PARTY DIFFERENCES IN RESPONSE TO INTEREST GROUP SIGNALS

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ABSTRACT

Alexander J. Love: Party Differences in Response to Interest Group Signals
(Under the direction of Sarah Treul Roberts)

Interest groups often seek to influence the progression of bills through Congress by calling on legislators to support a bill by becoming a cosponsor. Groups rarely do this alone. Rather, a chorus of interest groups calls for cosponsors. Legislators can use this coalition as a heuristic for if supporting a bill is electorally advantageous. I examine the effectiveness of interest group position taking through the lens of partisan differences in the interest group environment. I find that Democrats face both a higher number of signals and fewer "repeat players" and that they are less likely to cosponsor as a result of an ideologically diverse coalition. This suggests that Democrats use interest group signals less readily than Republicans and are more sensitive to changes in the makeup of an interest group coalition.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER 1

INTRODUCTION

Members of Congress face a challenge: with limited time and information, they must support legislation that provides them an electoral benefit and avoid legislation that could be an electoral liability. To do this, legislators must rely on outside sources of information to determine which bills are worthy of support, often in the form of cosponsorship. In addition to research staff, party leaders, and direct communication with constituents, legislators rely on interest groups to provide information about the desires of their constituency (Hansen 1991) as well as issue salience (Ainsworth 1993).

Interest groups regularly take public positions and send messages to Congress on behalf of the members of the group. Most often, these messages direct legislators to either support or oppose specific a bill, and, in the case of supportive messages, ask members to support a bill by attaching their name to the bill by becoming a cosponsor.

Legislators, for their part, must choose carefully. Interest groups have strong incentives to exaggerate their influence or overstate the importance of an issue. The presence of large, ideological, and active groups may assist members of Congress by being a trustworthy source of information.

When Congress was debating The EPA[1] Regulatory Act of 2011, which sought to nullify several rules that limit commercial and industrial waste and pollution, 42 groups took public positions. In turn, 18 Democrats and 86 Republicans expressed their support for this bill by becoming cosponsors. One way of understanding this outcome is to examine the groups themselves.

Large and influential conservative interest groups such as FreedomWorks, Americans For Prosperity, and U.S. Chamber of Commerce uniformly sent messages to Congress urging members to support the bill.

Unlike conservative groups, liberal groups had a split opinion on the issue. Labor unions like the International Brotherhood of Electrical Workers and the International Association of Machinists and

[1] Environmental Protection Agency

Aerospace Workers sent messages to Congress in support of the bill while environmental advocacy groups like U.S. Climate Action Network and Natural Resources Defense Council voiced their strong opposition to the bill.

This story is not unique; liberal interest groups are more likely to be organized around a single issue than conservative groups (Grossmann and Hopkins 2016; Crosson, Furnas and Lorenz 2020). When groups are organized around a single issue, they can conflict with each other even though the groups generally lie on the same side of an ideological spectrum. In this study, I detail how this dynamic causes liberal groups to conflict with each other more often which in turn causes congressional Democrats to be more sensitive to the makeup of the coalition of groups supporting bill.

Using data on interest groups' positions on over 6,000 bills introduced between 2007 and 2017, I show how Democrats require clearer signals than Republicans to become bill cosponsors, likely because they face more ambiguous signals.

CHAPTER 2

LITERATURE REVIEW

2.1 THE INTEREST GROUP ENVIRONMENT

Interest groups, like legislators, can be conceived of as having ideal points which represent specific preferences over policy. Recent efforts to generate ideal point scores for interest groups have generated conflicting results. When weighting by campaign contributions, groups appear unimodal with a center-right mean (Bonica 2013). However, when scoring based on public position taking, groups display a bi-modal, polarized distribution that looks more similar to members of Congress (Crosson, Furnas and Lorenz 2020). This is because the Democrats' base consists of smaller, less well-funded, single-issue groups, while the relatively fewer groups on the Republican side are generally larger, more well funded, and are concerned about a variety of issues, which fall under the conservative ideological umbrella (Grossmann and Hopkins 2016; Crosson, Furnas and Lorenz 2020).

The interest group bases of the different parties differ on both ideological and practical grounds; the groups that constitute the Republican party can be understood as the vehicle of an ideological movement, while the Democratic party represents a diverse coalition of social groups (Grossmann and Hopkins 2016).

Rather than as one homogeneous system, interest groups exist in "two distinct and polarized networks" of groups "starkly divided into polarized camps that funnel information to formal party organizations" (Koger, Masket and Noel 2009, 633-634). What is more, the Democratic network is more tightly connected, meaning that groups interact with each other more often (Koger, Masket and Noel 2009). One reason Republican groups are less connected may be that the fact that there are fewer of them means coordination requires less inter-group contact.

2.2 COSPONSORSHIP

Each bill introduced in Congress has exactly one sponsor, but, since 1967, members have been able to cosponsor legislation as a way of showing their support. Even though cosponsorship has no

direct effect on lawmaking, members still devote time and resources to identifying and cosponsoring bills they favor (Koger 2003).

Since cosponsorship has no legally prescribed effect, it is easy to disregard congressional cosponsorship actives as "cheap-talk"; a costless, meaningless action that is not indicative of underlying attitudes about an issue. While cosponsorship is a relatively low-cost form of Congressional action, it does serve an important purpose.

Cosponsorship can be thought of as a signaling game, where members become cosponsors of a bill to signal to agenda setters that the bill has a broad base of support and is worth expending legislative capital to bring to the floor, since it is more likely to be successful than a bill without cosponsors (Kessler and Krehbiel 1996). Recognizing this dynamic, interest groups actively solicit members of Congress to cosponsor bills favorable to the interest group as a strategy of improving a bill's chances of legislative success either through messaging to agenda setters directly (Koger 2003; Box-Steffensmeier, Christenson and Craig 2019) or shaping the agenda items important to voters (Baumgartner et al. 2009).

