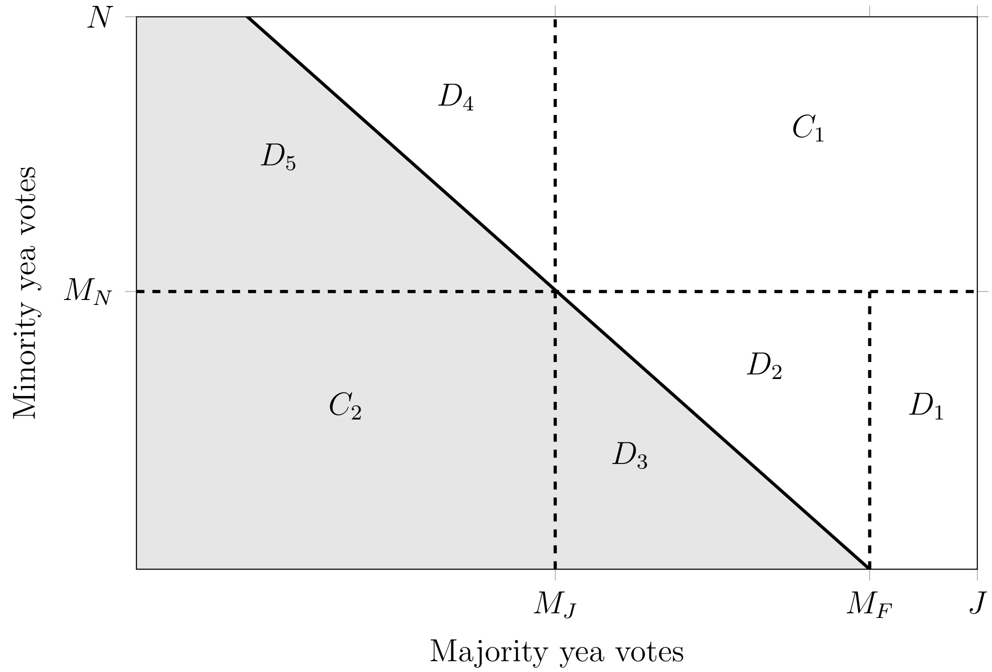
N is the range of all possible yea vote outcomes for the minority party, given n_n majority members voting. Referential lines bifurcate the J and N axes at their respective midpoints (M_J and M_N), marking the positions above which a majority of the party votes yea. Votes exist in this space at the coordinate marking number of majority legislators voting yea j_{yea} and minority legislators voting yea n_{yea}: (j_{yea}, n_{yea}). This space is shown in Figure 2.2.

All operational definitions of congressional voting exist in this space. The *50 percent of both parties* measure effectively covers all votes in the quadrants I and III. The *90 percent of both parties* measure restricts the coverage space to only the top right hand corner of quadrant I and the bottom left hand corner of quadrant III. The *at least 10 percent voting against own party* measure would create an interior square encompassing the majority of space except for votes occurring on the interior square's border. There are three major concerns that emerge from comparing the conceptual coverage of these alternatives. First, there is a confusion between definition and degree. The difference between the 50 percent and 90 percent measures is only a matter of degree – but they are most often used as alternative demarcations. Second, the 10 percent voting against own party measure vastly increases the conceptual space but does so in a manner to exclude some of the most vital cases to the 50 and 90 percent measures (e.g. very high consensus). Third, these operational definitions of bipartisanship leave the researcher to question whether cases of true, meaningful bipartisanship are being omitted from the measure. Different votes may be meaningfully bipartisan outside of consensus margins or coalition mixture but rather due to different institutional contexts altogether.

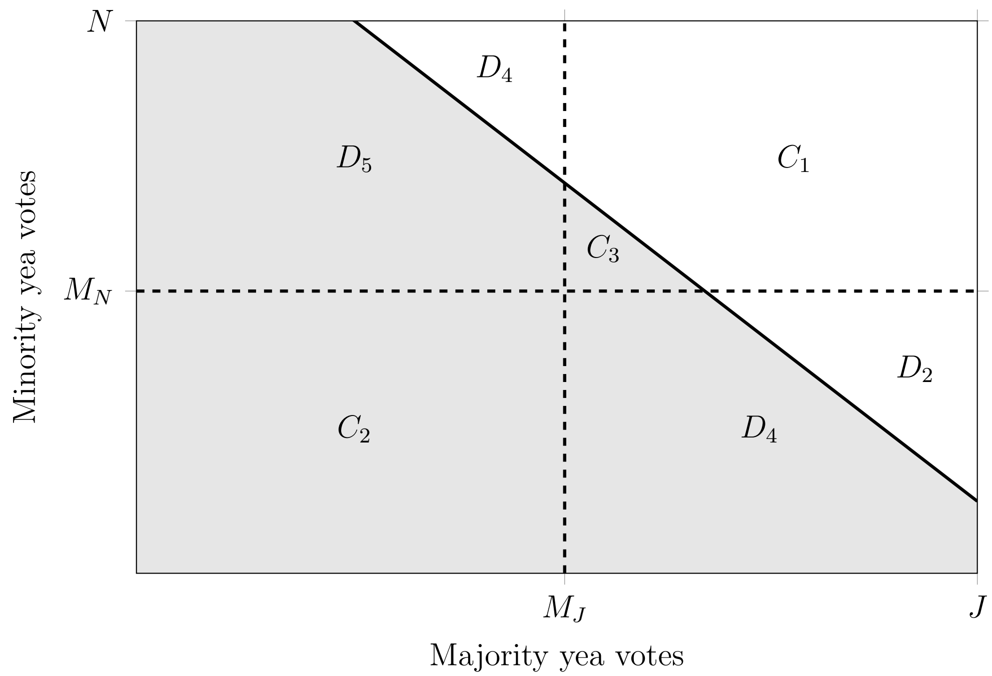
2.3 Types of bipartisan votes

Building on the permissive conceptual definition of a bipartisan vote given above, I offer a typology of bipartisan votes that provides complete conceptual coverage of voting outcomes and does so to characterize votes according to its relevant institutional context. Taking the $J \times N$ space described above, a vote threshold line T is included where the sum of yea votes equals the voting rule threshold for a given vote. For example, on a vote require a simple majority of members voting, T would appear where the sum of majority party yea votes j_{yea} and minority party yea votes n_{yea} constitute a majority of votes cast: $j_{yea}+n_{yea} = \lfloor \frac{n_j+n_n}{2} \rfloor + 1$. This threshold line defines the points at which the underlying measure will be agreed to and below which the measure will fail. With the following parameters defined, the conceptual space can be mapped and then operationalized: n_j, n_n, M_J, M_N, and T. Figure 2.3 shows examples of this $J \times N$ space under a majoritarian voting rule (2.3a) and supermajoritarian voting rule (2.3b).

There are two major classifications of bipartisan vote types: consensus and disagreement. These major classifications are determined by the quadrant in which a vote occurs: I and III for consensus and II and IV for disagreement. Each major class is further refined into types, defined by a vote's relationship to the voting rule threshold line. Pure partisan votes (P^*) occur in this typology at two points, not spaces: the points where one party unanimously votes one way the other party unanimously votes the other way, represented by



(a) Example bipartisan voting typology under majoritarian vote rule



(b) Example bipartisan voting typology under supermajoritarian vote rule

Figure 2.3. Typology of bipartisan voting outcomes. (a) Typology of voting outcomes segmented by institutional features: majority party median (M_J), minority party median (M_N), floor median (M_F), and the voting threshold (T) that bifurcates the space between votes that pass (clear) and those that do not pass (shaded). **(b)** Typology of voting outcomes with T shifted upwards, revealing new type C_3 and eliminating type D_1.

the coordinates $(j_n, 0)$ and $(0, n_n)$. Not all types may be possible for a given vote, depending on institutional factors.[10] Formal definitions are presented in Table 2.1.

2.3.1 Consensus votes

Consensus votes are those votes on which a majority of both parties agree on the preferred outcome, resulting in a final vote count in quadrant I or III. The three types of bipartisanship in the consensus class are consensus yea C_1, consensus nay C_2 , and a failing consensus C_3. C_1 and C_2 votes comprise the space commonly measured by the *50 percent of both parties* measure, though separated based on whether the consensus is that the motion should pass (C_1) or fail (C_2). The ideal, or illustrative, case of a consensus vote is unanimity: either both parties united for a motion (C_1) or both paries united against a motion (C_2). C_3 votes occur in the smallest (and least probable) space in $J \times N$ that only appears when a supermajority vote rule is in effect.

2.3.2 Disagreement votes

Disagreement votes are those votes on which a majority of both parties disagree on the preferred outcome, resulting in a final vote count in quadrant II or IV. The five types of bipartisanship in the defection class are straight defection D_1, successful pivotal D_2, failing pivotal D_3, successful roll D_4, and failing roll D_5.

Straight defection voting D_1 occurs when at least one partisan joins a member of the opposing party to vote in favor of a particular outcome. The notable characteristic of straight defection voting is that the majority party secured the votes necessary to pass legislation on their own but some number of minority party legislators vote against their party's position. The ideal case of straight defection voting is when there would be a purely partisan vote (all majority party voting yea, all minority party voting nay) except for 1 legislator in the

[10]Two key examples of this appearance and disappearance are the failing consensus C_3 and straight defection D_1 votes. As shown in Figure 2.3b, these types can appear and disappear based on the voting rule threshold and size of the majority seat share.

Space	Type	Formal Space Definition
C_1	Consensus Yea	$(J_{yea} \geq M_J) \wedge (N_{yea} \geq M_N) \wedge (J_{yea} + N_{yea} \geq T)$
C_2	Consensus Nay	$(J_{yea} < M_J) \wedge (N_{yea} < M_N)$
C_3	Failing Consensus	$(J_{yea} \geq M_J) \wedge (N_{yea} \geq M_N) \wedge (J_{yea} + N_{yea} < T)$
D_1	Straight Defection	$(J_{yea} \geq M_J) \wedge (N_{yea} < M_N) \wedge (J_{yea} + N_{yea} \geq T) \wedge (J_{yea} \geq T) \wedge \neg P^*$
D_2	Successful Pivotal	$(J_{yea} \geq M_J) \wedge (N_{yea} < M_N) \wedge (J_{yea} + N_{yea} \geq T) \wedge (J_{yea} < T) \wedge \neg P^*$
D_3	Failing Pivotal	$(J_{yea} \geq M_J) \wedge (N_{yea} < M_N) \wedge (J_{yea} + N_{yea} < T) \wedge \neg P^*$
D_4	Successful Roll	$(J_{yea} < M_J) \wedge (N_{yea} \geq M_N) \wedge (J_{yea} + N_{yea} \geq T)$
D_5	Failing Roll	$(J_{yea} < M_J) \wedge (N_{yea} \geq M_N) \wedge (J_{yea} + N_{yea} < T) \wedge \neg P^*$
P^*	Perfect Partisanship	$[(J_{yea} = J) \wedge (N_{yea} = 0)] \vee [(J_{yea} = 0) \wedge (N_{yea} = N)]$

Table 2.1. Bipartisanship type definitions. The formal spaces outlined above are mutually exclusive and create exhaustive coverage of $J \times N$.

minority *or* majority party. This ideal type of defection is less institutionally consequential but does allow some cover for congressional messaging that vote received bipartisan approval or disapproval.

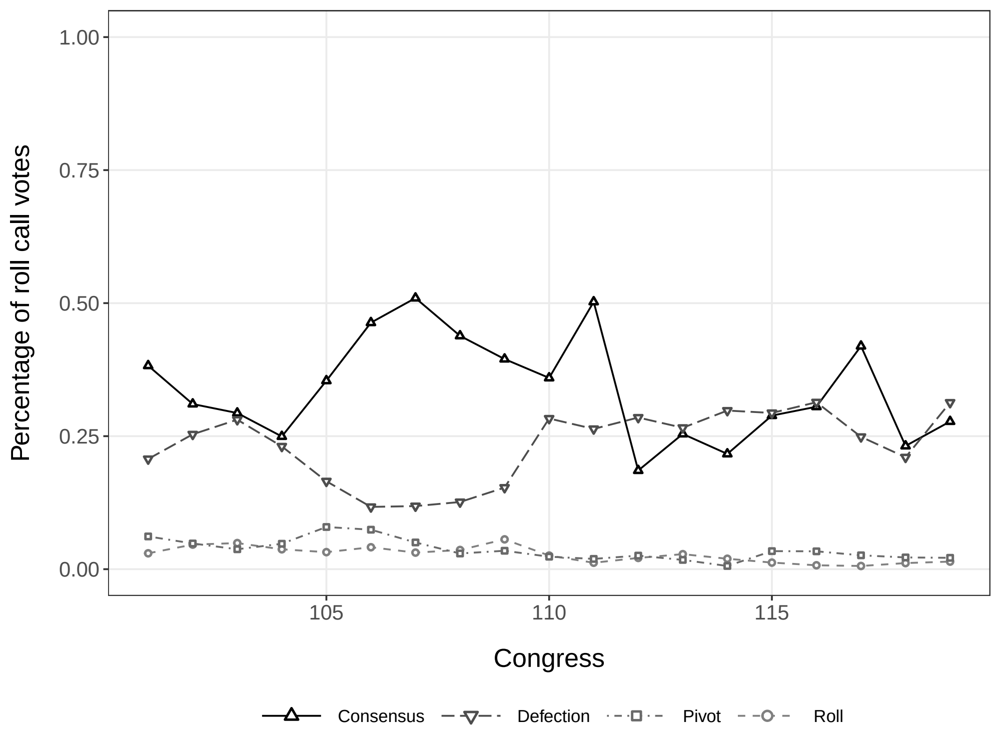
Successful (D_2) and failing (D_3) pivotal voting occurs when the majority of the majority party does not have the votes required to approve a motion but a minority of the minority party provides enough votes to push the outcome in that direction. In this situation, the majority and minority parties are still generally opposed to each other — but the majority party needs (and receives) minority party votes to move the measure forward. The ideal type of pivotal voting occurs at the points where the total yea votes barely surpass the voting rule threshold.

Successful (D_4) and failing (D_5) rolling occurs when a minority of the majority party is able to move forward a motion because of the support from the majority of the minority party. Rolling is a well-defined type of congressional voting with a strong history in the political science literature. While generally described in the agenda setting literature, its inclusion in this typology works to show its place among different types of bipartisanship. Similarly to pivotal voting, ideal type of rolling voting occurs at the points where the total yea votes barely surpass the voting rule threshold.

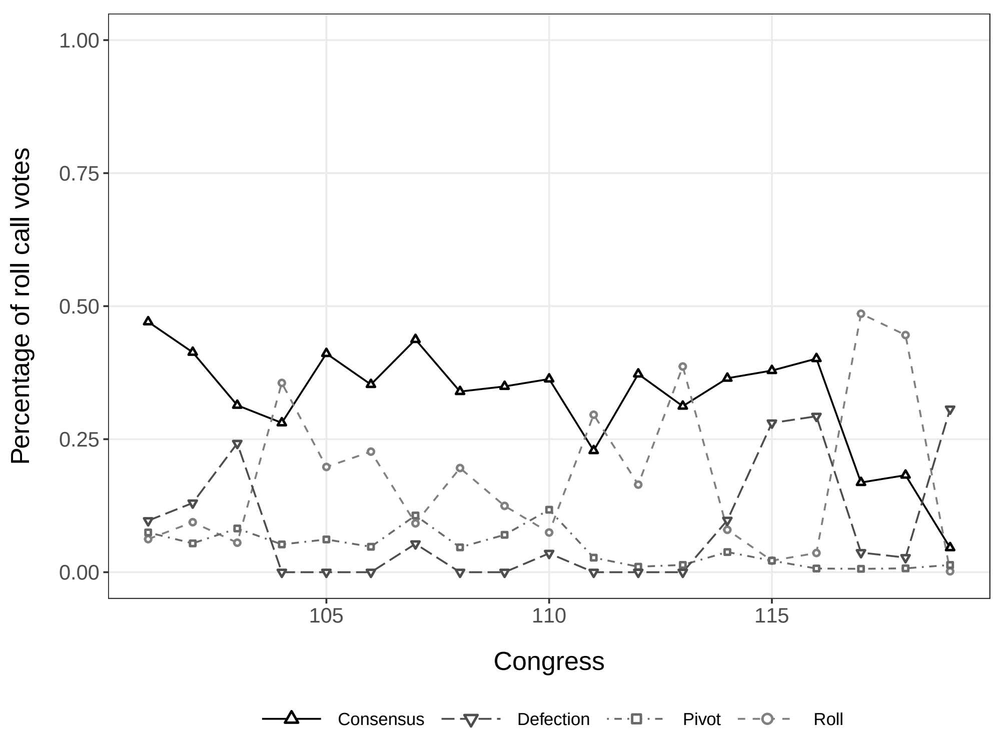
2.4 Bipartisan voting in Congress, 1990-2025

Figure 2.4 shows trends in congressional voting by bipartisan type in the House (2.4a) and Senate (2.4b) from 1990 to 2025.[11] In the House, consensus voting is measured equivalently to the *at least 50 percent of both parties voting for the same outcomes* measure, yielding the same sharp decline in consensus bipartisan votes between the 111th and 112th Congresses. The new findings are presented in the defection, roll, and pivotal types. While rolling and pivotal votes remain generally low (though not totally non-existent) throughout the

[11] For clarity, only votes surpassing the voting rule threshold are included in the manuscript. Hereafter, all types are discussed in their yea or successful form. All vote types, including nay and failing types, are reported in the appendix.



(a) Bipartisanship by type in the House of Representatives



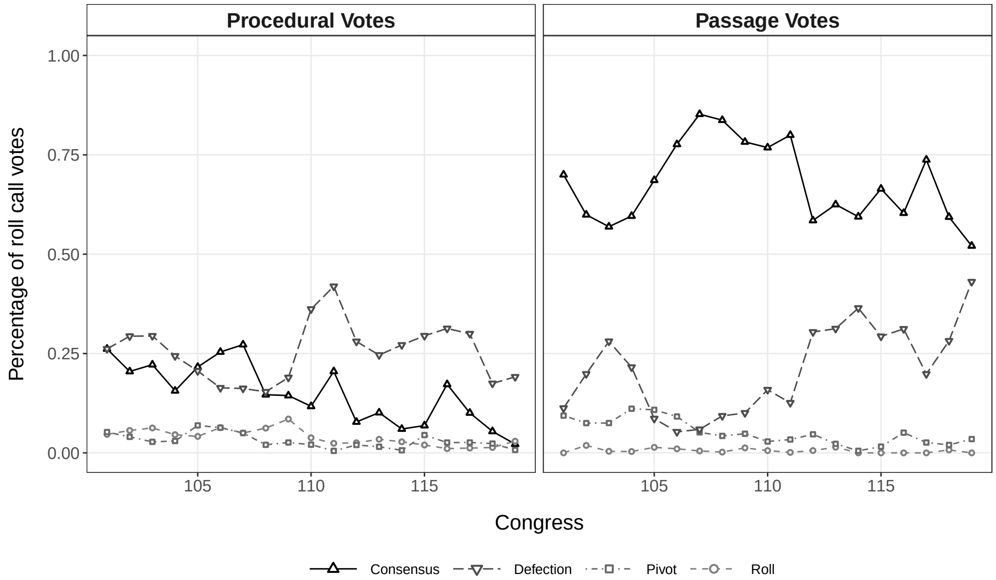
(b) Bipartisanship by type in the Senate

Figure 2.4. Voting bipartisanship levels in Congress, 1990-2025. Figures show the share of passing votes that each bipartisan type comprises in the House **(a)** and Senate **(b)**.

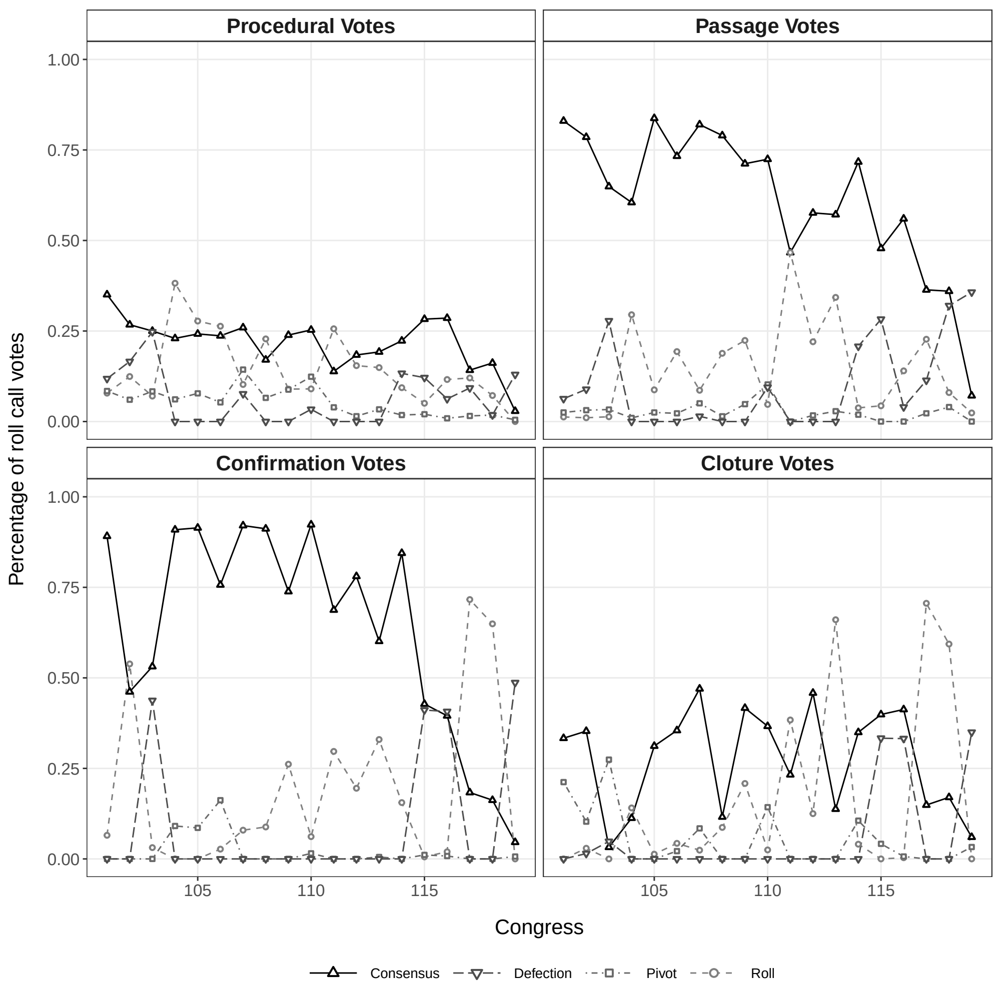
time frame examined here, the defection type of bipartisan votes remains steady at about 25 percent of the total roll call record since 1990 with the exception of a brief dampening during a consensus spike in the 104th through 110th Congresses. More diversity in bipartisan vote type is observed in the Senate. While consensus was the dominant type of bipartisanship in earlier Congresses, it has become increasingly infrequent since the 116th Congress. Further, defection bipartisanship is less common over time in the Senate but has become sporadically frequent, such as in the 115th, 116th, and first session of the 119th Congresses. Unlike its rarity in the House, rolling votes are relatively common in the Senate, accounting for an average of about 25 percent of the roll call record since 1990 and as much as 50 percent of Senate roll call votes in the 117th Congress.

These trends can be further investigated by accounting for whether the motion associated with the roll call vote was procedural or related to passage.[12] This breakdown is shown for the House in Figure 2.5a, showing the percentage of roll call votes on a motion type that receives a bipartisan outcome. A more nuanced perspective emerges when considering the underlying motion, as all types of bipartisanship on procedural votes are near zero in recent Congresses with the exception of the defection rate at about 20 percent. Change has been most evident in the disappearance of consensus bipartisanship on procedural votes – from roughly one in four votes receiving yeas from majorities of both parties in 1990 to less than one in twenty by 2025. In contrast, bipartisan votes are substantially present in passage votes. Consensus votes are most common (over 50 percent in 2025) with defection votes becoming increasingly so (over 40 percent in 2025, up from about 14 percent in 1990). In the Senate (Figure 2.5b), consensus voting has precipitously fallen on passage and confirmation votes while the decline on procedural and cloture motions has been more modest. As suggested earlier, rolling is sporadically common, particularly on confirmation and cloture votes. Overall, the Senate demonstrates more Congress-to-Congress idiosyncrasies in rates of bipartisan voting than

[12] Crespin, Rohde and Vander Wielen (2013) show that procedural and passage votes differ in their demonstrated party unity. The coding scheme implemented there is used here, with the addition of categories for confirmation and cloture votes in the Senate. A mapping from vote classification (Crespin and Rohde 2026; Roberts, Rohde and Crespin 2026) to procedural/passage categories is provided in the appendix.



(a) Bipartisanship levels in the House



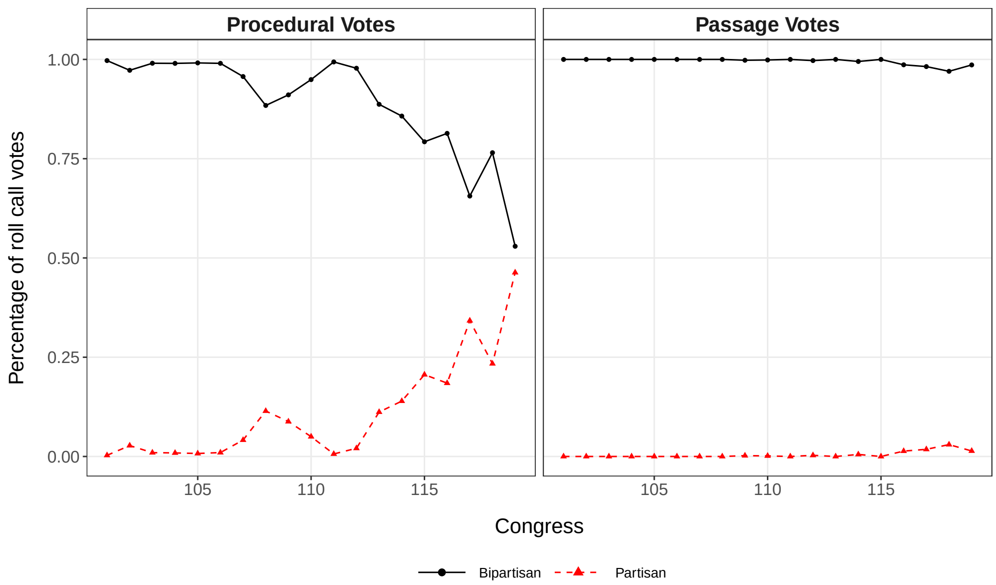
(b) Bipartisanship levels in the Senate

Figure 2.5. Voting bipartisanship levels in Congress by motion classification.

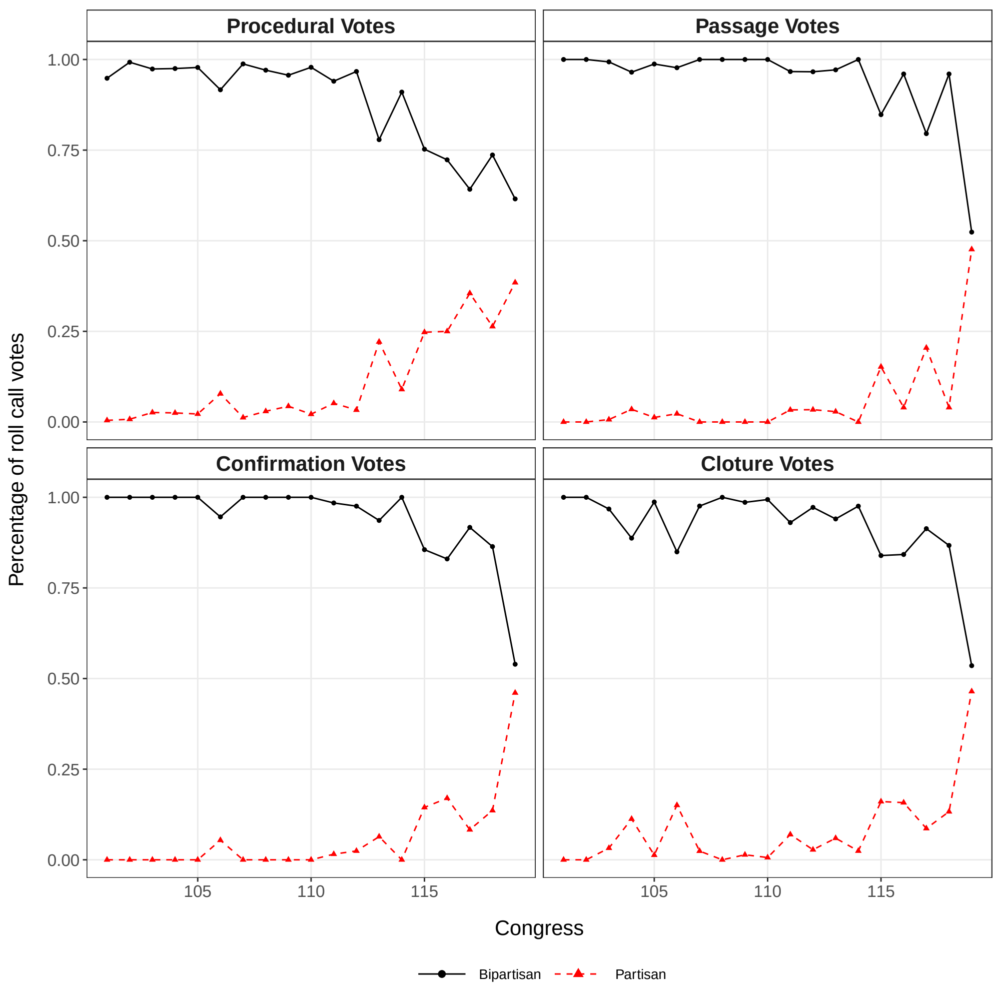
does the House, with fewer generalizable trends and more variance over time.

These descriptions of bipartisanship in Congress suggest at least three things. First, bipartisanship in congressional voting is decreasing. Even under the permissive conceptual definition and operationalization stated here, nearly half of all votes in the Senate and one in every three votes in the House are purely partisan with absolutely no bipartisan voting coalition, big or small. While critical lawmaking may still require bipartisanship (Curry and Lee 2020*b*), there is certainly less bipartisanship to be found in quickly changing congressional voting coalitions. Second, most of the decline in bipartisan voting is driven by the decline in consensus voting. In the 102nd Congress, 32.11% of votes in the House and 41.33% in the Senate were bipartisan consensus votes; by the 118th Congress, those percentages fell to 23.27% and 18.23%, respectively. Measures that operationalize bipartisan voting to be coterminous with consensus voting will necessarily *overstate* the decline in bipartisanship. Third, different types of bipartisanship follow different trends over time. Consensus voting is decreasing. Defection is still, and in some cases increasingly, common across chambers and motion types. Rolling is rare in the House but appears more frequently in the Senate. Pivotal votes are not common in either chamber, but these substantively important votes are still occurring. Failing to account for type can lead to mischaracterizations of the prevalence of bipartisanship in congressional voting.

While considering *types* of bipartisan voting provides much-needed conceptual robustness and increased analytical precision, the model presented here still may be viewed as too inclusive to be informative. That is, the positive definition of bipartisanship (i.e., at least one partisan voting for the same outcome as does an opposing partisan) leaves little room for its negative pole pure partisanship. Returning to the operationalization presented in Table 2.1, pure partisanship is defined as two points in $J \times N$: where all Democrats and no Republicans vote yea, and vice versa. Yet despite this restrictive operational definition, pure partisanship is rapidly increasing in Congress. Figure 2.6 shows the prevalence of partisan voting in the House (2.6a) and Senate (2.6b) compared to bipartisan votes. Strictly partisan



(a) Partisanship and bipartisanship in the House



(b) Partisanship and bipartisanship in the Senate

Figure 2.6. Partisanship and bipartisanship in Congress by motion classification.

voting has increased from consistently near-zero levels prior to 2011 to nearly half of all roll call votes by motion type in 2025. The only exception to this trend is on passage votes in the House, where virtually all roll call votes experience some type and degree of bipartisanship. Because of this exception, overall voting trends in the Senate are more partisan than those in the House.[13]

2.5 Definition and degree: measuring proximity to ideal types of bipartisan voting

I have argued here that a significant problem in current practice is the confusion of definition and degree in measuring bipartisanship in congressional voting. Common measures define bipartisanship dichotomously by whether a minimum consensus threshold was met, usually 50 or 90 percent. A central error in that approach is that the operational definition excludes a large swath of votes that are conceptually relevant. The above bipartisan typology addresses this conceptual deficiency but with a tradeoff. The inclusive definition of a bipartisan vote means that operationalization introduces a lot of variation to the measure, even within type. This variation can be addressed spatially by defining ideal cases.

For each bipartisan type, there is an ideal case that is maximally relevant to its type. Type relevance can be defined by spatial proximity to the type's defining institutional characteristics. Individual votes that are closer to its type's ideal case are more relevant relative to its type; cases further from the ideal case are less relevant to its type. A benefit to this approach is that, similarly to focusing on typology, bipartisanship can remain conceptually broad but precise relative to its intended goal. Because not all bipartisan votes have the same institutional position, not all bipartisan votes are relevant in the same way. This approach combines the determination of both definition (bipartisanship type) and degree (ideal type proximity).

[13]Average partisanship and bipartisanship levels in the House and Senate are reported in the appendix.

2.5.1 Measuring ideal type proximity

The spatial distance of a vote outcome to the ideal type can be measured as the Manhattan distance of the vote outcome's position in $J \times N$ from the ideal type's position.[14] Ideal type proximity can then be measured by subtracting from one the ratio of outcome's spatial distance to the type's maximum spatial distance. Given an ideal spatial position (j_{ideal}, n_{ideal}), outcome's spatial position (j_{yea}, n_{yea}), and the type's maximally distant spatial position (j_{max}, n_{max}), ideal type proximity r can be generalized as:

$$r = 1 - \frac{|j_{ideal} - j_{yea}| + |n_{ideal} - n_{yea}|}{|j_{ideal} - j_{max}| + |n_{ideal} - n_{max}|}.$$

Type-specific parameters are discussed below, corresponding to type descriptions previously given.

2.5.1.1 Consensus bipartisanship

The ideal form of consensus (j_{ideal}, n_{ideal}) is complete agreement between parties. In voting outcomes where a yea outcome prevails, this is represented as (j_n, n_n) – where all voting members of the majority and minority parties vote yea. The least degree of consensus that is required to still be typed as a consensus vote, i.e. the type's maximally distant point (j_{max}, n_{max}), is given as the point at which only the slimmest majority of both parties votes yea: $(\lfloor \frac{j_n}{2} \rfloor + 1, \lfloor \frac{n_n}{2} \rfloor + 1)$.

2.5.1.2 Defection bipartisanship

The ideal form of defection is when there is deviation from the purely partisan vote. The purely partisan vote $P^*(yea)$ is located at $(j_n, 0)$, meaning that the ideal reference point(s)

[14] Manhattan distance is preferred here on conceptual grounds so that distance will be measured in interpretable votes. A Manhattan distance of 4 means that four legislators would have needed to voted differently. A Manhattan distance of 10 means that ten legislators would have needed to vote differently and so on.

can be defined as either $(j_n + 1, 0)$ or $(j_n, 1)$, whichever is less distance.[15] The maximally distant type of defection is the point at which the majority party has only enough votes to meet the vote threshold but there is near-majority support from the minority party: $(v, \lfloor \frac{n_n}{2} \rfloor)$, where v is the minimum required votes for passage required under the voting rule for a given vote.

2.5.1.3 Pivotal bipartisanship

The ideal form of pivotal bipartisanship is when the vote threshold is minimally met. If 218 yea votes are required for a simple majority, then the vote received 218 yea votes. Unlike for consensus and defection bipartisanship, there is not a single ideal point but rather a set of ideal points that fall along the threshold line T, as shown in Figure 2.3. Thus, (j_{ideal}, n_{ideal}) is defined as the point on T that is nearest to (j_{yea}, n_{yea}).[16] The maximally distant type of pivotal bipartisanship is the point at which the majority party is one vote shy of meeting the vote threshold but there is near-majority support from the minority party: $(v - 1, \lfloor \frac{n_n}{2} \rfloor)$.

2.5.1.4 Rolling bipartisanship

As with pivotal bipartisanship, the ideal form of rolling bipartisanship is when the vote threshold is minimally surpassed. Likewise, (j_{ideal}, n_{ideal}) is defined as the point on T that is nearest to (j_{yea}, n_{yea}). The maximally distant type of rolling bipartisanship is the point at which the entire minority party votes yea and a near-majority of the majority party votes yea: $(\lfloor \frac{j_n}{2} \rfloor, n_{yea})$.

[15] For most outcomes, the Manhattan distance between an outcome point and either ideal point will be the same. However, this is not true for cases in which defecting votes occur in only one party. The distance can alternatively measured from $P^*(yea)$, given that one is subtracted from the total distance to account for the difference between $P^*(yea)$ and the ideal defection points.

[16] The nearest point can be determined by finding the line perpendicular to T that runs through (j_{yea}, n_{yea}).

