

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/324040699>

Estimating Interest Group Ideal Points with Public Position-Taking on Bills in Congress

Article · March 2018

CITATIONS

0

3 authors, including:



Jesse Crosson

University of Michigan

8 PUBLICATIONS 1 CITATION

SEE PROFILE

Some of the authors of this publication are also working on these related projects:



Working Together In Washington: Assessing Collaboration within Coalitions of Interest Groups [View project](#)



Polarization and Electoral Systems [View project](#)

All content following this page was uploaded by [Jesse Crosson](#) on 27 March 2018.

The user has requested enhancement of the downloaded file.

Estimating Interest Group Ideal Points with Public Position-Taking on Bills in Congress*

Jesse M. Crosson[†]

Alexander Furnas[‡]

Geoffrey M. Lorenz[§]

March 27, 2018

Abstract

Theories of interest group representation and influence make often-competing predictions about the alignment of policy preferences between interest groups and those they lobby. To date, however, these predictions have remained largely untestable, because there have been few broadly applicable measures of interest group policy preferences, particularly at the U.S. federal level. Instead, scholars have relied on rough proxies such as partisanship or industry categorizations. In this paper, we use MapLight interest group position-taking data to estimate a new set of ideal points, “MLscores,” for over 2,600 interest groups active from the 109th-114th Congresses. We estimate these scores jointly with Congressional roll call data, placing interest groups on the same scale as over 950 members of Congress. After showing that the measures conform to preexisting qualitative and quantitative expectations about the behavior of particular organizations and industries, we discuss opportunities for future research using these new measures.

Words in text (excluding abstract): 8,910

Words in headers: 67

Words outside text (captions, etc.): 499

Total word count: **9,476**

*The authors would like to thank Amy Cesal, Alton Worthington, Kevin Quinn, Christopher Fariss, Kevin McAlister, John Jackson, Brian Richter, Richard Hall, and participants at the University of Michigan Interdisciplinary Workshop on Political Science for their helpful feedback, comments and assistance in this project.

[†]Ph.D. Candidate, Department of Political Science, University of Michigan

[‡]Ph.D. Candidate, Department of Political Science, University of Michigan

[§]Post-Doctoral Research Associate, Batten School of Leadership and Public Policy, University of Virginia

The alignment of policy preferences between actors has been central to the study of American politics for the past three decades. Indeed, the general topic of ideological polarization has commanded a great deal of scholarly attention in diverse subfields such as public opinion (Fiorina and Abrams, 2008), Congressional behavior (McCarty et al., 2016), and media behavior (Prior, 2013). A similarly wide range of studies have highlighted the consequences of recent ideological changes, ranging from gridlock (Binder, 2004; Jones, 2001) to negative affective partisanship (Iyengar et al., 2012). These studies and many others have relied on a spatial conceptualization of policy preferences, in which actors' policy preferences can be represented as a point (their ideal point) in a unidimensional space. This conceptualization has produced many significant advances in the studies of legislative politics, representation, separation of powers, and many related areas.

The study of interest groups and lobbying has been no exception. Ideology plays a central role in theories of interest group strategy (Hall and Wayman, 1990; Denzau and Munger, 1986), coordination (Grossmann and Dominguez, 2009), and influence (Hall and Deardorff, 2006; Austen-Smith and Wright, 1994, 1996). Unlike studies of preferences and polarization in other subfields, however, studies of interest group politics have been handicapped by a critical methodological limitation: to date, there have been few reliable measures of spatial preferences available for interest groups. Absent such a measure, critical tests of competing theories in interest group politics cannot be performed. Similarly, given the primacy of spatially-conceptualized policy preferences in studies of legislative politics, the absence of a reliable measure of interest group preferences inhibits the incorporation of one of legislative politics' most ubiquitous actors—interest groups—into theories of legislative representation, organization, and policymaking.

In this paper, we introduce such a measure: an ideal point estimate for interest groups and members of the U.S. Congress, on the same scale. These estimates, which we call MLscores, leverage interest groups' public positions on federal legislation, as recorded by the transparency organization Maplight beginning in 2005. Combining Maplight data with legislators' roll-call votes, we produce MLscores for 2600 interest groups and 950 members of Congress active between the 109th and 114th Congresses.

This article proceeds as follows. First, we underscore the need for a reliable, broad-based measure of interest-group policy preferences. Second, we demonstrate how public position-taking by interest groups can be used to measure interest group ideology on the same scale as members of Congress.

Next, we discuss the Maplight data and detail the methodology used to develop our MLscores (Maplight Scores). In this section, we also highlight how our approach improves upon alternative estimation procedures, both for organized interests and for members of Congress. Next, we present our MLscores for these actors. We provide face validation by showing that the distributions of preferences in numerous industries and issue areas conform to prior expectations as well as by showing that MLscores can discriminate between the policy preferences of very similar groups within an issue area. We establish MLscores' convergent validity by showing that MLscores uncover a latent dimension similar to those uncovered by canonical measures in the study of political institutions. Finally, we illustrate the usefulness of our scores to research on interest groups and Congress by underscoring several contexts wherein our scores could better test existing theoretical claims.

Though our primary purpose in this paper is to introduce and validate MLscores as a measure of interest group and legislator policy preferences, it also offers a different view of polarization in congressional politics. MLscores depict a Congress somewhat less polarized, and an interest group community somewhat more polarized, than is commonly believed. Also, where Democratic members of Congress are more moderate, on average, than liberal interest groups, Republican members of Congress appear more extreme than right-leaning interests. This has significant implications for ongoing debates about the role of organized interests in congressional polarization and gridlock.

Interest Groups, Lobbying, and the Importance of Ideology and Preferences

Interest group lobbying is pervasive in Congress. According to data from the Center for Responsive Politics (www.opensecrets.org), contributions from interest groups' political action committees (PACs) to federal candidates have nearly tripled since the mid 1990s, totaling nearly half a billion dollars in each of the last several election cycles. Moreover, interest groups' lobbying expenditures now regularly total over three billion dollars per year, and the number of registered lobbyists exceeds eleven thousand (to say nothing of the many thousands of unregistered government relations professionals, see LaPira and Thomas (2013)). Clearly, interest groups direct substantial resources and effort towards influencing Congress. Thus, to evaluate congressional representation, processes,

and outcomes, it is critical to understand the factors that draw interest groups to lobby on particular bills, that cause them to focus on particular members of Congress, and that foster their influence in policymaking.

Theories of lobbyist influence often make predictions about the role that policy preferences play in shaping interest group behavior and influence. Exchange theories (Denzau and Munger, 1986; Ansolabehere et al., 2003) predict that interest groups will direct campaign contributions to legislators who will provide policy favors at a “low cost.” Consequently, interest groups ought to target members of congressional committees relevant to their issue interests, spending on both neutral legislators and weak opponents. By contrast, Hall and Wayman (1990) predict that contributions will go to ideological allies, as a way to buy those legislators’ efforts and attention. Informational theories of lobbying (Hansen, 1991; Austen-Smith and Wright, 1994, 1996) predict that groups lobby members of Congress who share their policy interests, perhaps in order to counteract the efforts of opposing lobbyists. Such models suggest that groups should lobby both opponents¹. (to persuade them) *and* supporters (to counter the persuasion efforts of others). Finally, legislative subsidy models (Hall and Deardorff, 2006) predict that lobbyists provide suggested bill language, policy backgrounders, and political intelligence (among other “subsidies”) to ideologically congruent legislators.

Studies of interest group coalitions also generate predictions about how preferences influence the conditions under which interest groups choose to join coalitions, focusing on expected costs and benefits of coalition participation (Hojnacki, 1997; Hula, 1999; Heaney and Lorenz, 2013). Nelson and Yackee (2012) highlight the roles of group consensus, coalition composition, and size in the expected efficacy of a coalition. In their analysis of interest group lobbying of OIRA, Haeder and Yackee (2015) test hypotheses about “lobbying consensus” in which consensus is measured as shared partisanship or industry. Each of these studies would benefit from direct measures of interest group ideology, which could in turn be used to calculate interest group alignment in coordination networks or the heterogeneity of coalitions or “sides” (Baumgartner et al., 2009). Thus, testing the most critical theories of lobbyist influence, cooperation, and competition requires the ability to compare the policy preferences of legislators and lobbyists on the same scale.

Over the past several decades, the estimation of ideal points for political actors has become a

¹But see Schnakenberg (2017)

thriving research topic within political science, beginning with Poole and Rosenthal’s seminal contribution, NOMINATE (Poole and Rosenthal, 1991). Though developed to measure the ideology of members of Congress using their roll call record, the NOMINATE algorithm and its successors have expanded to generate ideal point estimates for a wide variety of actors in a diversity of contexts. Similar procedures have been adapted to allow for comparisons across time, across chamber, and across both time and chamber. Today, researchers benefit from ideal point estimates for judges (e.g. Martin and Quinn, 2002; Bailey and Maltzman, 2011), presidents (e.g. Bertelli and Grose, 2011), agencies and bureaucrats (e.g. Clinton et al., 2012; Chen and Johnson, 2015), citizens (Hare et al., 2015), and legislative districts (Tausanovitch and Warshaw, 2013). Along the way, scholars have developed scaling techniques that leverage a wide-ranging array of data sources, including expert surveys, campaign finance records (Bonica, 2014), and speeches. These scores, along with others, have made dramatic contributions to our understanding of political institutions and relationships across institutions, both in the United States and around the world (e.g. Hix et al., 2006; Schnakenberg and Fariss, 2014).