2.3 CONGRESSIONAL RESPONSE TO INTEREST GROUPS

Can interest group support of a bill encourage cosponsorship? Box-Steffensmeier, Christenson and Craig (2019) use "Dear Colleague" letters to examine the impact of interest group connectedness on marshaling support for a groups preferred policy. The authors find that when members of Congress are told that powerful and well-connected interest groups support legislation, they are more likely to cosponsor it.

Coalition diversity itself may also be an important heuristic for legislators. Ideologically diverse interest group coalitions signal legislative viability to agenda setters who are therefore more likely to advance bills with broad support (Lorenz 2020). This cuts against signalling arguments (e.g. Hansen 1991; Kessler and Krehbiel 1996) since it suggests coalitional diversity is an asset to legislative advancement rather than a hindrance.

Interest groups may take positions on bills for reasons other than to induce cosponsorship. Holyoke (2019) considers situations in which a lobbyist or interest group takes a position on a bill based on the coalition of members of Congress supporting the bill since interest groups want to support their legislative allies.

Holyoke links bill cosponsorship to public positions taken by interest groups using the MapLight Database[1]. However, his application stretches the applicability of the MapLight database. Since interest group positions come from press releases, public statements and news appearances, it seems to be the case that some of the position taking serves to galvanize popular or congressional support for a bill, rather than as a *post hoc* way for lobbyists to ingratiate themselves with members of Congress.

Additionally, Holyoke does not consider the opposite flow of causality: are there situations where groups take positions to influence members of Congress? An interest group so malleable as to only take cues from members of Congress would likely have a hard time attracting and retaining members.

In this study, I restrict my analysis to situations where groups have taken positions on bills before a member of Congress has signaled their support by becoming a cosponsor. The presence of these situations is the first indication that the post-hoc lobbying story is incomplete. The research design of Box-Steffensmeier, Christenson and Craig (2019) also supports the group-first approach, since it emphasizes the presence of groups in support of a bill in understanding a legislator's decision to cosponsor.

[1]I rely on the same database and discuss its structure later in the paper

CHAPTER 3

GROUP SIGNALING AND PARTISANSHIP

Unlike members of Congress, groups, by their very nature, have fine-grained preferences over policies enacted in the specific policy area that the group operates within. While a legislator seeks to maintain the support of a majority of their constituents, a group represents a subset of those constituents who are intense policy demanders on a specific issue. Groups achieve their demands in part by appealing to legislators with a threat of a reward or punishment for adhering or deviating from the groups' preferred policy. Even if legislators are simply interested in good public policy, listening to groups will assist them because groups have much better information on the impact of a policy than legislators do (Epstein and O'Halloran 1995).

In his influential book *Gaining Access*, Hansen (1991) describes the relationship between interest groups and legislators; interest groups offer to help legislators deal with electoral uncertainty by providing "political intelligence" about the preferences of constituents and "political propaganda about the performances of congressional representatives" (5). Legislators adjudicate by comparing interest groups to other congressional informants as well as other interest groups. The metrics legislators use to make this decision are competitive advantage and recurrence. Competitive advantage is backward-looking at how the group's advice has worked in the past while recurrence is the legislators perception of how well a group's advice will work in the future.

Interest groups are favorable sources of information as compared to local elites. Even before the emergence of the legislator, groups have established networks and channels of communication from constituents to elites whereas a new legislator would likely have to invest their own time and energy in developing these networks. Interest groups also have an advantage compared to parties to the extent that the group represents a large and homogeneous subset of constituents, since the groups offer information and propaganda specifically targeted at that subset.

The information subsidy that groups provide to legislators has three parts. First, groups can inform legislators about the policy positions and salience of issues for constituents. Second, the

groups offer an explanation linking the bill in question to the preferences previously discussed. Finally, the groups suggest a position on the bill (Hansen 1991).

While Hansen discusses the third step in the context of roll-call voting, this can be easily extended to groups seeking cosponsorship as these three steps are present in many, if not most, of the public positions collected as part of this study. However, the positions I am examining are generally addressed to all members of Congress rather than a particular legislator. This makes the legislators' adjudication even more important, since some interest groups may be speaking for constituencies that are wholly unimportant to some legislators. This disadvantages groups relative to other sources of information, since appeals are not narrowly targeted to reflect the electoral circumstances of a specific legislator. This also may disadvantage liberal interest groups relative to conservative groups, since conservative groups are more ideological (Grossmann and Hopkins 2016), giving them a broad appeal to conservatives members of Congress. Liberals, on the other hand, will need to filter through more parochial interest groups to determine if that specific interest is important to their constituents or not.

Recurrence is also important to the partisan story. Legislators rely on repeat interaction with groups to determine the usefulness of their information and propaganda. This too has the potential to disadvantage Democrats, as their increased likelihood of contact with a larger number of issue-specific groups may them less likely to have interacted with them in the past.

One way to for groups to build trust and recurrence is to cater to one party in particular. If a group reliably messages to conservative politicians about conservative issues, Republican legislators may be more likely to take heed of their messages in the future. Koger, Masket and Noel (2009) show that this strategy of party alignment is utilized by some groups, while others seek to appeal to both parties. This result may seem counterintuitive. In fact, many scholars have treated groups and parties as rival forms of political organization. After all, groups are after narrow, self-serving, policy goals while parties must create broad coalitions to stay in power. However, there is an advantage for groups to associate with one party rather than seek to influence both:

(1) An issue may be "owned" by one party, so in order to achieve policy change on that issue, a group must receive the support of the party that owns the issue. (2) Groups seeking to influence legislators from both parties would face a credibility problem. Especially as congressional races polarize, it can be challenging for groups to claim that they represent the potential voters of both

parties. Facing these constraints, a group may decide to become closely aligned with one party. I offer this as an explanation for the result of "polarized pluralism" observed by Crosson, Furnas and Lorenz (2020) where interest groups are ideologically polarized similar to members of Congress.