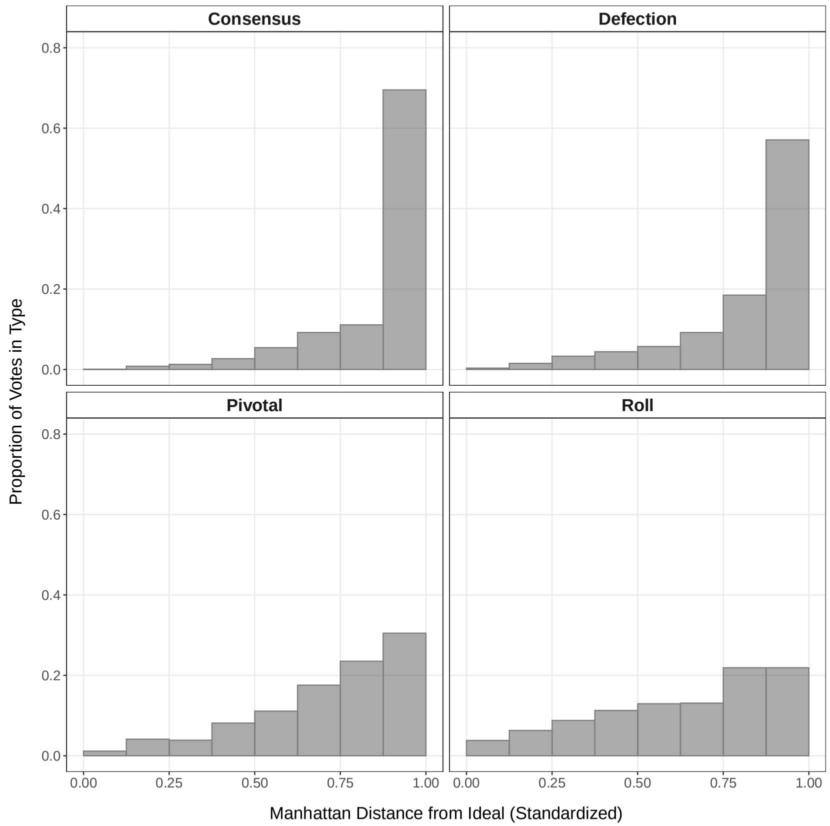
2.5.2 Distribution of voting outcomes relative to their respective ideal types

The distributions of ideal type proximity values are shown in Figure B14. These histograms show the proportion of votes in each type according to their standardized Manhattan distance. Values closer to one are closer to the ideal type; values closer to zero are closer to that type's maximally distant point. [17] A uniform distribution would signify random distribution of votes across the outcome space within for that type space. Strong peakedness near one signifies strategic behavior resulting in clustering near the ideal type point.

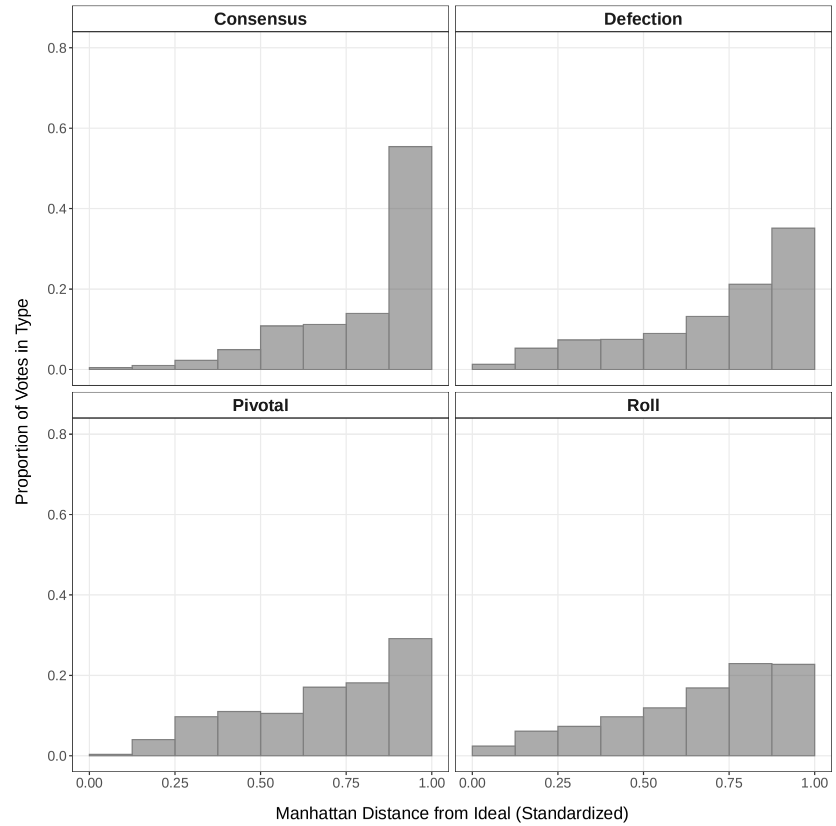
The distribution of consensus votes in the House (2.7a) and Senate (2.7b) show that most consensus votes occur close to the ideal point, i.e. absolute consensus between the parties. Nearly 70 (60) percent in the House (Senate) occur in the top eighth quantile of the standardized range. In the House, that translates to 60 percent of consensus votes being within a raw Manhattan distance of 10. The situation is even more stark in the Senate, where 30 percent of votes are ideal cases (raw distance of zero) and roughly 25 percent of votes have a Manhattan distance between one and five. Defection votes follow a similar pattern. 60 percent of defection votes occur in the top eighth quantile, dropping to 20 percent in the next highest quantile and monotonically decreasing from there. Nearly 50 percent of defection votes fall within 10 votes in the House or within 5 votes in the Senate. Pivotal and rolling votes produce distributions that still demonstrate proximity but not with the sharpness found in consensus and defection votes. Only 30 or 20 percent of votes are the top eighth quantile of pivotal and rolling votes, respectively, in both chambers.

While some distributions are more sharply distributed near the ideal type, each distribution shows that the spatial arrangement of voting outcomes tend towards these ideal points

[17] *Standardized Manhattan distance* refers to the inclusion of the maximally distance position in each type (j_{max}, n_{max}) as a denominator to each vote's position (j_{yea}, n_{yea}). This standardization bounds the distance values from 0 to 1, allowing for easier comparison across types and with type across time. However, it does obfuscate the intuitive interpretation of Manhattan distances in this context. Distributions in raw distances are provided in the appendix.



(a) Ideal type proximity in the House of Representatives



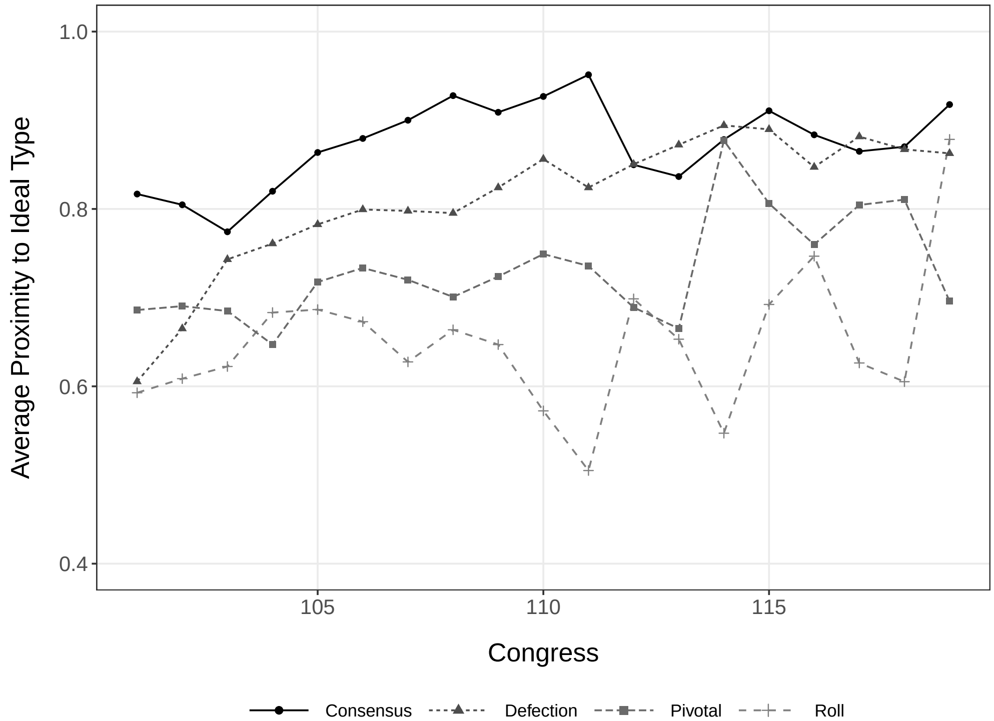
(b) Ideal type proximity in the Senate

Figure 2.7. Distribution of ideal type proximity in Congress by bipartisanship type. Figures show the distribution of ideal type proximity scores divided into eight quantiles across the 0-1 range. A uniform distribution would signify random distribution of votes across the outcome space within for that type space. Strong peakedness near one signifies strategic behavior resulting in clustering near the ideal type point. In both the House and Senate, consensus and defection votes show signs of sharp clustering; rolling and pivotal votes have slightly flatter peaks near one but still show strategic preference for proximity.

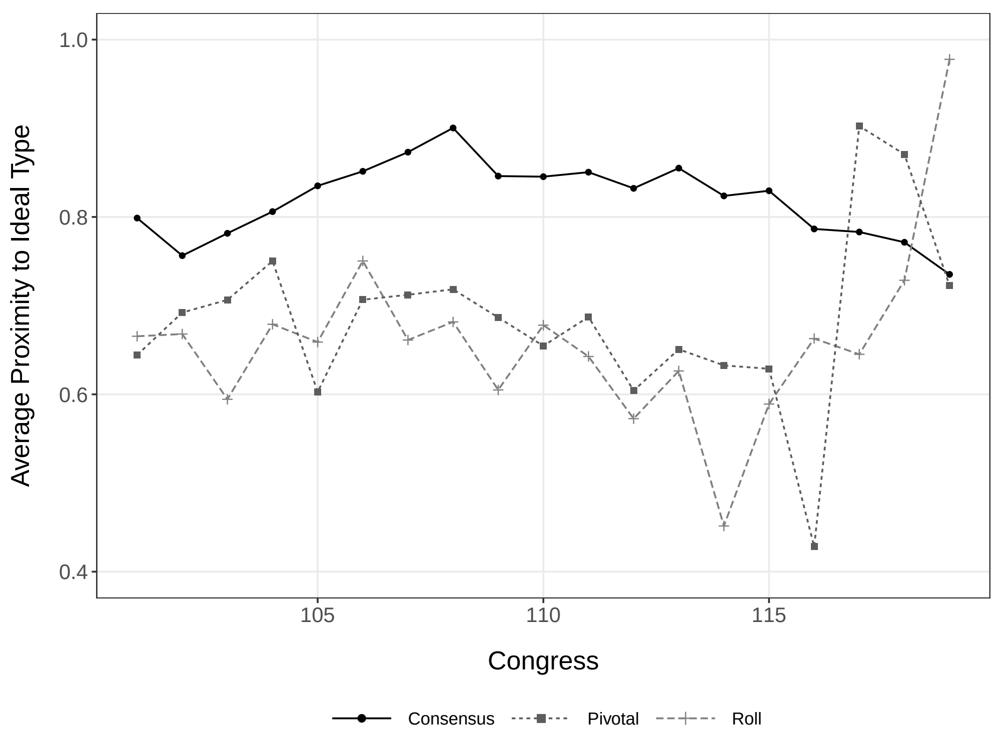
rather than away from them or indifferently towards them. Clustering at the high range of values means that the ideal type is institutionally-relevant. Cases are clustering there because there is resonance between the conceptual framing of ideal types and how social behavior in Congress is directed.

2.5.3 Ideal type proximity as a measure of changing pattern in bipartisanship

Dichotomous measures, whether the commonly used measures or the bipartisan vote types presented here, can help researchers understand only the frequency of these types of voting over time. With this measure of ideal type proximity, researchers can also consider how votes are changing over time both in frequency and in spatial position. To consider how bipartisanship is changing over time, we estimate the average ideal proximity (standardized) per bipartisan type for each Congress. The results are presented for the House in Figure 2.8a and for the Senate in Figure 2.8b. Higher values reflect closer average proximity to the ideal type.



(a) Average ideal type proximity in the House



(b) Average ideal type proximity in the Senate

Figure 2.8. Average ideal type proximity in Congress, 1990-2025. Ideal type proximity measures the spatial distribution of bipartisan votes within their type's outcome space relative to the ideal point in that space. Higher values reflect greater proximity to the ideal type. Defection votes are removed from the Senate panel due to low frequency.

While remaining relatively high over time, the average ideal proximity for consensus votes in the House raises from about 0.8 to 0.9, showing that the consensus votes that occur are now more likely to be very high consensus rather than mid-high range. The sharpest change over time has occurred among defection votes. These results suggest that defection votes used to feature larger voting blocs defecting from their party's majority position. Over time, those defecting coalitions have continued to shrink such that defections are more individual than bloc. Rolling votes have been sporadic over time, which increasing variation between Congresses since about the 109th Congress. Pivotal votes have generally generally stayed in the 0.65 to 0.75 range except for its upward spike to 0.75 to 0.85 in the 114th to 118th Congresses. These results suggest that bipartisan voting in the House is becoming more concentrated in three regions: (1) near-perfect bipartisan consensus, (2) near-perfect partisanship, and (3) minimal winning coalitions.

Average ideal type proximity scores in the Senate show less trend over time than those in the House, with relative stability in the composition of bipartisan votes. The obvious exception is that for rolling and pivotal votes, the 113th Congress and before show little change about its rolling average until sharp drops and peaks occur after the 114th Congress. These upward trends suggest that bipartisan votes in the Senate not receiving a consensus are occurring at increasingly slim margins. The spatial position of consensus votes, however, have remained generally stable with an increase from 0.75 to 0.90 in the 102nd to 108th Congresses followed by a return to 0.75 by the 119th.

2.6 Conclusion

Few topics in Congressional studies are as important to the health of a robust democracy as bipartisanship. Both substantive representation and lawmaking depend on members of Congress to engage in bipartisan work throughout the legislative process: in planning and drafting legislation, in communicating with peers and constituents, and in voting on procedures and legislation. This paper urges a reconceptualization of bipartisanship voting that accounts for a vote's spatial position in outcome space relative to key institutional features. In doing so, researchers are able to clearly define relevant ideal types and specify operational definitions that align with those ideal types, leading to exhaustive conceptual coverage while remaining flexible to institutional context. While existing measurement approaches have offered operational simplicity, this approach offers conceptual clarity.

There are three conclusions from this paper.

First, not all bipartisan votes are meaningful in the same way. A 100-0 vote (52-0 Republicans, 48-0 Democrats) in the Senate is certainly bipartisan, but so is a 61-39 vote (50-2 Republicans, 11-37 Democrats). It is conceptually appropriate to ask which vote is *more* bipartisan? I argue that it is not. It is appropriate to ask which vote demonstrates more consensus. It is appropriate to ask which vote depended on individual minority party legislators more. But these questions require adjectival modifiers before bipartisanship can be meaningfully evaluated. Bipartisan types, and the definition of ideal types, provides a framework for these modifiers.

Second, the inferential strength of studies on bipartisanship in congressional voting is proportional to the amount of conceptual space its operationalization covers. Operational definitions assume some conceptual space. When that space is neither mutually exclusive nor exhaustive, only faulty inferences can be drawn about the studied concept. That is, not accounting for the conceptual space and contours of bipartisan voting produces bad inferences about bipartisanship in congressional voting. Relying on the common majority (50 percent of both parties), supermajority (90 percent of both parties), or minimum-defection rate (at least 10 percent voting against their own party) measurements produces inferences that can only be relevant to the space it occupies, which is only a subset of bipartisanship. Researchers are encouraged to explicitly evaluate what conceptual space is most relevant to their research question, employ operationalized measures of that conceptual space, and then ensure that inferential claims are explicitly limited to that conceptual space.

Third, researchers are encouraged to focus on the ideal type of bipartisan voting that is most relevant to their research question and then draw inferences by bipartisanship type. Consternation may rise because of the permissive conceptual definition of bipartisan voting given above. Across all voting outcomes in $J \times N$, only two points along that space ($(n_j, 0)$ and $(0, n_n)$) are defined as pure partisanship; all other points are bipartisan. This conceptual definition produces an operationalization outcome untenable to some. Yet, the researcher's task then is to define the relevancy of voting outcomes relative to an ideal type. *What makes a small group of minority party legislators voting with the majority party relevant to bipartisanship?* The institutional context does. Ten minority party votes may be exceptionally relevant bipartisanship if the majority could not pass the measure by itself; ten minority party votes may be irrelevant if the majority party has a large seat share is unanimous on a simple threshold motion. Even if typological boundaries are blurred, the researcher should continue to measure bipartisanship relative to an ideal.[18]

[18]Blurring typological boundaries could occur if, for example, the researcher's interest is in consensus. While consensus is perhaps rightly identified by a majority of both parties agreeing on an outcome, other vote types are still a fixed distance from the ideal type position. Researchers could include votes in other spaces (D_1, D_2, D_4) but still calculate their distance from the ideal consensus point. While those votes in other types may be more relevant to bipartisanship in another way, the researcher would be measuring their relevance to a particular type. This approach would be consistent with the advice given here.

Chapter 3: Voting Bipartisanship Scores in Congress, 1990-2025

Operational definitions of bipartisan voting in Congress focus on the roll-call level of analysis. The associated measures are difficult to project onto individual members. *What does it mean to vote for a bipartisan outcome?* Building on previous work related to typology of bipartisan voting outcomes, this paper extends the measure to individual members of Congress by calculating Voting Bipartisan Scores (VB scores). Exploratory analyses show that VB scores provide unique information that contributes to ongoing research in congressional bipartisanship in other legislative work, such as bill cosponsorships. Theoretical implications are considered and avenues for future research are discussed.

What is a bipartisan vote? While measures of bipartisan votes have focused on classifying entire roll call votes, little work has been done to consider bipartisan votes at the member-vote level. *What does it mean for a legislator to cast a bipartisan vote?* Working from the notion that most votes include some mixture of legislators from both parties casting both yea and nay votes, I offer a type-based approach to measuring voting bipartisanship at the member-vote level. By taking into account the institutional context of a vote and measuring voting bipartisanship relative to that context, the resulting voting bipartisanship (VB) scores provide insight to *who* is involved in bipartisan votes *when*.

The VB measures are calculated from 1990 to 2025 using data from the Political Institutions and Public Choice datasets and Voteview roll call vote database (Crespin and Rohde 2026; Roberts, Rohde and Crespin 2026; Lewis et al. 2026). Results show that VB scores are not well correlated by bipartisan type, meaning that institutional context is important in considering legislators' voting decisions. Further, the measure is shown to have only modest correlation to measures of bipartisanship in bill cosponsorship networks. Finally, correlates of voting bipartisanship are evaluated and considered. Results suggest that bipartisanship in congressional voting is highly correlated with members' ideological position in the institution. Further, additional questions are raised with regard to the relationship between voting bipartisanship and electoral security, institutional position, and legislative effectiveness.

3.1 The search for bipartisan legislators

While the public continues to reward partisan actions and outcomes (Harbridge, Malhotra and Harrison 2014; Case and Ommundsen 2024), bipartisanship is also increasingly rewarded as a valence good among a large percentage of the population (Westwood 2022; Wolak 2020). The public tends to reward members who engage in bipartisanship work (Morris and Witting 2001; Mayhew 2005; Harbridge, Malhotra and Harrison 2014) and increase favorability toward the institution when that bipartisan work translates into action (Paris

2017).

Bipartisanship is also needed in Congress to keep legislation moving throughout the process towards effective lawmaking (Harbridge-Yong, Volden and Wiseman 2023; Mayhew 2005; Curry and Lee 2020*b*, 2019, 2020*a*; Sotoudeh, Porter and Krishnagopal 2026). One way of doing so is by bipartisan collaboration on bill cosponsorship. Bill cosponsorship allows members to clearly take position on issues (Desposato, Kearney and Crisp 2011; Koger 2003) and connect their work to constituency needs (Campbell 1982; Koger 2003; Sulkin 2011; Harbridge 2015). Measures of congressional bipartisanship are often measured at the individual level by considering the likelihood of attracting or offering bipartisan cosponsorship support (The Lugar Center 2026; Dobson and Lollis 2026). Bipartisan cosponsorship often translates into bipartisanship throughout the legislative process (Sulkin 2011; Harbridge-Yong, Volden and Wiseman 2023).

Bipartisanship is also needed on roll call votes. While much research over time (and recently) has considered the prevalence of bipartisan votes over time (Curry and Lee 2020*b*,*a*; Tama 2025, most work has considered bipartisanship as a property of the voting outcome rather than of a member's vote itself. The only exception found by the author is Andris et al. (2015), who measure member-level bipartisanship by way of cooperative voting pairs. In this scheme, legislator dyads are measured by how many times two members vote for the same outcome. While helpful in some regards, this approach cannot adjudicate between institutional contexts that determine the substantive meaningfulness of a bipartisan vote. Because not all expressions of bipartisanship are the same, there should be a measure to distinguish between types of bipartisanship.

3.2 Casting a bipartisan vote

What does it mean for a legislator to vote in a bipartisan way? In an earlier paper, I argued that a bipartisan roll call vote should be broadly defined to encompass any roll call on which at least one partisan voted with an opposing partisan. A consequence of that operational definition is a permissive conceptual scope: bipartisan votes are any vote on which there is not a unanimous majority party against a unanimous minority party. Because the unit of measurement was defined at the roll call vote level, an exclusive and exhaustive typology was proposed so that votes could be defined relative to voting outcomes that are defined by important institutional contexts.

However, this definition does little to help answer the question of how researchers (or members of Congress, for that matter) know when they are casting a bipartisan vote. Shifting the unit of analysis to the member-vote creates a methodological challenge for the bipartisan typology framework. Bipartisan roll call votes must be comprised of bipartisan member-votes but on votes with at least one member from each party voting either direction, there is a technical sense in which the conceptual definition might suggest that everyone is casting a bipartisan vote – those voting for it and those voting against it. Members of Congress (especially party leadership looking to boast about a legislative success) may claim bipartisanship when a vote meets this minimal threshold; there is anecdotal evidence to suggest that this might be the case. Yet, that approach yields little analytical value to vote measurement. Instead, I extend the argument begun in the previous paper in suggesting that ideal types should be employed in defining purposive bipartisan member-votes.

Consider a two-dimensional space $J \times N$ where J is the number of majority party members casting a yea or nay vote and N is the number of minority party members casting a yea or nay vote. Coordinates in the space are defined as (j_{yea}, n_{yea}), where j_{yea} is the number of majority party members casting a yea vote and n_{yea} is the number of minority party members casting a yea vote. The space is characterized by two institutional features: party

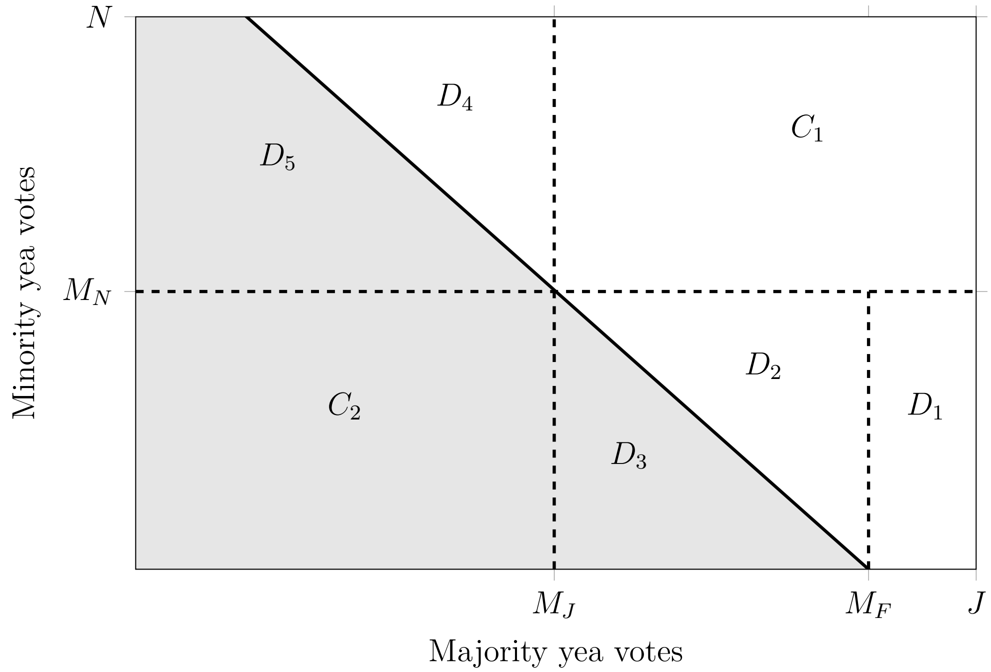


Figure 3.1. Potential spatial voting outcomes. Typology of voting outcomes segmented by institutional features: majority party median (M_J), minority party median (M_N), floor median (M_F), and the voting threshold (T) that bifurcates the space between votes that pass (clear) and those that do not pass (shaded).

medians ($\lfloor \frac{j_{yea}}{2} + 1 \rfloor$, and $\lfloor \frac{n_{yea}}{2} + 1 \rfloor$) and the vote rule threshold T. For passing motions, the space is divided into four possible outcomes. First, votes that receive a majority of both parties voting yea is defined as a consensus vote. Second, votes that receive a threshold-surpassing amount of votes from the majority party and a minority share of votes from the minority party are defined as defection votes. Third, votes that receive a less-than-threshold-surpassing but still majority of votes from the majority party and a minority share of votes from the minority party are defined as pivotal votes. Finally, votes that receive a minority of votes from the majority party and a majority share of votes from the minority party are defined as rolling votes. This space is shown in Figure 3.1.

A roll call vote's $J \times N$ outcome is a product of both its yea and nay votes. For a roll call vote to be a pivotal vote rather than a consensus vote at least requires more of the minority party to vote nay. Even so, it is neither practical nor analytically useful to count both yeas and nays as equivalently contributing to one type of bipartisanship rather than another. Instead, given the type outcome of a roll call vote that passes, a member-vote of yea can generally be defined as bipartisan. Of course, intentional coalition building can occur around nay votes and often does among party factions. Nevertheless, the passing motion is more accurately described by the legislative work that was ultimately successful.[19]

Defection votes are the one type for which there is an exception to the above operational definition. Unlike the other types that are defined as proximity to an ideal type, defection voting is defined as distance from the point in outcome space where a motion passes by pure partisanship P^*. Thus, for defection votes, minority party members voting yea will count as bipartisan because the vote is occurring away from P^*; majority party members voting nay will count as bipartisan under the same rationale.

3.3 Measuring legislators' voting bipartisanship scores

Using data from the Political Institutions and Public Choice datasets for the House (Crespin and Rohde 2026) and Senate (Roberts, Rohde and Crespin 2026), and the Voteview individual roll call data for the House and Senate (Lewis et al. 2026) for the 101st through 119th Congresses[20], each yea/nay vote that a member of Congress casts can be categorized as bipartisan (1) or not (0), given the roll call vote's bipartisan type. For each Congress-legislator, a simple proportion of bipartisan member-votes cast of all member-votes cast is calculated by vote outcome type. Because the chamber's majority party controls the roll call agenda, majority party members are more likely to vote yea than are minority party members which would result in majority party members appearing to be more bipartisan than minority party members solely because they have more opportunities to do so (The

[19]This does not mean that those forms of bipartisanship are not meaningful – they are. But, they are not as meaningful to the precise characterization of a vote. An important caveat is that I have conditioned my statements on the *outcome of a roll call vote that passes*. If one were to study motions that did not pass, the more meaningful vote would be nay votes. While that course of research is entirely plausible – and eluded to in the previous chapter with regards to bipartisan types not meeting the vote rule threshold — that is not the aim of this paper.

[20]Data are available only from 1990 to 2025, resulting in only having data for the second session of the 101st Congress and first session of the 119th Congress. Here, I err towards using more data than less; researchers should be mindful of inferential limitations for those two Congresses.

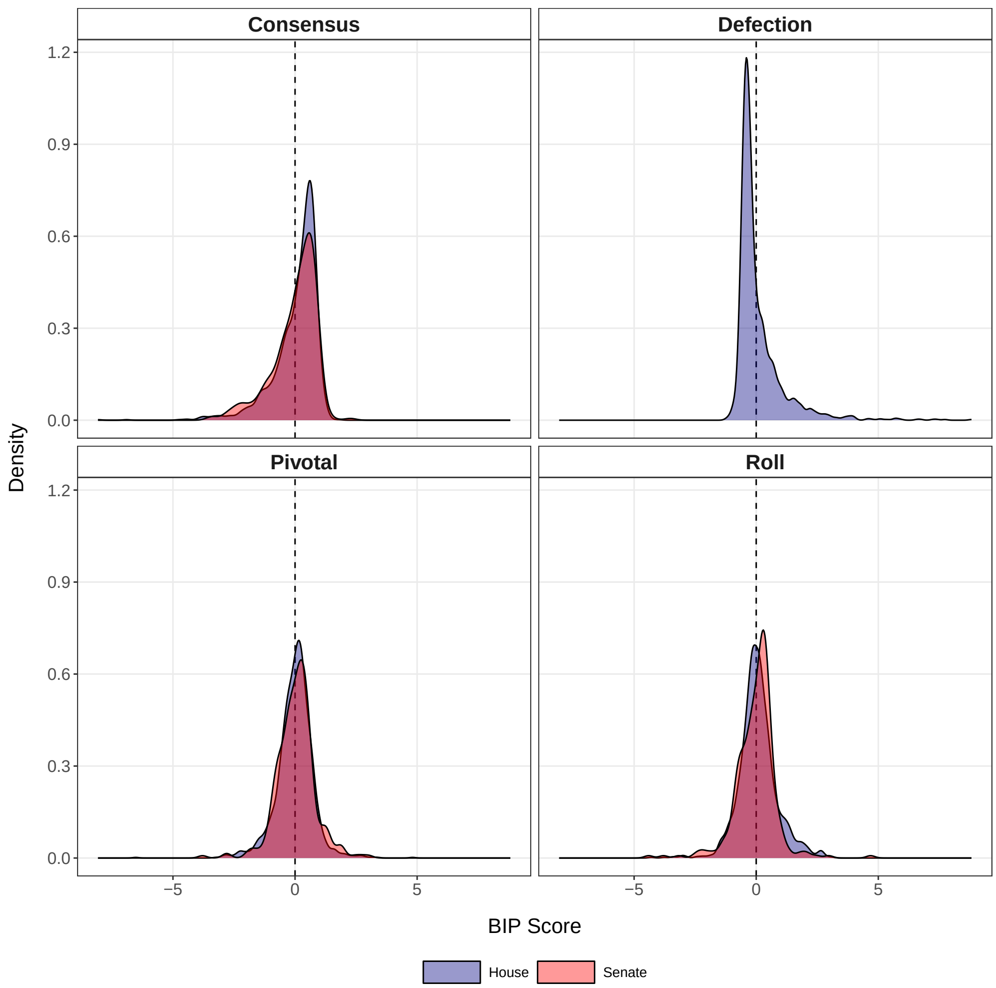


Figure 3.2. Density of average Voting Bipartisanship scores in the House and Senate by bipartisanship type.

Lugar Center 2026). Following the methodology suggested by the The Lugar Center (2026), 30-year baseline levels of bipartisanship proportions are calculated for majority and minority party legislators. These baselines are then used to gauge how individual legislators are performing against historical comparisons. These baselined proportions are then standardized to $N(0,1)$ within party and then combined for each Congress.

While the most precise analytical use of these voting bipartisanship scores (VB scores) is by Congress, they can also be averaged across a legislator's terms. In practice, many legislators have little substantive variation in their year-to-year VBS. Figure 3.2 shows the distribution of VB scores averaged by member by outcome type in the House and Senate.

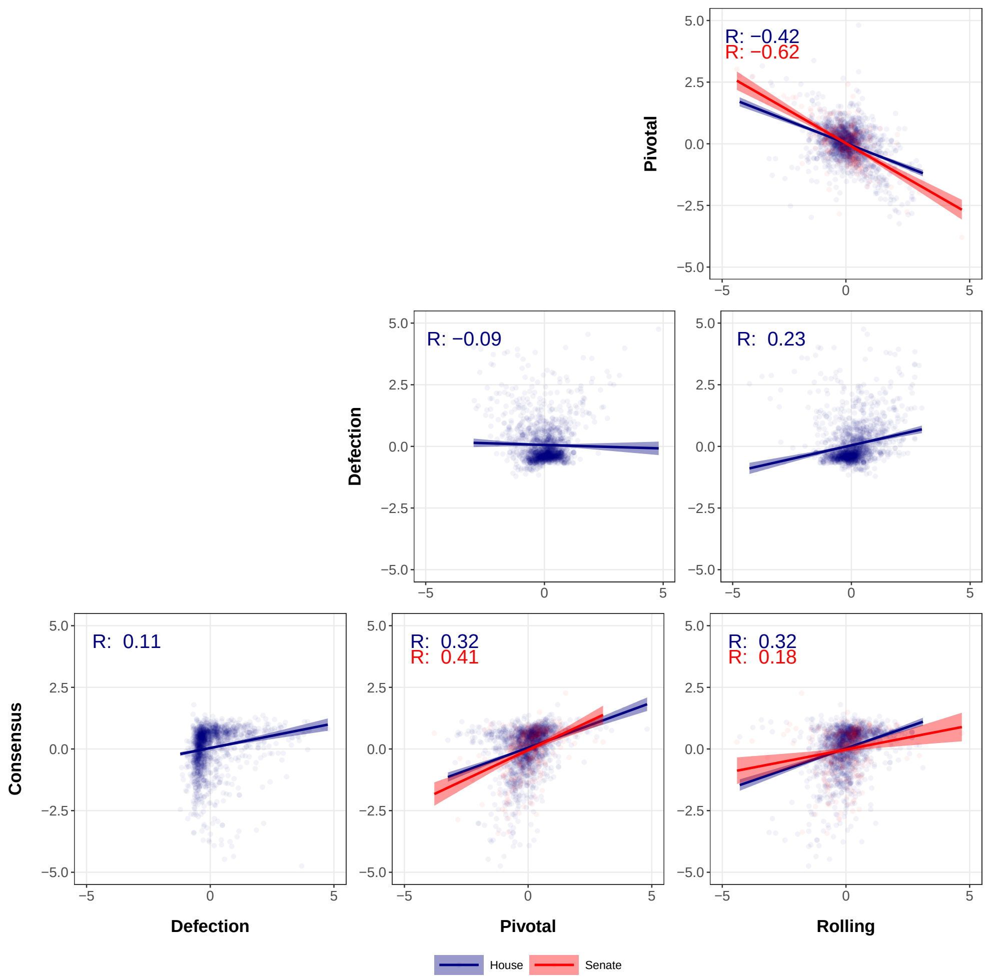


Figure 3.3. Correlations between Voting Bipartisanship scores by vote type.

VB scores for pivotal and rolling votes are roughly normal, peaking near zero with standard deviations near one.[21] the distributions for consensus and defection votes are skewed to the left and right, respectively. In general, this means that legislators are generally more likely to vote yea on a consensus vote but there are several outlying legislators who routinely vote nay on consensus votes. Likewise, fewer legislators choose to defect on votes but there are a solid number of legislators who are pro-defection outliers.

A key assumption underlying the bipartisan types, and now VB scores by type, approach to measuring bipartisan work in Congress is that different types of bipartisanship involve

[21] While legislators' scores are standardized by party for each Congress, the legislator average distribution is not necessarily to be normal. Even so, near-normal distributions are observed.

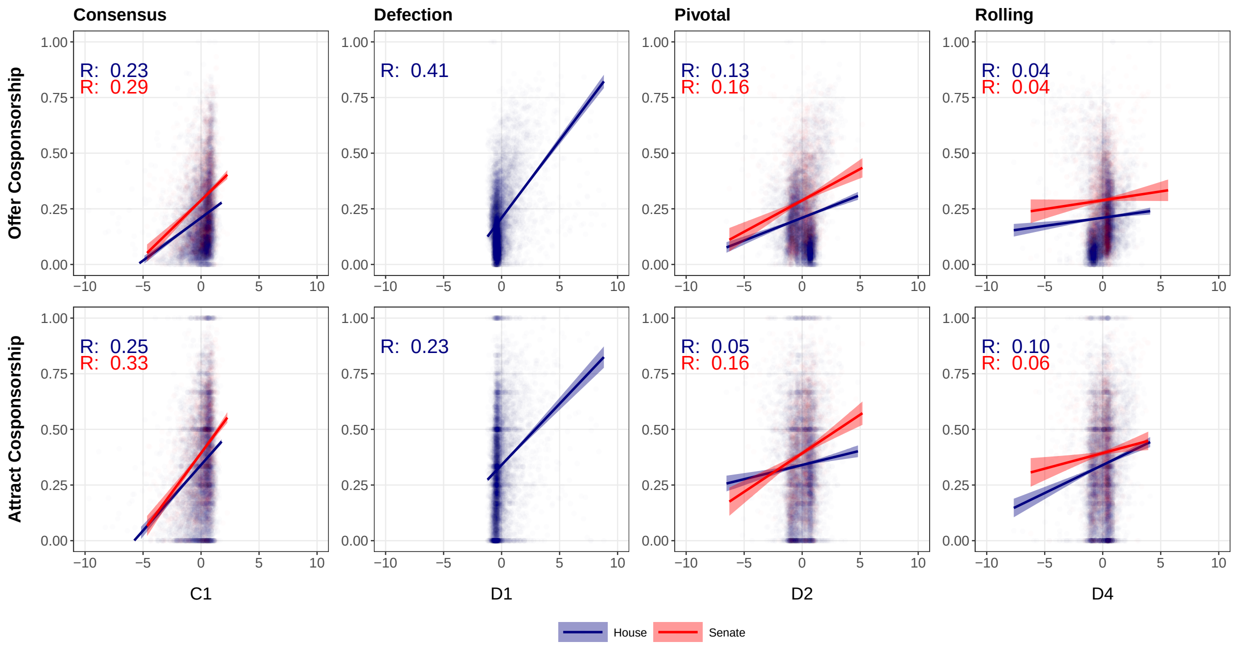


Figure 3.4. Correlations between Voting Bipartisanship scores and Cosponsorship Bipartisanship scores

different types of legislators. If the same legislators are quick to cast a bipartisan vote regardless of institutional context (i.e. outcome space), then the differentiation between bipartisan type does more to scratch a theoretical itch than provide useful insight. Figure 3.3 shows the correlation between VB scores for different bipartisan vote types in the House and Senate.[22] First, it should be observed that only one type pair exhibits a correlation beyond ±0.50 (pivotal-rolling in the Senate). The remaining correlations would be difficult to identify by visual inspection alone, underscoring the uniqueness legislator behavior with reference to bipartisan types. Secondly, not only are the correlations between VB scores by bipartisan type generally weak, but the correlation between type pairs is also negative in two instances (pivotal-defection in the House; pivotal-rolling in the House and Senate).