Yet despite these advances, it has been difficult to test many predictions concerning interest groups’ policy preferences. This is due to a lack of wide-ranging, reliable estimates of interest group preferences. McKay (2008) provides scores for 72 interest groups that provided lists of their preferred votes on key bills between 1997 and 2006.² She argues that interest groups choose their key votes *knowing* that their allies will score well. Based on this assumption, interest group ideology can be approximated by taking the mean of the DW-NOMINATE score for the members that vote “perfectly” on the group’s votes. While a significant first step, these scores are limited in scope and rest on the assumption that groups are selecting votes in order to demonstrate proximity to certain members.

CFscores produced by Bonica (2014) include information about the ideological ideal points of campaign contributors, which include PACs that are affiliated with interest groups. However, many interest groups do not have affiliated PACs. Moreover, these measures’ validity requires the assumption that campaign contributions are sincere indicators of ideological congruence. Organized interest groups routinely violate this assumption, using their campaign contributions to “buy” access to incumbents of all ideological persuasions (Powell and Grimmer, 2016; Ansolabehere et al., 2002).

Hansford and Depaoli have estimated ideal points for approximately 200 groups using amicus briefs

²Poole (2005) also estimates scores using similar data for 27 interest groups

to the U.S. Supreme Court. While these scores are more closely tied to the behaviors of individual groups than are campaign finance-based measures, they are not well-suited for the study of interest group behavior in Congress. The primary reason for this is that it is unclear if the ideological dimension revealed in judicial cases is the same as that for congressional legislation. In particular, because Supreme Court cases often turn on a comparison between a policy status quo and interpretations of constitutional authority, there is reason to believe that groups may behave differently across the legal and Congressional contexts. Moreover, because members of Congress are not typically part of the amicus filing process, the estimates are not provided on the same scale as ideal points in Congress. This limits the usefulness of amicus-based scores for testing congressional theories of access and influence. A final limitation of such scores derives from the sample of interest groups who file amicus briefs: this may not be representative of all interest groups.

Thieme (2017) has estimated ideal points for state-level lobbying groups in three states, using lobbyist declarations required by law in those states. Thieme's scores carry with them a number of positive features, and many of the groups in his data doubtless have federal-level affiliates. But while the federated structure of these state-level groups with federal affiliates can help facilitate grassroots lobbying within districts, it tends to undermine an organization's ability to express unitary, cohesive policy preferences (Hrebenar and Scott, 2015). Indeed, the strength of the federated approach is that it allows for within-group heterogeneity to suit the different political climates in different states. This heterogeneity complicates taking a state-level affiliate's ideal point as a proxy for that of their federal umbrella organization. Therefore, while Thieme's (2017) estimates unlock opportunities for research into state-level lobbying, Congress-specific estimates are still needed in order to test hypotheses at the federal level.

In the remainder of this paper, we introduce a new dataset of such federal-level ideal point estimates, which we have developed for 2,646 interest groups that lobbied on over 2,014 bills during the 109th through 114th Congresses (2005-2016) as well as for 973 members of Congress serving during this same period.

MLscores: Theory, Data, and Estimation Procedure

Interest groups routinely take positions – statements of support or opposition – on pending legislation. This position-taking can take many forms, including blog posts, newspaper columns, Congressional testimony, posts on social media, quotes in news articles, “key votes” on ratings scales, or ‘alerts’ to organization members. Regardless of form, these positions communicate important information about interest groups’ preferences. Indeed, not only does public position-taking indicate which issue areas are of strongest interest to a particular interest group, but such positions provide a concrete point of reference upon which to evaluate a group’s views on important issues. When a group takes a position on a bill (instead of a broad issue area or cause), the object of their commentary is unambiguous.

These features make bill position-taking useful for estimating interest groups’ policy preferences. In particular, the bill-level nature of public position-taking presents an opportunity to measure interest group preferences using a wide variety of statistical tools (e.g. Clinton et al., 2004; Poole and Rosenthal, 1991) that generate legislator ideal points from roll call voting matrices. Much like roll-call votes, public position-taking occurs at the bill level and can be categorized in a “support” versus “opposition” fashion. Moreover, because more than one interest group takes a position on most major bills, scaling techniques may leverage this overlap to estimate latent preference similarities between interest groups, based on their bill-rating decisions. For example, if interest groups support or oppose all of the same legislation, they are more likely to share latent policy preferences than if they disagree on specific bills. Consequently, given a large dataset of overlapping, bill-level positions taken by interest groups, one may generate reliable measures of interest groups’ revealed policy preferences. Moreover, because legislators also take positions on a large number of bills (via roll call votes), bill-level position-taking offers an opportunity to estimate interest group ideal points on the same scale as members of Congress.

MapLight Records of Interest Groups’ Bill Positions

Despite the potential usefulness of position-taking data for measuring interest group preferences, scholars have yet to use such data at the federal level. This is due primarily to the difficulty of collecting such data on a large enough scale: indeed, without sufficient overlap in ratings between groups, conventional scaling methods fail. However, the transparency organization Maplight.org (Maplight

2017) collects just this sort of bill-level position-taking data at the federal level. We make use of these data to estimate our interest group ideal points.

Maplight compiles lists of interest groups lobbying for and against bills from public record sources, including congressional testimony, news articles, and organizations' websites. Per Maplight, organizations' public statements are coded as supporting (or opposing) a bill if they declare support for (or opposition to) the specific bill in question or to the major policy changes the bill makes. Maplight focuses its research on "newsworthy" bills, bills that move through the legislative process or that are mentioned in the news or in weblogs.³ Thus, the bills from which we estimate interest group ideal points have meaningful policy content. Taken together, Maplight's efforts have generated a rich dataset on the legislative positions of organized interests. As of April 2017, Maplight had collected information on the positions of 16,436 unique organizations on 8,494 bills filed during the 109th to 114th Congresses (2005-2016). A total of 75,673 bills were introduced during this period, implying that Maplight found positions for an 11 percent sample of all bills.

In order to relate interest group preferences to those expressed by members of Congress, we merge Maplight's data with Congressional roll call data from 2005-2016, available from voteview.com. Of the 75,673 bills introduced over this time period, a comparatively small sample received a roll call vote. In fact, from 2005 to 2016, only 4,918 received roll call votes. While not all bills need receive a vote in order to estimate scores for legislators and groups on the same scale, at least some overlap must exist. Fortunately, of the 8,494 bills found in our Maplight data, 2,014 also received roll call votes in Congress. These bills act as bridges that will allow us to compare latent preferences of legislators and groups.

Estimation Methodology and Data Preparation

While political scientists, economists, and statisticians have developed numerous methods for measuring latent constructs, we have opted to use Bayesian Item Response Theory to measure interest group and legislator policy preferences. As Clinton et al. (2004) detail, item response theory (IRT) was originally developed for use in educational contexts, in order to measure latent student ability

³for more details on Maplight's research methodology, see <http://classic.maplight.org/us-congress/guide/data/support-opposition>.

and qualities (“difficulty” and “discrimination”) of test questions. In our application, bills replace test questions as the “items,” and legislators and groups replace students as the “respondents.” The “ability” parameter θ_i , then, translates as the ideal point for legislator/group i .

Using the Bayesian IRT framework, we estimate two different kinds of MLscores: static MLscores (“MLscores”) and step-wise dynamic MLscores (“sMLscores”).⁴ To generate the scores, we rely on previous work by both Clinton et al. (2004) and, indirectly, Martin and Quinn (2002). Specifically, we assume that groups and legislators render opinions on bills based on a utility model whereby

$$y_{ij} = \beta_j \theta_i - \alpha_j + \epsilon_{ij},$$

where y_{ij} is the support/opposition observed from legislator/group i on bill j , β_j represents the discrimination parameter for bill j , α_j represents the difficulty parameter (or, “disagreement”) for bill j , and ϵ_{ij} is random error associated with each voting decision. These errors are distributed normally, with mean 0 and variance 1.

For both versions of our MLscores, we assume the following priors for the difficulty and discrimination parameters (which are identical to those adopted by Clinton et al. (2004)):⁵

$$\alpha_j \sim \mathcal{N}(0, 25)$$

$$\beta_j \sim \mathcal{N}(0, 25)$$

For the ideal point parameters, prior distributions are given by

$$\theta_i \sim \mathcal{N}(0, 1)$$

To develop static MLscores, data across all time periods is pooled in order to estimate a single ideal point θ for each legislator and group. For the sMLscores, however, time-specific scores are estimated for each legislator by reestimating the model 5 times, each time adding bills and votes from the next

⁴Notationally, index each parameter by both i and t , although there is only one time period t for the static MLscores.

⁵While we characterize the prior distributions in terms of means and variance, Clinton et al. characterize them in terms of mean (0) and precision (.04).

Congress. For example, scores for the 110th Congress were developed using data from the 109th and 110th Congresses, while scores for the 111th Congress were based on data from the the 109th, 110th, and 111th Congress—and so on.

These estimation procedures require a few necessary data cleaning steps before generating ideal point estimates. First and foremost, estimating ideal points for units that have taken too few positions, or using items (bills) that have received little attention, could yield unstable results. In his scaling of campaign finance data, for example, Bonica (2014) used only contributors that gave to at least two recipients and candidates that received money from at least two donors. We take an even more conservative approach. Prior to estimating the IRT model on the interest group position matrix, we subject this matrix to a k-core filtration process where $k = 5$ (Dorogovtsev et al., 2006). The K-core decomposition decomposes a matrix—treated graph theoretically—into a series of subgraphs in which each node is connected to at least k other nodes that are themselves also connected to k nodes. The result is that we are left with a position-taking matrix of interest groups that took at least 5 positions on bills that themselves had at least 5 positions taken on them (by groups also taking at least 5 positions on bills, recursively). This ensures that our interest group ideal point estimates are derived from the core of the position taking network.⁶

After removing votes with unanimous positions, we find 2,014 bills between the 109th and 114th Congresses that meet this criteria. Of these bills, 1,035 received roll call votes. Legislator votes on these 1,035 bills were added to our interest group position matrix and we removed all bills with unanimous support or opposition, in order to produce the final voting matrix used for Bayesian IRT ideal point estimation of the MLScores. In Supplemental Information A, we present a table showing the distribution of bills introduced, receiving votes, with interest group positions in the Maplight data, and which we used in estimation following 5-core filtration, across Policy Agendas Project major topic codes. The estimation matrix includes substantial coverage across all issue areas.