Alternatively, subscribers to group-centric theories such as Bawn et al. (2012) believe that parties are coalitions of interest groups who gain control of government to enact an agenda agreed upon within the coalition. This view also supports the idea that interest groups will become associated with a particular party, since agenda agreement is what binds coalitions together. If a group disagreed with the coalition agenda, they would not be a part of the dominant coalition.

Due to divergent development of the parties, principally the conservative ideological sorting of the Republican party, the types of groups associated with either party have important differences, rather than being symmetrical reflections of each other (Grossmann and Hopkins 2016). Groups in the Democrats' base are more likely to be focused on a single issue (ex. Sierra Club or Planned Parenthood) while groups in the Republican's base are more likely to have a more broad array of issues they care about that are constrained by ideology (ex. Heritage Foundation or Federalist Society). Legislators rely on these partisan networks to arrive at the "right" decision on legislative issues when they would otherwise have to look elsewhere for signals (Epstein and O'Halloran 1995).

The party differences create a dynamic where Republicans are more likely to have a "one stop shop" or a group that they know provides reliable signals (information or propaganda), whereas Democrats have to contend with more groups. Democrats must expend more energy to determine if a group is indeed in touch with the legislators' constituents enough that their information is reliable. Put simply, the Democrats are less likely to be in a game with repeat play, so they face more concerns about credibility on the part of groups.

Since Democrats have a harder time determining credible signals, they will be more wary of coalitions that are ideologically dissimilar to them. As a coalition's mean ideal point becomes further away from a legislator's, Democratic legislators will be more sensitive to this change than Republicans. While both parties prefer legislation close to their ideal point, Democrats will be less willing to endorse legislation supported by ideologically dissimilar coalitions since Democrats have a harder time determining if interest groups are being truthful with the information they send. This will also cause Democrats to become less likely to cosponsor legislation as the standard deviation

of the ideal points in a coalition becomes larger since larger standard deviation indicates a wider ideological array of supporters who may not be sending truthful signals.

Additionally, Democrats will be more likely to receive conflicting signals from multiple groups representing different coalitions within the Democratic base. This is because the issue positions of the Democratic base display less constraint than those of the Republican base, at least at the interest group level (Crosson, Furnas and Lorenz 2020).

This will lead Democrats to be less responsive to interest group signals, even if the interest group is in their base, since: (1) signals may conflict, necessitating that Democrats be unresponsive to at least one group, (2) Democrats will falsely reject a credible group signal since they are unable to determine if it is a credible one or not, or (3) the group will not have enough resources (money or connections) to transmit a signal.

3.1 HYPOTHESES

To assess the degree to which partisan differences in interest group coalitions exist and impact policymaking, I propose the following hypotheses:

> H_1: In aggregate, Democratic-aligned groups will take more positions than Republican aligned groups
>
> H_2: On any given issue, the Democratic-aligned groups will be more likely than those of Republicans to take conflicting positions
>
> H_3: Increases in the standard deviation of coalition ideal points and coalition-legislator ideological difference will have a stronger effect on Democrats' propensity to cosponsor than Republicans'

CHAPTER 4

DESCRIPTION OF DATA

This paper makes use of an underutilized data source from a non-profit, non-partisan organization called Maplight. For the 110^{th} - 114^{th} Congress, "Maplight has collected and coded over 130,000 expressions of support and opposition made by over 16,000 unique organizations with respect to nearly 10,000 unique bills... These positions come from public statements (e.g., on organizations' websites), open letters to Congress, news stories, congressional hearing testimony, and other publicly observable sources" (Lorenz, Furnas and Crosson 2020).

This database has the advantage of coding, not only if a group took a position, but also the valance of the position as well as the exact date when the group publicized the position. However, it is not without its drawbacks. The 130,000 positions do not constitute the universe of positions that were likely taken during the time period studied. Maplight itself states that they do not attempt to collect information about commemorative bills, but this likely cannot account for all of the bills that are not included in the data set. Lorenz, Furnas and Crosson (2020) investigate bill and sponsor-level characteristics that may systematically influence if a bill is included in the Maplight dataset or not. They find that "Bills introduced in later Congresses, that have large numbers of cosponsors, that are multiply referred, or that attain some level of legislative advancement (or that get passed by Congress and then vetoed) are also more likely to be MapLight bills" (17). Although the bias the authors find concerning cosponsorship is small there is still a selection effect. Because cosponsorship is the dependent variable of the study, this will serve to attenuate, or "flatten", the results that I obtain (King, Keohane and Verba 1994). While this is sub-optimal, it does serve to create a harder case for my empirical tests, so the risk of finding significance where there should be none is not inflated due to selection.

While the range of Congresses was selected because of data availability, the period from the 110^{th} - 114^{th} Congress has desirable levels of variation; it spans two presidential administrations and both Democrats and Republicans controlled each chamber at some point in this period[1].

4.1 IGscores

These position taking data are used by Crosson, Furnas and Lorenz (2020) to construct ideal-point estimates for legislators and groups on the same scale, called IGscores. To do so, the authors assume "that groups and legislators render opinions on bills based on a quadratic loss utility function such that they vote 'yay' (Y) or 'nay' (N) based on their spatial proximity to the bill, with some error" (5). Crosson, Furnas and Lorenz address possible issues with data scarcity by relying on k-core filtration, which only includes groups that have taken at least five positions on bills that have at least five positions taken on them by groups that also meet this criteria. This results in 2,014 bills which are then matched with roll-call data, which is available for 1,035 of the bills. The authors then use Bayesian IRT ideal point estimation to generate the IGscore.

The scores are scaled from -4 to 4, with higher scoring groups being more conservative than lower scoring groups. The analysis is substantially similar when using DW-NOMINATE to measure legislator ideology, and the two measures are correlated at .977.