The empirical and conceptual distinction is also demonstrated by comparing VB scores to bipartisanship scores from other domains of legislative activity. Dobson and Lollis (2026) provide Congressional Bipartisanship Scores (CB scores) that use Congressional bill cospon-

[22] VB scores are not calculated on defection votes in the Senate due to lack of prevalence.

sorship networks to measure legislators' ability to attract bipartisan cosponsorships and frequency of offering their own support to an opposing partisan's bill. While these scores are important measures of valuable legislative work, they are limited to describing one type of bipartisan work – just as VB scores are. The distinction is shown in Figure 3.4. Correlations are shown and reported between VB scores by bipartisanship type and CB scores for the House and Senate. While consistently positive, only for two cases (consensus-attract; defection-offer) have correlations above 0.30; most are under 0.20. For reference, Dobson and Lollis (2026) report correlations to the The Lugar Center (2026) bipartisanship index consistently > 0.60. Overall, there is poor correlation between levels of bipartisanship in voting and bill sponsorship. These scores are not interchangeable. They both provide unique information about their own important domains.

3.4 The legislators casting bipartisan votes

If legislators who are voting for bipartisan outcomes are not the same legislators who cosponsor bipartisan bills, then who are they? Figure 3.5 reports the House representatives with the ten highest and ten lowest VB score by bipartisan type. Figure 3.6 reports same in the Senate. Both figures show results that demonstrate resonance between VB scores as measuring bipartisanship while also measuring different types of bipartisanship. In the House, top bipartisan voters include figures like former Speaker Tom Foley and several of his compatriots (Reps. Maria Cantwell and Don Johnson) and many cross-pressured representatives in competitive districts (e.g. Reps. Kendra Horn and Ben McAdams). Also well-represented at the top of these metrics is the House Problem Solvers Caucus, including co-chair Rep. Brian Fitzpatrick and several other members: Reps. Joe Cunningham, Don Davis, Marie Glusenkamp Perez, and Jared Golden, among others. At the bottom of the VB scores are representatives also well-known, though generally for their lack of interest in aisle-crossing. Conservative and progressive firebrands alike pepper the list: Reps. Chip Roy, Marjorie

Taylor Green, and Jim Inhofe on the right, Reps. Ilhan Omar and Rashida Talib on the left, and Reps. Ron Paul, Thomas Massie, and Justin Amash in an orthogonal libertarian space. These low-bipartisanship representatives tend to be at a polar end of their party's caucus, making them unlikely subjects for bipartisan voting.

Representative Ben McAdams presents an interesting case in the House. A Democrat formerly representing Utah's first congressional district, Rep. McAdams's election in 2018 was an exemplary case of marginality, having won by fewer that 700 votes. His name appears in Figure 3.5 three times: in the top ten bipartisan legislators on defection and rolling votes and in the bottom ten on pivotal votes. McAdams's is a case where specifying the institutional context of congressional voting is critical. As a member of Congress cross-pressured between the Democratic caucus and his generally conservative district in a robustly conservative state, these measures show that Rep. McAdams was among the House's most likely to both vote for bipartisan outcomes against his own party and vote against bipartisan outcomes when his vote would be pivotal in his party's favor. All three of these measures capture different but simultaneous pictures of McAdams' session in Congress.

Similar trends emerge in the Senate. Senators commonly known to be bipartisan are generally included at the top of the list. In recent Congresses, that list includes Senators Joe Manchin, Kyrsten Sinema, and Lisa Murkowski; also appearing are some of the bipartisan Gang of 14 that prevented the nuclear option on the filibuster in 2005, including Senators Lincoln Chafee and Ken Salazar. Also near the top of these lists are party switchers like Sen. Arlen Specter and Lincoln Chafee. Near the bottom of the bipartisan measures are those who have generally developed strong ideological outlier personas like Senators Bernie Sanders, Mike Lee, Rand Paul, and Josh Hawley.

Senator Lincoln Chafee's position in the Senate is analogous to Representative McAdams's in the House. During this period, Senator Lincoln Chafee was the top-most bipartisan Senator on pivotal votes and the bottom-most bipartisan Senator on rolling votes. That is, for a Senator otherwise known for his bipartisanship (or at least partisan inconsistency),

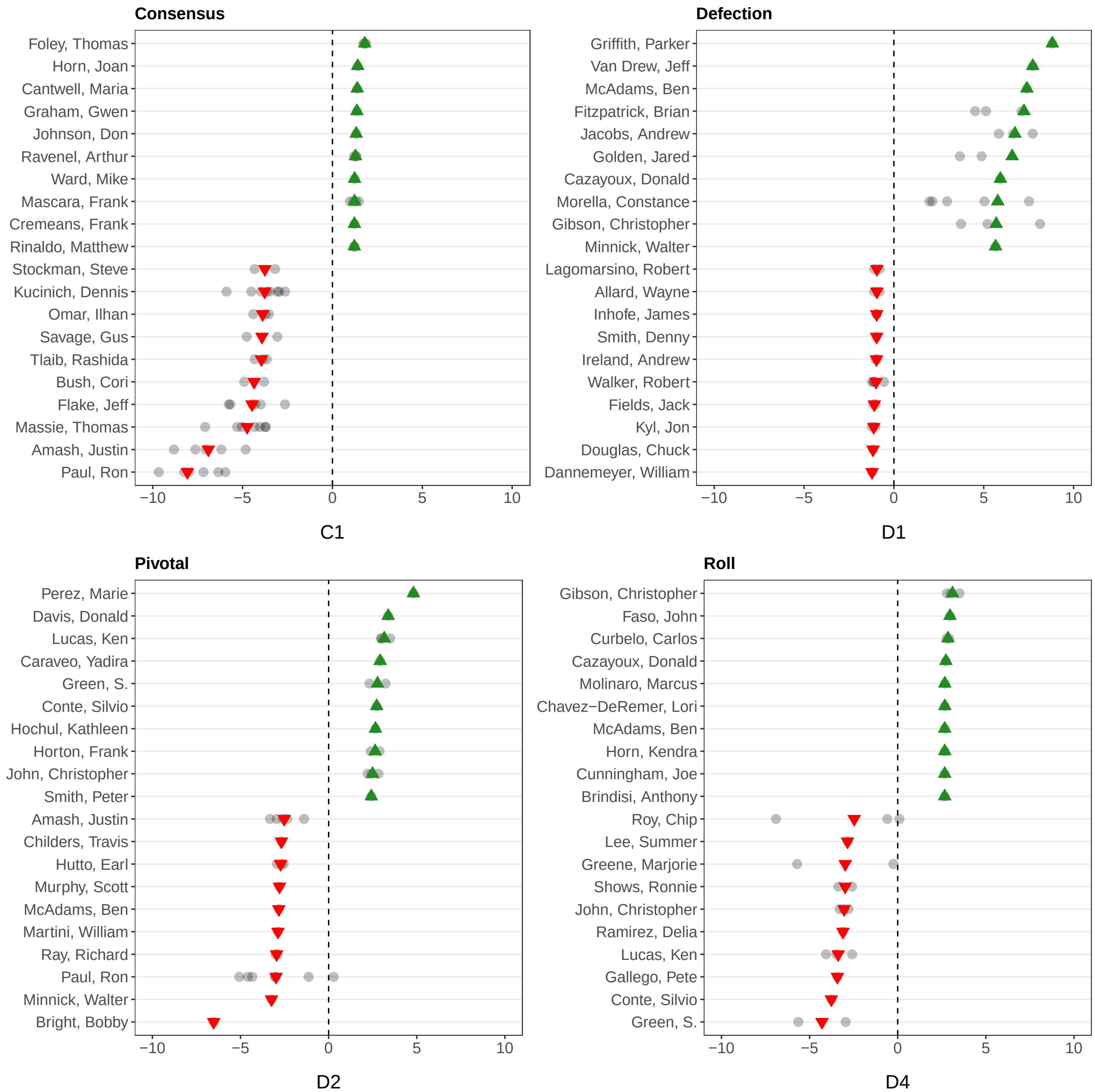


Figure 3.5. Top 10 and bottom 10 House members by Voting Bipartisanship score

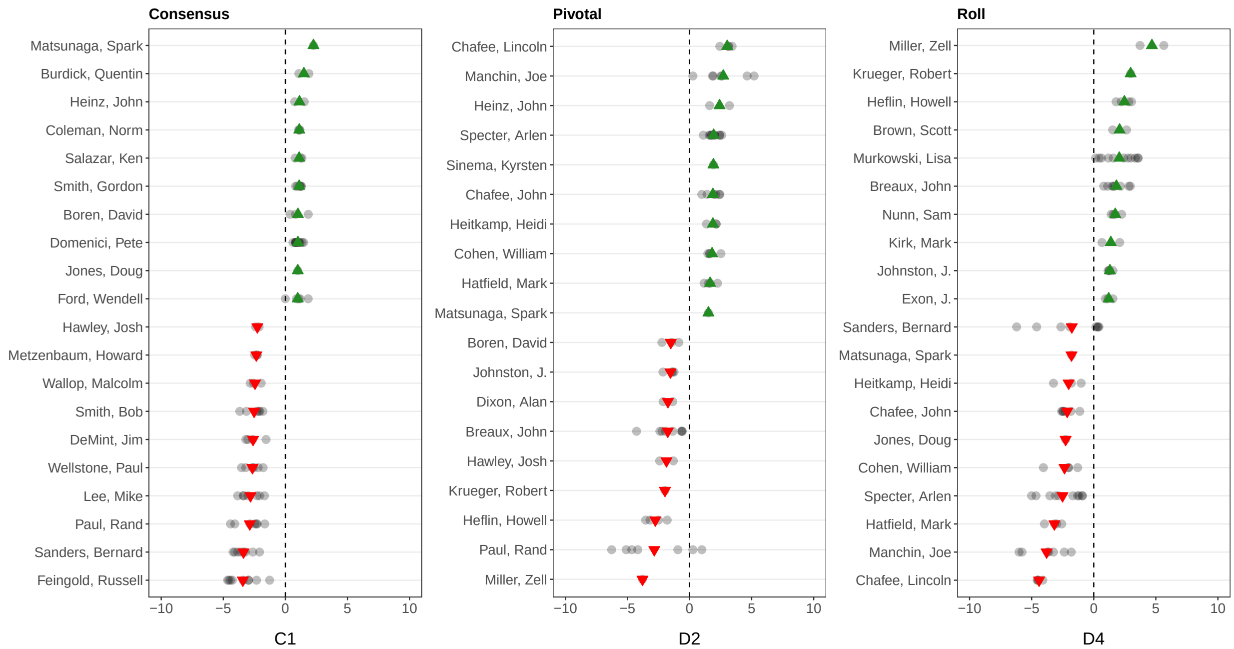


Figure 3.6. Top 10 and bottom 10 Senators by Voting Bipartisanship score

his voting patterns tended to be largely party-supportive. As Republicans generally held majority control in the Senate during the three Congresses of his single term, Sen. Chafee's VB scores suggests that he was insistent to not vote against his party when the Democratic party tried to push an item forward but was willing to join a slim margin when the majority of Republicans supported it.

3.5 Correlates of voting bipartisanship

Which members of Congress are more likely to exhibit higher levels of voting bipartisanship? An analytical strength of the VB scores approach is the insistence that roll call votes are understood to be bipartisan relative to some ideal case. Bipartisan consensus votes are not the same as bipartisan rolling votes – and researchers should not expect the same types of members to be engaged in both. Thus, different legislator characteristics might prompt her to be more (or less) willing to cast a bipartisan vote. To consider these potential correlates, I use a fixed effects model to evaluate congress-legislator VB scores as a function of various ideological, partisan, electoral, and institutional factors. Standard errors clustered by legislator are reported.

3.5.1 Data and measures

As referenced previously, VB scores are calculated from 1990 to 2025 with data from the Political Institutions and Public Choice roll call vote datasets (Crespin and Rohde 2026; Roberts, Rohde and Crespin 2026) for roll call vote data and Voteview member-vote data (Lewis et al. 2026). Additional data used in this regression model come from the Center for Effective Lawmaking's legislative effectiveness dataset (Volden and Wiseman 2014, 2018), Dobson and Lollis's (2026) Congressional Bipartisanship Scores, and the Database on Ideology, Money in Politics, and Elections (DIME) (Bonica 2024).

I include three categories of independent variables to the model: (1) ideology, party, and elections, (2) institutional position, and (3) behavioral correlates.

The ideology, party, and elections covariates include measures of ideology, ideological polarity, ideological positioning, party affiliation, and electoral returns. Ideology is measured as the composite ideological score in Bonica (2024). DIME scores measure a legislator's position in ideological networks by analyzing networks of political donations. This alternative method of measuring a legislator's ideology is useful as DW-NOMINATE scores are estimated from roll call votes, which would result in roll call votes appearing on both sides of the regression equation. The DIME composite scores are also used to measure ideological polarity (absolute value of composite score), ideological distance from floor median, and ideological distance from party median. Democratic party membership is measured dichotomously. Vote percentage is measured as the nearest-integer percentage of votes received by the legislator in the most recent general election.

Institutional position considers whether the legislator holds important roles in the institution and/or party caucus (conference) and the legislator's seniority (or lack thereof). Dichotomous variables are included for Speaker of the House, majority leader, minority leader, committee chair, and subcommittee chair. Legislator seniority is measured by nearest-integer years that a legislator has served in that chamber. Also included is a dichotomous variable indicating whether the legislator is a freshman in that term.

Finally, three behavioral measures are included to consider whether other types of legislative behavior are correlated to bipartisan voting. First are legislative effectiveness scores, which measure a legislator's ability to successfully move their own bills through the legislative process. Second are the two bipartisan cosponsorship scores from the Congressional Bipartisan Scores project, including the bipartisan cosponsor attraction score and the bipartisan cosponsor offer score (both aggregated and weighted).

3.5.2 Expectations

While formal hypotheses are not given here, I do state four *a priori,* informal expectations for observations in the data.[23]

First, ideological extremists do not cast bipartisan votes. Conceptually and practically, bipartisan voting requires some agreement between opposing partisans – and cross-partisan policy agreement is unlikely to be found in sorted parties. Even so, may not be immediately clear why extremists would be less likely to nay-say against their own party, at least on defection votes. While there are a small but growing number of cases of non-directional proximity voting such as protest voting (Lewis 2026; Fowler and Lewis 2026), that practice remains relatively infrequent as an average of approximately two protest votes can be expected per bill, yielding less than 1 percent of all votes cast (Fowler and Lewis 2026). Put simply, bipartisanship should be rare among legislators who have difficulty getting along with their own party.

Second, electoral safety decreases bipartisanship. One view of electoral safety is that

[23] Formal hypotheses should be reserved for confirmatory analyses that develop severe tests to disprove theoretical predictions in service to potential falsification. Because this paper is exploratory and descriptive in nature, formally stating hypotheses is unnecessary and would be unscientific. Regression results – though consequent of a structured model of legislator VB scores and reported with standard errors – should be interpreted as exploratory, laying the groundwork for future theory-building and eventually confirmatory analysis.

legislators might be more willing to take reputational risks with their constituents in order to pursue bipartisanship on behalf of the public good as long as they do not have an immediate fear of losing reelection. Likely bolstering this view is the idyllic picture of the congressional statesman, carrying over from the Congressional textbook era: a well-seniored legislator who works on behalf of the people to make the unpopular but necessary decisions needed to pass good laws. Conversely, it is exactly those legislators with electoral security that have no external incentive to be bipartisan; only marginal members in close electoral districts have ample external incentives for bipartisanship. Thus, I expect electoral safety and its seniority counterpart to be negatively correlated to bipartisan voting.

Third, effective lawmakers are bipartisan voters. Recent findings (Harbridge-Yong, Volden and Wiseman 2023) have shown that legislative effectiveness is related to measures of bipartisan cosponsorship. While cosponsorship and voting are different types of legislative work, lawmakers who want to successfully move their own legislation through Congress may be more likely to offer their own votes as bipartisan political capital.

Lastly, bipartisan cosponsors are bipartisan voters. I expect bipartisan legislators to be generally predisposed to bipartisan work, whether it be cosponsorship or voting or messaging. While Figure 3.4 showed weak correlations between VB scores and CB scores, these relationships might be clarified when controlling for other factors.

3.5.3 Results

Regression results for VB scores in the House are reported in Table 3.1. Because the distributions of VB scores are roughly normal, an estimated effect of 1.0 is roughly one standard deviation above the mean.

As expected, ideological polarity is estimated to have a negative effect across all bipartisan types, though three at a statistically meaningful level: -0.80 (s.e. = 0.05) for consensus votes, -0.42 (s.e. = 0.04) for defection votes, and -0.28 (s.e. = 0.03) for rolling votes. For consensus and pivotal votes, similar effects are estimated for a legislator's distance from the

	Consensus	Defection	Pivotal	Rolling
Ideology	0.025	0.129*	0.014	-0.144*
	(0.033)	(0.034)	(0.027)	(0.029)
Ideologically Extreme	-0.806*	-0.417*	-0.029	-0.275*
	(0.048)	(0.040)	(0.034)	(0.032)
Floor Median Dist.	-0.036*	-0.008	-0.064*	0.007
	(0.011)	(0.010)	(0.011)	(0.011)
Party Median Dist.	-0.772*	0.699*	-0.347*	0.009
	(0.064)	(0.064)	(0.050)	(0.047)
Democratic	0.120	0.718*	0.136	-0.669*
	(0.152)	(0.172)	(0.141)	(0.153)
Vote Percentage	-0.003*	-0.005*	0.0003	-0.004*
	(0.001)	(0.0009)	(0.001)	(0.001)
Speaker	0.960*	0.099	0.501*	0.757
	(0.188)	(0.077)	(0.150)	(0.699)
Maj. Leader	0.267*	0.025	0.633*	-0.492*
	(0.072)	(0.038)	(0.061)	(0.077)
Min. Leader	0.003	-0.110*	-0.366*	0.198*
	(0.081)	(0.055)	(0.065)	(0.100)
Chair	0.214*	0.071	0.265*	-0.238*
	(0.056)	(0.062)	(0.077)	(0.069)
Sub. Chair	0.034	0.212*	-0.036	-0.016
	(0.032)	(0.037)	(0.047)	(0.042)
Seniority	-0.023*	-0.015*	-0.011*	-0.008
	(0.004)	(0.004)	(0.004)	(0.005)
Freshman	0.157*	0.112	0.054	0.215
	(0.071)	(0.106)	(0.137)	(0.114)
Effectiveness	-0.011	0.009	0.024	-0.018
	(0.010)	(0.010)	(0.014)	(0.013)
Attract Cosponsor	0.479*	0.180	-0.195	0.878*
	(0.134)	(0.141)	(0.167)	(0.172)
Offer Cosponsor	0.219	1.84*	1.11*	-0.669*
	(0.133)	(0.167)	(0.189)	(0.216)
FE: Congress	Yes	Yes	Yes	Yes
Observations	6,023	6,024	6,017	6,014
R^2	0.435	0.440	0.075	0.078
Within R^2	0.434	0.439	0.071	0.073

Clustered (member) standard-errors in parentheses
$^*p < 0.05$

Table 3.1. Correlates of Voting Bipartisanship in the House, 1990-2025.

floor median (β=-0.04, s.e. = 0.01) and party median (β=-0.77, s.e. = 0.06). The only statistically significant positive estimate for a measure of ideological distance shows that distance from the party median increases a legislator's VB score on defection votes (β=0.70, s.e. = 0.06). Other ideological and partisan variables show a relationship for Democratic party membership (β=0.72, s.e. = 0.17; β=-0.67, s.e. = 0.15) and conservative ideology (β=0.13, s.e. = 0.03; β=-0.14, s.e. = 0.03) on defection and rolling votes, respectively.

Vote percentage showed similar results for all but pivotal votes: -0.003 (s.e. = 0.001) for consensus votes, -0.005 (s.e. = 0.001) for defection votes, and -0.004 (s.e. = 0.001) for rolling votes. Substantively, these estimates suggest that a member of Congress who wins a general election with 75 percent of the general election vote will have VB scores that are -0.07, -0.12, and -0.10, respectively, lower than a member who wins election with 51 percent. Seniority has a similar effect on consensus, defection, and pivotal VB scores (β=-0.02, s.e. = 0.004; β=-0.02, s.e. = 0.004; β=-0.01, s.e. = 0.004; respectively) while freshman status increases the consensus bipartisan score (β=0.16, s.e. = 0.07). While generally modest, these estimates consistently demonstrate a negative relationship between electoral safety and bipartisan voting.

Results from the institutional position variables show that majority party leaders (i.e. Speaker, majority leader, committee chairs, and subcommittee chairs) generally have higher VB scores on consensus and pivotal votes. On the other hand, minority leaders have lower VB scores on defection and pivotal votes. Predictably, majority party leaders have lower rolling VB scores while minority party leaders have higher rolling VB scores.

Perhaps the most surprising finding here is that there is no statistically (or substantively, for that matter) significant relationship between legislative effectiveness and bipartisan voting. While signaling willingness to reciprocate in bipartisan activity is important to effective lawmaking (Harbridge-Yong, Volden and Wiseman 2023), bipartisan voting does not appear to be an effective signal. Certainly bill cosponsorship are stronger signals: they require more work and effort on the cosponsor's part. The bipartisan work in cosponsorship is generally more active and publicized than the work of casting a vote. Nevertheless, voting is a necessary work on the path to lawmaking. To find no effect here is a puzzle for further exploration.

When controlling for other factors, attraction bipartisan cosponsorship scores are positively correlated with consensus and rolling VB scores (β=0.48, s.e. = 0.13; β=0.88, s.e. = 0.17). Offer cosponsorship scores are also positively correlated with defection and pivotal scores while negatively associated with rolling scores (β=1.84, s.e. = 0.17; β=1.11, s.e. = 0.19; β=-0.67, s.e. = 0.22; respectively). Across the board, the cosponsorship scores show strong positive effects at or above the effect sizes for ideological measures, suggesting a substantively important relationship between bipartisan voting and bipartisan cosponsorships.[24]

Regression results for VB scores in the Senate are reported in Table 3.2. Given their distribution similarity to the VB scores in the House, these estimated effects roughly correspond to one standard deviation.

As in the House, ideological polarity in the Senate is estimated to have a negative effect across all measured bipartisan types, though statically significant for consensus votes (β = -0.92, s.e. = 0.09) and for pivotal votes (β = -0.27, s.e. = 0.13). Similar effects are estimated on pivotal votes for a legislator's distance from the floor median (β=-0.73, s.e. = 0.09) and on consensus votes for distance from party median (β=-0.09, s.e. = 0.03). Further, Democrats and ideological conservatives are shown to have lower bipartisanship scores on pivotal votes (β=-1.01, s.e. = 0.47; β=-0.22, s.e. = 0.10; respectively) but higher scores on rolling votes (β=1.19, s.e. = 0.47; β=0.27, s.e. = 0.09; respectively).

Electoral safety measures demonstrated no effect on bipartisan voting in the Senate, with the exception that freshman senators tend to have higher VB scores on consensus votes (β=0.40, s.e. = 0.17). Findings on institutional position are also limited to VB scores on consensus votes, showing that leaders from both parties have higher scores (majority leader: β=0.23, s.e. = 0.10; minority leader: β=0.27, s.e. = 0.07) while lower level leaders

[24] This finding only contributes to the puzzle regarding the lack of relationship on the effectiveness measures.

	Consensus	Pivotal	Rolling
Ideology	0.094	-0.223*	0.270*
	(0.082)	(0.097)	(0.091)
Ideologically Extreme	-0.922*	-0.268*	-0.175
	(0.085)	(0.130)	(0.133)
Floor Median Dist.	-0.018	-0.091*	0.036
	(0.027)	(0.029)	(0.034)
Party Median Dist.	-0.725*	-0.172	-0.249
	(0.088)	(0.141)	(0.177)
Democratic	0.370	-1.01*	1.19*
	(0.371)	(0.465)	(0.462)
Vote Percentage	0.002	-0.002	-0.004
	(0.003)	(0.004)	(0.005)
Maj. Leader	0.234*	0.008	0.128
	(0.097)	(0.108)	(0.106)
Min. Leader	0.269*	0.123	0.069
	(0.073)	(0.131)	(0.147)
Chair	-0.057	0.148	-0.059
	(0.071)	(0.095)	(0.094)
Sub. Chair	-0.161*	-0.118	-0.016
	(0.056)	(0.090)	(0.081)
Seniority	-0.019	-0.010	0.006
	(0.010)	(0.009)	(0.011)
Freshman	0.398*	0.096	0.080
	(0.166)	(0.189)	(0.183)
Effectiveness	0.040	0.009	0.020
	(0.037)	(0.030)	(0.036)
Attract Cosponsor	0.888*	0.333	0.377
	(0.231)	(0.289)	(0.359)
Offer Cosponsor	0.063	0.238	0.127
	(0.227)	(0.428)	(0.471)
FE: Congress	Yes	Yes	Yes
Observations	1,509	1,501	1,509
R^2	0.421	0.130	0.066
Within R^2	0.420	0.119	0.065

NOTE: Scores for defection votes are omitted due to low frequency.
Clustered (member) standard-errors in parentheses
$^*p < 0.05$

Table 3.2. Correlates of Voting Bipartisanship in the Senate, 1990-2025.

tend to have lower scores (subcommittee chair: β=0.16, s.e. = 0.06). As for behavioral correlates, effectiveness shows no correlation to any type of bipartisan voting in the Senate either. Further, only the attract bipartisan cosponsors measure is significantly correlated to VB scores and only for consensus votes (β=0.88, s.e. = 0.23).

Overall, these results suggest at least three takeaways. First, bipartisan voting is largely dependent on ideological factors. That bipartisanship involves ideological moderation is not a new suggestion (Krehbiel 1998) but amid new literature focusing on the interpersonal roots of bipartisan action elsewhere (Craig 2023; Harbridge-Yong, Volden and Wiseman 2023; Harbridge 2015) these findings reiterate the unavoidable hurdle to bipartisan lawmaking: ideology. Lacking in much research on bipartisanship is how ideology is counteracted to push legislation forward.

Second, electoral security in the House may be counterproductive to bipartisan efforts. While modest estimates are reported here, further research should explore the competing expectations surrounding electoral security. Are safe districts more forgiving when their representatives engage in bipartisan work? Or, do representatives from safe districts not experience any external incentives to bipartisanship? These questions strike at the root of representation and lawmaking.

Third, legislative effectiveness does not appear to be correlated to bipartisan voting. Votes are only one form of political capital available to savvy legislators – but votes are important capital nonetheless. The lack of relationship here begs the questions of (1) whether effective lawmakers use votes as political capital in coalition building, and (2) how voting coalitions are built and maintained independent of political prowess to move legislation through Congress.

3.6 Conclusion

Bipartisanship in Congress has many faces throughout the legislative process. A critical but overlooked component of bipartisanship is voting patterns, particularly at the individual level. This paper offers an individual-level measure of bipartisan voting that accounts for the institutional context of the vote. Exploratory analyses suggest two preliminary conclusions from the data.

First, voting bipartisanship is unique from other types of bipartisanship. While needful efforts towards measuring bipartisanship in cosponsorship networks are thriving, there is an unmet need in considering bipartisanship in individual voting decision. Roll call votes are bipartisan – but how do we know when a legislator casts a bipartisan vote? Using the measure developed in this paper, I find that there is only weak direct correlation between bipartisan voting and bipartisan cosponsorships, prompting the need for more attention to conceptualizing and measuring bipartisan voting at the individual level.

Second, voting bipartisanship differs by type. Not only are bipartisan voting patterns different that other forms of congressional bipartisanship, they are also diverse in themselves. This diversity occurs both between types (i.e. consensus, defection, pivotal, and rolling) and between congressional chambers. While scholarship on congress has studied consensus and rolling and close votes at length, these studies are not generally conducted at the individual level of analysis. This research suggests that more exploratory and theoretical work is needed here.

Conclusion

Roll call voting is one of the most visible aspects of congressional activity over time and today. Members of congress tend to take voting seriously, as it is a perennial talking point on the campaign trail – used both in favor and against them. The methodological trend towards vote scaling is an important and good one, but the race for empirical precision can often out-pace that for conceptual breadth. This dissertation offers three perspectives on different aspects of measurement challenges and opportunities in the statistical analysis of congressional roll call voting.

This research is aimed at practical measurement challenges faced by congressional scholars. Chapter 1 addresses lingering concerns about the effects of agenda setting on the ability to recover unbiased measurements and effects of legislator ideology. The result is a nuanced critique of the selection bias in roll call analysis that demonstrates both the problem and explores the mechanism by which the problem is reduced. This chapter contributes to the field of Congressional studies by not only replicating existing studies in a single-session legislature, but by extending the experimental framework to more dynamic and ecologically-relevant conditions. Further, because the adjusted polarization levels represent the effect of a strong treatment under bias-favorable conditions, this paper provides an upper boundary for the estimated selection bias occurring in ideological measurement. These contributions provide more definition to the problem and some settlement to empirical concerns. Chapter 2 addresses the lack of consensus around how to measure the prevalence of bipartisan voting. Instead of adjudicating existing methods, the paper demonstrates how current approaches are trying to measure bipartisanship in conceptually narrow ways. With a clear conceptual definition and operational framework, the paper proceeds to show how congressional scholars can compare different types of bipartisan votes, including consensus voting, defection voting, pivotal voting, and rolling. Additionally, by specifying ideal types of bipartisanship, scholars are presented a framework for classifying and comparing different types of bipartisan votes.

This chapter contributes a min-max strategy for conceptual definition of a bipartisan vote while reorganizing operationalization around a typology based on institutional features and ideal types. Finally, Chapter 3 extends the work in Chapter 2 by measuring voting bipartisanship at the individual level, providing a novel approach and measure to using roll call votes to classify legislator behavior. In doing so, the paper demonstrates how different types of bipartisanship are pursued by different types of legislators in different legislative activities.

In sum, this dissertation offers conceptual development in the analysis of congressional roll call voting. Providing a new measurement framework, this approach will be of practical use to congressional scholars interested in better use of congressional roll call data to understand scientifically and normatively important concepts like bipartisanship, lawmaking, and agenda setting. The results presented here will be useful for further theoretical and confirmatory work.

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Appendix A

Appendix for:

Negative Agenda Setting and its Consequences for Measuring Ideology in Legislatures

A.A.1 Monte Carlo experimental parameters

The data generating process for the Monte Carlo experiments in the paper was conducted in three phases. In the first phase, a legislature was populated with legislators that were assigned to one of two parties (e.g. p100 or p200) and was assigned a "true" ideology that was randomly drawn from a defined probability distribution. If the experiment involved multiple legislative sessions, each legislative session was similarly filled with legislators (though see below for more detail). In the second phase, a voting agenda was constructed with spatial cutpoints at a regular interval. Using the legislators' assigned true ideal points (accounting for a specified level of voting error), the legislators' positions on each cutpoint-specified vote was recorded in a roll call matrix. In the third phase, the roll call matrix was used for a scaling procedure to measure ideology.

The researcher-specified parameters used for the single-session Monte Carlo experiments are identified in A1. The size of legislature, majority proportion, ideological overlap, coverage interval, and voting error are all singly-defined in the experiments. True ideology is randomly drawn from a Beta distribution ($\alpha = 2$, $\beta = 5$) and then transformed so that the true ideologies of p100 legislators are negative and that of p200 legislators is positive, with an additional transformation for ideological overlap. (An example of the transformation process is shown in Figure A1.)

The researcher-specified parameters used for the multi-session Monte Carlo experiments are identified in A2. The multi-session parameters are largely similar to those for the single-session experiments, with a few exceptions. First, there is a researcher-specified starting and ending Democratic seat share, which establishes a linear trend to which a stochastic term is added ($N(0, 0.15)$). Second, the duration of the legislature is defined in sessions. Third, legislature tenure is randomly drawn from a Weibull distribution ($\alpha = 1.5$, $\beta = 5$) at a legislator's first appearance in the dataset. In practice, this tenure-and-replacement mechanism works such that the first session is filled with legislators according to the same process as in the single-session legislature above but with a per-legislator tenure variable. For the second legislature, each legislator's tenure variable is decreased by one; legislators with a tenure greater than or equal to one remain while all legislators with a tenure of zero are removed. To replace the legislator in that seat, a legislator is placed in that seat, probabilistically assigned to a party according to the linear trend of Democratic party share (plus stochastic term), assigned a true ideology from the defined Beta distribution, and assigned a tenure from the defined Weibull distribution. The process repeats until the last session.

Type	Parameter	Description	Value
Legislator	Seats in legislature		435
Legislator	Majority proportion		0.51
Legislator	Ideological distribution	Beta distribution demonstrating a skewed distribution toward the ideological center (0) with allowance for higher-level outliers (1); Resulting values were positive for one party (red) and negative for the other (blue)	$\alpha = 2$, $\beta = 5$
Legislator	Ideological overlap	Transformation performed across the red (- overlap) and blue (+ overlap) ideological distributions so that they overlap	0.1
Agenda	Coverage interval	Intervals on the range [-1,1] between roll call votes on the voting agenda prior to enforcing a block zone	0.01
Agenda	Voting error	Stochastic term in determining legislators' vote on a given roll call vote	0.025

Table A1. Single-session legislature Monte Carlo experiment parameters.

Type	Parameter	Description	Value
Legislator	Seats in legislature		435
Legislator	Ideological distribution	Beta distribution demonstrating a skewed distribution toward the ideological center (0) with allowance for higher-level outliers (1); Resulting values were positive for one party (red) and negative for the other (blue)	$\alpha = 2$, $\beta = 5$
Legislator	Ideological overlap	Transformation performed across the red (- overlap) and blue (+ overlap) ideological distributions so that they overlap	0.1
Agenda	Coverage interval	Intervals on the range [-1,1] between roll call votes on the voting agenda prior to enforcing a block zone	0.01
Agenda	Voting error	Stochastic term in determining legislators' vote on a given roll call vote	0.025
Replacement	Legislature duration	Number of sessions	30
Replacement	Legislator tenure	Weibull distribution parameters from which legislators are randomly assigned a tenure length; parameters selected so that average assigned tenure was approximately 4.3 legislative sessions, which translates to the roughly 8.6 years average tenure in the U.S. House[a]	$\alpha = 1.5$, $\beta = 5$
Replacement	Starting Democratic proportion		0.65
Replacement	Ending Democratic proportion		0.47
Replacement	Stochastic seat proportion	Stochastic term in determining Democratic proportion of legislature seats	0.15

Table A2. Multi-session legislature Monte Carlo experiment parameters.

[a]https://www.congress.gov/crs-product/R41545

A.A.2 Descriptive statistics for Monte Carlo experimental conditions

A.A.2.1 Single-session legislature

Figure A1 demonstrates the use of a Beta distribution for assigning ideology to legislators in the Monte Carlo simulations. The Beta distribution was chosen to ensure a true ideology range of [-1,+1], which was helpful in ensuring that the voting agenda covered the range of all legislators. Two additional elements – the moderate distribution and considerable overlap – elevate the likelihood of a null finding (i.e. that the ratio of change in the majority party to change in the minority party is 1). This happens because the minority party (p200) is more likely to be affected by the agenda block zone if there is ideological overlap between the parties. If there is no overlap, then the block zone (ranging from floor median to majority party median) will contain no minority party legislators. By increasing the likelihood of finding an effect in both the majority and minority parties, this setup provides a more conservative test than having more separated parties.

Mentioned in the manuscript is that the agenda block zone is largest for small majority seat shares and approaches zero as seat share increases to 100%. This is definitionally true, as $M_j = M_f$ when the entire legislature is comprised of the majority party. Figure A2 demonstrates this property by quantifying the proportion of the total range of legislators in preference space that is covered by the agenda block zone at various levels of majority party seat share.