We use a similar procedure to construct the estimation matrices for our stepwise scores, sMLScores. However, we do not report scores estimated solely from 109th Congress, because the data is too sparse for reliable estimation. After removing unanimous bills and applying k-core filtration, the estimation

⁶Our explorations of position-taking overlap partially explain our decision to estimate static and step-wise ideal points instead of estimating using dynamic priors. That is, while we have previously estimated scores using Martin and Quinn’s (2002) methodology, we had lingering concerns regarding whether or not individual Congresses possessed requisite overlap.

matrices for sMLScores have the following included: 385 bills for the 109th-110th, 647 bills for the 109th-111th, 1,061 bills for the 109th-112th, and 1,436 for the 109th-113th Congresses.

Results: Description and Validation

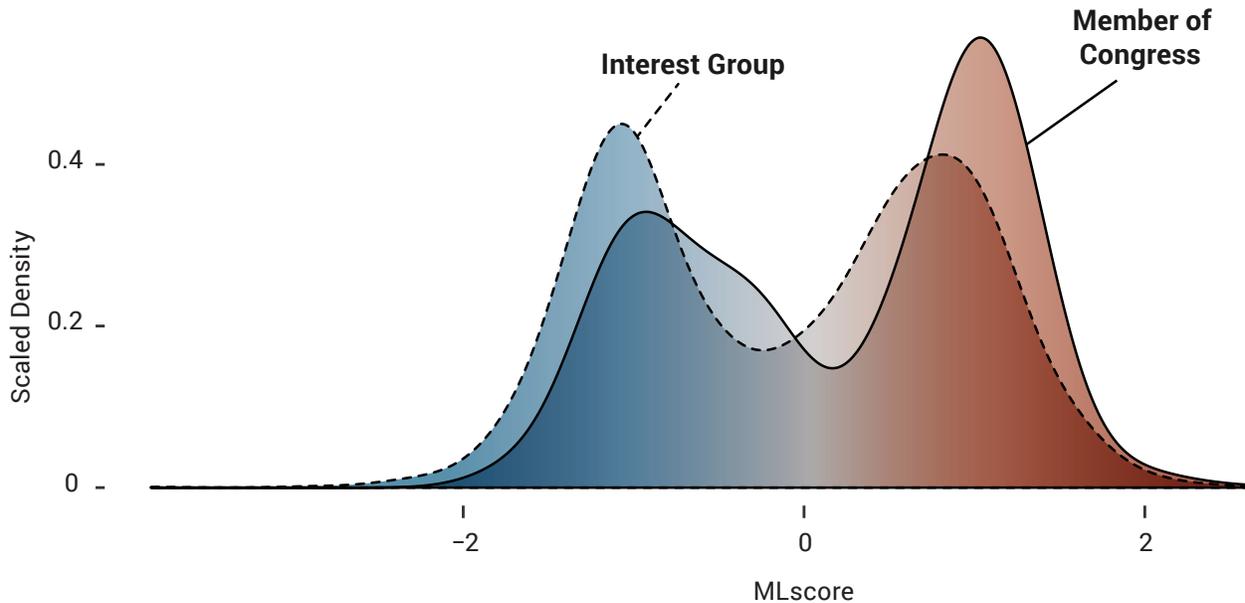
We generate ideal point estimates using the `pscl` (Jackman, 2017) package in **R**. Specifically, we estimate our MLscores and sMLscores using the `ideal()` function from `pscl`. In general, we utilize `pscl`'s default function arguments, including the use of eigenvalue-eigenvector decomposition to generate starting values. To estimate our scores, we ran 3 chains of 100,000 iterations each, using a burn-in of 50,000 and thinning every 100th iteration. Model identification for MLscores and sMLscores is obtained via normalization of the estimates, using the `normalize` argument.

As the paper proceeds, we focus on describing and validating the static MLscores. However, researchers interested in potential over-time changes in interest group or member preferences should focus on our sMLscores. These scores change over time because members' and groups' scores are re-estimated each Congress, using only the votes that had occurred up until the Congress in question. This allows these scores to test hypotheses regarding how members or groups may alter their revealed preferences in response to political context. In practice, however, preferences do not change substantially over the period covered by our data.

Below, we demonstrate the validity of our scores by showing that they conform with a priori expectations regarding ideology and group type as well as comparing MLscores to existing measures of legislators' and organized interests' preferences. We also discuss how the coupling of our position-taking data with roll call data allow MLscores to improve upon purely roll-call-based measures of legislator ideology.

Figure 1 provides a first glance at our scores, comparing the distribution of MLscores for Members of Congress to those of interest groups. While both distributions are bimodal, we observe substantial mass near the center of the distribution in both cases. It is also worth noting that the distribution of interest groups is not dominated by right-of-center organizations as we might have expected (Schlozman and Brady, 2012). In fact, Congressional Republicans appear notably more conservative than some of the most right-leaning interest groups. Below, we discuss in greater detail how these interest

Figure 1: Distribution of MLscores for Interest Groups and Members of Congress



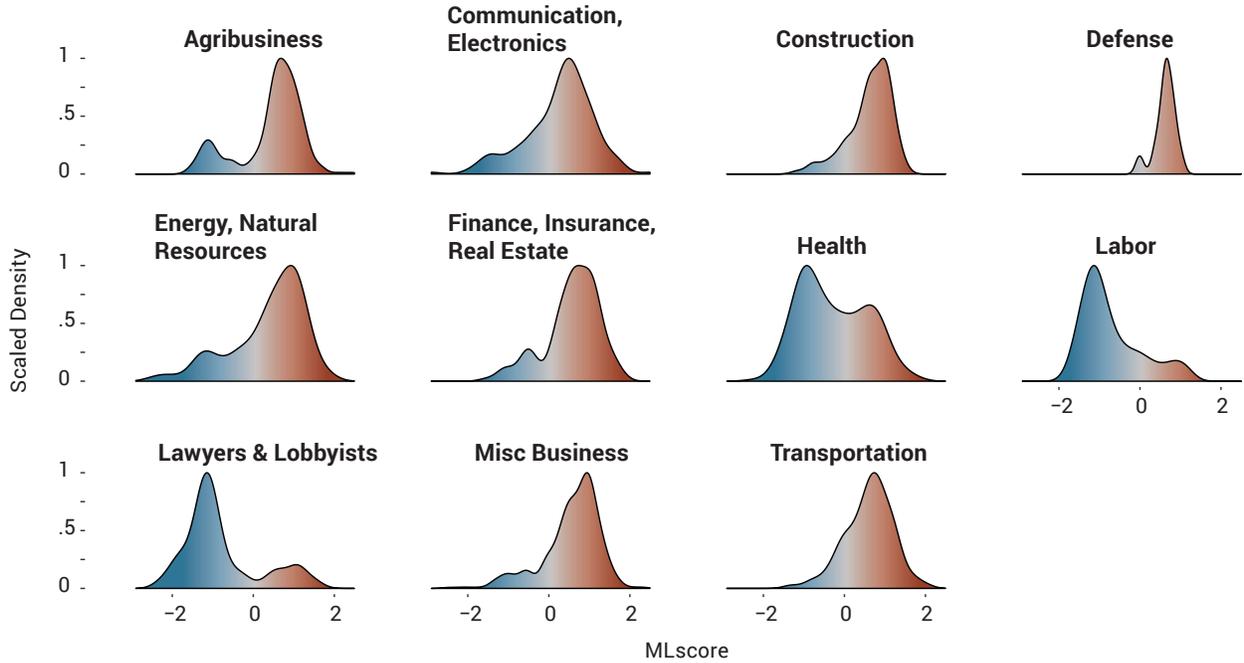
group scores vary across sector and issue area.

MLscores Across Sectors

Overall, we find that our scores conform with common perceptions about the ideological predilections of various sectors of the economy and interest group community. To show these distributions, we rely upon Center for Responsive Politics (CRP) industry coding of lobbying organizations. The CRP codes organizations into a set of categories adapted from the Office of Management and Budget's Standard Industry Classification (SIC) codes. The CRP coding scheme is organized hierarchically with 13 "Sectors", broken down into 100 "Industries" and finally over 400 "categories" or "Catcodes."⁷ As part of their data collection process, Maplight assigns these codes to the organizations in the bill position dataset. Rather than assigning one code to each organization as CRP does, however, Maplight expert coders assign the code to each organization-bill dyad that best matches the group's interest with respect to that particular bill. As a result, organizations are counted within multiple sectors,

⁷For more information on the CRP coding see the methodology on their website, <https://www.opensecrets.org/resources/ftm/ch12p1.php>

Figure 2: Kernel Density plots of MLscores by CRP “sector”



industries or categories, as they might be classified as several related types depending on the context.

Thus, for the coding of organizations we present here, it is not possible to address the distribution of these organizations across codes, which would require linking directly back to CRP data. We can, however, characterize the distributions of MLscore ideal points of organizations that Maplight identified as representing various sectors, industries or categories at least once. Figure 2 shows the distribution of the MLscore ideal points for the organizations in each CRP Sector except for the Ideological/Single-Issue sector and Other (or miscellaneous) sector, which display the most substantive heterogeneity. At this aggregate level, we see large moderate or center-right spikes in most sectors. However, the maximum density in both the Lawyers/Lobbyists and Labor sectors is left of center, while Defense, Construction and Business are further right of center. These patterns appear to follow commonly held beliefs regarding the preferences of interest groups within these sectors, as well as previous empirical findings from corporate PACs (Bonica, 2014).