Categorizing groups as "conflicting" requires an arbitrary determination of which groups are liberal or conservative. While IGscores are not a measure of ideology, they are do conform with *a priori* expectations about relative ideology, placing conservative groups to the right (higher scores) than liberal groups. In this paper, I use 0 as a cut point between liberal and conservative groups because it evenly cleaves the scale in order to make statements about conflicting signals from interest groups. The regression analysis I use has the benefit of not relying on this arbitrary decision. Additionally, the regression model does not require the assumption that IGscores have a cardinal meaning, only that the scores are ordinally valid and that legislators and groups can be scored on the same dimension.

4.2 BILL SIGNIFICANCE AND COSPONSORSHIP

Additionally, I include bill significance as a control. I use categorizations by Volden and Wiseman (2014), which classify bills as commemorative, substantive, or substantive and significant.

[1]Democratic House: 110, 111; Democratic Senate: 110-113; Republican House: 112-114; Republican Senate: 114.

Data on bills and cosponsorship was accessed using the ProPublica Congress API[2].

[2]https://projects.propublica.org/api-docs/congress-api/

CHAPTER 5

ANALYSIS

First, the distributions of IGscores among interest groups conforms with the expectation that conservative groups have less dispersion than their liberal counterparts. In Figure 5.1, I show the IGscore distribution unweighted, weighted by number of positions an organization takes, and weighted by the logged number of positions.

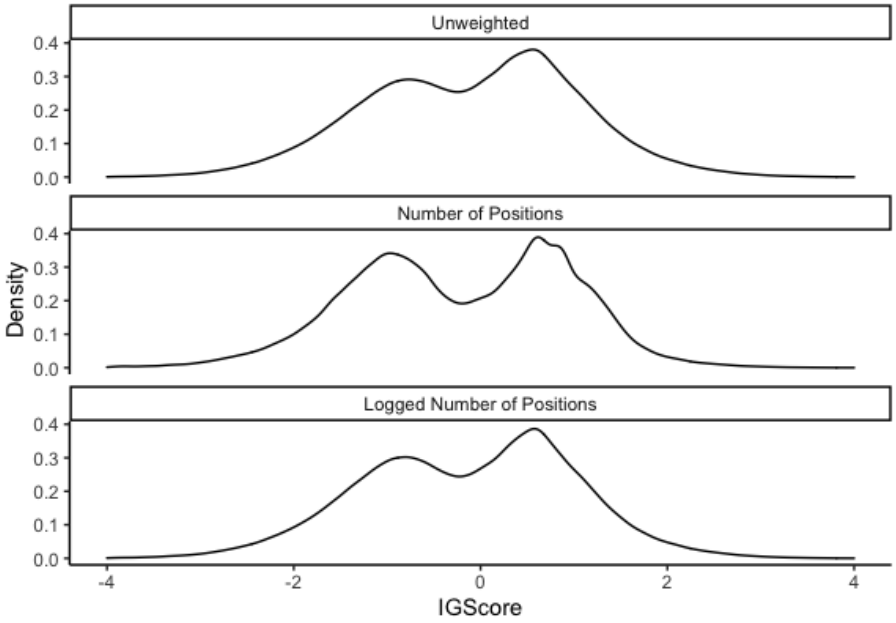

Figure 5.1: Ideological Distribution of Interest Groups Using IGscore
Figure from Crosson, Furnas and Lorenz (2020)

This figure shows that, when weighting by position, the distribution moves slightly away from the center, indicating that more active groups are less centrist than the average group.

For each position in my dataset, I examine the IGscore distribution of groups based on if the bill they are supporting is sponsored by a Republican or a Democrat. The results are shown in Figure 5.2.

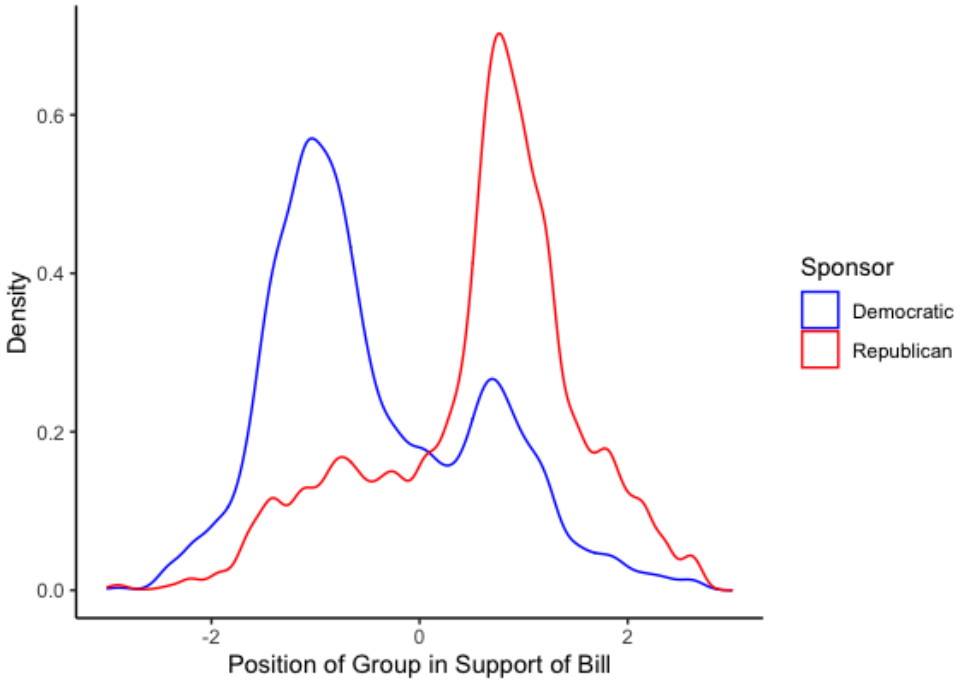

Figure 5.2: Group IGscore by Sponsor of Bill

Figure 5.2 shows that there is a broader range of groups taking positions on Democratic bills than on Republican bills. For instance, there is a peak in the blue line around 1 on the x-axis, which represents conservative groups taking a position in support of a bill introduced by a Democrat. Additionally, the modal peak for the Democrats is slightly wider than that of the Republicans. This supports the idea that Democratic legislators must contend with a wider ideological range of signals than Republicans when deciding which bills to support.