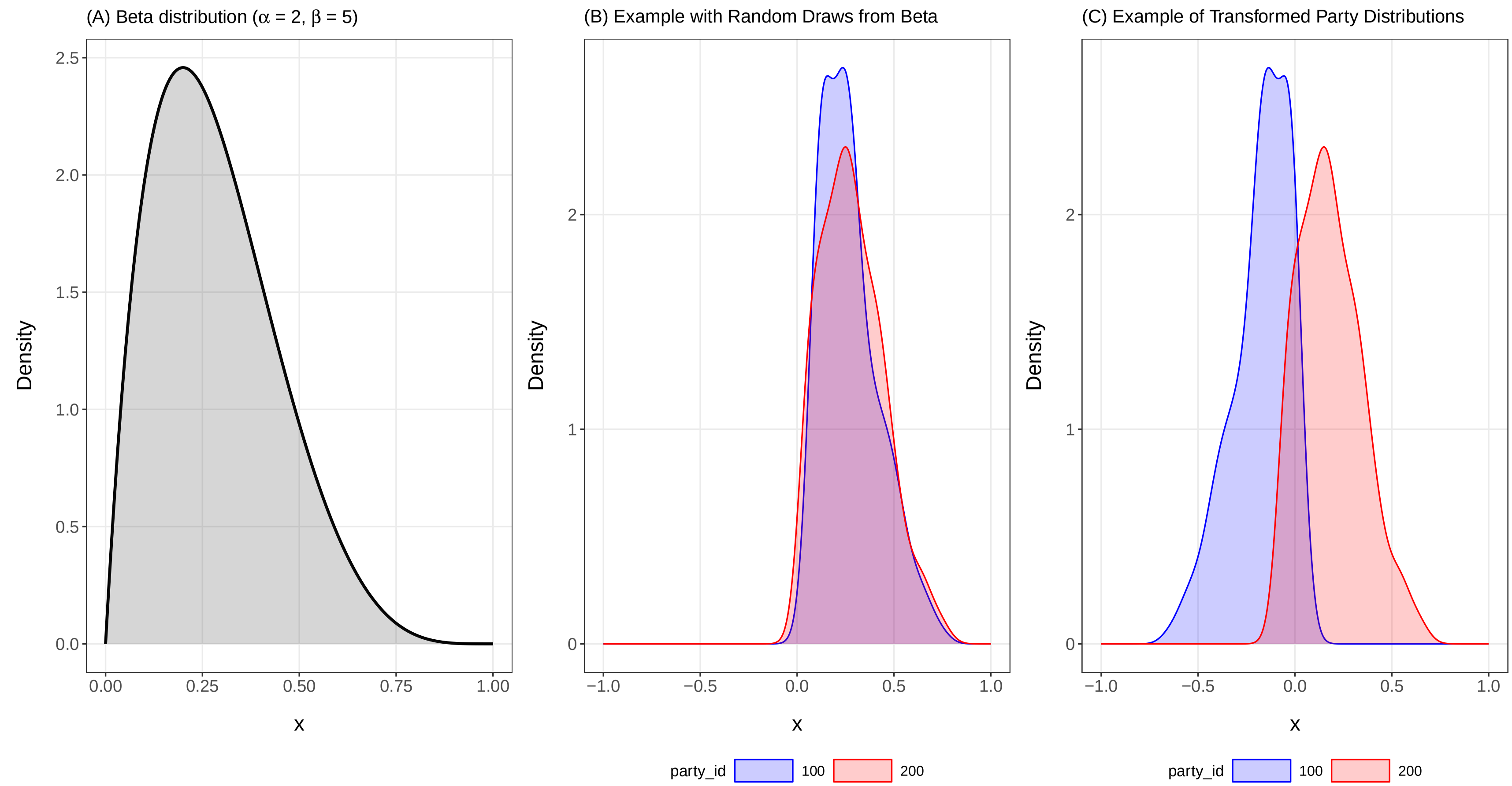


Figure A1. Beta distribution for ideological assignment. Panel (A) shows the Beta probability distribution with shape parameters $\alpha = 2$ and $\beta = 5$. This distribution is used to define the base true ideology for simulated legislators. **Panel (B)** shows an example of the distributions of base ideology for parties p100 and p200 in one of the simulations. **Panel (C)** shows the *true ideology* measure after two transformations: making p100 ideologies negative and creating an overlap as specified by the respective parameter.

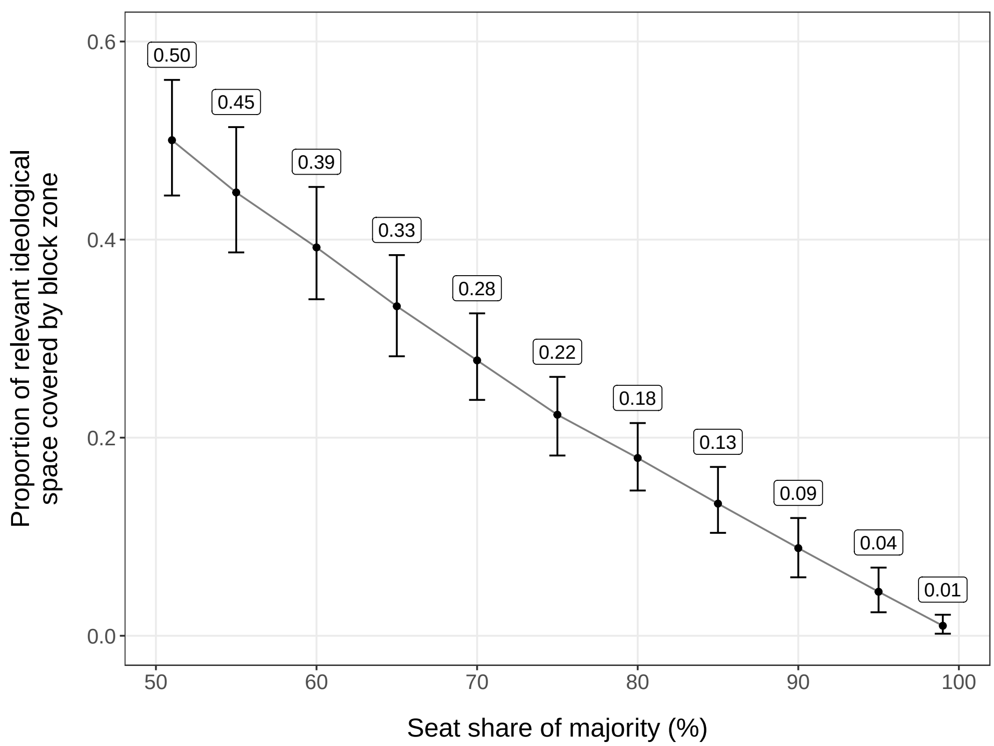


Figure A2. Average block zone coverage by majority seat share. Upper 95% and lower 5% quantiles are reported.

A.A.2.2 Multi-session legislature

Figure A3 demonstrates the use of a Weibull distribution for assigning tenure to legislators in the Monte Carlo simulations. The Weibull distribution (with specified shape and scale parameters) was chosen to reflect (1) the average tenure of a member of the House of Representatives is 8.6 years or roughly 4.25 sessions, (2) most legislators serve modest tenures (fewer than 10 years), and (3) that there are still several long-serving members (right-skewed). Especially concerning the allowance for long-serving members, this specification allows for a more conservative estimation of the effect over time (as compared to a normal distribution, for example) as longer tenures (i.e. fatter tails) allow for higher likelihood of experiencing differentiation in a later session.

Figures 7 and 8 in the manuscript report 95% confidence intervals calculated with bias-correction and acceleration (BcA). Figures A4 and A5 report the same quantities but with 95% confidence intervals defined by simulation quantiles.

Similarly to Figure A2 above, Figure A6 shows the proportion of the total range of legislators in preference space that is covered by the agenda block zone at various levels of majority party seat share. The area covered by the agenda block zone increases over time, as Democratic share decreases from the parameter-specified 0.65 to 0.47. An important caveat to to interpretation is that (unlike in Figure A2), the area of the block zone directionally changes as majority status changes.

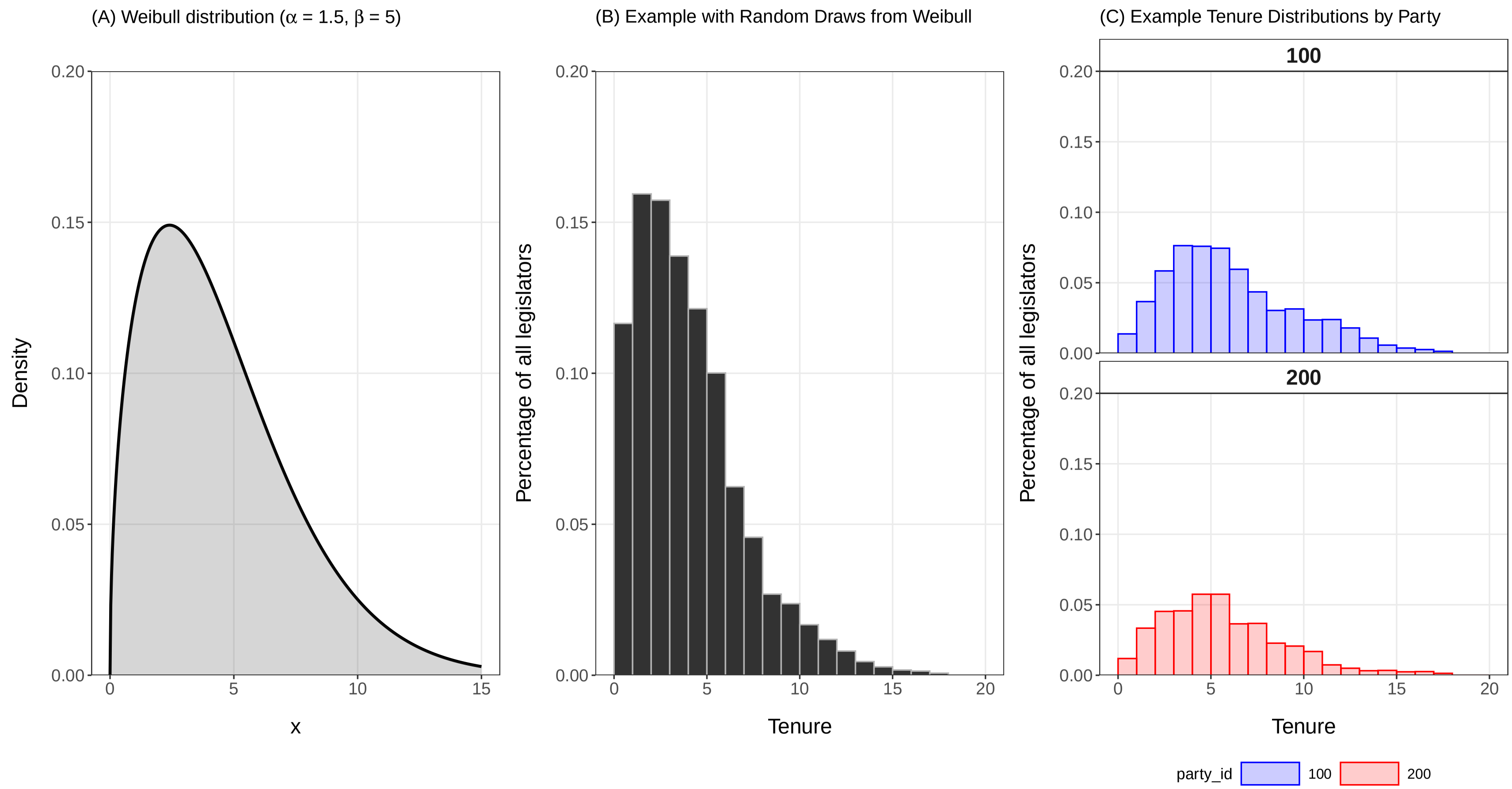


Figure A3. Weibull distribution for tenure and replacement. Panel (A) shows the Weibull probability distribution with scale parameter $\alpha = 2$ and shape parameter $\beta = 5$. This distribution is used to define the tenure length of a legislator upon entry into the legislature. **Panel (B)** shows an example of the distribution of tenure for all legislators across 30 sessions in one of the simulations. **Panel (C)** shows an example of the distribution of tenure for for parties p100 and p200 across 30 sessions in one of the simulations.

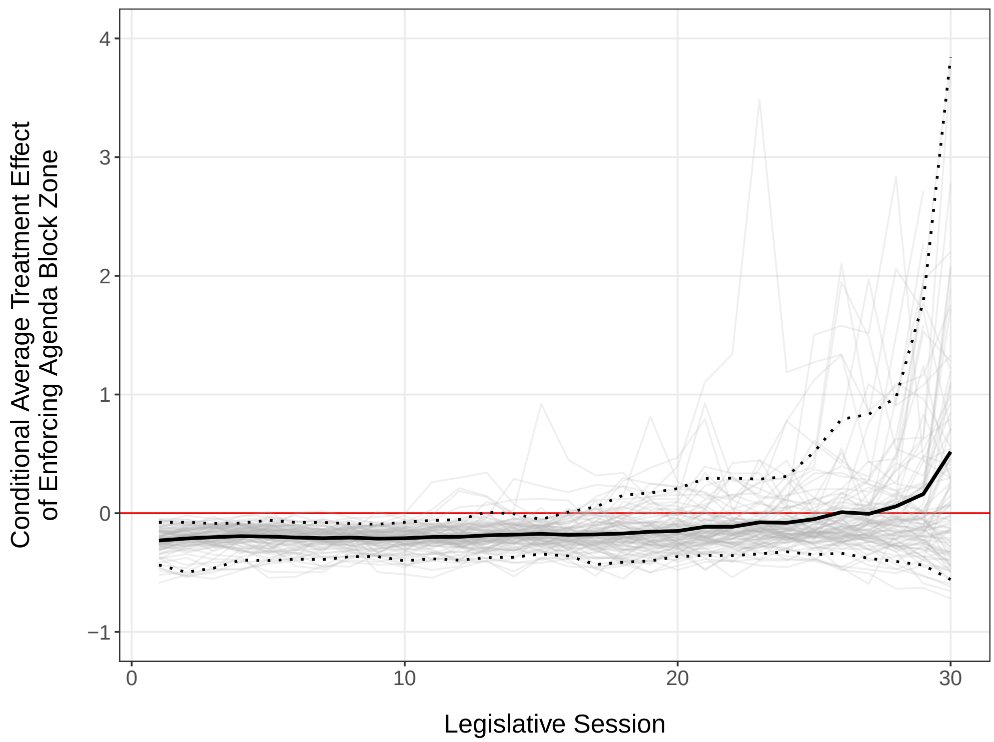


Figure A4. Causal effects of agenda block zone on distance ratio by session. Figure 7 in the manuscript reports these effects with 95% confidence intervals calculated with bias-correction and acceleration (BcA). This companion figure reports the 95% quantiles of the 100 simulations, providing a more conservative estimate of uncertainty.

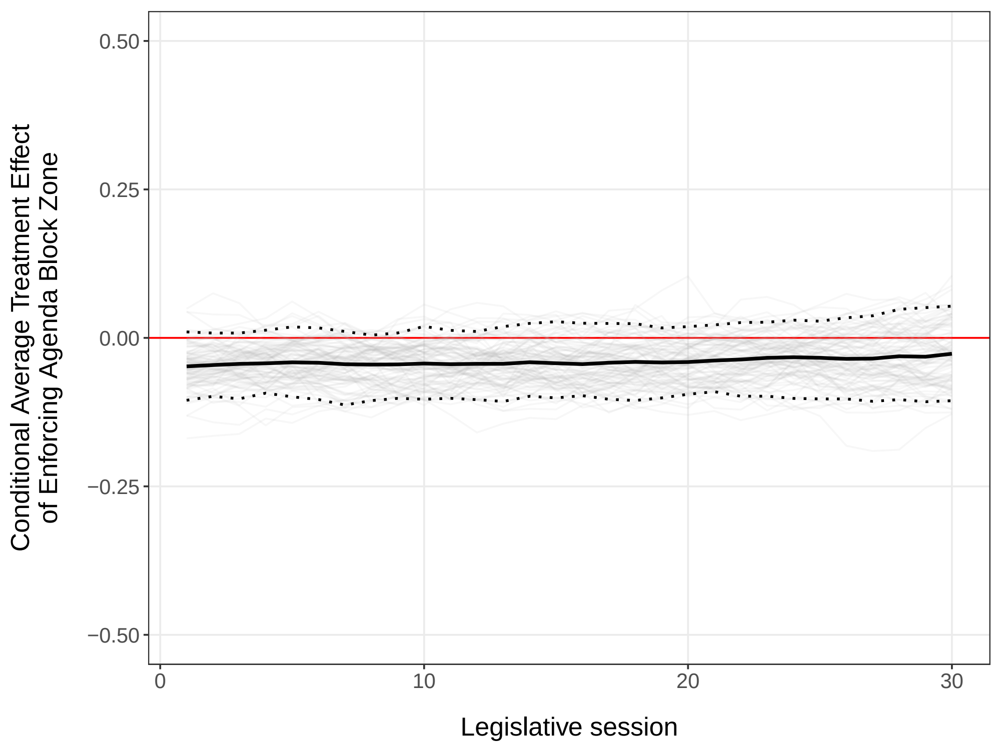


Figure A5. Causal effects of agenda block zone on dispersion ratio by session. Figure 8 in the manuscript reports these effects with 95% confidence intervals calculated with bias-correction and acceleration (BcA). This companion figure reports the 95% quantiles of the 100 simulations, providing a more conservative estimate of uncertainty.

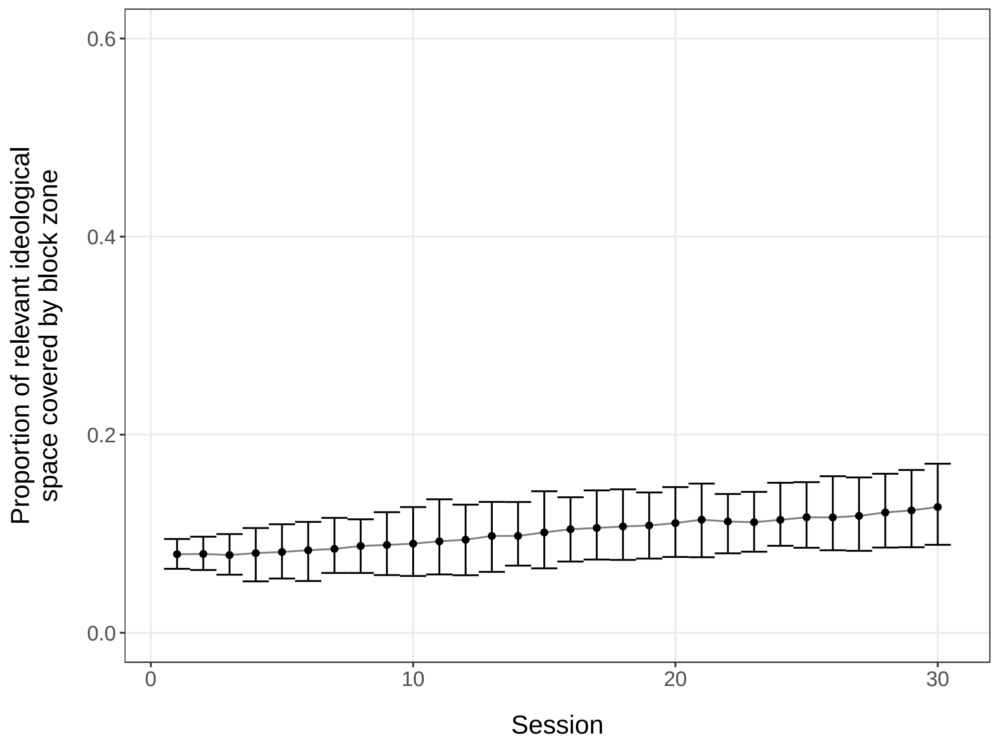


Figure A6. Average block zone coverage by legislative session. Upper 95% and lower 5% quantiles are reported.

A.A.3 Methodological note on adjustment for party medians

In order to generalize from the Monte Carlo experiments to institutional dynamics of the House of Representatives, I take all legislator tenure and replacement data from the 98th to 119th Congresses – thereby aligning replacement and majority status trends to those of the House. The remaining parameters are shown in Table A3. With these data, another round of Monte Carlo experiments are conducted in the manner described in the manuscript's section on multi-session legislatures. The average effect of enforcing the agenda block zone on distance ratio, conditional on session, τ_s is estimated; results are shown in Figure A7.

To ensure the baseline measure of party medians is unaffected by the selective choice to model only the 98th-119th Congresses, roll call data from that time period is collected and scaled using the same IRT model parameters. One difference occurring between the Monte Carlo data and the full roll call data is that the legislator (seat) data used in the experiments does not include missingness or mid-term replacement; these differences are presumed to be negligible for the purposes described here.

The causal effect τ_s is measured on a ratio between the distance from the majority party median to the floor median and the distance from the minority party median to the floor median. As a result, the τ_s adjustment also occurs on that distance ratio. There are two approaches to adjusting the ratio. First, the researcher can hold one party's measured distance constant and only adjust the opposite party's measured distance. This is the approach shown in Figure 9 in the manuscript. Otherwise, the researcher can hold the minority party's distance constant and only adjust the majority party's distance. This approach is shown in Figure A8.

Type	Parameter	Description	Value
Legislator	Ideological distribution	Beta distribution demonstrating a skewed distribution toward the ideological center (0) with allowance for higher-level outliers (1); Resulting values were positive for one party (red) and negative for the other (blue)	$\alpha = 2$, $\beta = 5$
Legislator	Ideological overlap	Transformation performed across the red (- overlap) and blue (+ overlap) ideological distributions so that they overlap	0.1
Agenda	Coverage interval	Intervals on the range [-1,1] between roll call votes on the voting agenda prior to enforcing a block zone	0.01
Agenda	Voting error	Stochastic term in determining legislators' vote on a given roll call vote	0.025

Table A3. U.S. House adjustment model parameters.

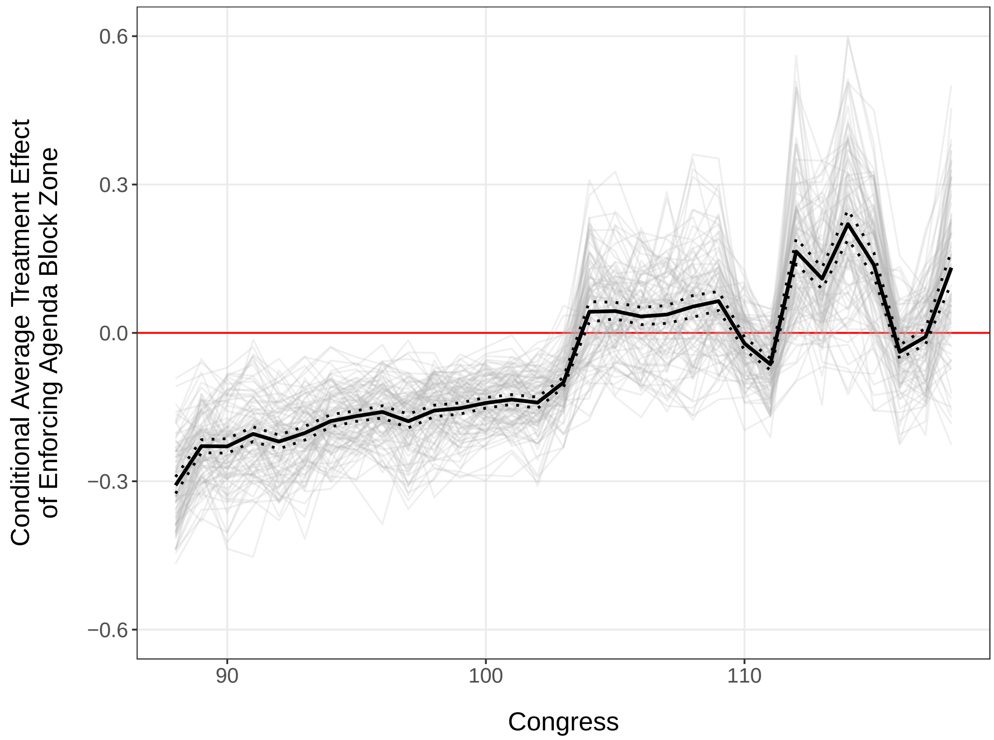


Figure A7. Estimated effects of agenda block zone on distance ratio in U.S. House, 1963 - 2025. Dark solid line represents the average causal effect on distance ratio by session τ_s. Solid dotted lines represent the 95% confidence interval (BcA) for the causal effect estimate. Light solid lines represent estimated causal effects for individual simulations by session τ_{is}.

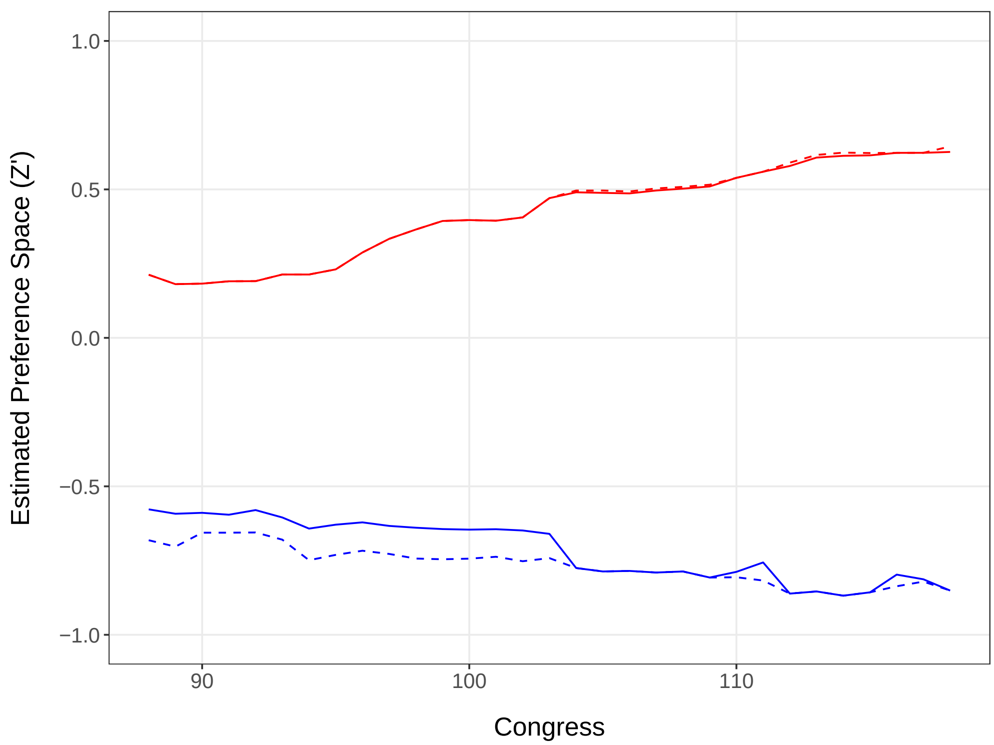


Figure A8. Adjusted party medians in the U.S. House, 1963-2025. Solid lines represent the baseline median values for each party. Dashed lines represent the values adjusted for agenda setting bias. Figure 9 in the manuscript is interpreted by comparing the dashed line of one party to the solid line of the other party. This companion figure is interpreted as dashed line to dashed line, though the difference between the values is only pronounced for the Democratic party medians through the 104th Congress.

Appendix B

Appendix for:

Types of Bipartisanship in Congressional Voting

B.B.1 Description of motion classification

Major classification	Minor classification	PIPC `vote` codes
Procedural	Amendments	21, 22, 23, 24, 25, 26, 27, 28, 29, 80
Procedural	Procedural Partisan	64, 76, 77, 81, 82, 88, 89, 93, 95, 97, 99
Procedural	Miscellaneous Procedural	56, 66, 67, 69, 73, 74, 75, 83, 84, 86, 87, 90, 91, 92, 96, 98
Passage	Regular Passage	11, 12, 13, 14, 30
Passage	Suspension	15, 16, 33, 68
Passage	Other Passage	1, 13, 17,18, 19, 31, 32
Cloture	Cloture	62
Confirmation	Confirmation	65

Table B1. Motion classification scheme. This classification scheme follows that produced in Crespin, Rohde and Vander Wielen (2013) based on the vote codes produced by the Political Institutions and Public Choice databases for the House (Crespin and Rohde 2026) and Senate (Roberts, Rohde and Crespin 2026). Additional categories for cloture and confirmation in the Senate are included.

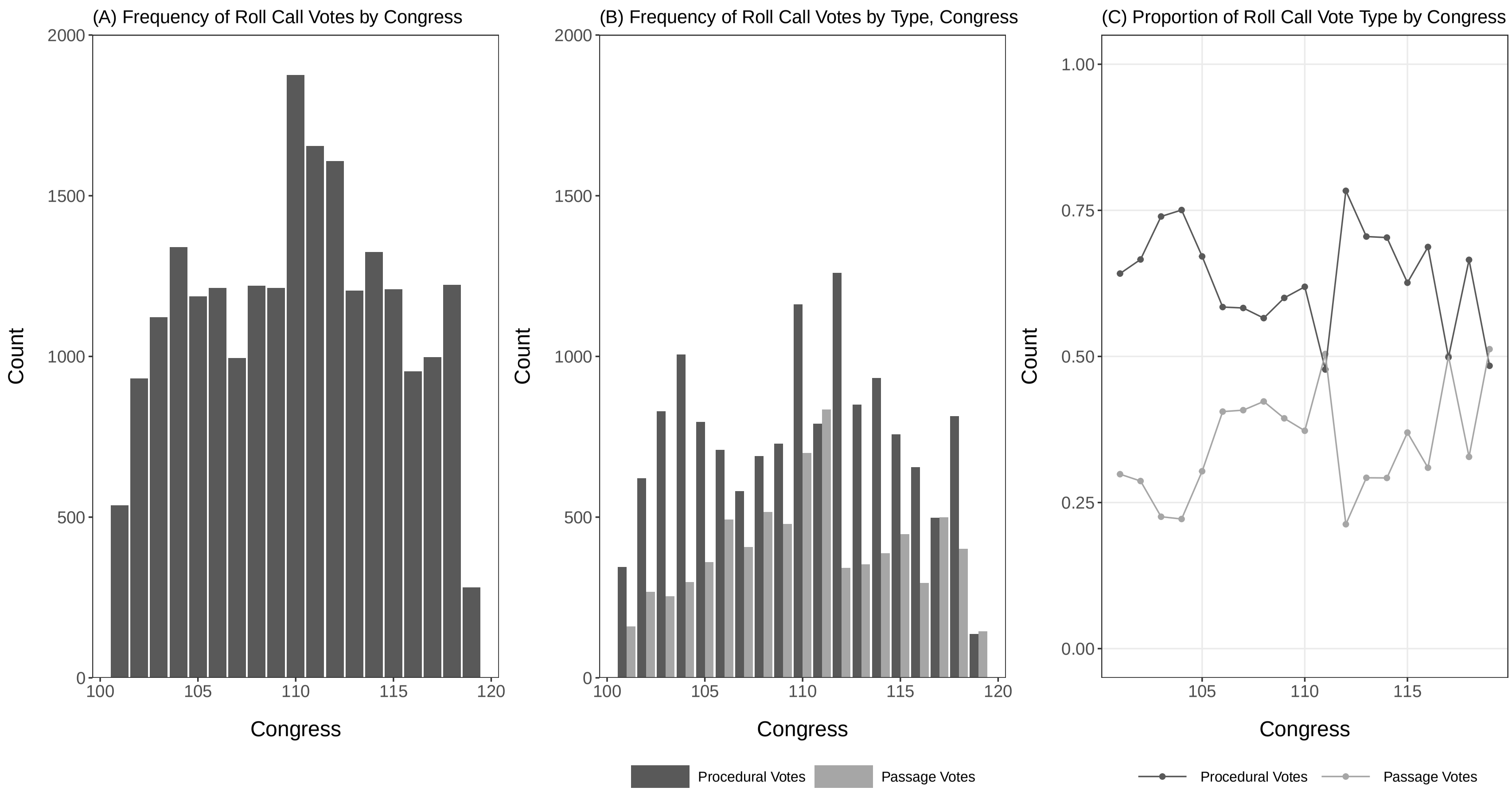


Figure B1. Roll call vote frequency by motion type.

		Major Class			*Minor Class*					
Congress	**Total Votes**	**Procedural**	**Passage**	**NA**	**Amendments**	**Procedural Partisan**	**Procedural Misc.**	**Regular Passage**	**Suspension**	**Other Passage**
Overall	22081	64.10	34.60	1.37	31.30	14.00	18.80	12.80	14.80	6.92
101	536	64.18	29.85	5.97	32.46	9.7	22.01	17.72	9.7	2.43
102	931	66.6	28.68	4.73	30.61	11.28	24.7	18.47	7.52	2.69
103	1121	73.95	22.57	3.48	33.54	10.97	29.44	13.29	7.94	1.34
104	1339	75.06	22.18	2.76	39.43	11.35	24.27	13.97	6.35	1.87
105	1186	67.12	30.35	2.53	17.88	9.53	39.71	14.08	10.03	6.24
106	1213	58.45	40.56	0.99	30.09	9.23	19.13	17.81	14.51	8.24
107	995	58.29	40.8	0.90	21.51	12.66	24.12	14.47	15.38	10.95
108	1220	56.56	42.3	1.15	26.23	16.23	14.1	13.52	14.26	14.51
109	1213	60.02	39.41	0.58	33.39	12.78	13.85	12.28	13.11	14.01
110	1875	61.92	37.28	0.80	23.95	17.76	20.21	9.49	15.15	12.64
111	1654	47.76	50.42	1.81	20.74	11.79	15.24	7.13	18.62	24.67
112	1607	78.34	21.28	0.37	52.21	14.5	11.64	8.28	11.14	1.87
113	1204	70.51	29.24	0.25	38.12	17.94	14.45	11.63	16.11	1.5
114	1325	70.34	29.21	0.45	38.87	16.91	14.57	12.83	14.72	1.66
115	1209	62.61	36.97	0.41	24.32	19.69	18.61	14.72	20.18	2.07
116	953	68.73	30.95	0.31	36.94	17.31	14.48	11.33	17.52	2.1
117	997	49.85	50.05	0.1	19.36	15.15	15.35	12.94	35.21	1.91
118	1222	66.53	32.82	0.65	44.35	12.27	9.9	13.09	16.78	2.95
119	281	48.4	51.25	0.36	15.3	17.44	15.66	24.91	24.2	2.14

Table B2. Roll call agenda composition by motion type in the House. Ineligible votes are those on which members do not take traditional yea-nay votes (e.g., quorum).

		Major Class					Minor Class					
Congress	**Total Votes**	**Procedural**	**Passage**	**Cloture**	**Confirmation**	**NA**	**Amendments**	**Procedural Partisan**	**Procedural Misc.**	**Regular Passage**	**Suspension**	**Other Passage**
Overall	16531	59.10	12.10	14.90	12.60	1.29	49.50	0.18	9.39	11.60	0.00	0.54
101	950	71.16	16.74	3.47	4.84	3.79	60.00	0.53	10.63	15.89	NA	0.84
102	830	63.98	23.01	8.19	1.57	3.25	58.92	NA	5.06	21.81	NA	1.20
103	1119	75.07	13.49	5.54	2.86	3.04	68.63	0.54	5.90	13.23	NA	0.27
104	1532	81.01	13.05	4.63	0.72	0.59	69.91	0.26	10.84	12.53	NA	0.52
105	910	64.95	17.58	8.46	7.69	1.32	53.63	0.11	11.21	16.81	NA	0.77
106	1046	68.64	16.83	8.89	3.54	2.10	55.74	NA	12.91	15.87	NA	0.96
107	1013	64.66	13.72	8.19	12.44	0.99	57.55	NA	7.11	13.33	NA	0.39
108	1134	68.78	12.17	6.08	11.99	0.97	67.55	NA	1.23	11.55	NA	0.62
109	1011	72.90	12.36	7.12	6.43	1.19	66.86	NA	6.03	11.67	NA	0.69
110	1099	67.61	11.56	14.65	5.91	0.27	60.69	0.18	6.73	10.83	NA	0.73
111	696	69.54	8.62	12.36	9.20	0.29	54.74	0.29	14.51	8.19	NA	0.43
112	486	55.97	12.14	14.81	16.87	0.21	45.06	0.41	10.49	11.52	NA	0.62
113	657	31.66	5.33	33.18	28.61	1.22	20.55	0.15	10.96	5.02	NA	0.30
114	502	55.38	10.56	24.50	8.96	0.60	45.82	NA	9.56	10.16	NA	0.40
115	599	33.06	7.68	28.05	30.05	1.17	18.03	NA	15.03	7.35	NA	0.33
116	720	15.56	6.94	41.39	35.14	0.97	8.61	NA	6.94	6.94	NA	NA
117	949	34.14	4.64	30.45	30.45	0.32	21.81	NA	12.33	4.32	NA	0.32
118	691	24.17	7.24	34.88	33.00	0.72	10.27	NA	13.89	7.24	NA	NA
119	587	35.43	7.16	31.18	25.89	0.34	18.23	1.19	16.01	6.81	NA	0.34

Table B3. Roll call agenda composition by motion type in the Senate. Ineligible votes are those on which members do not take traditional yea-nay votes (e.g., quorum).