In Figures 3 and 4 we present density distributions of MLscores, for organizations of different

Figure 3: Density plots of MLscores of Ideological/Single-Issue groups by CRP “catcode”

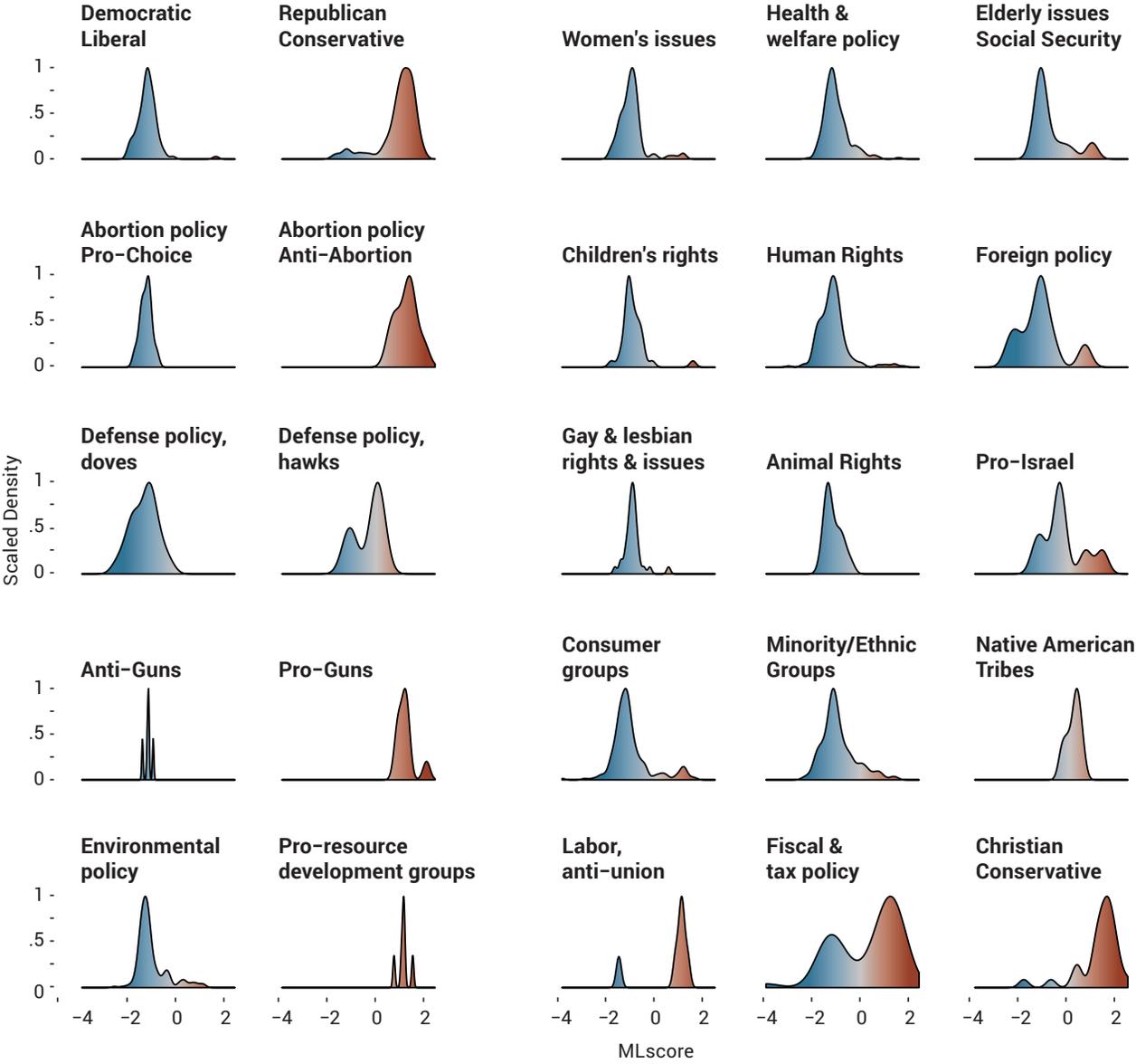


Figure 4: Kernel Density plots of MLscores of Other Sector groups by CRP “catcode”

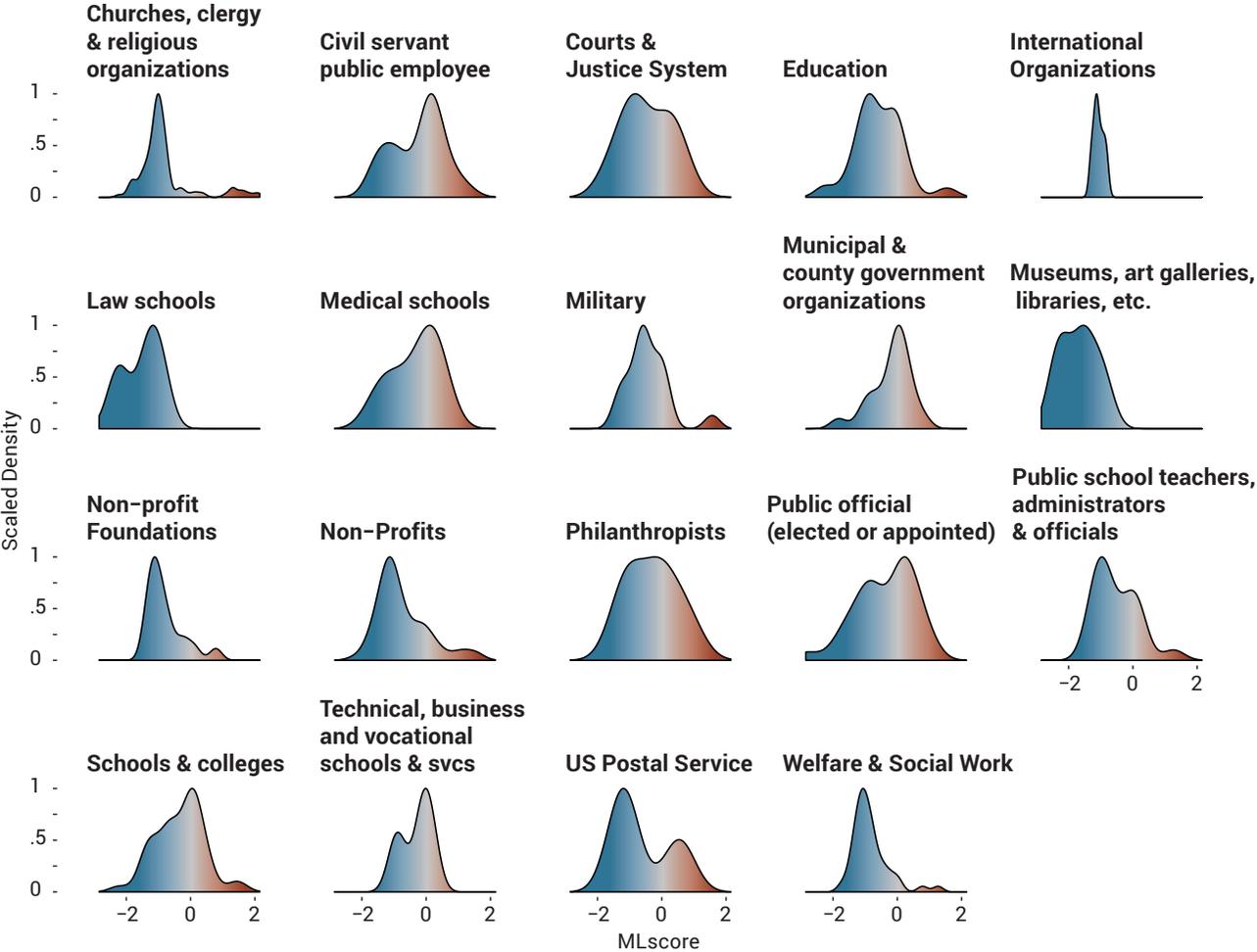


Table 1: Paired Comparisons of Related Groups

Leftward Organization	Rightward Organization
Greenpeace	Ducks Unlimited
National Rifle Association	Gun Owners of America
AFSCME	International Brotherhood of Teamsters
American Association for Justice	American Center for Law and Justice
American College of Physicians	Association of American Physicians and Surgeons
American Jewish Committee	American Israel Public Affairs Committee (AIPAC)
Feminist Majority Foundation	Independent Women’s Forum

categories within the ideological/single-issue Sector and the “other” sector, respectively. As expected, we observe “pro-gun” organizations lie to the right of center, and “anti-gun” organizations to the left of center. The mass of “minority and ethnic” groups, as well as “women’s issues” groups, are both well to the left of center. The same holds true for consumer groups. Foreign policy doves are concentrated are left of center, while hawks have bimodal distribution with center-right and center-left peaks. Similarly, fiscal/tax groups span the ideological spectrum, with separate liberal and conservative modes. The mass for most of the organizations in categories within the “other” Sector tends to be left of center.

Figures 5 and 6 show analogous distributions for the CRP categories in the health sector (Figure 5) and labor (Figure 6). We observe healthcare products and biotechnology devices tend to have mass on the right, while health education and mental health services tend to have mass left of center. The majority of medical professional and hospital categories have moderate modes. Union categories tend have their mass largely left of center, as we would expect. However, building trade, entertainment, transportation and police/firefighter unions show more moderate and conservative organizations.