Unlike previous studies, for each bill-member pair, I record statistics about the coalition of interest groups supporting a bill (count, mean, standard deviation) for only those groups which have taken a position prior to the member becoming a cosponsor. This relies on the assumption that the future cannot affect the past, and alleviates some concerns about the causal flow working in the opposite direction, as in, groups support bills based on members of Congress who are cosponsors (Holyoke 2019).

Using this method, I show in Figure 5.3 the distributions of the mean position of bills that members observed when deciding to cosponsor, separated by party.

Figure 5.3 differs from Figure 5.2 in two important ways. First, Figure 5.3 is time-restricted, so positions taken after a member cosponsors a bill are eliminated. Second, Figure 5.3 captures

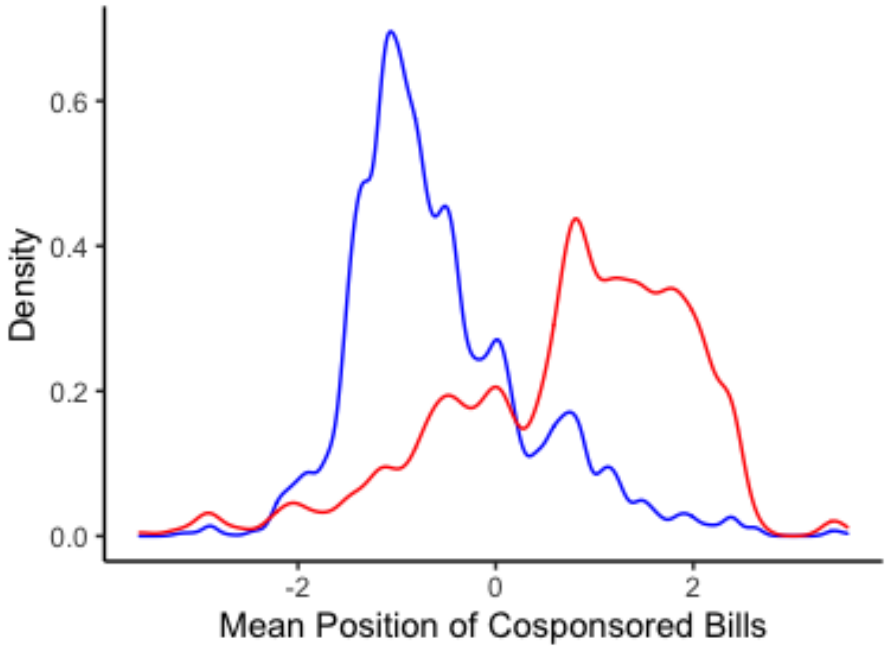

Figure 5.3: Mean Coalition IGscore Density by Bill Sponsor

a coalition-level mean IGscore, where Figure 5.2 aggregates all group positions. The differences between the two figures show that, while Democrats receive a wider array of signals than Republicans, they act on a narrower array of signals. This is one indication that Democrats may be more sensitive to coalitional characteristics like ideal point than Republicans.

Next, I examine how often members of Congress are exposed to messages of both support and opposition by interest groups within their base. I call this "party conflict". Democrats experience party conflict on 8.68% of bills where Republicans experience conflict on 6.46% of bills ($t = 5.415, p < .001$).

To examine these trends more fully, I utilize regression analysis and introduce new variables. First, I code for what I call "party conflict". This variable captures if separate groups with the same partisan alignment have taken positions in both support and opposition of a bill. I also record the absolute value of the difference between a member's IGscore and the mean IGscore of the coalition supporting a bill.

I specify a logistic regression[1] with fixed effects for session where the dependant variable is a member's decision to cosponsor a bill. The results are reported in Figure 5.4.

Logistic Regression Predicting Cosponsorship With Congress-Level Fixed Effects

	Cosponsor		
Predictors	*Odds Ratios*	*CI*	*p*
Intercept	0.14	0.12 – 0.16	**<0.001**
Republican Party	0.30	0.28 – 0.31	**<0.001**
Coalition Standard Deviation	0.77	0.75 – 0.80	**<0.001**
Coalition-Member Ideological Difference	0.44	0.43 – 0.44	**<0.001**
Coalition Conflict	0.93	0.90 – 0.96	**<0.001**
Copartisan Sponsor	1.77	1.73 – 1.82	**<0.001**
Number of Groups	1.05	1.04 – 1.06	**<0.001**
Commemorative Bill	0.12	0.05 – 0.28	**<0.001**
Resolution	1.50	1.43 – 1.56	**<0.001**
Substantive and Significant Bill	0.71	0.69 – 0.72	**<0.001**
Republican*Coalition Standard Deviation	1.51	1.46 – 1.56	**<0.001**
Republican*Coalition-Member Ideological Difference	1.54	1.51 – 1.58	**<0.001**
Republican*Coalition Conflict	1.08	1.03 – 1.14	**0.001**
Republican*Copartisan Sponsor	1.82	1.75 – 1.89	**<0.001**
Republican*Number of Groups	0.81	0.80 – 0.82	**<0.001**
Random Effects			
σ^2	3.29		
$\tau_{00\ session}$	0.03		
ICC	0.01		
$N_{\ session}$	5		
Observations	1428114		
Marginal R^2 / Conditional R^2	0.192 / 0.198		

Figure 5.4: Logistic Odds Ratios Predicting Cosponsorship

The non-interacted independent variables all have the expected effect. Bills that have higher standard deviation, are further away from a member's ideal point, and are proposed by a member of the opposite party all have lower rates of cosponsorship than the relevant comparison. Additionally,

[1] One major drawback of the logit model is that it requires the assumption of independent and identically distributed random variables. In this application, this assumption requires that the decision of one member to cosponsor does not induce other members to cosponsor. While this problem has often been ignored in literature using cosponsorship as a dependant variable (e.g. Kessler and Krehbiel 1996; Box-Steffensmeier, Christenson and Craig 2019), it is important to recognize the limitations of this method.

when a member receives both messages of support and opposition from a group, this makes them less likely to cosponsor a bill.