B.B.2 Further description of vote classification

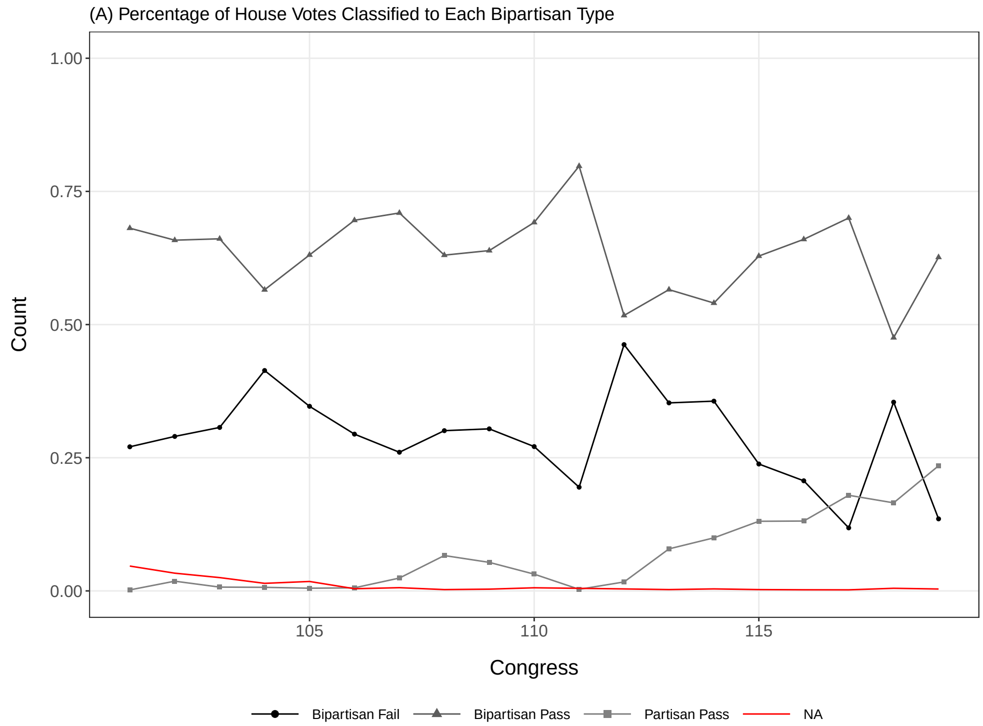


Figure B2. Percentage of votes by bipartisanship type. Percentage of House (A) and Senate (B) votes receiving a bipartisan failing vote, a bipartisan passing vote, a partisan passing vote, or a roll call vote that was ineligible because it was not a traditional yea-nay (e.g., quorum).

Congress	Votes	C_1	C_2	C_3	D_1	D_2	D_3	D_4	D_5	P^*
Overall	21892	34.14	5.69	0.02	23.54	3.54	5.72	2.75	18.81	5.78
101	511	40.12	8.22	0.20	21.72	6.46	5.09	3.13	14.87	0.20
102	900	32.11	7.89	NA	26.22	5.00	5.78	4.78	16.33	1.89
103	1093	30.10	6.13	NA	28.82	3.84	5.31	5.03	20.04	0.73
104	1320	25.30	7.20	NA	23.41	4.85	5.45	3.79	29.32	0.68
105	1165	36.05	11.07	NA	16.82	8.07	8.58	3.26	15.62	0.52
106	1208	46.52	8.11	NA	11.75	7.45	8.53	4.14	12.91	0.58
107	989	51.26	7.08	0.10	11.93	5.06	3.84	3.13	15.17	2.43
108	1217	43.96	6.49	NA	12.65	2.96	3.12	3.62	20.54	6.66
109	1209	39.62	8.93	NA	15.38	3.47	3.39	5.62	18.20	5.38
110	1864	36.16	5.04	NA	28.49	2.36	2.68	2.58	19.53	3.17
111	1646	50.49	3.04	NA	26.49	1.94	2.25	1.22	14.28	0.30
112	1601	18.61	6.81	0.06	28.61	2.56	7.06	2.12	32.48	1.69
113	1201	25.48	4.08	NA	26.64	1.75	6.00	2.83	25.31	7.91
114	1320	21.74	3.71	NA	29.92	0.61	6.21	1.97	25.83	10.00
115	1206	28.94	2.24	NA	29.44	3.40	4.89	1.24	16.75	13.10
116	951	30.60	0.95	NA	31.44	3.36	1.79	0.74	17.98	13.14
117	995	42.01	0.40	NA	24.92	2.61	3.42	0.60	8.04	17.99
118	1216	23.27	6.58	0.08	21.13	2.22	20.31	1.15	8.63	16.61
119	280	27.86	5.36	NA	31.43	2.14	5.00	1.43	3.21	23.57

C_1: Consensus yea; C_2: Consensus nay; C_1: Failing consensus; D_1: Straight defection; D_2: Successful pivotal; D_3: Failing pivotal; D_4: Successful roll; D_5: Failing roll; P^*: Pure partisan

Table B4. Prevalence of bipartisan types in the House by Congress. Total vote counts are provided overall and for each Congress. Percentages of the total votes for that Congress are reported under the header for that type. *NA* values reflect that there were no votes meeting the spatial criteria for that Congress.

Congress	**Votes**	C_1	C_2	C_3	D_1	D_2	D_3	D_4	D_5	P^*
Overall	16487	33.06	4.04	0.02	7.44	5.12	15.23	18.64	9.33	7.12
101	918	48.69	8.28	NA	10.02	7.73	8.71	6.43	9.80	0.33
102	830	41.33	8.07	NA	13.01	5.42	11.45	9.40	10.84	0.48
103	1119	31.37	5.45	NA	24.22	8.22	9.12	5.54	13.85	2.23
104	1532	28.07	3.98	NA	NA	5.22	16.45	35.57	7.70	3.00
105	910	41.10	6.04	NA	NA	6.15	14.07	19.78	11.10	1.76
106	1042	35.41	5.66	0.19	NA	4.80	16.22	22.74	7.68	7.29
107	1013	43.73	3.46	NA	5.33	10.66	18.95	9.18	7.70	0.99
108	1134	33.95	2.12	NA	NA	4.67	29.98	19.58	7.67	2.03
109	1011	34.92	3.76	NA	NA	7.02	31.26	12.46	7.32	3.26
110	1099	36.31	4.82	NA	3.55	11.74	14.38	7.46	20.20	1.55
111	692	22.98	1.45	0.14	NA	2.75	30.78	29.77	7.23	4.91
112	486	37.24	6.79	NA	NA	1.03	21.19	16.46	14.20	3.09
113	657	31.20	0.76	NA	NA	1.37	10.05	38.66	6.85	11.11
114	502	36.45	1.79	NA	9.76	3.78	19.72	7.97	14.94	5.58
115	599	37.90	1.84	NA	28.05	2.17	4.51	2.17	5.01	18.36
116	717	40.31	1.67	NA	29.43	0.70	3.63	3.63	3.77	16.88
117	948	16.88	2.11	NA	3.69	0.63	6.75	48.63	3.06	18.25
118	691	18.23	3.76	NA	2.75	0.72	8.10	44.57	5.93	15.92
119	587	4.60	1.87	NA	30.66	1.36	4.26	0.17	13.29	43.78

C_1: Consensus yea; C_2: Consensus nay; C_1: Failing consensus; D_1: Straight defection; D_2: Successful pivotal; D_3: Failing pivotal; D_4: Successful roll; D_5: Failing roll; P^*: Pure partisan

Table B5. Prevalence of bipartisan types in the Senate by Congress. Total vote counts are provided overall and for each Congress. Percentages of the total votes for that Congress are reported under the header for that type. *NA* values reflect that there were no votes meeting the spatial criteria for that Congress.

B.B.3 Extensions of analyses in manuscript

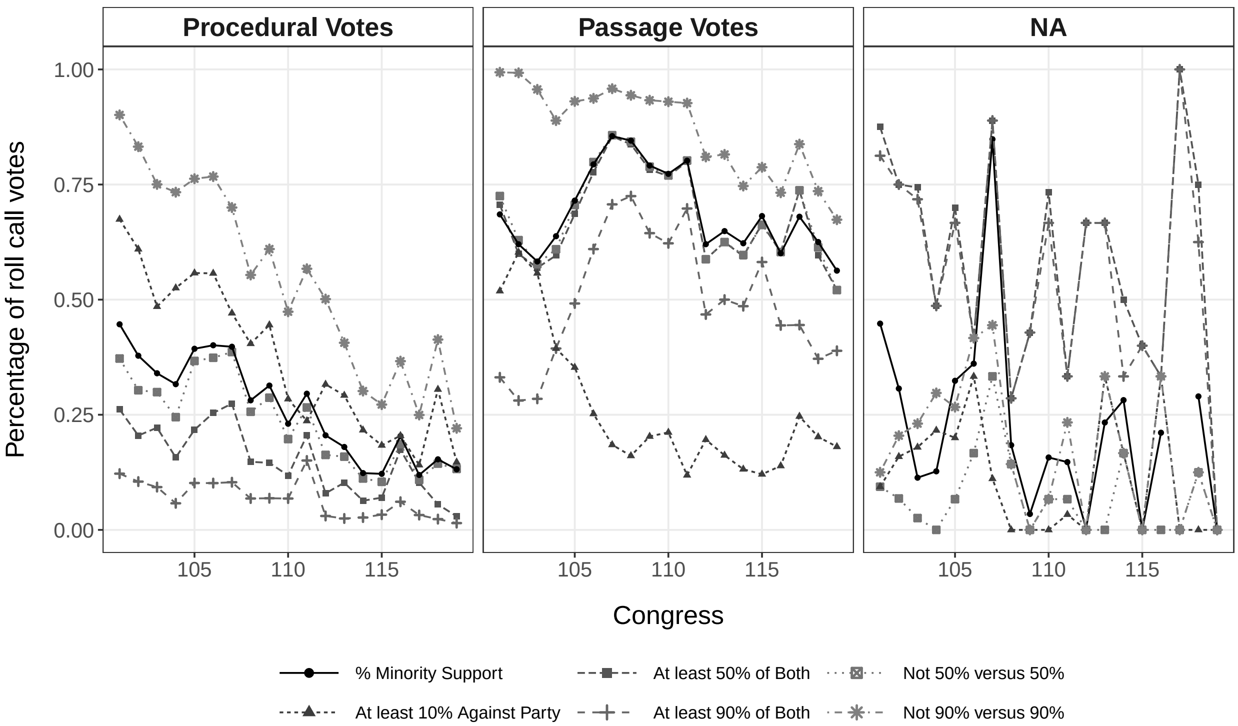


Figure B3. Common measures of bipartisanship by motion type in the House.

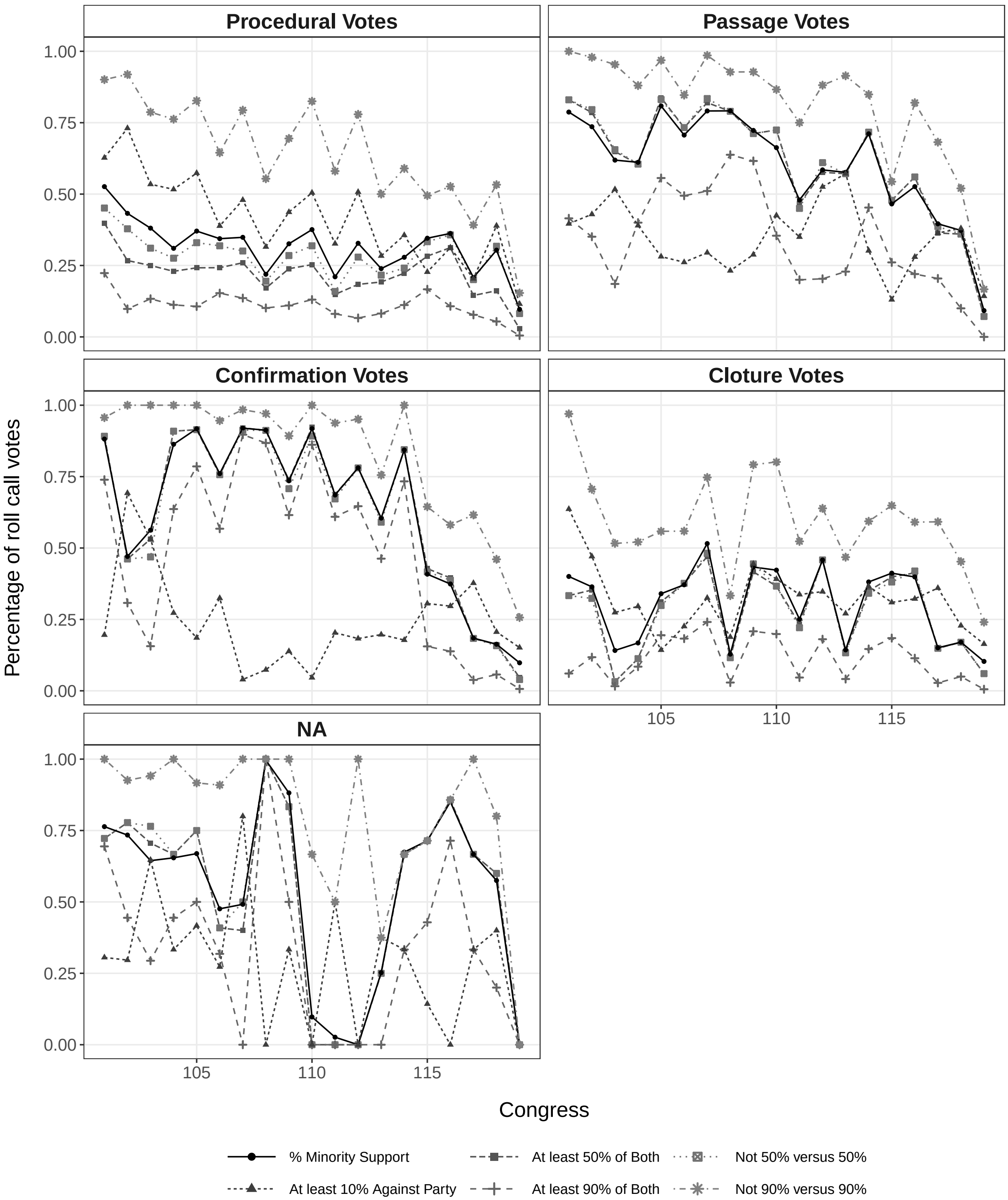
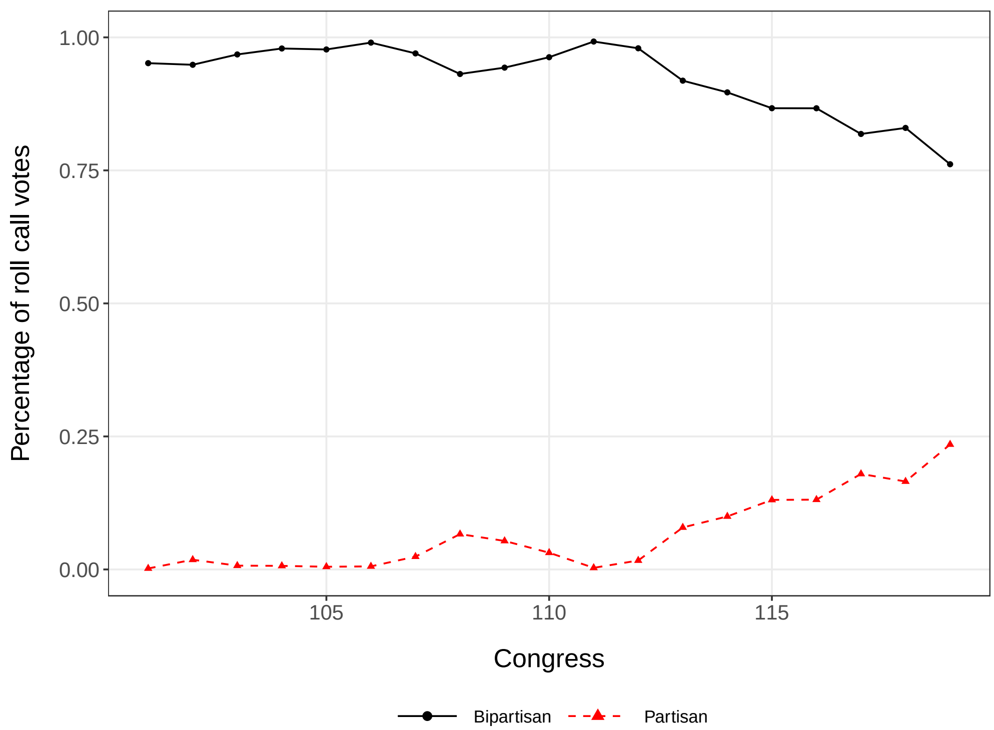
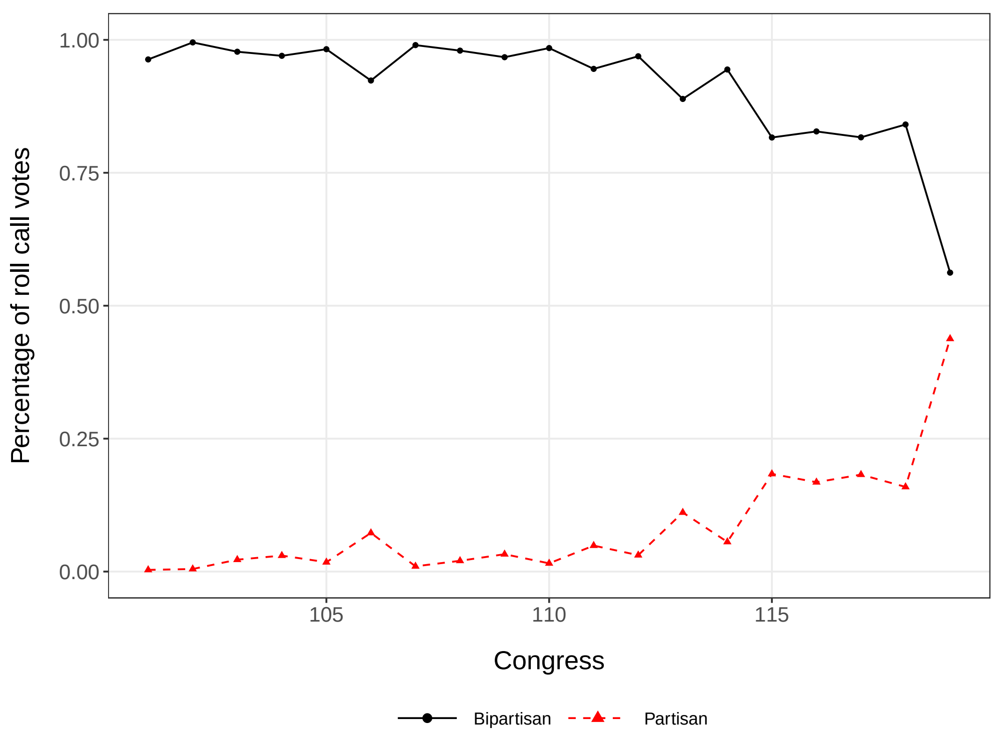


Figure B4. Common measures of bipartisanship by motion type in the Senate.

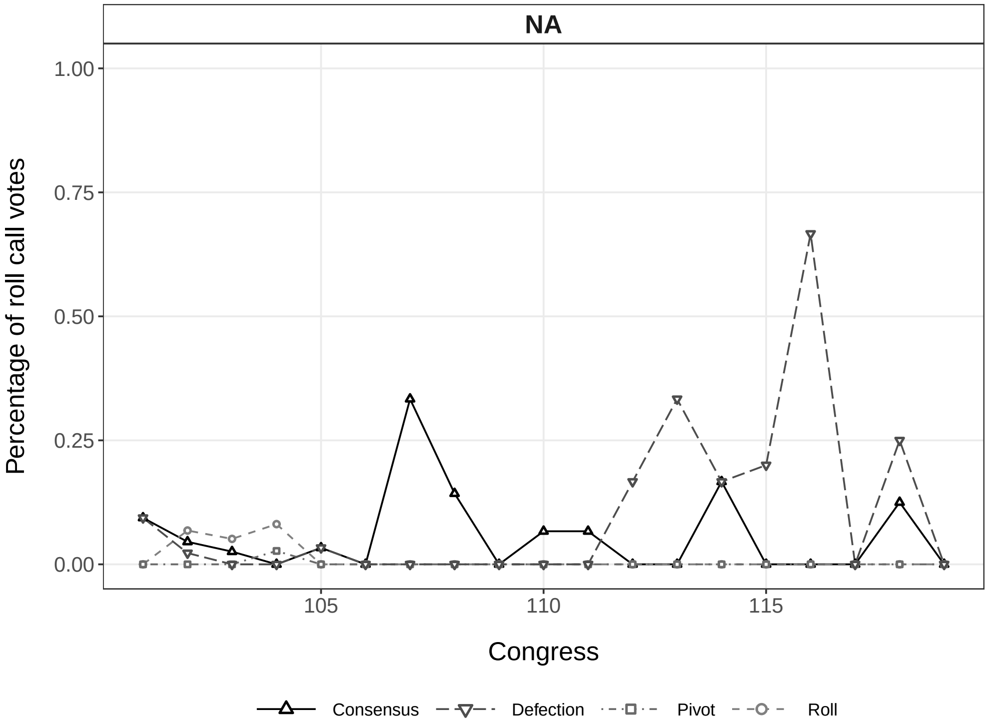


(a) Average levels of bipartisan and partisan voting in the House

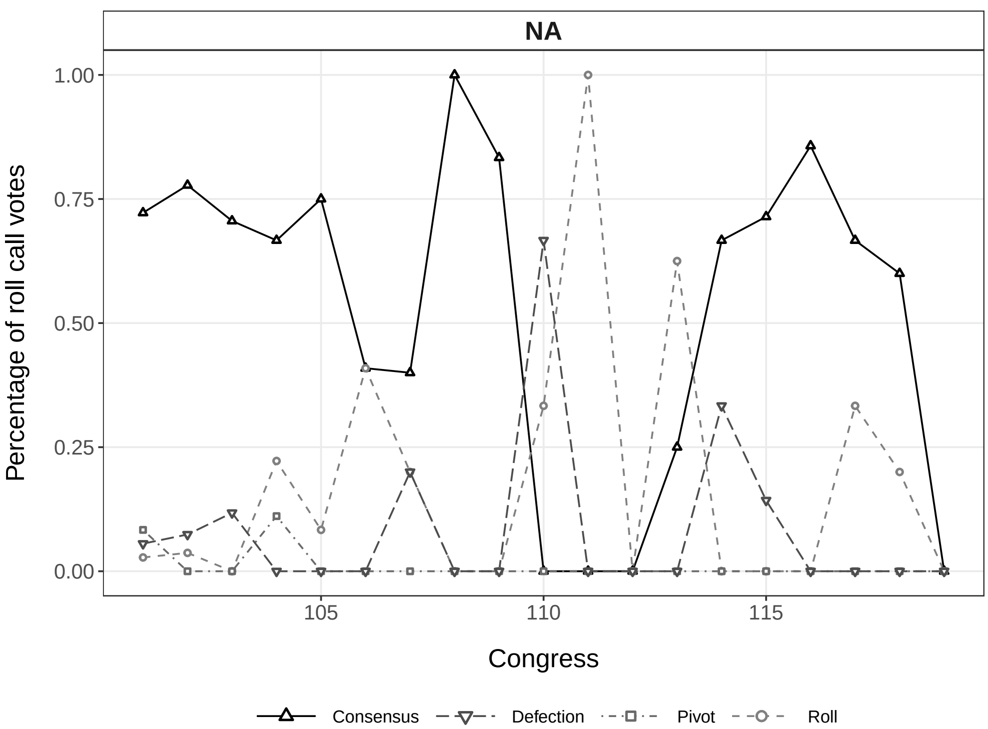


(b) Average levels of bipartisan and partisan voting in the Senate

Figure B5. Average Levels of Bipartisan and Partisan Voting in Congress

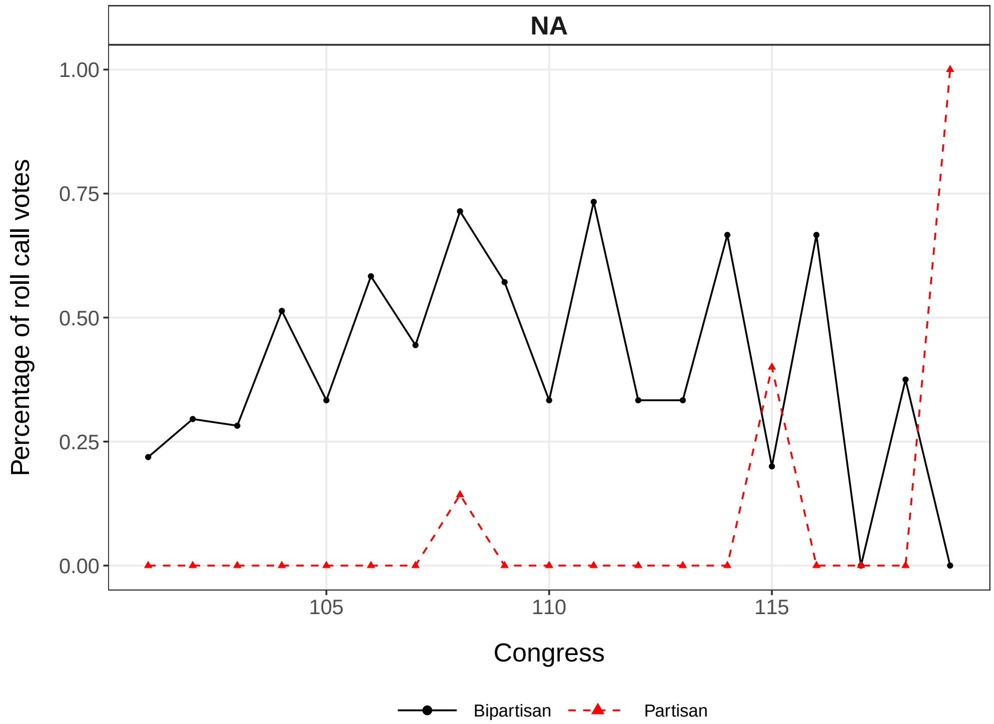


(a) Bipartisanship levels in the House

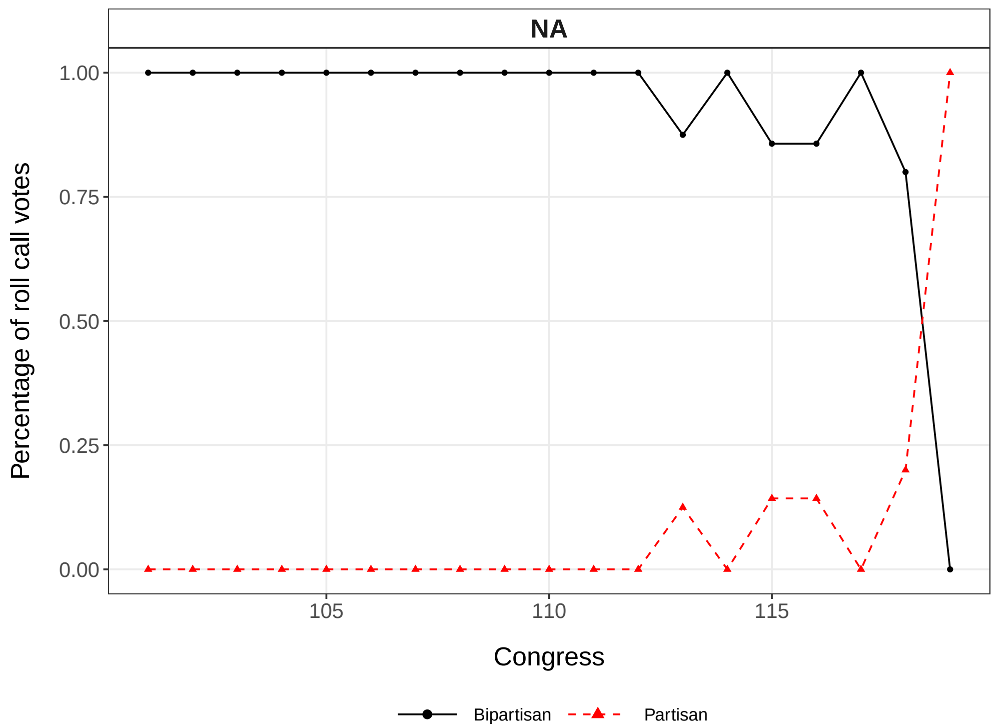


(b) Bipartisanship levels in the Senate

Figure B6. Voting bipartisanship levels in Congress for unclassified motions.



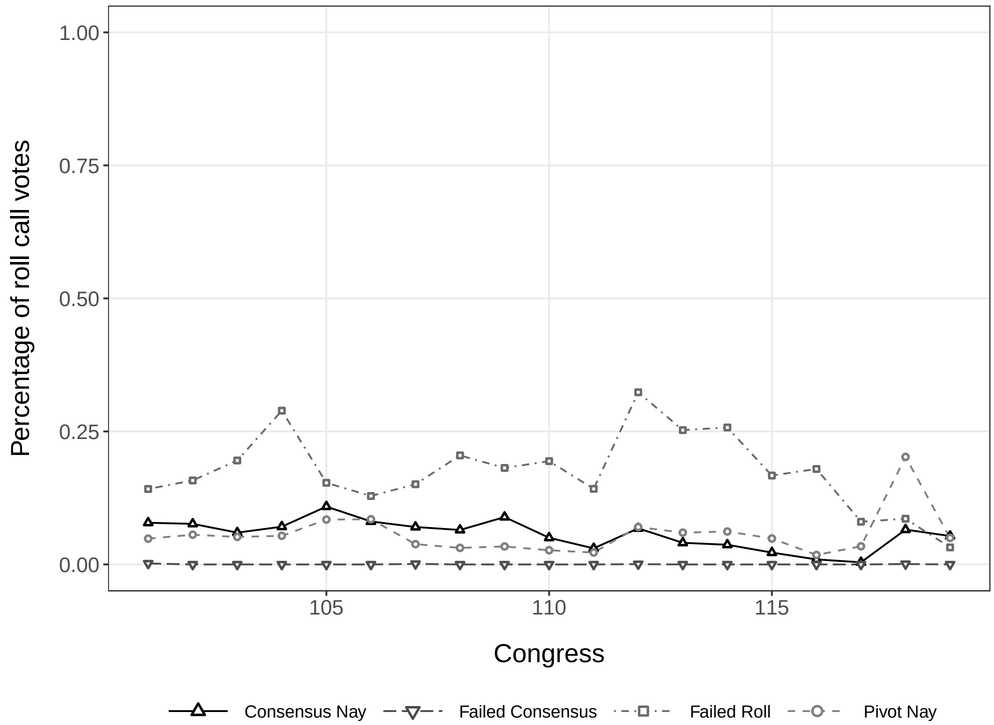
(a) Bipartisanship and partisanship levels in the House



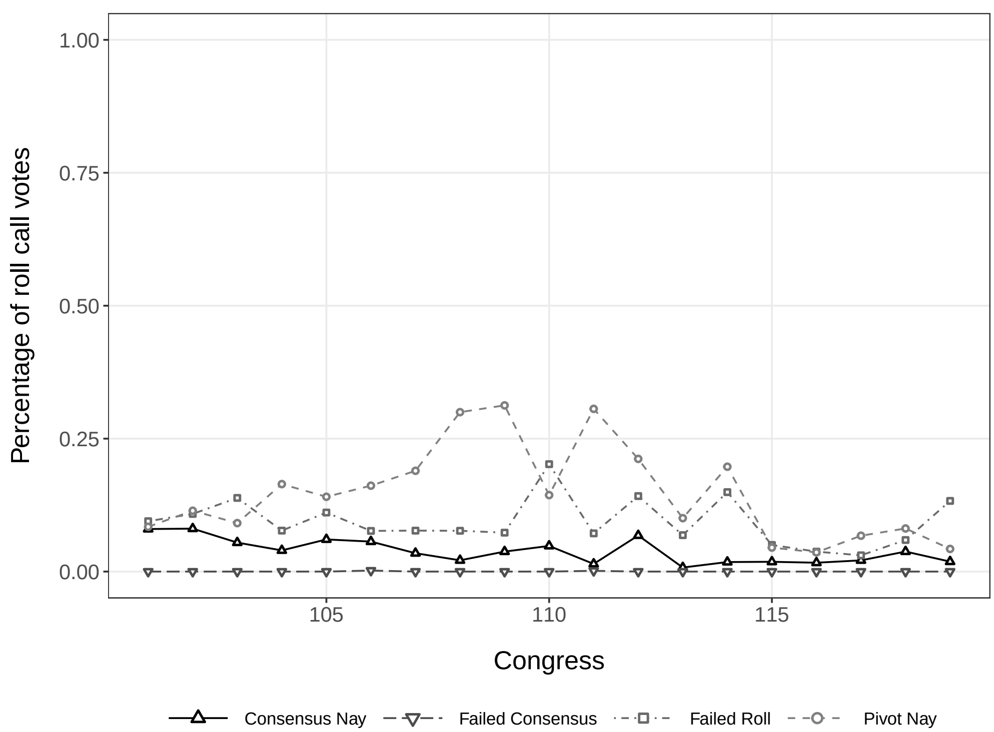
(b) Bipartisanship and partisanship levels in the Senate

Figure B7. Voting bipartisanship and partisanship levels in Congress for unclassified motions.

B.B.4 Analyses of nay/failing bipartisan votes not in manuscript



(a) Bipartisanship levels in the House



(b) Bipartisanship levels in the Senate

Figure B8. Bipartisanship levels on failing votes in Congress.

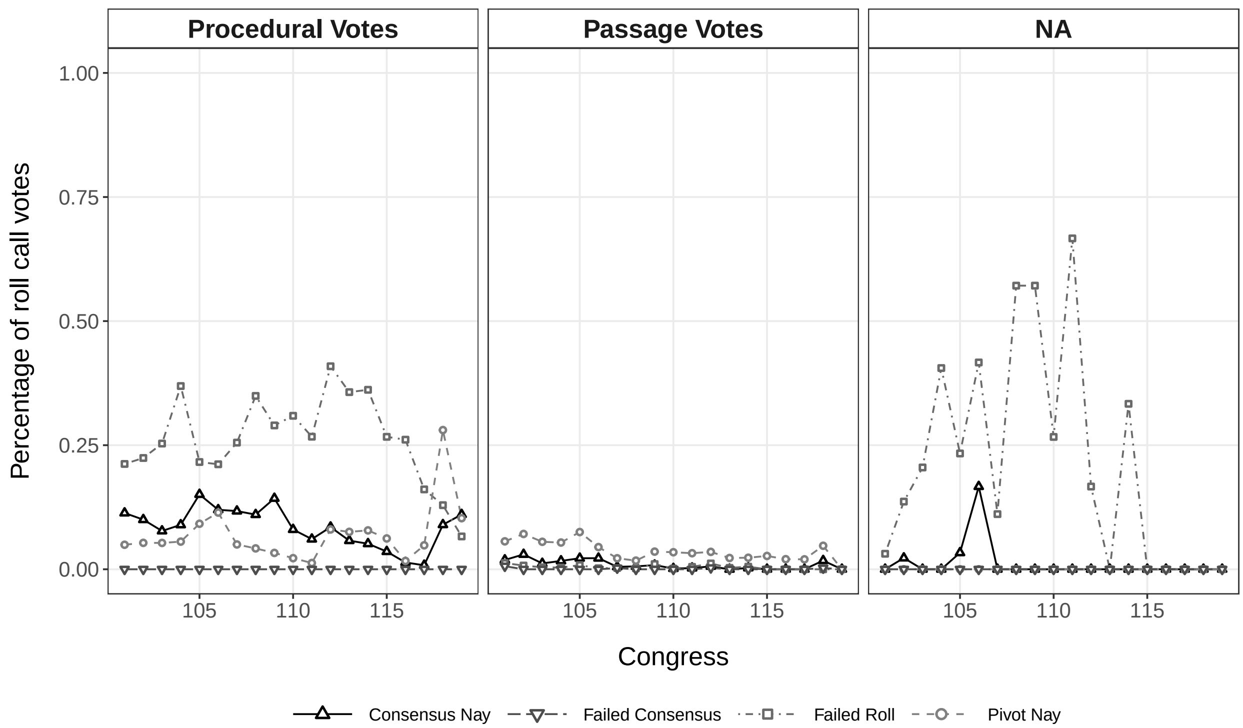


Figure B9. Bipartisanship levels on failing votes in Congress by motion classification in the House.

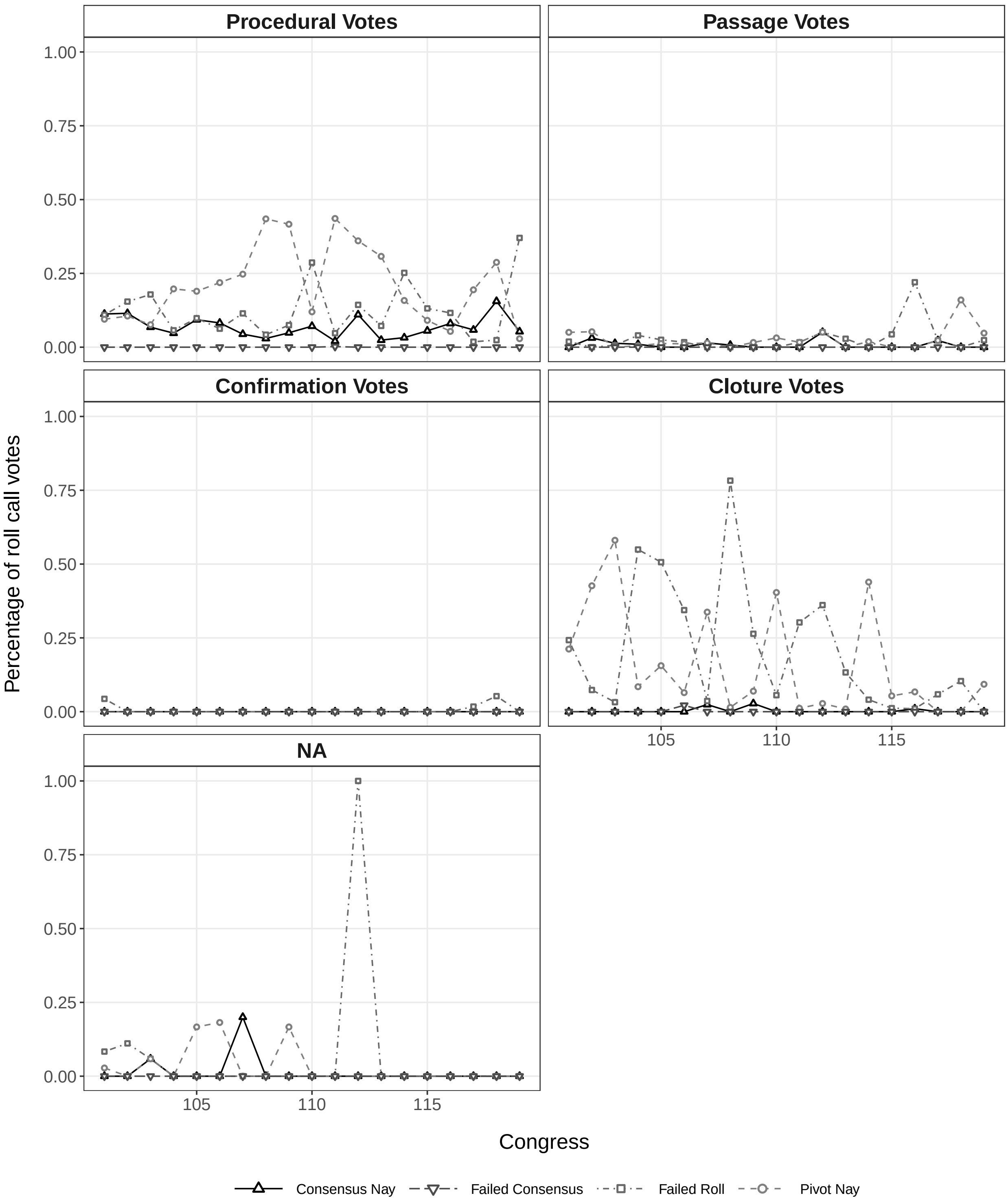


Figure B10. Bipartisanship levels on failing votes in Congress by motion classification in the Senate.