Paired Comparisons of Related Groups

While distributional checks provide useful information about the overall validity of our scores, they say less about the validity of the individual scores within the resulting data. Therefore, as an additional test of the discrimination of our measure, we selected a set of interest group pairs (presented in Table 1) for which we had strong beliefs over relative ideology. We discuss each pair in turn before turning to our validation exercise.

Ducks Unlimited is a waterfowl and wetlands conservation organization focused on the preservation

Figure 5: Kernel Density plots of MLscores of Health Sector groups by CRP “catcode”

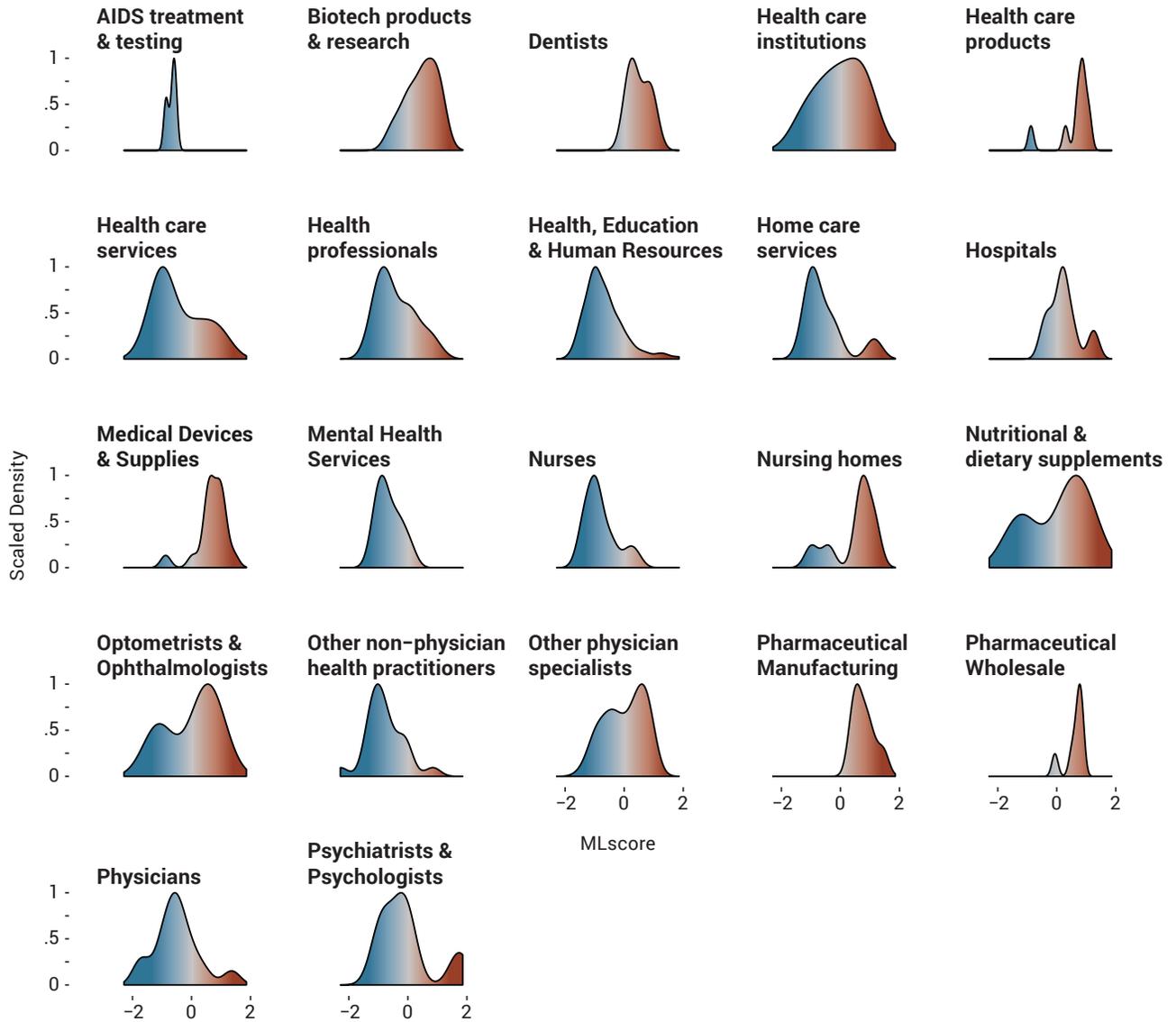
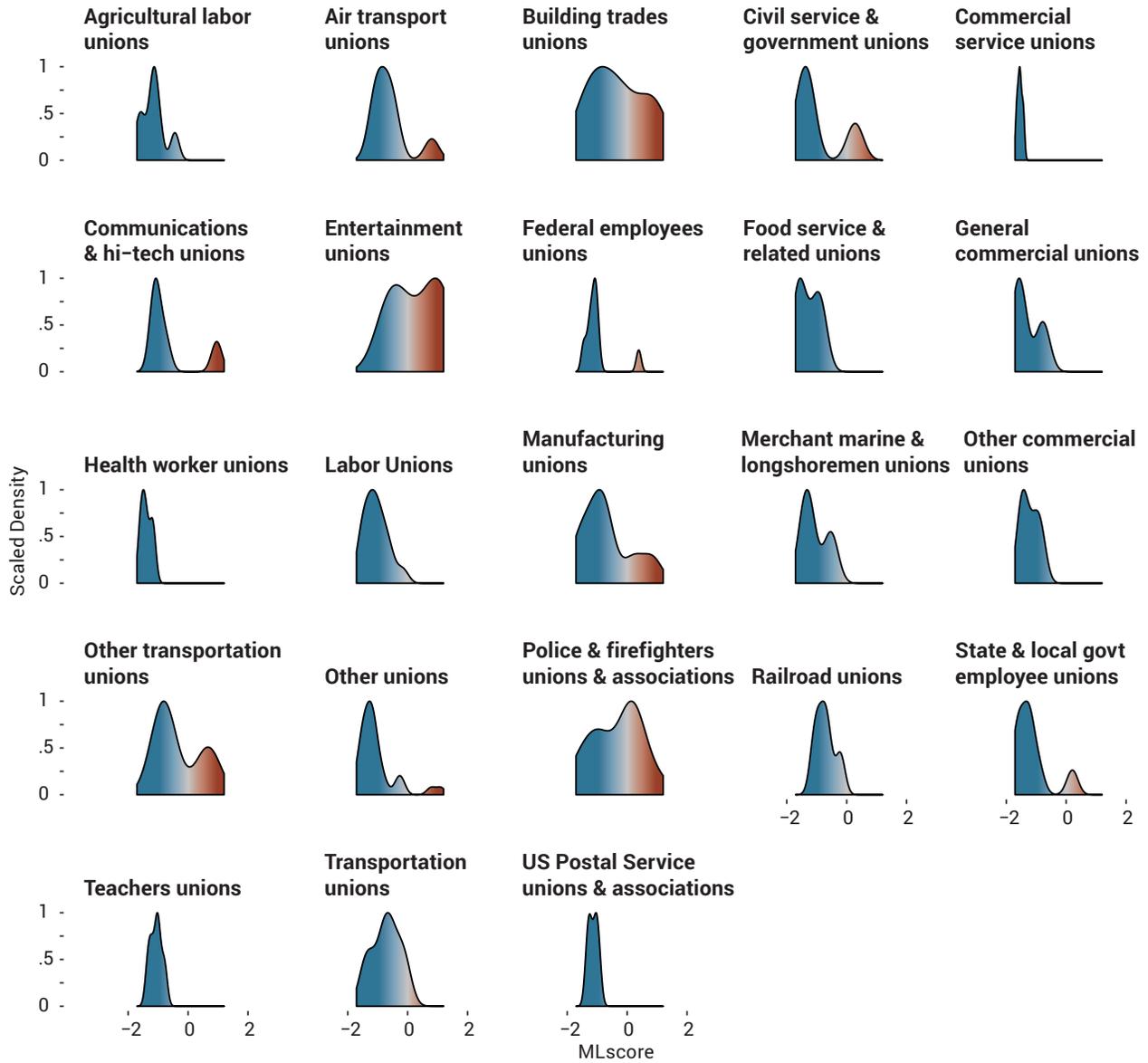


Figure 6: Kernel Density plots of MLscores of Labor Sector groups by CRP “catcode”



of habitats that are valuable to sportsmen. Ducks Unlimited works through multilateral, public/private partnerships with “private individuals, landowners, agencies, scientific communities and other entities.”⁸ On the other hand, Greenpeace stresses the use “non-violent confrontation,” and tends to work outside of existing political institutions⁹. We expect both Ducks Unlimited and Greenpeace to register as liberal under our measure, but for Ducks Unlimited to be considerably more centrist than Greenpeace given its focus on hunting and public-private partnerships.

Similarly, while we expect the National Rifle Association (NRA) to be quite far to the right, we expect the Gun Owners of America (GOA) to be even more conservative. The Gun Owners of America bill themselves as the “‘no compromise’ gun lobby.”¹⁰ The GOA often rates members of Congress more stringently than the NRA, and was publicly critical of John McCain during his presidential campaigns.¹¹

The International Brotherhood of Teamsters endorsed Ronald Reagan in 1980 and 1984, and was the only major labor union to do so.¹² The teamsters have also been comparatively ready to praise or meet with President Donald Trump.¹³¹⁴ The Teamsters also withheld their endorsement of Hilary Clinton until late in the 2016 election, and reportedly flirted with a Trump endorsement.¹⁵ On the other hand, American Federation of State, County and Municipal Employees (AFSCME) endorsed Clinton early¹⁶ and publishes jointly with the Democratic-affiliated Center for American Progress.¹⁷ We expect AFSCME to be to the more liberal than the teamsters union.