The interacted terms help to elucidate partisan differences in the effect of coalitional changes. Republicans are less responsive to coalition-member ideological difference but more responsive to coalition conflict.

Perhaps the most striking variable where parties diverge is the coalition standard deviation, where higher values represent a wider distribution of ideal points within the coalition. Figure 5.5 depicts the predicted probability of cosponsorship over the range of coalition standard deviations, separated by party.

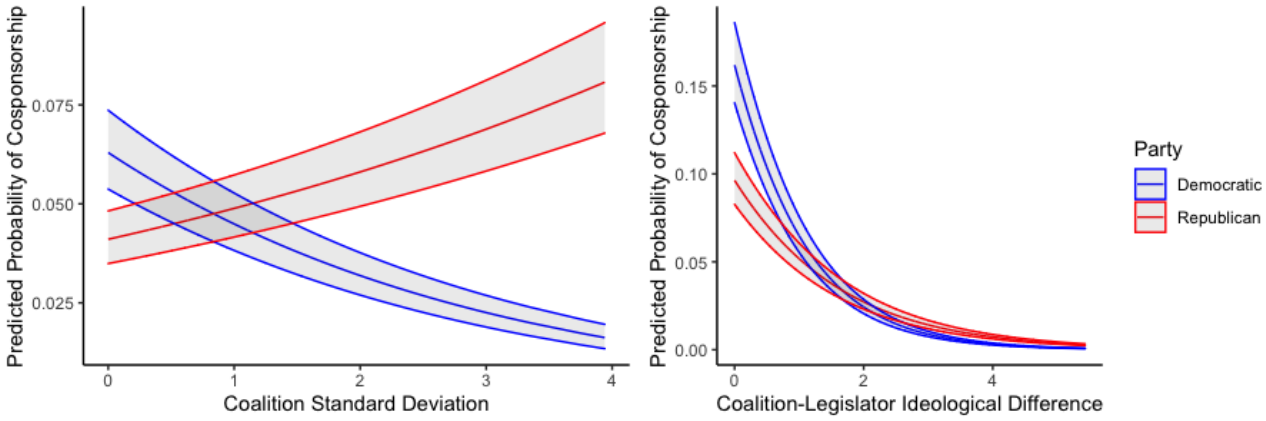

Figure 5.5: Predicted Probability for Standard Deviation and Ideological Distance

Figure 5.5 shows that, as coalition standard deviation increases, Democrats become less likely to cosponsor legislation, while Republicans become more likely. There are multiple potential explanations for this finding.

It could be that Democrats seek to cosponsor legislation with narrow, particularistic coalitions, whereas Republicans seek out larger coalitions before cosponsoring a bill.

The right plot confirms that Democrats and Republicans have roughly the same sensitivity to ideological differences. However, the slope of the blue line is steeper, indicating that Democrats respond more strongly to changes in the ideological distance.

CHAPTER 6

DISCUSSION

From this analysis, it is clear that parties have different responses to interest group coalition features. Other scholars (Grossmann and Dominguez 2009; Grossmann and Hopkins 2016; Crosson, Furnas and Lorenz 2020) have characterized the interest group bases of America's political parties. I apply these characterizations to the coalitions that form behind bills introduced in Congress and show that interest group level differences translate to coalitional differences. These coalitions demonstrate many of the same features scholars have observed in interest groups themselves. Liberal groups contradict other liberal groups significantly more often than conservative groups contradict each other and take positions on a wider range of bills than conservative groups do.

I posit that these differences are due to the underlying makeup of the different party bases. Since Democrats have a broader base, they are more likely to face coalitional conflict; Democratic interest groups therefore face more of a credibility problem than Republican groups. This in turn causes congressional Democrats to have a strong preference for close coalition-legislator ideal point matches and an aversion to coalitions with high standard deviation.

Scholars have long recognized the importance of interest group influence to congressional cosponsorship and the policymaking process more broadly but have largely neglected to understand how interest group and coalition-level attributes affect parties differently. In this study, I characterize coalitions for each bill-member pair and investigate how coalition-level characteristics such as ideological mean, ideological standard deviation, and coalition conflict influence decisions to cosponsor bills. I find that Democrats are more responsive than Republicans to changes in ideological distance, standard deviation, and coalition conflict. This finding largely supports previous theories about how legislators adjudicate between interest group signals and suggests that Democrats respond to difficulty in determining which interest group signals are reliable by being more selective about coalition-level characteristics. This in turn hurt interest groups' ability to advance their legislative agendas through the practice of soliciting bill cosponsors.

APPENDIX A

ASSESSING CENTRALITY USING NETWORK MEASURES

Scholars have conflicting expectations about how both interest group size and specialization impact legislator uptake of group signals. For example, Hansen (1991) says "Under most conditions, more specialized interest groups perform the tasks of information and propaganda more efficiently than their less specialized counterparts" (102). However, larger groups may have more resources for information gathering and propagandizing, and may interact more with legislators, giving them more ability to build trust. In this appendix, I propose using network measures of centrality to quantify specialized versus generalist interest groups and centrality's relationship to group ideal point scores and cosponsorship.

A.1 PREVIOUS RESEARCH INTO COSPONSORSHIP NETWORKS

Out of the many legislative applications for network methodology, scholars have been perhaps most eager to use network methods to understand cosponsorship in the U.S. Congress. The advantages are obvious; a long cosponsorship record is collected and maintained by the Library of Congress. While the use of cosponsorship as an edge indicative of a social connection remains controversial, studies have shown that cosponsorship patterns do not map cleanly onto measures of party voting like DW-NOMINATE (Talbert and Potoski 2002), suggesting that more than party voting influences patterns of cosponsorship.