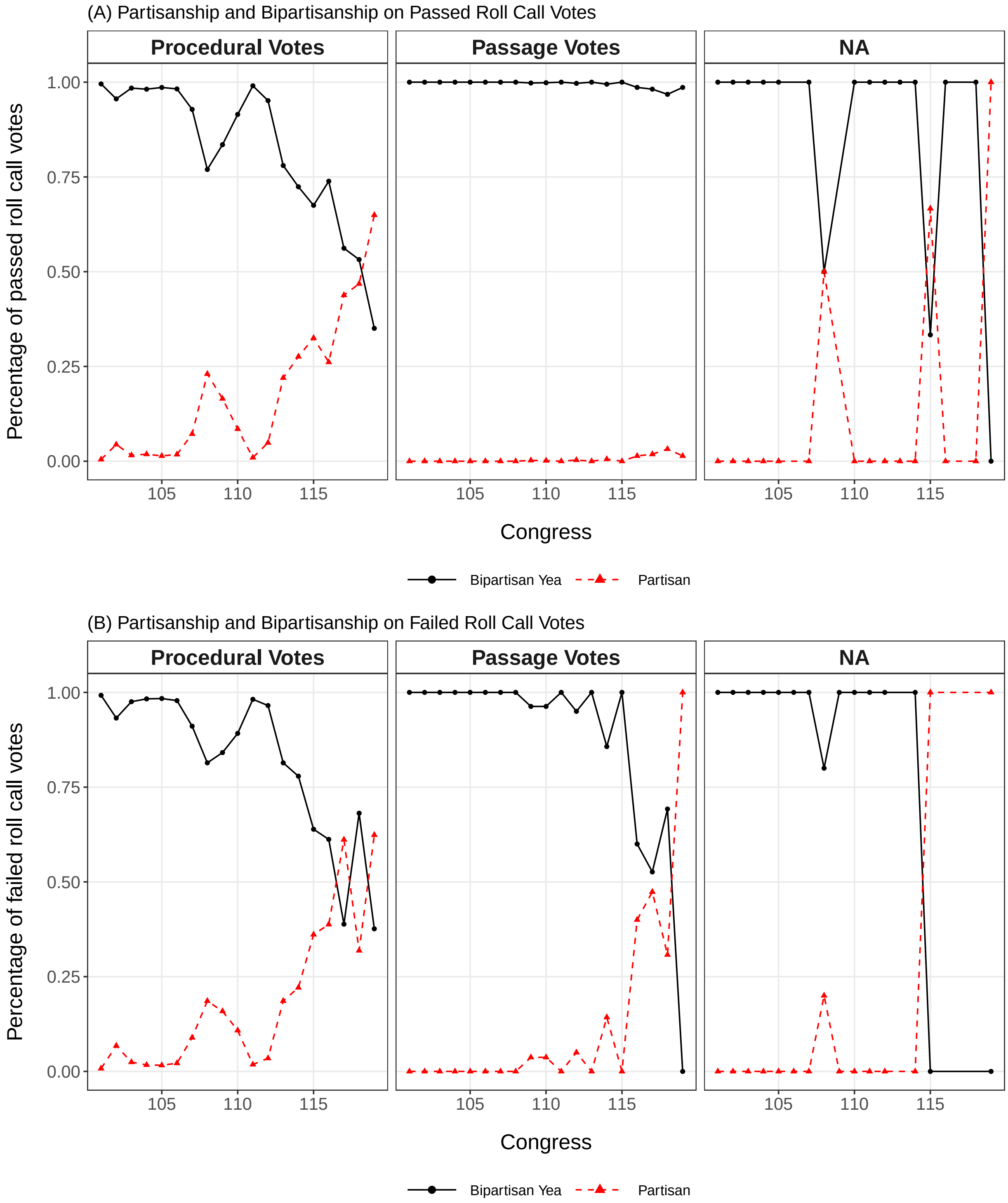


Figure B11. Bipartisanship and partisanship levels on passed/failed votes in the House.

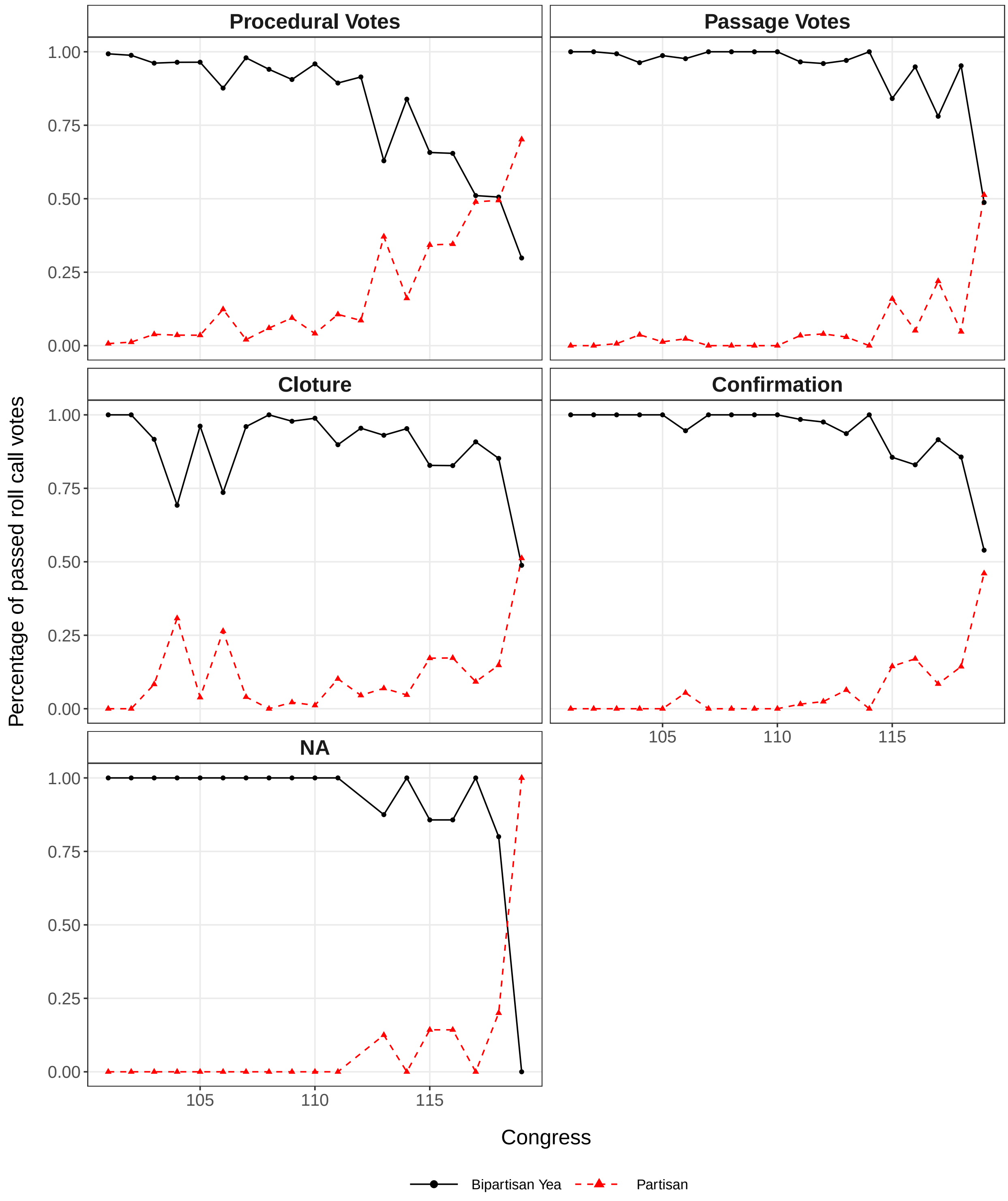


Figure B12. Bipartisanship and partisanship levels on passed votes in the Senate.

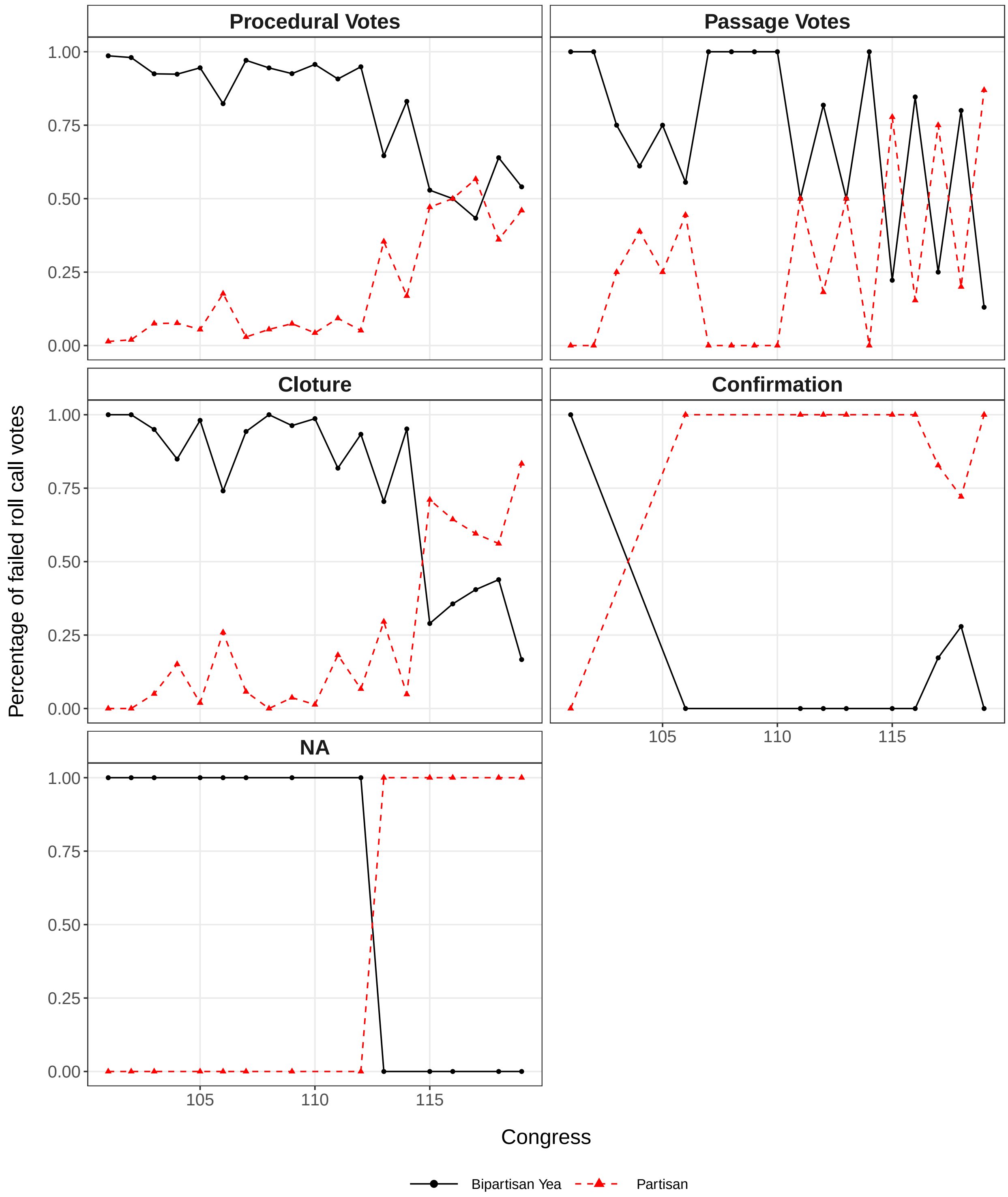
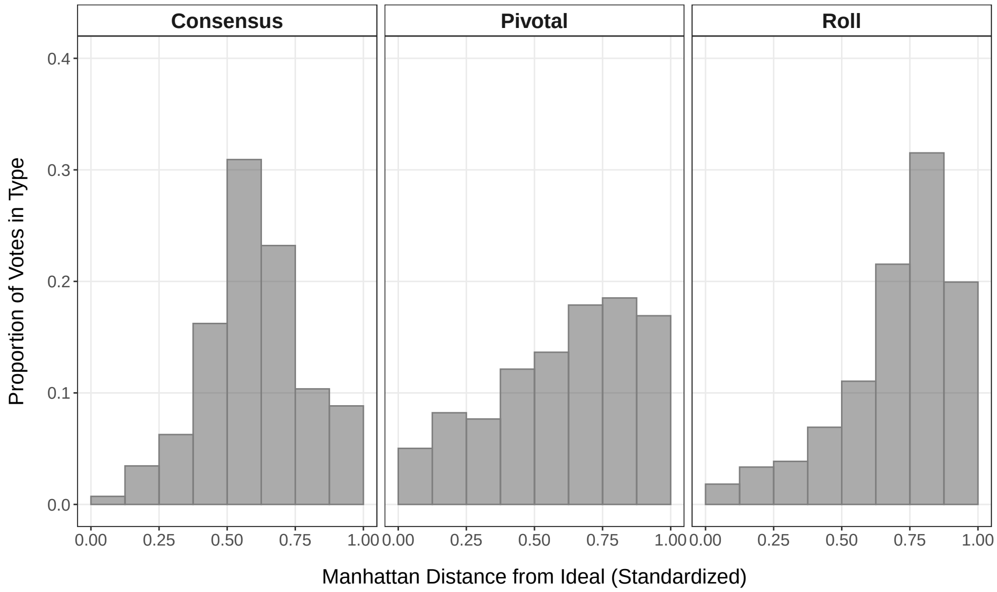
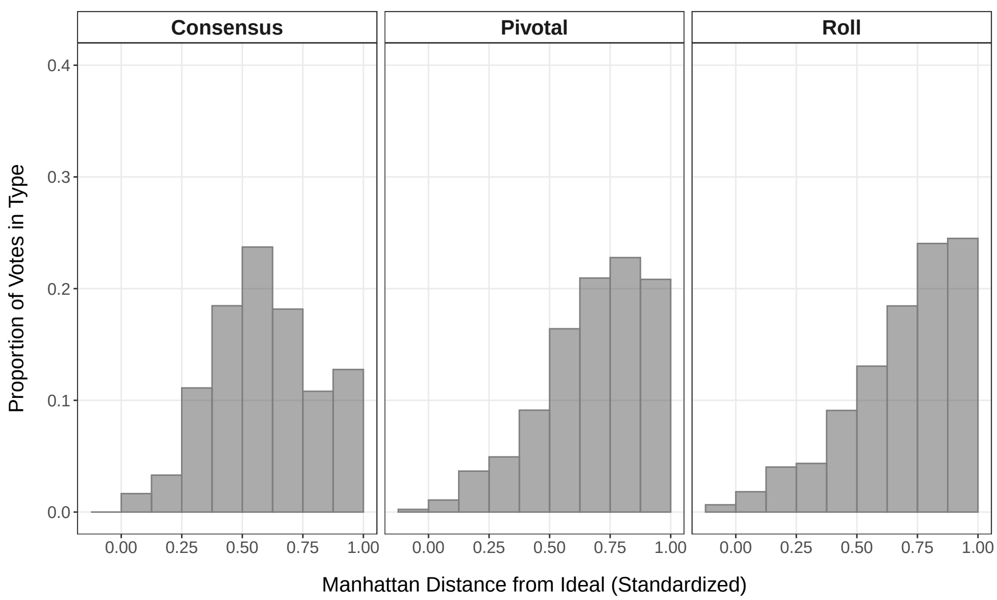


Figure B13. Bipartisanship and partisanship levels on failed votes in the Senate.

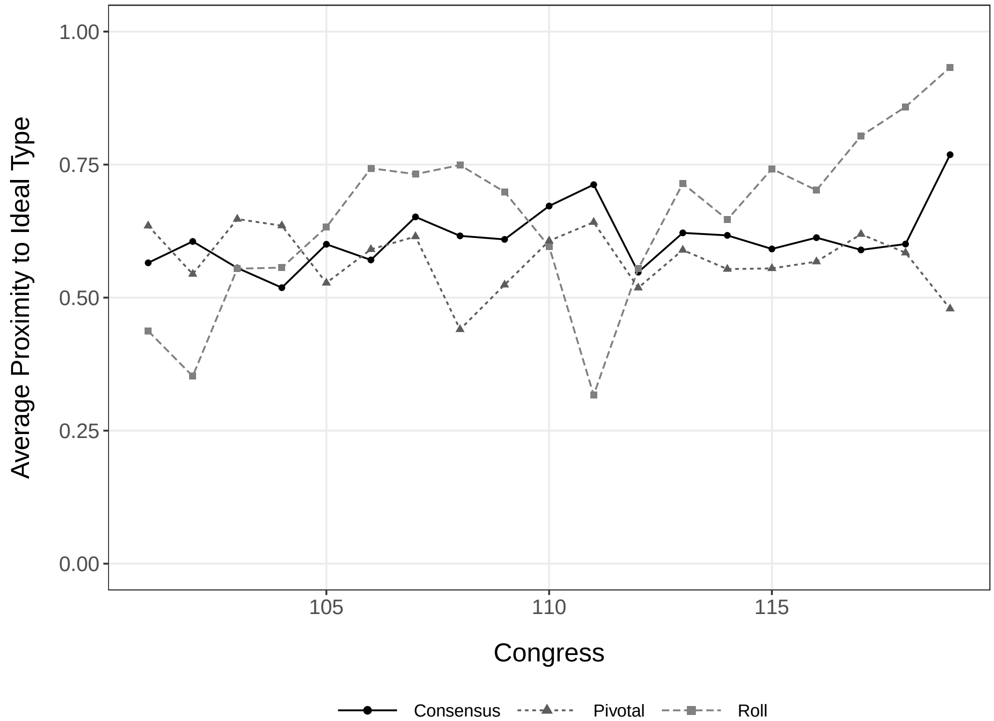


(a) Ideal type proximity in the House

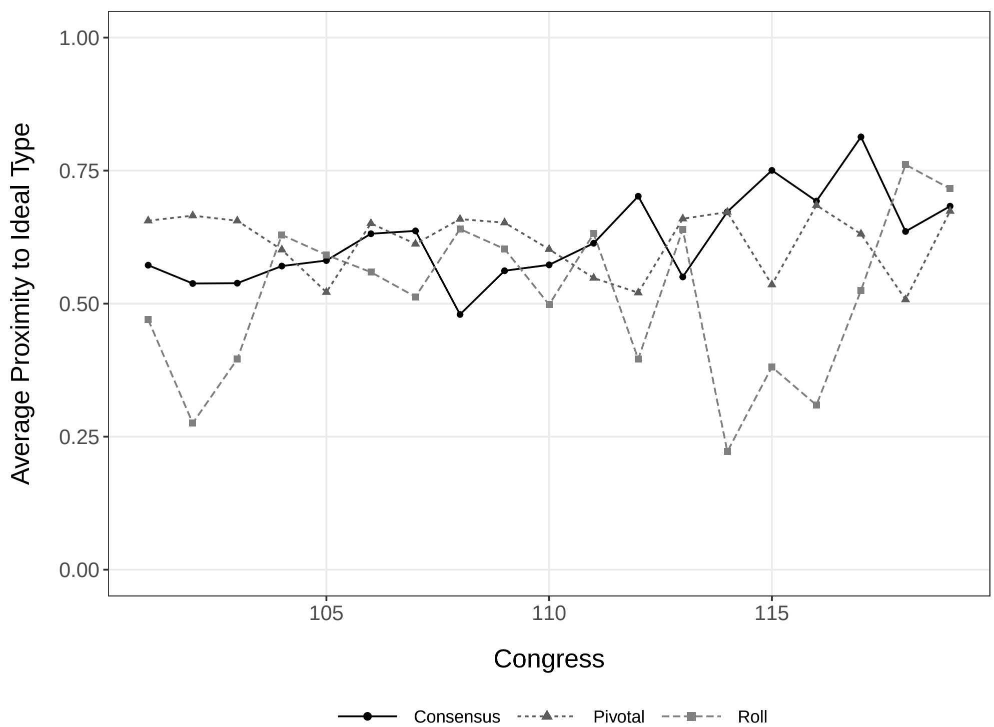


(b) Ideal type proximity in the Senate

Figure B14. Distribution of ideal type proximity in Congress by bipartisanship type for failed votes. Figures show the distribution of ideal type proximity scores divided into eight quantiles across the 0-1 range.



(a) Average ideal type proximity in the House



(b) Average ideal type proximity in the Senate

Figure B15. Average ideal type proximity in Congress for failed votes, 1990-2025. Ideal type proximity measures the spatial distribution of bipartisan votes within their type's outcome space relative to the ideal point in that space. Higher values reflect greater proximity to the ideal type.

Appendix C

Appendix C

Voting Bipartisanship Scores in Congress, 1990-2025

C.C.1 Voting Bipartisanship scores for 118th Congress

Table C1. House Voting Bipartisanship scores for the 118th Congress

Name	Consensus	Defection	Pivotal	Rolling
Adams, Alma	0.384	-0.583	-0.279	0.516
Aderholt, Robert	0.507	-0.249	-0.918	0.174
Aguilar, Pete	0.511	-0.423	-0.852	0.516
Alford, Mark	0.204	-0.249	1.231	-0.242
Allen, Rick	0.269	-0.249	0.694	-0.658
Allred, Colin	0.748	0.987	0.877	0.516
Amodei, Mark	0.669	-0.249	1.231	0.591
Armstrong, Kelly	0.455	-0.249	0.673	1.007
Arrington, Jodey	-0.109	-0.249	1.231	-1.491
Auchincloss, Jake	0.196	-0.212	-0.577	0.516
Babin, Brian	0.214	-0.249	1.231	-1.491
Bacon, Don	0.699	0.975	0.157	1.007
Baird, James	0.383	-0.249	0.694	-0.658
Balderson, Troy	0.608	-0.249	0.673	-0.658
Balint, Becca	-0.783	-0.664	-0.605	-1.165
Banks, Jim	-0.184	-0.249	0.694	-1.491
Barr, Andy	0.666	-0.249	0.116	1.007
Barragan, Nanette	-0.412	-0.542	-0.833	0.516
Bean, Aaron	-0.504	-0.249	0.157	-1.075
Beatty, Joyce	0.209	-0.664	-0.605	0.516
Bentz, Cliff	0.575	-0.249	0.694	1.007

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Table C1 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Bera, Ami	0.631	-0.025	-0.605	0.516
Bergman, Jack	0.542	-0.249	1.231	1.007
Beyer, Don	-0.381	-0.541	-1.090	0.516
Bice, Stephanie	0.638	-0.249	0.157	0.751
Biggs, Andy	-3.402	1.330	-2.529	-0.658
Bilirakis, Gus	0.374	-0.069	0.116	-1.491
Bishop, Dan	-1.384	-0.249	-0.509	-0.242
Bishop, Sanford	0.747	-0.063	0.136	0.516
Blumenauer, Earl	-1.194	-0.664	-0.546	0.516
Blunt Rochester, Lisa	0.495	-0.501	-0.852	0.516
Boebert, Lauren	-1.680	-0.060	-0.918	-0.658
Bonamici, Suzanne	-0.778	-0.624	-0.577	0.516
Bost, Mike	0.324	-0.249	0.694	-0.658
Bowman, Jamaal	-3.773	-0.664	-0.513	-3.104
Boyle, Brendan	0.431	0.292	-0.358	0.516
Brecheen, Josh	-3.064	-0.249	0.116	-1.491
Brown, Shontel	0.273	-0.664	-0.358	0.516
Brownley, Julia	0.686	-0.496	-0.577	0.516
Buchanan, Vern	0.663	-0.249	-0.442	-0.520
Buck, Ken	-1.592	3.532	-2.395	1.689
Bucshon, Larry	0.666	-0.072	0.157	0.303
Budzinski, Nikki	0.748	1.133	0.877	0.516
Burchett, Tim	-1.986	0.796	-1.455	-0.658
Burgess, Michael	0.188	-0.249	0.673	0.303

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Table C1 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Burlison, Eric	-2.319	-0.249	-0.380	-1.491
Bush, Cori	-3.807	-0.664	-0.476	-1.623
Calvert, Ken	0.669	-0.249	-0.918	0.591
Cammack, Kat	-0.516	-0.249	0.694	-1.043
Caraveo, Yadira	0.808	2.501	2.922	0.516
Carbajal, Salud	0.808	-0.345	0.136	0.516
Cardenas, Tony	-0.621	-0.540	-0.833	0.516
Carey, Mike	0.607	-0.074	0.694	1.007
Carl, Jerry	0.481	-0.249	0.694	-1.491
Carson, Andre	-0.595	-0.541	-1.099	-1.165
Carter, Buddy	0.668	-0.249	0.694	0.591
Carter, John	0.432	-0.249	-0.918	-0.431
Cartwright, Matt	0.622	0.808	0.630	-2.846
Casar, Greg	-2.655	-0.664	-0.577	-1.294
Case, Ed	0.568	0.215	0.136	0.516
Casten, Sean	-0.033	-0.502	-1.099	0.516
Castor, Kathy	0.687	-0.341	-1.080	0.516
Castro, Joaquin	-0.700	-0.664	-0.394	-1.165
Chavez-DeRemer, Lori	0.699	3.834	-1.558	2.673
Cherfilus-McCormick, Sheila	0.209	-0.664	-0.320	0.516
Chu, Judy	-0.757	-0.583	-0.605	0.516
Cicilline, David	0.145	-0.420	-1.346	
Ciscomani, Juan	0.699	-0.249	0.116	1.840
Clark, Katherine	0.279	-0.624	-0.852	0.516

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Table C1 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Clarke, Yvette	-1.062	-0.664	-0.605	0.516
Cleaver, Emanuel	0.142	-0.664	-0.766	0.516
Cline, Ben	-1.003	-0.249	0.157	-1.075
Cloud, Michael	-1.927	-0.249	0.157	-1.075
Clyburn, James	0.140	-0.624	-0.605	0.516
Clyde, Andrew	-2.282	-0.249	0.157	-1.491
Cohen, Steve	0.380	-0.199	-0.852	-1.165
Cole, Tom	0.699	-0.249	-1.090	1.648
Collins, Mike	-0.905	-0.249	0.157	-1.491
Comer, James	0.235	-0.249	0.694	-0.242
Connolly, Gerald	0.021	-0.455	-0.605	0.516
Correa, Lou	0.209	0.191	-0.358	-1.445
Costa, Jim	0.808	1.123	1.855	0.516
Courtney, Joe	0.748	0.335	0.877	0.516
Craig, Angie	0.746	2.055	1.988	0.516
Crane, Elijah	-3.016	0.101	-1.992	-0.242
Crawford, Eric	0.445	-0.249	-1.558	-0.594
Crenshaw, Daniel	0.512	0.135	0.071	1.200
Crockett, Jasmine	-0.236	-0.622	-0.320	0.516
Crow, Jason	0.622	-0.502	-0.546	0.516
Cuellar, Henry	0.808	4.429	2.359	0.516
Curtis, John	0.344	-0.070	0.116	0.303
D'Esposito, Anthony	0.634	-0.249	-0.380	1.200
Davids, Sharice	0.749	0.694	0.383	0.516

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Table C1 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Davidson, Warren	-1.593	0.106	0.694	-0.658
Davis, Danny	-0.409	-0.622	-0.605	-2.846
Davis, Donald	0.748	3.980	3.378	-1.294
De La Cruz, Monica	0.667	-0.249	0.694	-0.146
DeGette, Diana	-0.164	-0.664	-0.358	0.516
DeLauro, Rosa	0.392	-0.583	-0.111	0.516
DeSaulnier, Mark	-0.509	-0.664	-0.577	-1.294
Dean, Madeleine	0.389	-0.624	-0.358	-1.165
Delbene, Suzan	0.390	-0.503	-0.111	0.516
Deluzio, Christopher	0.337	-0.063	0.877	0.516
DesJarlais, Scott	-0.083	-0.249	0.601	0.174
Diaz-Balart, Mario	0.664	-0.249	-1.090	0.938
Dingell, Debbie	0.180	-0.620	-0.577	0.516
Doggett, Lloyd	-0.789	-0.583	-0.320	0.516
Donalds, Byron	-1.259	-0.249	0.673	-0.658
Duarte, John	0.544	0.625	-0.380	1.424
Duncan, Jeff	-0.345	-0.249	-0.380	-1.075
Dunn, Neal	0.569	-0.069	0.694	1.200
Edwards, Chuck	0.445	-0.249	0.157	0.174
Ellzey, Jake	0.577	-0.249	0.157	0.591
Emmer, Tom	0.607	-0.249	-0.380	0.174
Escobar, Veronica	-0.229	-0.664	-0.358	0.516
Eshoo, Anna	0.560	-0.383	-0.320	0.516
Espaillat, Adriano	-0.270	-0.461	-0.111	0.516

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Table C1 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Estes, Ron	0.130	-0.249	0.694	-0.242
Evans, Dwight	-0.421	-0.595	-0.394	0.516
Ezell, Mike	0.448	-0.249	0.157	-1.491
Fallon, Pat	-0.117	-0.249	0.694	-1.043
Feenstra, Randy	0.607	-0.249	0.694	0.174
Ferguson, Drew	0.597	-0.249	0.116	1.007
Finstad, Brad	0.115	-0.249	0.694	-1.491
Fischbach, Michelle	0.056	-0.249	0.116	-1.075
Fitzgerald, Scott	0.265	-0.249	-0.380	-0.658
Fitzpatrick, Brian	0.669	12.206	-5.216	2.673
Fleischmann, Charles	0.547	-0.075	0.157	0.174
Fletcher, Lizzie	0.371	-0.128	0.136	-1.165
Flood, Mike	0.668	-0.249	-0.380	0.174
Foster, Bill	0.331	-0.221	-0.358	0.516
Foushee, Valerie	-0.463	-0.664	-0.605	0.516
Foxx, Virginia	0.089	-0.249	0.157	0.591
Frankel, Lois	0.679	-0.149	-0.577	0.516
Franklin, C. Scott	0.331	-0.249	0.157	-1.075
Frost, Maxwell	-1.947	-0.624	-0.605	-1.165
Fry, Russell	-0.277	-0.249	-0.380	-0.658
Fulcher, Russ	-0.699	-0.249	0.694	-1.075
Gaetz, Matt	-1.784	1.356	-2.250	0.591
Gallagher, Mike	0.550	0.036	-1.059	-0.034
Gallego, Ruben	0.661	1.557	1.988	0.516

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Table C1 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Garamendi, John	0.284	-0.337	0.043	-4.914
Garbarino, Andrew	0.667	-0.249	-1.090	1.648
Garcia, Jesus	-2.444	-0.664	-0.577	-2.846
Garcia, Mike	0.666	-0.069	-1.455	1.007
Garcia, Robert	-1.334	-0.622	-0.064	0.516
Garcia, Sylvia	-0.492	-0.541	-0.605	-1.165
Gimenez, Carlos	0.636	-0.249	0.116	1.424
Golden, Jared	0.567	4.883	3.594	-1.294
Goldman, Daniel	0.345	-0.290	-0.358	0.516
Gomez, Jimmy	-0.646	-0.623	-1.090	-1.165
Gonzales, Tony	0.478	0.479	-0.442	0.452
Gonzalez, Vicente	0.746	2.675	2.359	0.516
Good, Bob	-2.743	-0.073	-1.992	-0.658
Gooden, Lance	-0.105	-0.249	0.694	-1.043
Gosar, Paul	-2.661	-0.060	-1.000	-1.043
Gottheimer, Josh	0.742	1.608	1.219	0.516
Granger, Kay	0.699	-0.249	-0.380	0.751
Graves, Garret	0.573	-0.249	-0.918	0.174
Graves, Sam	0.667	-0.249	-1.992	0.174
Green, Al	-0.430	-0.582	-0.577	0.516
Green, Mark	-0.218	-0.249	0.627	-1.043
Greene, Marjorie	-2.259	1.019	-1.558	-0.242
Griffith, H. Morgan	-0.512	0.292	0.157	0.174
Grijalva, Raul	-2.095	-0.664	-1.346	-1.837

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Table C1 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Grothman, Glenn	-0.330	-0.249	1.231	0.303
Guest, Michael	0.230	-0.249	0.673	-0.658
Guthrie, Brett	0.699	-0.249	0.694	0.591
Hageman, Harriet	-1.262	-0.249	-0.380	-0.658
Harder, Josh	0.748	1.808	1.371	0.516
Harris, Andy	-1.892	-0.249	-0.442	-0.658
Harshbarger, Diana	-0.857	-0.249	0.157	-1.075
Hayes, Jahana	0.393	0.138	-0.111	0.516
Hern, Kevin	-0.105	-0.249	1.231	-1.491
Higgins, Brian	0.128	-0.221	-0.235	0.516
Higgins, Clay	-1.149	-0.249	0.071	-0.242
Hill, French	0.699	-0.075	-0.380	0.591
Himes, James	0.381	0.175	0.193	0.516
Hinson, Ashley	0.699	-0.249	-0.380	0.591
Horsford, Steven	0.567	0.696	0.877	0.516
Houchin, Erin	0.422	-0.249	0.116	0.174
Houlahan, Chrissy	0.564	0.912	1.321	0.516
Hoyer, Steny	0.500	-0.292	-0.358	0.516
Hoyle, Val	-0.033	0.075	-0.279	0.516
Hudson, Richard	0.667	-0.249	1.231	0.751
Huffman, Jared	-0.839	-0.622	-0.605	-1.165
Huizenga, Bill	0.576	-0.249	1.231	1.200
Hunt, Wesley	-0.524	-0.249	1.231	-0.594
Issa, Darrell	0.541	-0.249	0.694	0.938

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Table C1 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Ivey, Glenn	0.267	-0.624	-0.358	0.516
Jackson Lee, Sheila	0.236	-0.506	0.223	0.516
Jackson, Jeff	0.747	0.773	1.055	0.516
Jackson, Jonathan	-1.122	-0.542	-0.605	-1.294
Jackson, Ronny	-0.177	-0.249	0.651	-1.491
Jacobs, Sara	-0.564	-0.664	-0.605	0.516
James, John	0.699	-0.073	0.116	1.840
Jayapal, Pramila	-2.287	-0.664	-0.605	-1.165
Jeffries, Hakeem	0.454	-0.624	-0.358	0.516
Johnson, Bill	0.630	-0.249	1.231	-0.844
Johnson, Dusty	0.606	-0.249	1.231	1.007
Johnson, Hank Jr.	-1.553	-0.622	-1.099	0.516
Johnson, Mike	0.500	-0.249	0.541	-0.196
Jordan, Jim	-0.400	-0.249	0.694	-1.491
Joyce, David	0.699	0.127	-1.000	0.938
Joyce, John	-0.007	-0.249	0.694	-1.075
Kamlager-Dove, Sydney	-1.437	-0.622	-0.852	0.516
Kaptur, Marcy	0.562	1.228	1.371	0.516
Kean, Thomas	0.668	0.800	-0.380	1.840
Keating, William	0.500	-0.221	-0.111	0.516
Kelly, Mike	0.665	-0.249	-0.442	-0.034
Kelly, Robin	0.127	-0.664	-1.346	0.516
Kelly, Trent	0.208	-0.249	-0.380	-1.491
Kennedy, Timothy	0.620	0.219	-0.235	0.516