In the law enforcement area, we focus on three different lawyer organizations. The American Association for Justice (AAJ) (formerly the Association of Trial Lawyers of America) was originally founded by a group of attorneys involved in workers compensation litigation in the 1940s. In recent years the organization has been vocally critical of the influence of “big corporations”, and has sparred

⁸<http://www.ducks.org/About-DU>

⁹<http://www.greenpeace.org/usa/about/>

¹⁰<https://www.gunowners.org/protect.htm>

¹¹<https://www.gunowners.org/mccaintb.htm>

¹²<http://www.nytimes.com/1988/08/15/us/teamsters-chief-swiftly-asserts-control.html>

¹³<https://teamster.org/news/2017/01/hoffa-withdrawal-tpp-right-choice-us-trade-policy>

¹⁴<https://teamster.org/news/2017/04/hoffa-meets-president-trump-discuss-pension-security>

¹⁵<http://www.washingtonexaminer.com/trump-loses-out-to-clinton-for-teamsters-endorsement/article/2600339>

¹⁶<https://www.afscme.org/news/press-room/press-releases/2015/afscme-endorses-hillary-clinton>

¹⁷<https://www.afscme.org/news/publications/gay-and-transgender-discrimination-in-the-public-sector>

with the U.S. Chamber of Commerce.¹⁸ Conversely, the American Center for Law and Justice (ACLJ) was founded by Jay Sekulow, a commentator for the Christian Broadcasting Network and Fox News and current member of President Trump’s legal team. We expect the AAJ to be left of center and the ACLJ to be right of center. We also include the American Bar Association, the largest single lawyers organization, which we expect to be more moderate than either of the above organizations.

The American College of Physicians (ACP) is the specialist organization of internal medicine physicians, with a focus on patient care (as internists tend to be primary care physicians). We expect the ACP to be relatively moderate. On the other hand, the Association of American Physicians and Surgeons (AAPS) is a conservative non-profit organization formed, according to its director, “to fight socialized medicine and to fight the government takeover of medicine.”¹⁹ We expect the ACP to be to the left of the AAPS.

We also compare two pro-Israel/Jewish identity organizations, one of which we expect further to the right than the other. The American Jewish Committee is the oldest Jewish advocacy organization in the United States, and purports to focus on global issues. The AJC also works against antisemitism, and for numerous civil rights causes. We expect this “dean of Jewish organizations” to be relatively moderate.²⁰ Focused primarily on strengthening and defending the defense relationship between the U.S. and Israel, the American Israel Public Affairs Committee (AIPAC) has tended to strongly align itself with the Netanyahu Administration in Israel and, in more recent years, the Republican Party in the United States.²¹²² We expect AIPAC to be to the right of the AJC.

Finally, we chose two organizations that CRP classified as single issue groups focused on “women’s issues”. The Feminist Majority Foundation (FMF), describes its mission as “to develop bold, new strategies and programs to advance women’s equality, non-violence, economic development, and, most importantly, empowerment of women and girls in all sectors of society,” and outlines its broad-based progressive principles, including issues beyond a narrow gender equality focus like criminal and environmental justice²³. The Independent Women’s Forum (IWF) on the other hand, purports to “im-

¹⁸<https://wvrecord.com/stories/510590671-atla-drops-trial-lawyer-adds-justice-to-name>

¹⁹<http://www.nytimes.com/2011/01/19/business/19physicians.html>

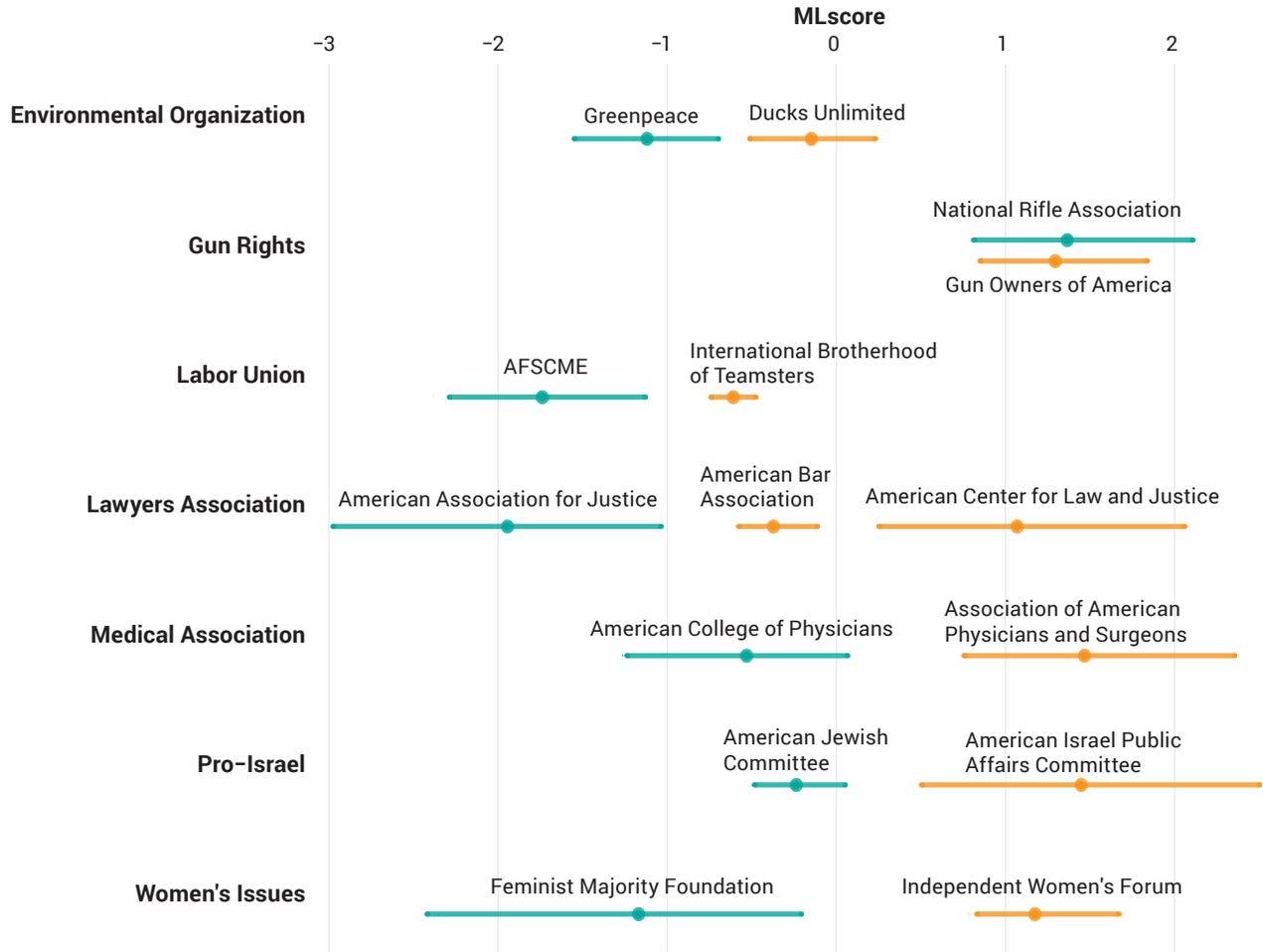
²⁰<https://www.nytimes.com/1990/02/13/us/jewish-group-faces-reorganization.html>

²¹<https://www.newyorker.com/magazine/2014/09/01/friends-israel>

²²<https://www-washingtonpost-com.proxy.lib.umich.edu/lifestyle/style/jeremy-ben-ami-winning-a-place-at-the-t>
2015/03/26/1acb118e-d33e-11e4-8fce-3941fc548f1c_story.html?utm_term=.ee66750b417c

²³<http://www.feminist.org/welcome/mandp.asp>

Figure 7: MLscore Comparison of Selected Groups



prove the lives of Americans by increasing the number of women who value free markets and personal liberty.” We expect the FMF to be significantly to the left of the IWF.

These organization pairs present a challenging discrimination task for the MLscores. These organizations span multiple sectors, and require within-issue-area discrimination between moderate and more extreme organizations on the same “side” of the spectrum. The MLscores for these organizations are shown in figure 7.

As shown in Figure 7, our scores reflect these expectations. Among environmental organizations, Greenpeace lies to the left of Ducks Unlimited, even though both are generally left of center. Among