Fowler (2006) studies social networks between legislators based on their cosponsosorship patterns. He finds that the strongest ties are institutional (between committee chairs and ranking members while regional, issue-based and personal ties also play a role in influencing the propensity of a legislator to cosponsor others' bills.

A.2 HYPOTHESES

H_1: Interest group ideal point conservatism will positively correlate with eigenvector centrality and BiRank.

H_2: The higher the coalition maximum centrality, the more likely members will be to cosponsor

For H_2, I focus on the maximum centrality score (either eigenvector or BiRank) since most scholars focus on the theoretical importance of large interest groups (Box-Steffensmeier, Christenson and Craig 2019).

It is apparent to any observer of Congress that not all interest group cues are created equal. Some groups, through their size or wealth, are able to send more credible signals than others. A group that can believably claim to represent 50,000 constituents will likely have more sway than one with 5,000. Box-Steffensmeier, Christenson and Craig (2019) propose that "Endorsements from groups that are more well connected within the advocacy community send stronger signals in the earliest stages of the legislative process when there are large number of bills competing for a member's attention" (164).

Using my position taking dataset, I construct a bipartite network where nodes can be split into two groups: interest groups and bills. Edges, which represent positions, only lie between groups.

Eigenvector centrality of a group is $\lambda x_i = \sum_{j=1}^{n} a_{ij} x_j$ where $a_{ij} = 1$ if groups have a connection to a bill and 0 otherwise, λ is the largest eigenvalue of the adjacency matrix, and x is the group's centrality (Jackson 2010). Eigenvector centrality relies on the concept that connections to high-scoring nodes contribute more to the score of the node in question than equal connections to low-scoring nodes.

While Box-Steffensmeier, Christenson and Craig (2019) use eigenvector centrality to calculate social power, my use of a bipartite model slightly changes the interpretation. First, since bills are also nodes in this model, I am able to calculate eigenvector centrality for bills as well as interest groups. Second, since groups cannot connect to groups and bills cannot connect to bills, the interpretation of the eigenvector centrality for groups is that groups with higher eigenvector centrality scores take positions on bills which also receive positions from many other interest groups.

Recently, scholars have been interested in generating measures of centrality in bipartite networks (He et al. 2016; Taheri et al. 2017). This problem is particularly pressing given the fact that traditional measures, such as eigenvector centrality can provide misleading results, since they do not account for the fact that nodes cannot connect to nodes of their same type (Latapy, Magnien and Del Vecchio 2008).

In this study, I utilize both eigenvector centrality and BiRank, which similarly relies on the smoothness convention that "a vertex (from one side) should be ranked high if it is connected to

Organization	BiRank
U.S. Chamber of Commerce	.000537
AFL-CIO	.000451
Consumer Federation of America	.000398
National Association of Manufacturers	.000388
American Bankers Association	.000369

Table A.1: Top Five Organizations by BiRank

Organization	Eigenvector Centrality
U.S. Chamber of Commerce	.313
National Association of Manufacturers	.192
AFL-CIO	.146
National Taxpayers Union	.131
Americans for Tax Reform	.127

Table A.2: Top Five Organizations by Eigenvector Centrality

higher-ranked vertices (from the other side)" (He et al. 2016, 59). However, BiRank presents several potential benefits over eigenvector centrality tailored to bipartite models. Specifically, the algorithm iteratively moves through the network to calculate centrality, like eignevector centrality, however, it ranks based on the structure of nodes within both modes of the graph simultaneously. The ranking is therefore based on " each node's walk distance to other nodes in the graph, each node's estimated centrality during the prior iteration of the bipartite algorithm, and the most recent rank estimates of each node's connection on the other mode of the graph" (Aronson et al. 2020, 3).

BiRank specifically is a propagation-based method that divides each edge by the square root degree of the source node and the square root degree of the target node prior to iteration (He et al. 2016). Importantly, BiRank allows "edges connected to a high-degree vertex to be suppressed through normalization, lessening the contribution of high-degree vertices. This has the beneficial effect of toning down the dependence of top rankings on high-degree vertices" (59).

The network only consists of bills and groups; in this analysis I do not directly address a group's propensity to influence cosponsorship or legislation. Accordingly, centrality scores do not reflect groups that hold high levels of sway in the Washington community. Rather, a group could take positions on a wide range of bills to increase their centrality, even if these positions were totally

disregarded by legislators. With that stipulation, it is still the case that groups with the highest centrality scores are generally regarded as influential, as evidenced by the figures above.

Logistic Regression Predicting Cosponsorship Including BiRank

	Cosponsor		
Predictors	*Odds Ratios*	*CI*	*p*
Intercept	0.14	0.12 – 0.16	**<0.001**
Republican Party	0.29	0.28 – 0.31	**<0.001**
Coalition Standard Deviation	0.77	0.75 – 0.79	**<0.001**
Coalition-Member Ideological Difference	0.43	0.42 – 0.44	**<0.001**
Coalition Conflict	0.93	0.90 – 0.96	**<0.001**
Copartisan Sponsor	1.78	1.73 – 1.82	**<0.001**
Number of Groups	1.05	1.04 – 1.05	**<0.001**
BiRank	1.03	1.02 – 1.05	**<0.001**
Commemorative Bill	0.12	0.05 – 0.27	**<0.001**
Resolution	1.49	1.43 – 1.56	**<0.001**
Substantive and Significant Bill	0.71	0.69 – 0.72	**<0.001**
Republican*Coalition Standard Deviation	1.52	1.47 – 1.58	**<0.001**
Republican*Coalition-Member Ideological Difference	1.55	1.51 – 1.59	**<0.001**
Republican*Coalition Conflict	1.09	1.04 – 1.14	**<0.001**
Republican*Copartisan Sponsor	1.82	1.75 – 1.89	**<0.001**
Republican*Number of Groups	0.82	0.81 – 0.83	**<0.001**
Republican*Birank	0.95	0.94 – 0.97	**<0.001**
Random Effects			
σ^2	3.29		
$\tau_{00\ session}$	0.03		
ICC	0.01		
$N_{\ session}$	5		
Observations	1428114		
Marginal R^2 / Conditional R^2	0.192 / 0.198		