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Table C1 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Khanna, Ro	-0.206	-0.583	-0.111	-1.165
Kiggans, Jennifer	0.668	-0.249	-1.455	0.751
Kildee, Daniel	0.313	0.167	1.124	0.516
Kiley, Kevin	0.669	-0.074	0.157	1.840
Kilmer, Derek	0.808	-0.098	-0.358	0.516
Kim, Andrew	0.150	-0.529	-0.813	0.516
Kim, Andrew	0.150	-0.529	-0.813	0.516
Kim, Young	0.699	-0.074	-1.455	1.007
Krishnamoorthi, Raja	0.569	-0.303	-0.852	0.516
Kuster, Ann	0.808	0.032	-0.013	-1.165
Kustoff, David	0.377	-0.249	0.023	-0.242
LaHood, Darin	0.411	-0.249	-0.509	-0.658
LaLota, Nick	0.637	0.456	-0.380	1.007
LaMalfa, Doug	0.249	-0.249	1.231	0.174
LaTurner, Jake	0.668	-0.249	-0.380	0.303
Lamborn, Doug	0.562	-0.249	0.116	0.591
Landsman, Greg	0.808	1.575	1.371	0.516
Langworthy, Nicholas	0.602	-0.249	0.627	1.200
Larsen, Rick	0.442	-0.336	-0.605	-1.294
Larson, John	0.317	-0.413	-0.358	0.516
Latta, Robert	0.547	-0.249	0.694	0.174
Lawler, Michael	0.699	1.009	-0.918	2.257
Lee, Barbara	-1.913	-0.664	-0.546	-1.165
Lee, Laurel	0.608	-0.249	0.157	-0.242

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Table C1 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Lee, Summer	-3.412	-0.664	-0.605	-2.846
Lee, Susie	0.620	1.837	1.732	0.516
Leger Fernandez, Teresa	0.315	-0.422	-0.605	0.516
Lesko, Debbie	-0.548	-0.249	1.231	-1.005
Letlow, Julia	0.699	-0.249	0.116	-0.146
Levin, Mike	0.573	0.494	0.383	0.516
Lieu, Ted	0.095	-0.329	-0.358	0.516
Lofgren, Zoe	-0.062	-0.537	0.383	0.516
Loudermilk, Barry	-0.151	-0.249	1.231	-1.491
Lucas, Frank	0.667	-0.249	-0.442	0.303
Luetkemeyer, Blaine	0.662	-0.249	0.506	-0.146
Luna, Anna Paulina	-1.188	0.145	0.116	0.099
Luttrell, Morgan	-0.002	-0.249	0.694	-1.491
Lynch, Stephen	0.622	0.229	0.136	0.516
Mace, Nancy	0.154	1.513	-1.186	-0.034
Magaziner, Seth	0.589	0.184	0.103	0.516
Malliotakis, Nicole	0.669	-0.068	0.071	0.174
Maloy, Celeste	0.389	-0.249	1.231	2.007
Mann, Tracey	0.078	-0.249	0.157	-1.075
Manning, Kathy	0.749	1.236	1.618	0.516
Massie, Thomas	-4.320	3.945	-5.151	-0.242
Mast, Brian	-0.239	-0.249	1.231	-1.075
Matsui, Doris	0.511	-0.501	-0.064	0.516
McBath, Lucy	0.503	-0.456	-0.111	0.516

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Table C1 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
McCarthy, Kevin	0.699	-0.249	1.231	-0.763
McCaul, Michael	0.667	0.109	-0.442	0.174
McClain, Lisa	0.602	-0.249	0.694	0.174
McClintock, Tom	-1.116	1.696	0.673	1.007
McCollum, Betty	0.035	-0.624	-0.852	0.516
McCormick, Richard	-0.735	-0.249	1.231	-0.034
McGarvey, Morgan	0.218	-0.664	-0.358	0.516
McGovern, James	-1.221	-0.664	-0.833	-1.165
McHenry, Patrick	0.660	-0.249	-1.291	0.303
McMorris Rodgers, Cathy	0.596	-0.249	1.231	-0.431
Meeks, Gregory	0.257	-0.542	-0.064	0.516
Menendez, Robert	0.390	-0.379	-0.852	0.516
Meng, Grace	0.120	-0.336	-0.320	0.516
Meuser, Dan	0.573	-0.249	1.231	0.452
Mfume, Kweisi	0.296	-0.583	-0.320	-1.294
Miller, Carol	0.509	-0.249	0.157	-0.658
Miller, Mary	-0.958	-0.249	0.116	-1.491
Miller, Max	0.510	-0.249	0.157	1.648
Miller-Meeks, Mariannette	0.606	-0.249	-1.455	1.424
Mills, Cory	-0.720	-0.249	1.231	-0.658
Molinaro, Marcus	0.667	0.290	-1.992	2.673
Moolenaar, John	0.515	-0.073	0.673	-0.242
Mooney, Alex	-0.478	-0.249	1.231	-1.491
Moore, Barry	-1.306	-0.249	0.157	-1.491

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Table C1 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Moore, Blake	0.668	-0.249	-0.380	1.424
Moore, Gwen	-1.218	-0.579	-0.320	-1.165
Moran, Nathaniel	0.331	-0.249	0.694	-0.242
Morelle, Joseph	0.629	0.113	0.706	0.516
Moskowitz, Jared	0.745	1.682	1.618	0.516
Moulton, Seth	0.683	-0.098	0.877	0.516
Mrvan, Frank	0.749	0.925	0.877	0.516
Mullin, Kevin	0.160	-0.541	-0.605	0.516
Murphy, Gregory	0.560	-0.249	-0.747	-0.034
Nadler, Jerrold	-0.783	-0.664	-0.320	0.516
Napolitano, Grace	-0.078	-0.664	-0.577	0.516
Neal, Richard	0.132	-0.664	-1.346	0.516
Neguse, Joe	0.749	-0.584	-1.099	0.516
Nehls, Troy	-0.624	-0.057	0.627	-1.491
Newhouse, Dan	0.699	-0.249	0.071	1.200
Nickel, Wiley	0.749	1.457	1.588	-1.294
Norcross, Donald	0.683	0.238	-0.111	0.516
Norman, Ralph	-2.623	-0.249	-0.380	-1.491
Nunn, Zachary	0.699	0.473	-0.918	0.751
Obernolte, Jay	0.482	0.105	-0.380	1.200
Ocasio-Cortez, Alexandria	-3.339	-0.664	-0.605	-3.104
Ogles, Andrew	-1.943	-0.249	0.116	-1.043
Omar, Ilhan	-3.716	-0.664	-0.605	-2.846
Owens, Burgess	0.546	-0.249	0.694	-0.242

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Table C1 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Pallone, Frank	-0.013	-0.183	0.136	0.516
Palmer, Gary	-0.044	-0.249	0.673	-1.491
Panetta, Jimmy	0.570	1.181	0.630	0.516
Pappas, Chris	0.749	1.933	2.359	0.516
Pascrell, Bill	0.358	-0.568	-0.476	0.516
Payne, Donald	0.131	-0.664	-1.346	0.516
Pelosi, Nancy	0.458	-0.579	-0.852	0.516
Peltola, Mary	0.675	3.693	2.822	0.516
Pence, Greg	0.491	-0.066	0.116	-0.034
Perez, Marie	0.808	4.752	4.810	0.516
Perry, Scott	-2.512	-0.070	-1.558	-1.075
Peters, Scott	0.685	0.101	0.193	0.516
Pettersen, Brittany	0.749	0.423	0.193	0.516
Pfluger, August	0.423	-0.249	0.694	-0.242
Phillips, Dean	0.649	0.733	0.776	0.516
Pingree, Chellie	-0.487	-0.664	-0.577	0.516
Pocan, Mark	-1.518	-0.664	-0.577	0.516
Porter, Katie	-0.382	-0.618	-0.476	0.516
Posey, Bill	-0.602	-0.070	-0.380	-0.658
Pressley, Ayanna	-3.262	-0.664	-0.605	-1.294
Quigley, Mike	0.431	-0.326	-0.111	0.516
Ramirez, Delia	-3.384	-0.664	-0.605	-3.104
Raskin, Jamie	0.032	-0.664	-0.852	0.516
Reschenthaler, Guy	0.638	-0.249	0.694	0.591

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Table C1 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Rogers, Harold	0.699	-0.249	-0.380	0.174
Rogers, Mike	0.604	-0.075	-1.000	0.591
Rose, John	-0.049	-0.066	1.231	-0.146
Rosendale, Matthew	-3.463	1.666	-2.529	-1.075
Ross, Deborah	0.439	-0.462	-0.279	0.516
Rouzer, David	0.638	-0.249	-0.380	0.174
Roy, Chip	-3.784	0.650	-1.992	-0.594
Ruiz, Raul	0.808	-0.300	-0.111	0.516
Ruppersberger, Dutch	0.617	-0.413	-0.279	0.516
Rutherford, John	0.514	-0.249	-0.918	1.007
Ryan, Patrick	0.632	1.357	1.371	0.516
Salazar, Maria	0.663	-0.249	-1.186	1.648
Salinas, Andrea	0.511	0.584	0.630	0.516
Sanchez, Linda	-0.161	-0.623	-0.833	0.516
Santos, George	-0.307	0.536	1.231	-0.763
Sarbanes, John	0.243	-0.664	-0.852	0.516
Scalise, Steve	0.594	-0.249	0.157	0.174
Scanlon, Mary Gay	-0.286	-0.664	-0.577	0.516
Schakowsky, Janice	-1.014	-0.664	-0.605	0.516
Schneider, Bradley	0.808	0.147	-0.279	0.516
Scholten, Hillary	0.690	0.993	2.112	0.516
Schrier, Kim	0.808	1.221	2.112	0.516
Schweikert, David	-0.223	-0.073	0.694	0.174
Scott, Austin	0.637	-0.249	-0.380	1.424

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Table C1 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Scott, Bobby	-0.427	-0.584	-0.320	-1.165
Scott, David	0.623	0.486	1.124	-1.165
Self, Keith	-1.941	-0.249	-0.380	-1.075
Sessions, Pete	0.381	-0.068	0.673	0.303
Sewell, Terri	0.681	-0.576	-0.111	0.516
Sherman, Brad	0.209	-0.382	0.449	-1.294
Sherrill, Mikie	0.808	0.702	1.321	0.516
Simpson, Michael	0.561	-0.249	0.694	1.200
Slotkin, Elissa	0.808	1.140	1.618	0.516
Smith, Adam	0.273	-0.623	-0.852	0.516
Smith, Adrian	0.601	-0.249	-0.582	0.174
Smith, Christopher	0.569	-0.074	-0.380	1.007
Smith, Jason	0.574	-0.249	1.231	-0.658
Smucker, Lloyd	0.573	0.104	-0.380	1.424
Sorensen, Eric	0.808	1.346	1.055	0.516
Soto, Darren	0.749	0.629	0.383	-1.165
Spanberger, Abigail	0.689	1.236	0.877	0.516
Spartz, Victoria	-0.903	0.497	-0.509	0.591
Stansbury, Melanie	0.079	-0.664	-0.320	0.516
Stanton, Greg	0.808	1.114	0.788	-1.165
Stauber, Pete	0.512	-0.249	-0.509	-0.658
Steel, Michelle	0.604	-0.249	-0.442	0.174
Stefanik, Elise	0.638	-0.249	0.157	-0.242
Steil, Bryan	0.607	-0.249	1.231	0.303

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Table C1 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Steube, Greg	-1.987	-0.249	0.116	-1.075
Stevens, Haley	0.514	-0.105	-0.358	0.516
Stewart, Chris	0.699	-0.249	1.231	1.424
Strickland, Marilyn	0.625	-0.181	-0.235	0.516
Strong, Dale	0.419	-0.249	-0.918	-0.658
Suozzi, Tom	0.808	1.994	1.321	0.516
Swalwell, Eric	0.660	0.184	-0.013	-1.445
Sykes, Emilia	0.683	0.232	0.254	0.516
Takano, Mark	-1.094	-0.664	-0.605	0.516
Tenney, Claudia	0.452	-0.249	-0.380	-0.658
Thanedar, Shri	0.574	-0.265	0.136	0.516
Thompson, Bennie	0.238	-0.623	-0.833	0.516
Thompson, Glenn	0.576	-0.249	0.673	1.840
Thompson, Mike	0.688	-0.145	-0.111	0.516
Tiffany, Tom	-1.081	-0.249	0.157	-1.491
Timmons, William	-0.007	-0.249	0.694	-1.491
Titus, Dina	0.744	0.122	0.193	0.516
Tlaib, Rashida	-3.878	-0.664	-0.605	-3.104
Tokuda, Jill	-0.454	-0.664	-0.605	0.516
Tonko, Paul	0.154	-0.463	-0.320	0.516
Torres, Norma	0.568	-0.302	0.136	0.516
Torres, Ritchie	0.425	0.009	0.193	-1.294
Trahan, Lori	0.445	-0.624	-0.064	0.516
Trone, David	0.732	-0.187	0.254	0.516

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Table C1 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Turner, Michael	0.699	1.029	-1.186	1.840
Underwood, Lauren	-0.255	-0.664	-1.099	-1.165
Valadao, David	0.699	-0.071	-0.442	1.424
Van Duyne, Beth	-0.072	-0.249	1.231	-1.043
Van Orden, Derrick	0.316	-0.249	-0.380	-0.146
Vargas, Juan	-0.072	-0.261	-0.605	0.516
Vasquez, Gabe	0.749	1.349	1.865	-1.165
Veasey, Marc	0.686	0.178	0.136	0.516
Velazquez, Nydia	-1.597	-0.664	-0.605	-1.294
Wagner, Ann	0.667	-0.249	-0.442	0.174
Walberg, Tim	0.577	-0.249	0.694	0.591
Waltz, Michael	0.121	-0.249	0.116	-0.594
Wasserman Schultz, Debbie	0.628	-0.020	-0.577	-1.165
Waters, Maxine	-1.281	-0.664	-0.577	-1.165
Watson Coleman, Bonnie	-0.985	-0.664	-0.791	0.516
Weber, Randy	-0.158	-0.249	0.694	-1.491
Webster, Daniel	0.191	-0.249	0.157	-0.146
Wenstrup, Brad	0.699	-0.249	0.157	0.174
Westerman, Bruce	0.424	-0.249	0.116	0.174
Wexton, Jennifer	0.644	-0.409	-1.043	0.516
Wild, Susan	0.808	1.102	2.606	0.516
Williams, Brandon	0.668	-0.053	1.231	-0.146
Williams, Nikema	-0.721	-0.664	-0.605	-1.165
Williams, Roger	0.273	-0.249	1.231	-1.491

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Table C1 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Wilson, Frederica	0.263	-0.436	-1.090	0.516
Wilson, Joe	0.603	-0.249	0.694	-0.242
Wittman, Robert	0.603	-0.249	1.231	0.591
Womack, Steve	0.669	-0.075	-0.380	0.591
Yakym, Rudy	0.364	-0.249	-0.380	0.591
Zinke, Ryan	0.255	-0.249	0.694	-0.146

Table C2. Senate Voting Bipartisanship scores for the 118th Congress

Name	Consensus	Defection	Pivotal	Rolling
Baldwin, Tammy	-0.206		0.635	0.119
Barrasso, John	0.585		0.281	-0.649
Bennet, Michael	0.347		0.635	0.120
Blackburn, Marsha	-0.609		0.281	-0.677
Blumenthal, Richard	0.481		-0.505	0.329
Booker, Cory	-1.120		-0.505	0.329
Boozman, John	0.787		0.281	-0.379
Braun, Mike	-1.605		0.281	-0.465
Britt, Katie Boyd	-0.155		0.281	-0.694
Brown, Sherrod	0.198		1.776	-0.095
Budd, Ted	-0.020		0.281	-0.524
Cantwell, Maria	0.193		-0.505	0.329
Capito, Shelley	1.059		0.281	0.441
Cardin, Benjamin	-0.246		-0.505	0.329
Carper, Thomas	0.481		-0.505	-0.091
Casey, Robert	0.617		0.635	0.329
Cassidy, Bill	0.728		0.281	0.234
Collins, Susan	1.015		-2.413	3.848
Coons, Christopher	0.611		-0.505	0.329
Cornyn, John	0.969		0.281	0.108
Cortez Masto, Catherine	0.756		0.635	0.329
Cotton, Tom	0.720		0.281	-0.574
Cramer, Kevin	0.701		0.281	0.137

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Table C2 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Cramer, Kevin	0.701		0.281	0.137
Crapo, Mike	-0.100		0.281	-0.378
Cruz, Ted	-0.663		0.281	-0.638
Daines, Steve	-0.047		0.281	-0.474
Duckworth, Tammy	0.477		-0.505	0.329
Durbin, Richard	-0.004		-0.505	0.329
Ernst, Joni	0.205		0.281	-0.322
Feinstein, Dianne	0.009			0.329
Fetterman, John	0.756		0.635	-0.225
Fischer, Deb	0.796		0.281	-0.580
Gillibrand, Kirsten	0.756		-0.505	0.329
Graham, Lindsey	1.059		0.281	2.626
Grassley, Chuck	0.790		0.281	0.327
Hagerty, Bill	-0.383		0.281	-0.550
Hawley, Josh	-2.120		-2.413	-0.535
Heinrich, Martin	0.211		-0.505	0.329
Hickenlooper, John	0.756		0.635	0.113
Hirono, Mazie	-0.607		-0.505	-0.090
Hoeven, John	0.263		0.281	-0.319
Hyde-Smith, Cindy	0.875		0.281	-0.453
Johnson, Ron	-0.559		0.281	-0.643
Kaine, Tim	-0.490		-0.505	0.329
Kelly, Mark	0.609		-0.505	-0.113
Kennedy, John	0.176		0.281	0.305

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Table C2 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
King, Angus	0.756		0.635	0.329
Klobuchar, Amy	0.756		0.635	0.329
Lankford, James	0.445		0.281	-0.415
Lee, Mike	-2.073		0.281	-0.556
Lujan, Ben	0.052		0.635	0.329
Lummis, Cynthia	-0.093		0.281	-0.484
Manchin, Joe	0.756		5.196	-6.019
Markey, Edward	-2.793		-0.505	-0.107
Marshall, Roger	-1.264		0.281	-0.342
Marshall, Roger	-1.264		0.281	-0.342
McConnell, Mitch	0.836		0.281	0.323
Menendez, Robert	-0.120		0.920	-0.784
Merkley, Jeff	-1.970		-0.505	-0.757
Moran, Jerry	0.961		0.281	0.306
Murkowski, Lisa	1.059		-2.413	3.544
Murphy, Christopher	-0.082		-0.505	0.120
Murray, Patty	0.481		-0.505	0.329
Ossoff, Jon	0.756		-0.505	0.329
Padilla, Alex	0.327		-0.505	0.329
Paul, Rand	-2.268		-5.106	-0.524
Peters, Gary	0.756		0.635	0.329
Reed, Jack	0.347		-0.505	0.329
Ricketts, Pete	0.561		0.281	-0.440
Risch, James	-0.037		0.281	-0.374

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Table C2 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Romney, Mitt	0.910		0.281	0.837
Rosen, Jacky	0.756		0.635	0.329
Rosen, Jacky	0.756		0.635	0.329
Rounds, Mike	0.968		0.281	1.001
Rubio, Marco	-0.047		0.281	-0.353
Sanders, Bernard	-3.834		-0.505	-2.649
Schatz, Brian	0.475		-0.505	0.329
Schmitt, Eric	-1.940		0.281	-0.593
Schumer, Charles	0.756		-0.505	0.329
Scott, Rick	-1.409		0.281	-0.590
Scott, Tim	-0.831		0.281	-0.631
Shaheen, Jeanne	0.615		-0.505	0.329
Smith, Tina	0.756		-0.505	0.329
Stabenow, Debbie	0.323		-0.505	0.329
Sullivan, Dan	-0.570		0.281	-0.193
Tester, Jon	0.211		1.776	0.116
Thune, John	0.445		0.281	-0.306
Tillis, Thom	0.910		0.281	1.321
Tuberville, Tommy	-1.565		0.281	-0.694
Van Hollen, Chris	-1.016		-0.505	0.329
Vance, J.D.	-1.311		0.281	-0.435
Warner, Mark	0.052		-0.505	0.329
Warnock, Raphael	0.475		-0.505	0.329
Warren, Elizabeth	-2.430		-0.505	-0.092

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Table C2 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Welch, Peter	-1.183		-0.505	0.115
Whitehouse, Sheldon	0.337		-0.505	0.329
Wicker, Roger	0.873		0.281	-0.107
Wyden, Ron	-0.906		-0.505	0.117
Young, Todd	0.972		0.281	0.534

C.C.2 Analyses conducted with weighted Voting Bipartisanship scores

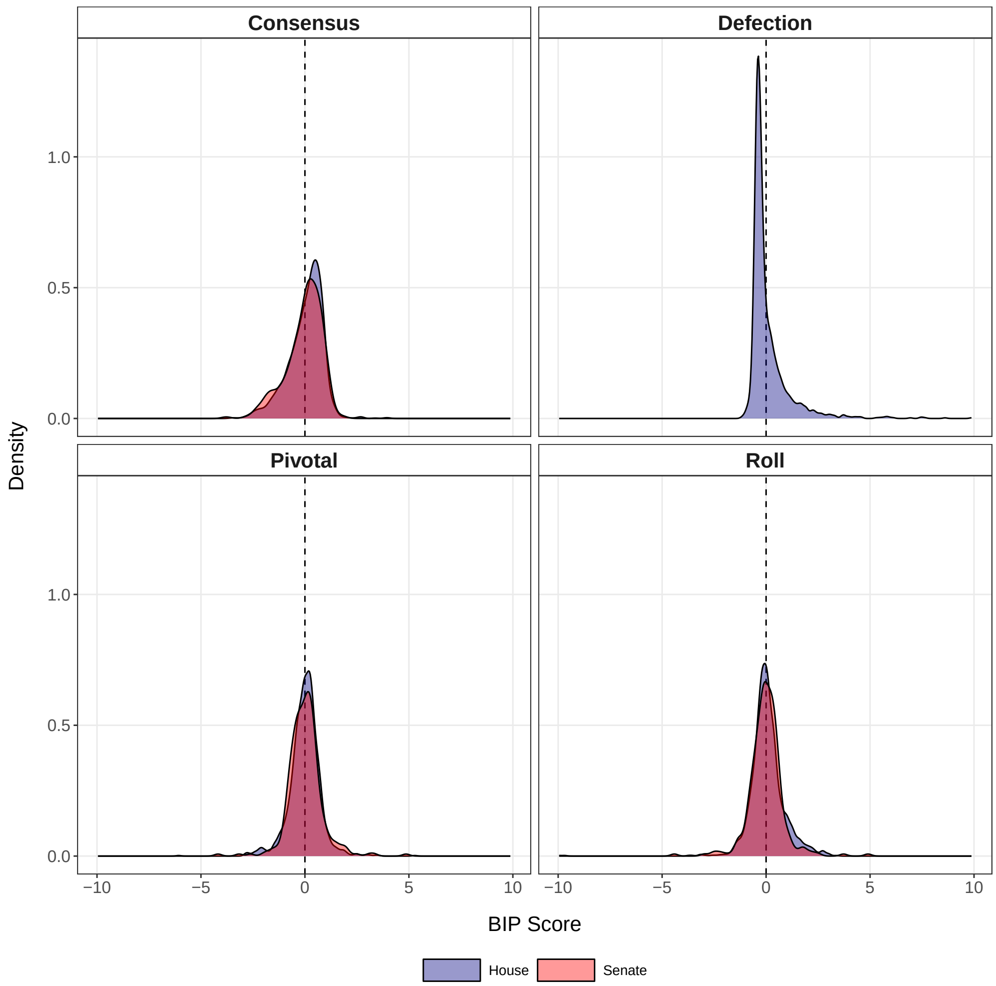

Figure C1. Density of average seighted Voting Bipartisanship scores in the House and Senate by bipartisanship type.

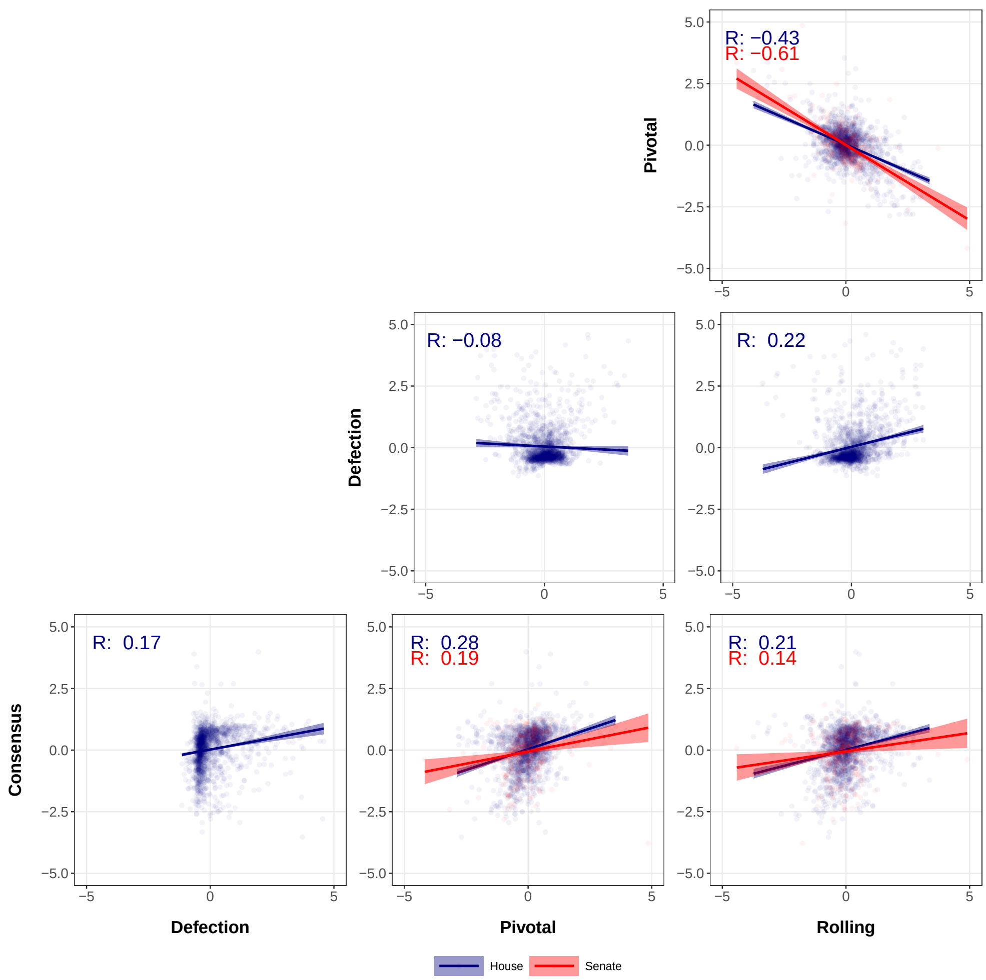

Figure C2. Correlations between weighted Voting Bipartisanship scores by vote type.

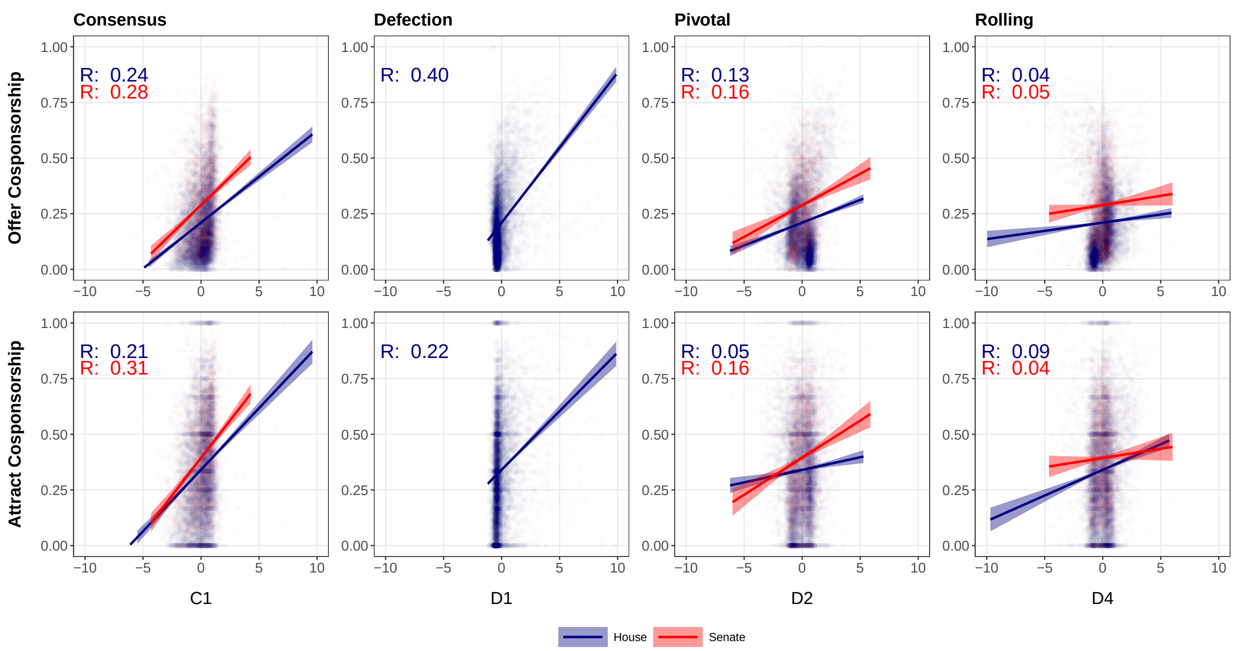

Figure C3. Correlations between weighted Voting Bipartisanship scores and Cosponsorship Bipartisanship scores

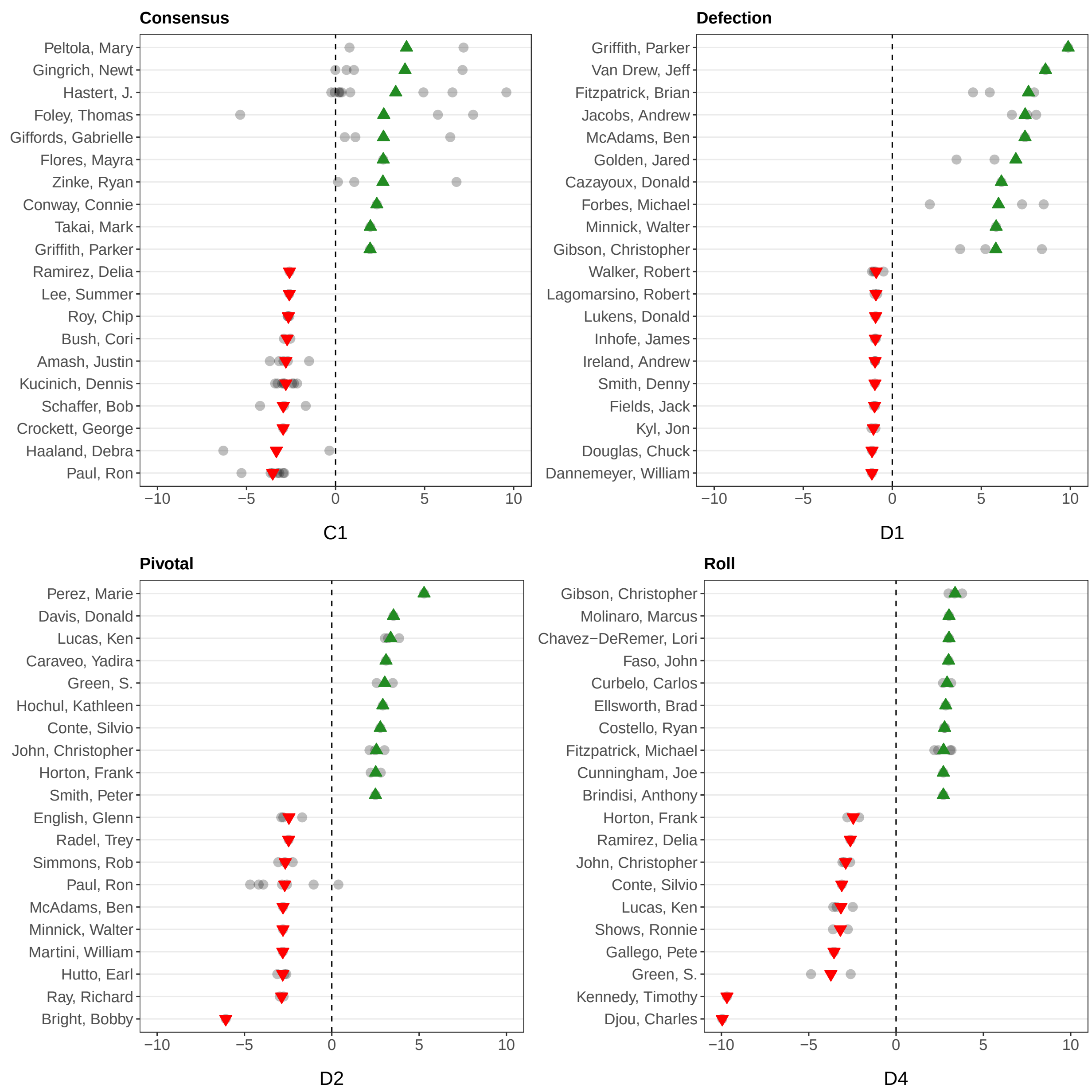

Figure C4. Top 10 and bottom 10 House members by weighted Voting Bipartisanship score

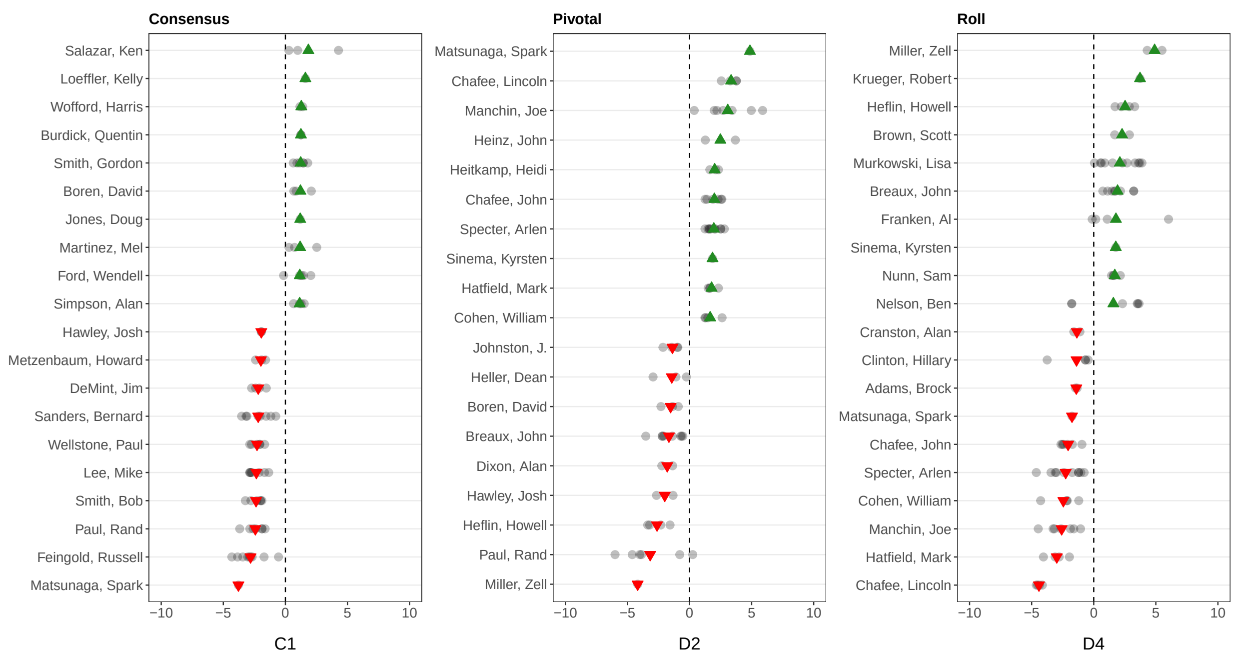

Figure C5. Top 10 and bottom 10 Senators by weighted Voting Bipartisanship score

	Consensus	Defection	Pivotal	Rolling
Ideology	0.035	0.123*	0.025	-0.137*
	(0.024)	(0.037)	(0.027)	(0.029)
Ideologically Extreme	-0.671*	-0.382*	-0.007	-0.251*
	(0.031)	(0.040)	(0.034)	(0.031)
Floor Median Dist.	-0.026*	-0.006	-0.059*	0.008
	(0.010)	(0.010)	(0.012)	(0.011)
Party Median Dist.	-0.603*	0.734*	-0.302*	0.058
	(0.040)	(0.068)	(0.052)	(0.046)
Democratic	0.173	0.688*	0.184	-0.634*
	(0.118)	(0.189)	(0.141)	(0.152)
Vote Percentage	-0.002	-0.005*	3.8×10^{-5}	-0.004*
	(0.001)	(0.0009)	(0.001)	(0.001)
Speaker	4.84*	0.089	0.936*	0.633
	(1.34)	(0.076)	(0.421)	(0.573)
Maj. Leader	0.185*	0.030	0.582*	-0.455*
	(0.084)	(0.038)	(0.068)	(0.073)
Min. Leader	-0.057	-0.106	-0.361*	0.242*
	(0.085)	(0.055)	(0.067)	(0.097)
Chair	0.183*	0.059	0.247*	-0.242*
	(0.054)	(0.064)	(0.075)	(0.068)
Sub. Chair	0.031	0.195*	-0.039	0.004
	(0.032)	(0.037)	(0.046)	(0.042)
Seniority	-0.018*	-0.011*	-0.010*	-0.009
	(0.004)	(0.004)	(0.004)	(0.005)
Freshman	0.109	0.116	0.074	0.212
	(0.073)	(0.110)	(0.135)	(0.120)
Effectiveness	-0.011	0.007	0.028*	-0.015
	(0.010)	(0.010)	(0.013)	(0.013)
Attract Cosponsor	0.257	0.187	-0.220	0.773*
	(0.133)	(0.142)	(0.165)	(0.165)
Offer Cosponsor	0.476*	1.78*	1.14*	-0.580*
	(0.117)	(0.183)	(0.192)	(0.214)
FE: Congress	Yes	Yes	Yes	Yes
Fit statistics				
Observations	6,023	6,024	6,017	6,014
R^2	0.378	0.420	0.068	0.073
Within R^2	0.377	0.419	0.065	0.068

Clustered (member) standard-errors in parentheses
$^*p < 0.05$

Table C3. Correlates of weighted Voting Bipartisanship in the House, 1990-2025.