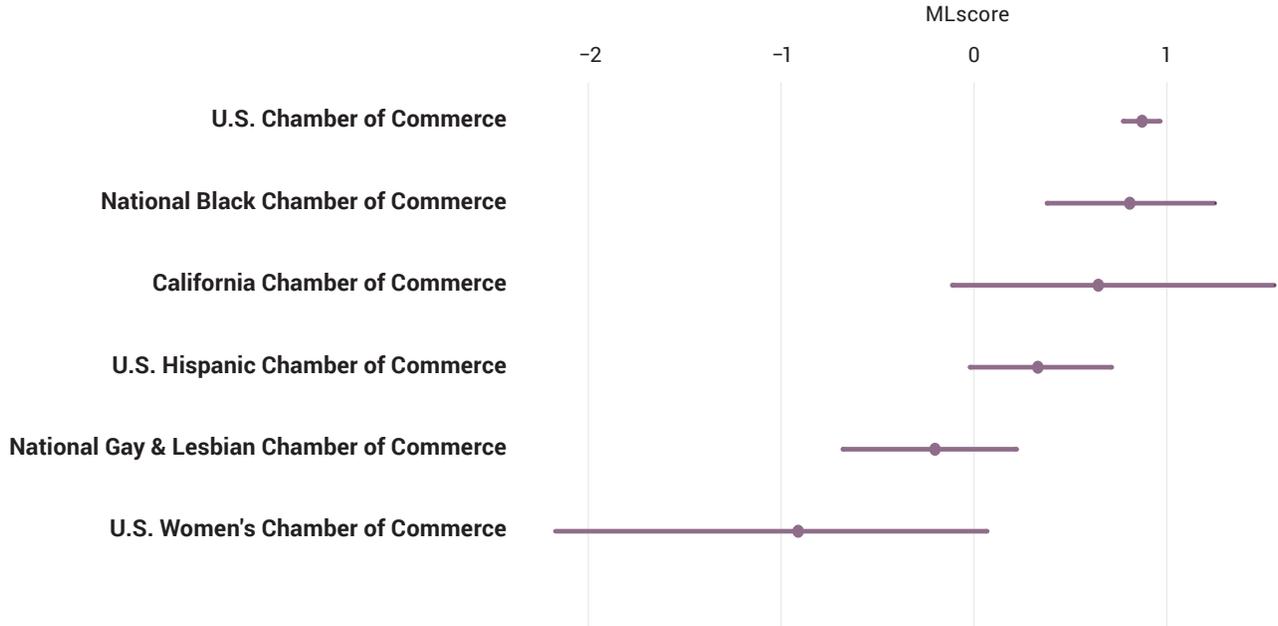
labor unions, AFSCME lies to the left of the International Brotherhood of Teamsters. The lawyers' associations similarly conform to expectations, as the American Association for Justice has a lower (more liberal) MLscore than does the American Bar Association, which in turn has a lower MLscore than Sekulow's American Center for Law and Justice. Also as predicted, the American College of Physicians lies left of the AAPS, the American Jewish Committee lies to the left of AIPAC, and the Independent Women's Forum lies far to the right of the Feminist Majority Foundation. Among our comparisons, the only non-significant difference is that between the NRA and Gun Owners of America.

These results lend credence both to the idea that a great deal of ideological heterogeneity exists among seemingly similar groups, and to the validity of MLscores as a measure of this heterogeneity. The comparisons also suggest that further improvements in the scope of the position data would yield even better scores.

Figure 8 further illustrates the ability of MLscores to capture differences among different, yet related interest groups. Here, we present the full set of chambers of commerce that are available in our data. Although bearing the same name, the chambers of commerce in our data display an impressive amount of heterogeneity. True to its reputation as a right-leaning presence in Washington, the U.S. Chamber of Commerce lies solidly to the right of the median group and legislator. However, many of other chambers do not share this position. In fact, both the U.S. Women's Chamber of Commerce and the National Gay & Lesbian Chamber of Commerce lie closer to the median Democratic legislator than to the median Republican. The U.S. Hispanic Chamber of Commerce and California Chamber of Commerce, on the other hand, lie moderately to the right of center. Finally, the National Black Chamber of Commerce lies close to the U.S. Chamber (though slightly to the left).²⁴ This result is perhaps unsurprising, given that NBCC's Founder, President, and CEO Harry C. Alford serves on the board of directors of the U.S. Chamber of Commerce. Taken together, these findings demonstrate not only that federal affiliates may not share the preferences of their parent organizations (in the case of the California Chamber of Commerce), but also that groups with similar purported goals (in this case, the promotion of private enterprise) clearly disagree substantially on public policy matters. MLscores capture this heterogeneity.

²⁴<https://www.uschamber.com/about/board-directors>

Figure 8: MLscores for Chambers of Commerce

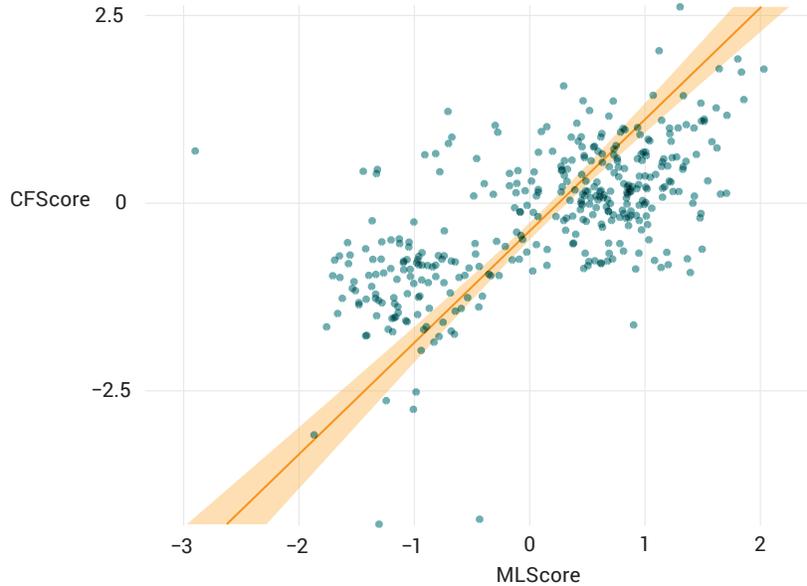


Comparison with CF Scores

In addition to the descriptive results and face validity tests we have shown above, we examine the relationship between MLscores and CFscores for interest groups to demonstrate the former’s convergent validity. It is important to note that the intersection of these two sets of organizations is a relatively small subset of their union. There are several potential reasons for this. First, many organizations that actively lobby in Congress do not have political action committees and thus do not (as organizations) make PAC contributions to candidates. Similarly, organizations may make PAC contributions to candidates but not take public positions on particular bills. Second, an unknown number of PACs affiliated with lobbying organizations have names that are different enough from their parent organizations that merging between the datasets proved challenging.²⁵ Despite these issues, we are able to compare the MLscores and CFscores for 367 organizations that appear identically named in both

²⁵We attempted to merge using both direct name matching and fuzzy string matching algorithms. Our investigations found that fuzzy string matching introduced false positive matches without reducing false non-matches. Thus, we opt for a simple direct merge of the DIME contributors dataset with the MLscores dataset.

Figure 9: Comparison between MLscores and CFscores



datasets.²⁶ Because these scores rest on different scales, we calculate the Spearman rank order correlation to compare them. Despite the aforementioned difficulties, the correlation between organizations' CFScores and MLscores is fairly high ($\rho = 0.628, p < 0.0001$).

This comparison between MLscores and CFScores for matched groups is depicted in Figure 9. In addition to showing the high correlation between the two measures, it also shows that they differ somewhat in their overall distributions. CFScores tend to be more moderate on average, perhaps reflecting the tendency of PACs to contribute to incumbents regardless of ideological alignment (Tripathi et al., 2002). Organizations' MLscores, on the other hand, are more bimodal. This better reflects the partisanship of many groups in contemporary congressional politics. Apart from these general distributional comparisons there are three groups for whom their MLscores and CFScores are very different. These groups are the AARP (MLscore -1.04; CFScore -4.277), the Free Press (MLscore -2.883; CFScore 0.695), and the Association of Community Organizations for Reform Now (ACORN:

²⁶The DIME contributors database includes many contributors that are identically named, e.g. there are 10 organizations named "Sierra Club". In these cases, we make the simplifying assumptions that (1) these contributors are the same organization and (2) that the mean of these identically-named contributors is the best estimate of the contributor's CFScore and use it as the basis for comparison. To the extent those assumptions are wrong, they should lead to more noise in the measurement of a given organization's ideal point and, thus, a lower correlation between MLscores and CFScores.

MLscore -0.568; CFscore -4.211). In the first two cases, reasonable priors would favor the MLscore as the most realistic estimate, while the true ideal point of the now-defunct ACORN is probably somewhere to the left of its MLscore and somewhere to the right of its CFscore.²⁷ Regardless, as would be expected, when these three organizations are excluded, the correlation between CFscores and MLscores improves, albeit slightly (Spearman's $\rho = 0.635, p < 0.0001$). Thus, while MLscores and CFscores are comparable, they reflect differing trends in interest group behavior. The utility of each will depend on the specific hypotheses they are being employed to test, and the set of interest groups being analyzed. When analyzing the proximity of a group's revealed preferences to either other groups or members of Congress, however, we argue that our scores provide a variety of advantages over existing measures.

MLscores and Members of Congress

As a final means of demonstrating the convergent validity of our scores, we present the correlation between the MLscores recovered for the Members of Congress and their first dimension DW-NOMINATE scores (Poole and Rosenthal, 2001; Carroll et al., 2011) from the 114th Congress. MLscores for Members of Congress are correlated with DW-NOMINATE's first dimension at $\rho = 0.953$. We find within-party correlations of 0.822 (Dem) and 0.824 (Rep). These correlations are higher than those reported by Bonica (2014) in measurement validations of CFscores. These results are shown graphically in Figure 10, broken down by chamber and party.

Figure 10 illustrates that MLscores recover a similar latent ideological dimension among legislator votes as NOMINATE, using only the subset of votes cast on bills for which we have non-unanimous interest group positions. This suggests that the scores that we recover using the same response items (bills) for the interest groups are also well-placed on this common scale. As table 2 reports, we find consistently high rank-correlations between MLscores and NOMINATE. We find this to be true across Congresses and both across and within parties.

Interestingly, while our MLscores scores are highly rank-correlated with the 1st dimension of NOMINATE, MLscores also display substantially more moderation. Figure 11 shows a comparison between

²⁷Further investigation found that none of these organizations gave PAC contributions during the period under study, suggesting that CFscores might be capturing the preferences of individual donors affiliated with those organizations.