Figure A.1: Logistic Odds Ratios Predicting Cosponsorship Including BiRank

This table shows that coalitions that include groups with large centrality scores are more successful in prompting cosponsorship, but that these effects differ by party. Compared to Democrats, Republicans are less likely to cosponsor legislation as the BiRank increases. To better understand this relationship, I present a predicted probability graph with 95% confidence interval below:

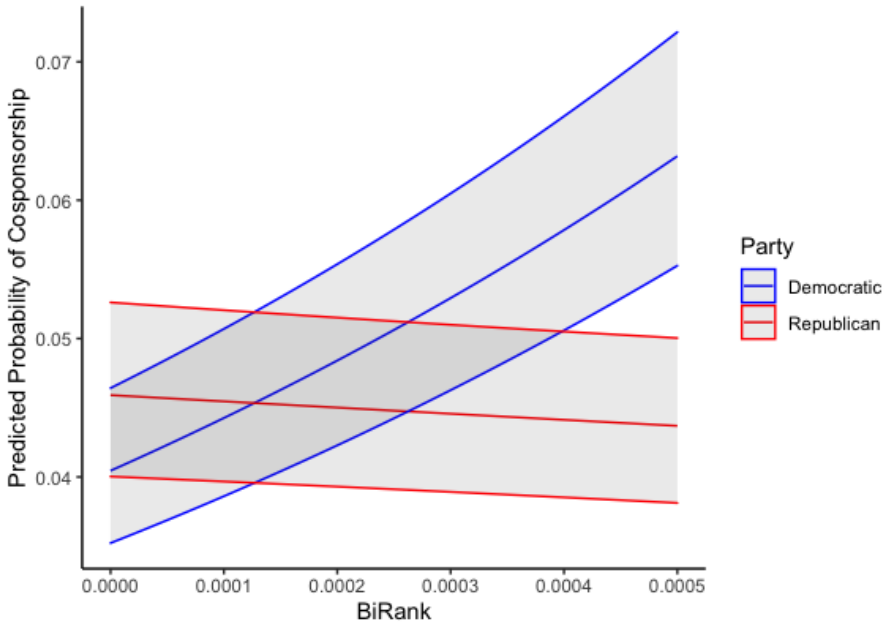

Figure A.2: Predicted Probability of Cosponsorship Varying by BiRank

This figure shows that, while the propensity of a Republican stays roughly constant as more central groups join a coalition, Democrats become more likely to cosponsor.

Measuring the centrality provides a good opportunity to test theories about broad versus narrow interest group focus. If conservative groups do generally have a broader focus than liberal ones (Grossmann and Hopkins 2016), they will have higher centrality scores.

This figure does not completely comport with H_2. Rather, it displays a V-shaped distribution where groups on either extreme are more likely to have a higher BiRank. This suggests that groups that take more positions are more extreme. This is consistent with the polarization that I observed when examining the IGscore distributions weighted by number of positions taken.

A.3 DISCUSSION AND CONCLUSIONS

H_1 finds a modest level of support. In both specifications of the logit model (eigenvector centrality and BiRank), the odds ratio for the measure of centrality is above 1, meaning that as the maximum centrality of a group increases, members are more likely to cosponsor. Both findings are significant at the 99% level.

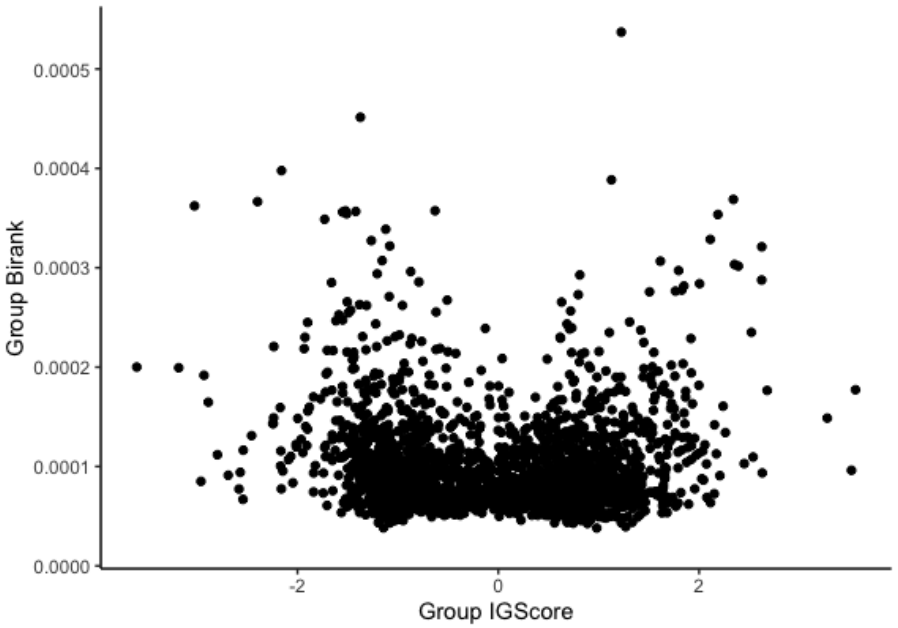

Figure A.3: IGscore versus Eignevector Centrality

H_2 finds less support. IGscore and Birank are only correlated at .203[1]. Therefore, coalition conservatism and and centrality are not strongly related.

Measures of network centrality present a promising avenue for quantifying specialization of interest groups. Studying legislators' response to central groups can help scholars understand how legislators make the tradeoff between specialized and generalist interest groups when deciding which legislation to support.

[1]EVC and IGscore are correlated at .121

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