	Consensus	Pivotal	Rolling
Ideology	0.067	-0.234*	0.201
	(0.056)	(0.098)	(0.110)
Ideologically Extreme	-0.841*	-0.300*	-0.109
	(0.072)	(0.136)	(0.120)
Floor Median Dist.	-0.017	-0.048	0.022
	(0.027)	(0.033)	(0.034)
Party Median Dist.	-0.588*	-0.121	-0.047
	(0.090)	(0.153)	(0.168)
Democratic	0.235	-1.03*	0.851
	(0.259)	(0.473)	(0.534)
Vote Percentage	0.0003	-0.002	-0.002
	(0.003)	(0.004)	(0.005)
Maj. Leader	0.225*	0.004	0.167
	(0.081)	(0.105)	(0.086)
Min. Leader	0.244*	0.108	0.044
	(0.083)	(0.144)	(0.117)
Chair	0.014	0.171	-0.053
	(0.070)	(0.095)	(0.083)
Sub. Chair	-0.155*	-0.040	0.016
	(0.062)	(0.086)	(0.084)
Seniority	-0.012	-0.010	0.007
	(0.009)	(0.010)	(0.010)
Freshman	0.304	0.168	0.070
	(0.195)	(0.166)	(0.178)
Effectiveness	0.024	0.005	0.005
	(0.035)	(0.031)	(0.036)
Attract Cosponsor	0.795*	0.310	0.090
	(0.234)	(0.302)	(0.341)
Offer Cosponsor	0.155	0.304	0.203
	(0.233)	(0.416)	(0.471)
FE: Congress	Yes	Yes	Yes
Observations	1,509	1,462	1,509
R^2	0.362	0.117	0.034
Within R^2	0.361	0.116	0.033

NOTE: Scores for defection votes are omitted due to low frequency.
Clustered (member) standard-errors in parentheses
$^{*}p < 0.05$

Table C4. Correlates of weighted Voting Bipartisanship in the Senate, 1990-2025.

Table C5. House Voting Bipartisanship scores (weighted) for the 118th Congress

Name	Consensus	Defection	Pivotal	Rolling
Adams, Alma	0.301	-0.530	-0.216	0.396
Aderholt, Robert	0.642	-0.239	-0.925	-0.695
Aguilar, Pete	0.463	-0.404	-0.883	0.396
Alford, Mark	-0.090	-0.239	1.228	-0.411
Allen, Rick	0.166	-0.239	0.594	-0.437
Allred, Colin	0.980	0.843	0.727	0.396
Amodei, Mark	0.818	-0.239	1.228	0.123
Armstrong, Kelly	0.168	-0.239	0.552	0.903
Arrington, Jodey	-0.498	-0.239	1.020	-1.301
Auchincloss, Jake	0.199	-0.220	-0.556	0.046
Babin, Brian	-0.171	-0.239	1.337	-1.301
Bacon, Don	0.939	1.009	-0.007	1.124
Baird, James	0.189	-0.239	0.685	-0.481
Balderson, Troy	0.709	-0.239	0.492	-1.069
Balint, Becca	-1.207	-0.549	-0.532	-0.851
Banks, Jim	-0.579	-0.239	0.685	-1.301
Barr, Andy	0.810	-0.239	0.019	0.175
Barragan, Nanette	-0.548	-0.473	-0.846	0.396
Bean, Aaron	-0.799	-0.239	0.051	-1.183
Beatty, Joyce	-0.049	-0.549	-0.532	0.396
Bentz, Cliff	0.593	-0.239	0.685	0.728
Bera, Ami	0.706	-0.125	-0.560	0.396
Bergman, Jack	0.715	-0.239	1.228	0.762

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Table C5 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Beyer, Don	-0.081	-0.499	-1.154	0.396
Bice, Stephanie	0.723	-0.239	-0.007	-0.059
Biggs, Andy	-2.647	1.013	-2.041	0.469
Bilirakis, Gus	-0.036	-0.132	0.051	-1.301
Bishop, Dan	-1.683	-0.239	-0.303	0.391
Bishop, Sanford	0.842	-0.040	-0.017	0.396
Blumenauer, Earl	-1.431	-0.549	-0.470	0.396
Blunt Rochester, Lisa	0.438	-0.418	-0.927	0.396
Boebert, Lauren	-1.680	-0.044	-0.731	-0.276
Bonamici, Suzanne	-1.135	-0.524	-0.502	0.396
Bost, Mike	-0.084	-0.239	0.685	-0.290
Bowman, Jamaal	-2.870	-0.549	-0.435	-1.428
Boyle, Brendan	0.280	0.144	-0.496	0.396
Brecheen, Josh	-2.440	-0.239	0.406	-1.301
Brown, Shontel	-0.020	-0.549	-0.209	0.396
Brownley, Julia	0.821	-0.463	-0.623	0.396
Buchanan, Vern	0.984	-0.239	-0.798	-0.422
Buck, Ken	-1.922	3.354	-1.262	2.598
Bucshon, Larry	0.772	-0.114	-0.007	-0.187
Budzinski, Nikki	0.875	0.952	0.815	0.396
Burchett, Tim	-2.021	0.774	-0.920	-0.297
Burgess, Michael	0.227	-0.239	0.890	-0.202
Burlison, Eric	-2.075	-0.239	-0.000	-1.301
Bush, Cori	-2.540	-0.549	-0.397	-1.195

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Table C5 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Calvert, Ken	0.852	-0.239	-0.911	0.056
Cammack, Kat	-1.002	-0.239	0.685	-0.545
Caraveo, Yadira	0.976	2.520	3.105	0.396
Carbajal, Salud	0.950	-0.389	0.027	0.396
Cardenas, Tony	-1.014	-0.488	-0.655	0.040
Carey, Mike	0.627	-0.062	0.642	0.788
Carl, Jerry	0.580	-0.239	0.579	-1.301
Carson, Andre	-0.354	-0.474	-1.032	-0.851
Carter, Buddy	0.782	-0.239	0.579	0.471
Carter, John	0.324	-0.239	-0.872	-0.279
Cartwright, Matt	0.672	0.597	0.628	-1.914
Casar, Greg	-2.404	-0.549	-0.502	-1.216
Case, Ed	0.639	0.112	-0.038	0.396
Casten, Sean	-0.102	-0.465	-1.032	0.396
Castor, Kathy	0.632	-0.335	-1.197	0.396
Castro, Joaquin	-0.987	-0.549	-0.435	-0.851
Chavez-DeRemer, Lori	0.907	4.001	-2.134	3.031
Cherfilus-McCormick, Sheila	0.098	-0.549	-0.395	0.396
Chu, Judy	-1.310	-0.517	-0.532	-0.183
Cicilline, David	-1.846	-0.403	-1.309	
Ciscomani, Juan	1.041	-0.239	0.208	1.641
Clark, Katherine	0.225	-0.533	-1.013	0.396
Clarke, Yvette	-1.384	-0.549	-0.532	0.396
Cleaver, Emanuel	-0.018	-0.549	-0.811	-0.877

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Table C5 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Cline, Ben	-1.334	-0.239	0.202	-1.183
Cloud, Michael	-2.027	-0.239	0.202	-0.613
Clyburn, James	0.074	-0.522	-0.694	0.396
Clyde, Andrew	-2.151	-0.239	0.202	-1.301
Cohen, Steve	0.318	-0.136	-0.884	-0.747
Cole, Tom	0.891	-0.239	-1.279	1.132
Collins, Mike	-1.332	-0.239	0.051	-1.301
Comer, James	0.070	-0.239	0.685	-0.332
Connolly, Gerald	-0.088	-0.452	-0.448	0.396
Correa, Lou	0.207	0.185	-0.262	-0.995
Costa, Jim	1.087	0.955	1.857	-0.237
Courtney, Joe	0.808	0.123	0.713	0.396
Craig, Angie	0.863	1.939	2.264	0.396
Crane, Elijah	-2.532	0.115	-1.498	0.588
Crawford, Eric	0.588	-0.239	-1.301	0.243
Crenshaw, Daniel	0.978	0.169	0.131	0.289
Crockett, Jasmine	-0.503	-0.532	-0.214	0.396
Crow, Jason	0.759	-0.477	-0.688	0.396
Cuellar, Henry	1.026	5.024	2.296	0.396
Curtis, John	0.058	-0.051	-0.147	-0.187
D'Esposito, Anthony	0.856	-0.239	-0.597	0.682
Davids, Sharice	0.918	0.492	0.350	0.396
Davidson, Warren	-1.662	0.102	0.685	-0.400
Davis, Danny	-0.803	-0.505	-0.532	-1.914

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Table C5 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Davis, Donald	0.974	4.328	3.532	-0.060
De La Cruz, Monica	0.795	-0.239	0.579	-0.190
DeGette, Diana	-0.610	-0.549	-0.271	0.396
DeLauro, Rosa	0.381	-0.522	-0.281	0.396
DeSaulnier, Mark	-1.046	-0.549	-0.502	-1.249
Dean, Madeleine	0.233	-0.539	-0.499	-0.747
Delbene, Suzan	0.070	-0.483	-0.060	0.396
Deluzio, Christopher	0.088	-0.154	1.080	0.396
DesJarlais, Scott	-0.559	-0.239	0.708	-0.088
Diaz-Balart, Mario	0.840	-0.239	-1.279	0.283
Dingell, Debbie	-0.127	-0.535	-0.502	1.291
Doggett, Lloyd	-1.003	-0.510	-0.293	1.172
Donalds, Byron	-1.564	-0.239	0.582	-0.860
Duarte, John	0.724	0.637	-0.296	1.476
Duncan, Jeff	-0.637	-0.239	-0.583	-1.183
Dunn, Neal	0.634	-0.050	0.939	0.697
Edwards, Chuck	0.657	-0.239	-0.011	0.412
Ellzey, Jake	0.675	-0.239	-0.007	0.422
Emmer, Tom	0.723	-0.239	-0.190	-0.310
Escobar, Veronica	-0.217	-0.549	-0.428	-0.017
Eshoo, Anna	0.660	-0.373	-0.506	0.396
Espaillat, Adriano	-0.793	-0.453	-0.020	0.396
Estes, Ron	0.013	-0.239	0.579	-0.114
Evans, Dwight	-0.403	-0.486	-0.310	0.857

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Table C5 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Ezell, Mike	0.377	-0.239	-0.007	-1.301
Fallon, Pat	-0.511	-0.239	0.685	-0.545
Feenstra, Randy	0.656	-0.239	0.579	-0.266
Ferguson, Drew	0.678	-0.239	-0.166	0.540
Finstad, Brad	-0.275	-0.239	0.685	-1.301
Fischbach, Michelle	-0.335	-0.239	-0.109	-0.613
Fitzgerald, Scott	0.038	-0.239	-0.428	-0.290
Fitzpatrick, Brian	0.839	12.619	-5.603	3.031
Fleischmann, Charles	0.508	-0.066	0.038	-0.106
Fletcher, Lizzie	0.521	-0.122	0.104	-0.747
Flood, Mike	0.874	-0.239	-0.551	-0.266
Foster, Bill	0.382	-0.283	-0.468	0.396
Foushee, Valerie	-0.753	-0.549	-0.532	0.396
Foxx, Virginia	0.185	-0.239	0.396	0.609
Frankel, Lois	0.685	-0.170	-0.626	0.040
Franklin, C. Scott	0.199	-0.239	-0.007	-1.139
Frost, Maxwell	-2.219	-0.531	-0.532	-0.851
Fry, Russell	-0.764	-0.239	-0.595	-0.860
Fulcher, Russ	-0.989	-0.239	0.685	-0.613
Gaetz, Matt	-1.848	1.234	-1.953	1.613
Gallagher, Mike	0.824	0.058	-1.386	-0.284
Gallego, Ruben	0.734	1.212	1.547	-0.514
Garamendi, John	0.617	-0.277	0.346	-2.883
Garbarino, Andrew	0.885	-0.239	-1.673	1.417

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Table C5 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Garcia, Jesus	-2.115	-0.549	-0.502	-2.018
Garcia, Mike	0.842	-0.048	-1.547	0.794
Garcia, Robert	-1.516	-0.532	0.108	-0.200
Garcia, Sylvia	-1.010	-0.433	-0.532	-0.770
Gimenez, Carlos	0.756	-0.239	-0.166	0.877
Golden, Jared	0.774	5.740	4.189	-0.425
Goldman, Daniel	0.382	-0.311	-0.371	0.396
Gomez, Jimmy	-0.570	-0.532	-0.974	-0.851
Gonzales, Tony	0.464	0.491	-0.309	-0.094
Gonzalez, Vicente	0.968	2.939	2.447	0.396
Good, Bob	-2.415	-0.159	-1.407	0.469
Gooden, Lance	-0.561	-0.239	0.685	-1.174
Gosar, Paul	-2.311	-0.161	-0.463	-0.560
Gottheimer, Josh	0.919	1.341	0.971	0.046
Granger, Kay	1.020	-0.239	0.174	0.656
Graves, Garret	0.760	-0.239	-1.127	0.650
Graves, Sam	0.988	-0.239	-2.036	-0.310
Green, Al	-0.482	-0.467	-0.502	1.093
Green, Mark	-0.610	-0.239	0.677	-1.126
Greene, Marjorie	-2.035	0.970	-1.528	-0.172
Griffith, H. Morgan	-0.742	0.281	0.543	-0.060
Grijalva, Raul	-2.412	-0.549	-1.309	-0.272
Grothman, Glenn	-0.402	-0.239	1.228	-0.119
Guest, Michael	0.106	-0.239	0.508	-0.816

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Table C5 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Guthrie, Brett	0.885	-0.239	0.579	0.422
Hageman, Harriet	-1.606	-0.239	-0.151	-0.231
Harder, Josh	0.890	1.542	1.078	0.396
Harris, Andy	-1.783	-0.239	-0.345	-0.544
Harshbarger, Diana	-1.174	-0.239	0.202	-0.599
Hayes, Jahana	0.360	0.007	-0.394	0.396
Hern, Kevin	-0.322	-0.239	1.228	-1.301
Higgins, Brian	-0.952	-0.229	-0.341	1.329
Higgins, Clay	-1.174	-0.239	-0.060	-0.158
Hill, French	0.889	-0.057	-0.612	0.577
Himes, James	0.348	0.004	0.102	0.396
Hinson, Ashley	0.934	-0.239	-0.296	0.105
Horsford, Steven	0.609	0.464	0.837	0.396
Houchin, Erin	0.436	-0.239	0.456	0.352
Houlahan, Chrissy	0.548	0.727	1.181	0.396
Hoyer, Steny	0.810	-0.292	-0.360	0.396
Hoyle, Val	-0.540	-0.004	-0.305	0.396
Hudson, Richard	0.807	-0.239	1.442	0.161
Huffman, Jared	-0.925	-0.510	-0.532	0.199
Huizenga, Bill	0.587	-0.239	1.228	2.012
Hunt, Wesley	-1.139	-0.239	1.176	-0.432
Issa, Darrell	0.351	-0.239	0.685	1.611
Ivey, Glenn	0.426	-0.540	-0.482	-0.017
Jackson Lee, Sheila	0.031	-0.488	0.324	1.562

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Table C5 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Jackson, Jeff	0.694	0.499	0.884	0.396
Jackson, Jonathan	-1.355	-0.481	-0.532	-0.251
Jackson, Ronny	-0.351	-0.239	0.975	-1.301
Jacobs, Sara	-0.748	-0.549	-0.532	0.396
James, John	0.824	-0.055	0.192	1.560
Jayapal, Pramila	-2.230	-0.549	-0.532	-0.851
Jeffries, Hakeem	0.446	-0.540	-0.482	0.396
Johnson, Bill	0.251	-0.239	1.575	-1.193
Johnson, Dusty	0.651	-0.239	1.228	0.600
Johnson, Hank Jr.	-1.167	-0.497	-1.074	0.162
Johnson, Mike	0.462	-0.239	0.473	-0.052
Jordan, Jim	-0.750	-0.239	0.685	-1.301
Joyce, David	0.856	0.157	-1.108	0.044
Joyce, John	-0.370	-0.239	0.642	-1.139
Kamlager-Dove, Sydney	-1.484	-0.532	-0.679	0.396
Kaptur, Marcy	0.926	1.008	1.206	0.396
Kean, Thomas	0.785	0.843	-0.654	1.641
Keating, William	0.523	-0.285	0.048	0.396
Kelly, Mike	1.081	-0.239	-0.421	-0.226
Kelly, Robin	0.064	-0.549	-1.309	0.396
Kelly, Trent	0.099	-0.239	-0.296	-1.301
Kennedy, Timothy	-0.086	0.091	-0.844	-9.684
Khanna, Ro	-0.722	-0.519	0.001	-0.851
Kiggans, Jennifer	0.924	-0.239	-1.216	-0.059

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Table C5 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Kildee, Daniel	0.185	0.071	1.207	0.040
Kiley, Kevin	0.786	-0.062	0.028	1.641
Kilmer, Derek	0.975	-0.250	-0.326	0.396
Kim, Andrew	0.087	-0.462	-0.661	1.172
Kim, Andrew	0.087	-0.462	-0.661	1.172
Kim, Young	0.831	-0.059	-1.672	0.635
Krishnamoorthi, Raja	0.701	-0.334	-0.873	0.396
Kuster, Ann	1.065	-0.139	-0.137	-0.770
Kustoff, David	0.174	-0.239	-0.114	-0.429
LaHood, Darin	0.262	-0.239	-0.636	-1.087
LaLota, Nick	0.797	0.311	-0.597	1.154
LaMalfa, Doug	0.061	-0.239	1.146	0.955
LaTurner, Jake	0.888	-0.239	-0.612	0.086
Lamborn, Doug	0.810	-0.239	-0.166	0.596
Landsman, Greg	0.976	1.370	1.148	0.396
Langworthy, Nicholas	0.588	-0.239	0.333	1.634
Larsen, Rick	0.483	-0.338	-0.584	-1.070
Larson, John	0.366	-0.415	-0.214	0.396
Latta, Robert	0.578	-0.239	0.579	-0.266
Lawler, Michael	0.902	1.062	-1.202	2.329
Lee, Barbara	-1.643	-0.549	-0.470	-0.851
Lee, Laurel	0.739	-0.239	0.099	-0.362
Lee, Summer	-2.598	-0.549	-0.532	-2.018
Lee, Susie	0.938	1.736	1.560	0.396

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Table C5 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Leger Fernandez, Teresa	0.312	-0.407	-0.402	0.396
Lesko, Debbie	-0.938	-0.239	1.076	-1.220
Letlow, Julia	0.928	-0.239	-0.006	0.030
Levin, Mike	0.741	0.248	0.191	0.396
Lieu, Ted	-0.245	-0.367	-0.482	0.396
Lofgren, Zoe	-0.363	-0.445	0.282	0.608
Loudermilk, Barry	-0.198	-0.239	1.136	-1.301
Lucas, Frank	0.920	-0.239	-0.281	-0.187
Luetkemeyer, Blaine	0.519	-0.239	0.585	-0.070
Luna, Anna Paulina	-1.399	0.180	0.237	0.387
Luttrell, Morgan	-0.347	-0.239	0.642	-1.301
Lynch, Stephen	0.922	0.077	0.343	0.396
Mace, Nancy	-0.209	1.505	-1.690	0.247
Magaziner, Seth	0.791	0.059	-0.136	-0.200
Malliotakis, Nicole	0.829	-0.052	0.215	-0.268
Maloy, Celeste	0.701	-0.239	0.724	1.588
Mann, Tracey	-0.441	-0.239	0.099	-1.139
Manning, Kathy	0.866	0.953	1.563	0.396
Massie, Thomas	-2.671	2.897	-4.760	0.348
Mast, Brian	-0.564	-0.239	1.297	-1.183
Matsui, Doris	0.284	-0.463	0.121	0.396
McBath, Lucy	0.747	-0.433	-0.094	0.396
McCarthy, Kevin	0.679	-0.239	2.382	-1.180
McCaul, Michael	0.754	0.123	-0.286	-0.106

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Table C5 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
McClain, Lisa	0.676	-0.239	0.642	1.003
McClintock, Tom	-1.077	1.568	0.552	1.345
McCollum, Betty	0.123	-0.536	-0.788	0.396
McCormick, Richard	-0.942	-0.239	1.228	-0.287
McGarvey, Morgan	0.184	-0.549	-0.255	0.396
McGovern, James	-1.510	-0.549	-0.655	-0.851
McHenry, Patrick	1.032	-0.239	-1.345	0.581
McMorris Rodgers, Cathy	0.727	-0.239	1.117	-1.147
Meeks, Gregory	0.350	-0.490	-0.260	0.396
Menendez, Robert	0.525	-0.415	-0.873	1.172
Meng, Grace	0.256	-0.343	-0.214	0.396
Meuser, Dan	0.615	-0.239	1.176	0.279
Mfume, Kweisi	0.158	-0.496	-0.292	-1.249
Miller, Carol	0.670	-0.239	0.035	-0.498
Miller, Mary	-1.311	-0.239	0.052	-1.301
Miller, Max	0.499	-0.239	0.035	1.502
Miller-Meeks, Mariannette	0.652	-0.239	-1.839	1.541
Mills, Cory	-1.149	-0.239	1.471	-0.481
Molinaro, Marcus	0.776	0.313	-2.092	3.031
Moolenaar, John	0.489	-0.065	0.801	0.900
Mooney, Alex	-0.894	-0.239	1.441	-1.301
Moore, Barry	-1.656	-0.239	0.202	-1.301
Moore, Blake	0.774	-0.239	-0.296	1.237
Moore, Gwen	-1.689	-0.510	-0.347	-0.851

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Table C5 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Moran, Nathaniel	0.227	-0.239	0.642	-0.764
Morelle, Joseph	0.772	-0.078	0.339	0.396
Moskowitz, Jared	0.770	1.493	1.441	0.396
Moulton, Seth	0.968	-0.147	0.952	0.396
Mrvan, Frank	0.835	0.625	0.849	0.396
Mullin, Kevin	0.256	-0.491	-0.569	-0.183
Murphy, Gregory	0.693	-0.239	-1.222	-0.232
Nadler, Jerrold	-1.425	-0.549	-0.258	0.396
Napolitano, Grace	-0.486	-0.549	-0.502	0.046
Neal, Richard	0.196	-0.549	-1.309	0.396
Neguse, Joe	0.894	-0.512	-1.074	0.396
Nehls, Troy	-0.873	-0.035	0.280	-1.301
Newhouse, Dan	0.848	-0.239	0.228	0.676
Nickel, Wiley	0.638	1.169	1.412	-1.431
Norcross, Donald	0.784	0.053	-0.122	0.396
Norman, Ralph	-2.184	-0.239	-0.078	-1.301
Nunn, Zachary	0.938	0.504	-0.911	0.622
Obernolte, Jay	0.633	0.121	-0.463	1.076
Ocasio-Cortez, Alexandria	-2.567	-0.549	-0.532	-1.507
Ogles, Andrew	-1.972	-0.239	0.075	-0.954
Omar, Ilhan	-2.377	-0.549	-0.532	-2.018
Owens, Burgess	0.435	-0.239	0.685	-0.318
Pallone, Frank	-0.343	-0.158	0.181	0.396
Palmer, Gary	-0.318	-0.239	0.713	-1.301

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Table C5 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Panetta, Jimmy	0.643	0.913	0.461	0.396
Pappas, Chris	0.930	1.734	2.218	0.396
Pascrell, Bill	0.697	-0.503	-0.361	1.172
Payne, Donald	-0.851	-0.549	-1.309	1.475
Pelosi, Nancy	0.786	-0.502	-0.709	-0.878
Peltola, Mary	0.783	4.141	3.010	0.393
Pence, Greg	0.715	-0.054	0.014	-0.175
Perez, Marie	1.056	5.462	5.283	0.396
Perry, Scott	-2.322	-0.134	-0.866	-1.183
Peters, Scott	0.932	-0.024	0.119	0.396
Pettersen, Brittany	0.869	0.188	0.171	0.396
Pfluger, August	0.412	-0.239	0.579	-0.337
Phillips, Dean	0.996	0.536	0.455	0.313
Pingree, Chellie	-0.862	-0.549	-0.502	0.806
Pocan, Mark	-1.945	-0.549	-0.502	0.396
Porter, Katie	-0.804	-0.539	-0.397	1.172
Posey, Bill	-0.842	-0.053	-0.310	0.089
Pressley, Ayanna	-2.466	-0.549	-0.532	-1.216
Quigley, Mike	0.623	-0.363	-0.080	0.396
Ramirez, Delia	-2.589	-0.549	-0.532	-2.617
Raskin, Jamie	-0.223	-0.549	-0.863	0.396
Reschenthaler, Guy	0.777	-0.239	0.642	0.378
Rogers, Harold	0.937	-0.239	-0.296	-0.266
Rogers, Mike	0.667	-0.054	-1.105	-0.036

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Table C5 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Rose, John	-0.321	-0.047	1.228	-0.704
Rosendale, Matthew	-2.561	1.357	-2.040	-0.416
Ross, Deborah	0.197	-0.453	-0.216	-0.017
Rouzer, David	0.846	-0.239	-0.296	-0.266
Roy, Chip	-2.593	0.447	-1.562	-0.368
Ruiz, Raul	0.904	-0.351	-0.127	0.396
Ruppersberger, Dutch	0.983	-0.416	-0.346	0.396
Rutherford, John	0.721	-0.239	-0.808	0.175
Ryan, Patrick	0.762	1.057	1.131	0.396
Salazar, Maria	0.909	-0.239	-1.279	1.605
Salinas, Andrea	0.127	0.348	0.578	0.046
Sanchez, Linda	-0.435	-0.539	-1.001	0.396
Santos, George	-1.157	0.555	1.564	-0.097
Sarbanes, John	0.159	-0.549	-0.733	0.396
Scalise, Steve	0.706	-0.239	-0.007	-0.106
Scanlon, Mary Gay	-0.833	-0.549	-0.502	0.396
Schakowsky, Janice	-1.429	-0.549	-0.532	0.396
Schneider, Bradley	0.950	-0.039	-0.142	0.396
Scholten, Hillary	0.891	0.681	1.908	0.396
Schrier, Kim	1.042	0.941	1.915	0.396
Schweikert, David	-0.492	-0.061	0.685	-0.899
Scott, Austin	0.813	-0.239	-0.296	1.444
Scott, Bobby	-0.890	-0.488	-0.395	0.126
Scott, David	0.805	0.382	1.075	0.199

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Table C5 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Self, Keith	-1.792	-0.239	-0.000	-0.599
Sessions, Pete	0.454	-0.059	0.495	0.321
Sewell, Terri	0.933	-0.493	-0.071	0.396
Sherman, Brad	0.106	-0.381	0.370	-1.415
Sherrill, Mikie	1.109	0.489	1.225	0.396
Simpson, Michael	0.987	-0.239	0.939	0.931
Slotkin, Elissa	0.953	0.819	1.620	0.396
Smith, Adam	0.285	-0.519	-0.709	0.396
Smith, Adrian	0.822	-0.239	-0.587	-0.106
Smith, Christopher	0.548	-0.066	-0.547	0.472
Smith, Jason	0.411	-0.239	1.228	-0.227
Smucker, Lloyd	0.765	0.113	-0.296	0.858
Sorensen, Eric	1.001	1.119	1.054	0.396
Soto, Darren	0.958	0.389	0.225	-0.770
Spanberger, Abigail	0.909	0.959	0.924	0.396
Spartz, Victoria	-1.196	0.508	-0.588	1.006
Stansbury, Melanie	0.081	-0.549	-0.214	0.396
Stanton, Greg	0.578	0.772	0.602	-0.747
Stauber, Pete	0.651	-0.239	-0.960	-0.816
Steel, Michelle	0.666	-0.239	0.091	-0.266
Stefanik, Elise	0.768	-0.239	-0.007	0.207
Steil, Bryan	0.641	-0.239	1.228	0.032
Steube, Greg	-1.921	-0.239	0.351	-1.183
Stevens, Haley	0.549	-0.156	-0.274	0.396

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Table C5 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Stewart, Chris	-0.138	-0.239	1.274	3.516
Strickland, Marilyn	0.284	-0.307	-0.398	0.396
Strong, Dale	0.503	-0.239	-0.921	-0.530
Suozzi, Tom	1.985	1.563	1.009	-1.936
Swalwell, Eric	1.070	0.006	-0.134	-1.122
Sykes, Emilia	0.716	0.079	0.292	-0.896
Takano, Mark	-1.388	-0.549	-0.532	0.396
Tenney, Claudia	0.552	-0.239	-0.641	-0.495
Thanedar, Shri	0.493	-0.298	0.083	0.396
Thompson, Bennie	0.255	-0.522	-0.914	0.396
Thompson, Glenn	0.611	-0.239	0.508	1.565
Thompson, Mike	0.914	-0.224	-0.300	-0.183
Tiffany, Tom	-1.420	-0.239	0.202	-1.301
Timmons, William	-0.495	-0.239	0.685	-1.301
Titus, Dina	0.818	0.014	0.223	0.857
Tlaib, Rashida	-2.679	-0.549	-0.532	-1.428
Tokuda, Jill	-0.623	-0.549	-0.532	0.396
Tonko, Paul	-0.110	-0.412	-0.395	0.396
Torres, Norma	0.568	-0.332	-0.027	0.396
Torres, Ritchie	0.529	-0.057	0.217	-0.395
Trahan, Lori	0.605	-0.539	-0.160	0.396
Trone, David	1.071	-0.286	0.336	0.590
Turner, Michael	1.024	1.066	-1.426	2.988
Underwood, Lauren	-0.347	-0.549	-1.032	-0.747

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Table C5 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Valadao, David	0.927	-0.052	-0.440	1.323
Van Duyne, Beth	-0.404	-0.239	1.471	-1.174
Van Orden, Derrick	0.120	-0.239	-0.254	1.048
Vargas, Juan	-0.027	-0.262	-0.540	0.396
Vasquez, Gabe	0.864	1.159	1.833	-0.747
Veasey, Marc	0.914	0.174	0.230	0.396
Velazquez, Nydia	-1.854	-0.549	-0.532	-0.538
Wagner, Ann	0.977	-0.239	-0.794	-0.695
Walberg, Tim	0.672	-0.239	0.642	1.657
Waltz, Michael	-0.034	-0.239	-0.136	-1.099
Wasserman Schultz, Debbie	0.696	-0.119	-0.442	0.199
Waters, Maxine	-1.366	-0.549	-0.502	-0.770
Watson Coleman, Bonnie	-1.247	-0.549	-0.600	1.172
Weber, Randy	-0.614	-0.239	0.685	-1.301
Webster, Daniel	-0.011	-0.239	0.099	0.371
Wenstrup, Brad	0.886	-0.239	-0.007	-0.013
Westerman, Bruce	0.167	-0.239	-0.076	-0.315
Wexton, Jennifer	0.484	-0.388	-0.969	0.046
Wild, Susan	0.868	0.916	2.863	-0.431
Williams, Brandon	0.833	-0.052	1.365	-0.190
Williams, Nikema	-1.255	-0.549	-0.532	0.126
Williams, Roger	0.017	-0.239	1.297	-1.301
Wilson, Frederica	0.554	-0.370	-1.202	0.850
Wilson, Joe	0.825	-0.239	0.642	-0.429

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Table C5 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Wittman, Robert	0.739	-0.239	1.337	1.010
Womack, Steve	0.835	-0.057	-0.296	0.516
Yakym, Rudy	0.088	-0.239	-0.116	0.056
Zinke, Ryan	0.134	-0.239	0.642	0.424

Table C6. Senate Voting Bipartisanship scores (weighted) for the 118th Congress

Name	Consensus	Defection	Pivotal	Rolling
Baldwin, Tammy	-0.398		0.262	-0.039
Barrasso, John	0.458		0.173	-0.518
Bennet, Michael	0.424		0.262	0.031
Blackburn, Marsha	-0.974		0.173	-0.543
Blumenthal, Richard	0.695		-0.399	0.323
Booker, Cory	-1.052		-0.399	0.000
Boozman, John	0.752		0.173	-0.392
Braun, Mike	-1.505		0.173	-0.417
Britt, Katie Boyd	-0.183		0.173	-0.553
Brown, Sherrod	-0.307		1.615	-0.184
Budd, Ted	-0.173		0.173	-0.462
Cantwell, Maria	-0.195		-0.399	-0.004
Capito, Shelley	0.984		0.173	0.142
Cardin, Benjamin	-0.154		-0.399	0.083
Carper, Thomas	0.483		-0.399	-0.019
Casey, Robert	0.763		0.262	-0.144
Cassidy, Bill	0.709		0.173	0.072
Collins, Susan	1.063		-2.726	4.110
Coons, Christopher	0.690		-0.399	0.273
Cornyn, John	1.036		0.173	-0.046
Cortez Masto, Catherine	0.541		0.262	0.149
Cotton, Tom	0.783		0.173	-0.493
Cramer, Kevin	0.745		0.173	-0.048

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Table C6 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Cramer, Kevin	0.745		0.173	-0.048
Crapo, Mike	-0.115		0.173	-0.366
Cruz, Ted	-0.730		0.173	-0.507
Daines, Steve	-0.352		0.173	-0.403
Duckworth, Tammy	0.652		-0.399	-0.041
Durbin, Richard	0.512		-0.399	-0.106
Ernst, Joni	0.202		-0.069	-0.361
Feinstein, Dianne	-2.697			4.964
Fetterman, John	0.837		0.262	0.562
Fischer, Deb	0.788		0.173	-0.505
Gillibrand, Kirsten	0.895		-0.399	0.093
Graham, Lindsey	1.138		0.173	2.839
Grassley, Chuck	0.713		0.173	0.138
Hagerty, Bill	-0.855		0.173	-0.450
Hawley, Josh	-1.932		-2.664	-0.441
Heinrich, Martin	0.096		-0.399	0.129
Hickenlooper, John	0.981		0.262	-0.091
Hirono, Mazie	-0.624		-0.399	-0.242
Hoeven, John	0.218		0.173	-0.357
Hyde-Smith, Cindy	0.984		0.173	-0.408
Johnson, Ron	-0.820		0.173	-0.511
Kaine, Tim	-0.301		-0.399	0.093
Kelly, Mark	0.588		-0.399	-0.209
Kennedy, John	0.234		0.173	0.185

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Table C6 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
King, Angus	0.847		1.013	0.057
Klobuchar, Amy	0.776		0.262	0.104
Lankford, James	0.357		0.173	-0.360
Lee, Mike	-1.678		1.595	-0.474
Lujan, Ben	-0.080		0.262	0.106
Lummis, Cynthia	-0.221		0.173	-0.445
Manchin, Joe	-0.094		5.884	-4.471
Markey, Edward	-2.172		-0.399	-0.476
Marshall, Roger	-1.238		0.173	-0.337
Marshall, Roger	-1.238		0.173	-0.337
McConnell, Mitch	0.862		0.173	0.138
Menendez, Robert	-1.203		0.428	-0.694
Merkley, Jeff	-1.626		-0.399	-0.629
Moran, Jerry	1.032		0.173	0.004
Murkowski, Lisa	1.298		-2.726	3.706
Murphy, Christopher	-0.239		-0.399	-0.087
Murray, Patty	0.294		-0.399	0.047
Ossoff, Jon	0.895		-0.399	-0.150
Padilla, Alex	0.488		-0.399	0.319
Paul, Rand	-1.881		-3.874	-0.408
Peters, Gary	0.981		0.262	0.129
Reed, Jack	0.635		-0.399	0.068
Ricketts, Pete	0.608		0.173	-0.412
Risch, James	-0.176		0.173	-0.364

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Table C6 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Romney, Mitt	1.049		0.173	0.555
Rosen, Jacky	0.895		0.262	0.055
Rosen, Jacky	0.895		0.262	0.055
Rounds, Mike	0.987		0.173	0.721
Rubio, Marco	-0.236		0.173	-0.293
Sanders, Bernard	-3.096		-0.399	-0.897
Schatz, Brian	0.739		-0.399	0.600
Schmitt, Eric	-1.918		0.173	-0.490
Schumer, Charles	0.895		-0.399	0.059
Scott, Rick	-1.303		0.173	-0.453
Scott, Tim	-0.650		1.894	-0.486
Shaheen, Jeanne	0.858		-0.399	0.051
Smith, Tina	0.624		-0.399	0.073
Stabenow, Debbie	0.779		-0.399	0.039
Sullivan, Dan	-0.419		0.173	-0.157
Tester, Jon	-0.127		1.615	0.188
Thune, John	0.394		0.173	-0.358
Tillis, Thom	1.219		1.643	1.107
Tuberville, Tommy	-1.659		0.173	-0.553
Van Hollen, Chris	-1.009		-0.399	0.062
Vance, J.D.	-1.548		0.173	-0.383
Warner, Mark	0.447		-0.399	0.032
Warnock, Raphael	-0.000		-0.399	-0.156
Warren, Elizabeth	-1.919		-0.399	-0.153

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Table C6 – Continued from previous page

Name	Consensus	Defection	Pivotal	Rolling
Welch, Peter	-0.944		-0.399	0.247
Whitehouse, Sheldon	0.707		-0.399	0.002
Wicker, Roger	0.945		0.173	-0.221
Wyden, Ron	-0.779		-0.399	-0.146
Young, Todd	1.009		0.173	0.258