Figure 10: MLScores of Members in the 114th plotted against 1st dimension NOMINATE

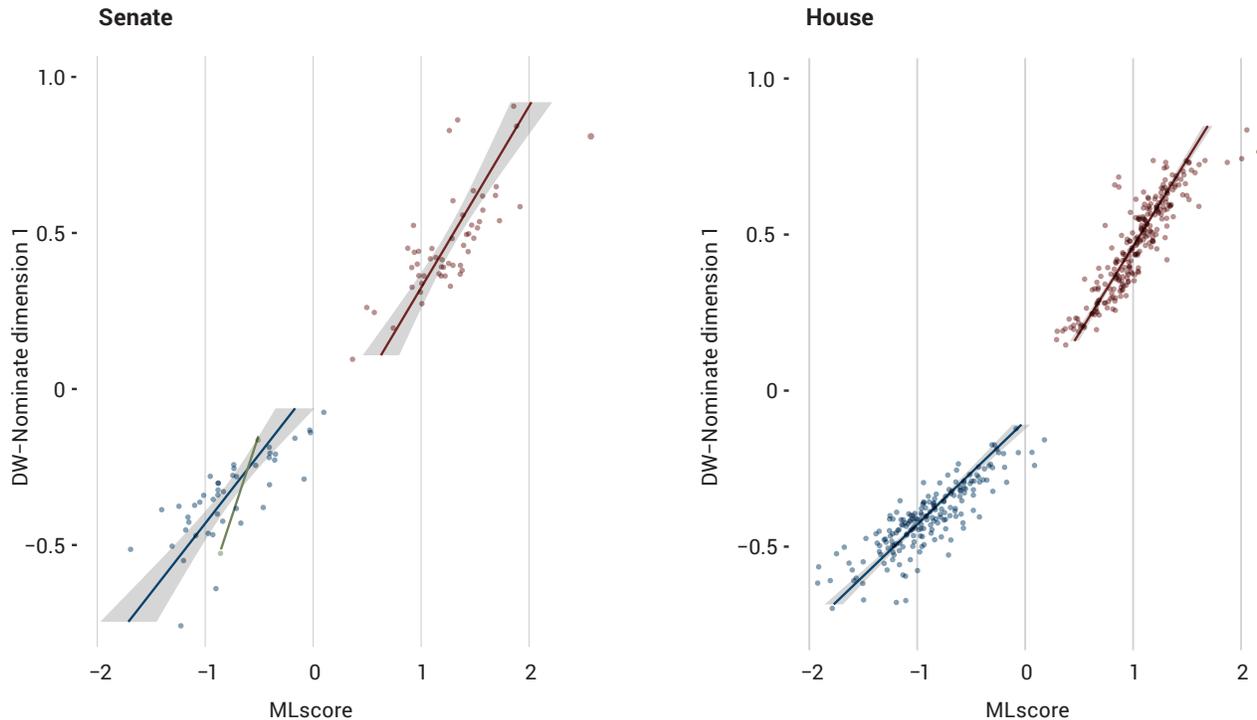


Table 2: Spearman ρ rank correlations between MLScore and NOMINATE dimension 1

Congress	Full	Within Dems	Within Reps
114	0.95	0.82	0.82
113	0.95	0.84	0.81
112	0.96	0.82	0.83
111	0.96	0.86	0.86
110	0.96	0.84	0.87
109	0.95	0.81	0.81

MLscores and the first dimension of NOMINATE, which we have standardized so that they are comparable to MLscores. Indeed, whereas the first dimension of NOMINATE shows substantial spatial distance between the furthest right members of the Democratic caucus and the furthest left members of the Republican caucus, our scores do not show a substantial difference in any of the Congresses analyzed. In the 109th - 111th Congresses, we recover estimates for the rightmost Democratic Member of Congress that are further to the right than the leftmost Republican Member of Congress. This

finding is summarized in Table 3. In Table 3 we present the difference in scores between the rightmost Democrat and the leftmost Republican for each Congress in our dataset, with both MLScores and the first dimension of NOMINATE which we have standardized to have a mean of 0 and a standard deviation of 1. Negative values indicate spatial overlap between the most moderate members of the party caucuses. We also report results for two-sample KolmogorovSmirnov tests to whether both scores appear to be drawn from the same continuous distribution. The K-S tests show statistically significant differences between MLScore and standardized NOMINATE distributions for all Congresses. Comparisons of the empirical cumulative density functions are available in Supplemental Information D.

Table 3: Distributional comparisons between MLScores and the standardized first dimension of NOMINATE by congress.

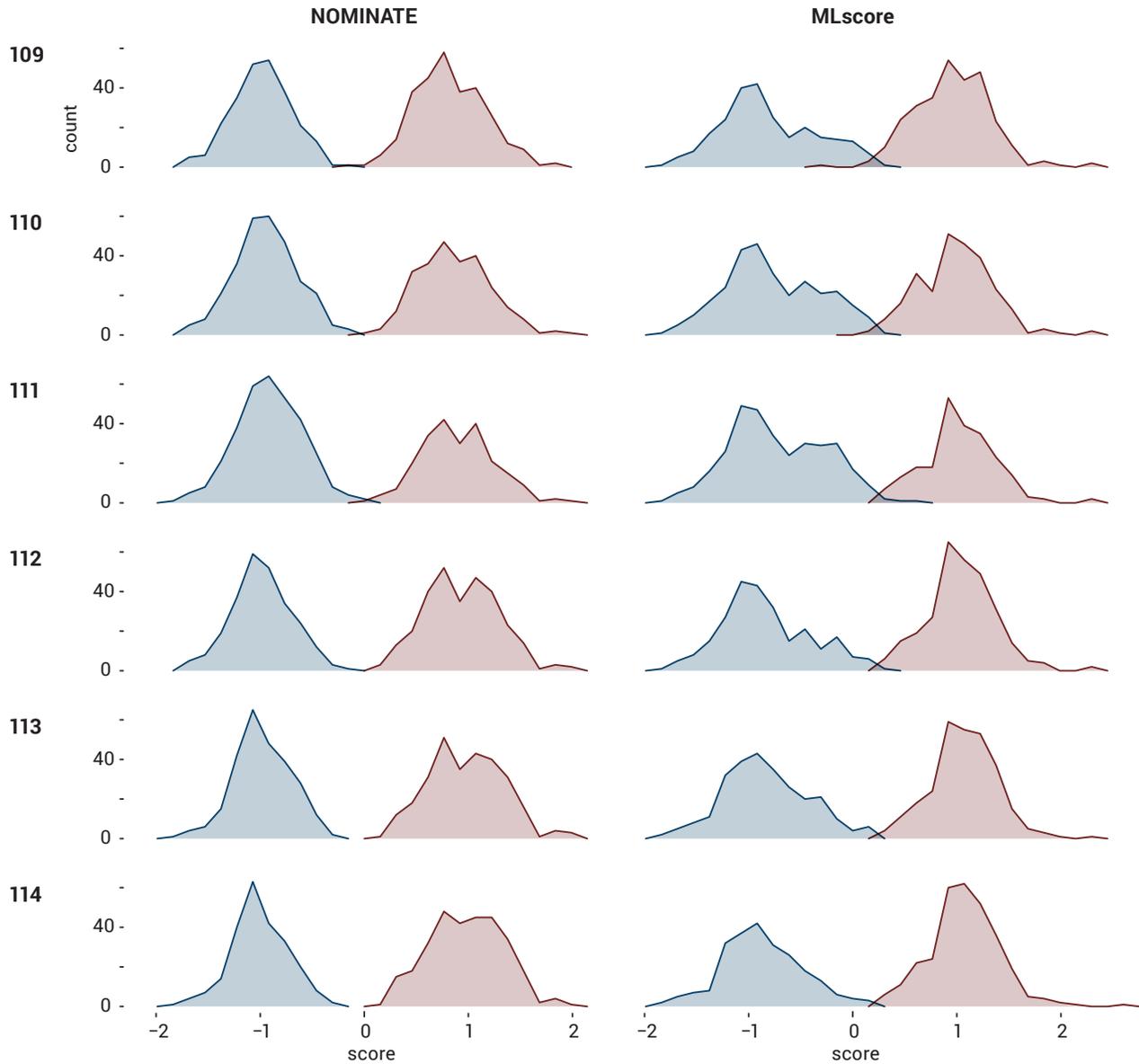
Congress	MLScore diff	NOMINATE^a diff	KS-test (D)	KS-test (p-value)
114	0.11	0.17	0.105	0.0049
113	0.12	0.17	0.110	0.0023
112	0.03	0.12	0.120	0.0007
111	-0.24	-0.02	0.146	0.0000
110	-0.12	0.08	0.121	0.0006
109	-0.59	0.03	0.123	0.0006

^aStandardized ($\mu = 0, \sigma = 1$) dimension 1 of NOMINATE.

Scholars have extensively documented elite polarization among Members of Congress using roll-call based measures of ideology or inter-party conflict (e.g McCarty et al., 2016; Barber and McCarty, 2015; Fleisher and Bond, 2004). However, because the proliferation of messaging bills and symbolic roll call votes in recent years, these measures may overstate the extent to members disagree on substantive policy issues. Our MLScores address one aspect of these artifacts of partisan agenda control by excluding a large set of inconsequential bills in our estimation procedure while including many bills where some actors (i.e., interest groups) took positions but that were ultimately kept off the floor agenda.

Indeed, because of the filtration procedure we apply to the position matrix, only bills with substantial interest group activity are included in our estimation. Assuming interest groups tend to take positions on substantive rather than merely symbolic bills, interest groups serve as a sort of bottom-up

Figure 11: Distributions of MLScores and standardized NOMINATE dimension 1 of Members of Congress for the 109th-114th Congresses



expert coding of which bills have substantive policy implications. When the estimation of ideal points is limited to these bills, we find substantially greater moderation than previous scores that used all roll calls.

Additionally, see Supplemental Information B for validation details regarding the inclusion or exclusion of Member positions.

Implications and Substantive Applications

Our measure of interest group and legislator ideal points on a single dimension enables multiple avenues of new research. As we have shown, MLscores permit descriptive analyses of the distribution of policy preferences within interest categories, between interest working within similar policy domains, and between interest groups and legislators. Both our legislator and group scores also exhibit advantages over alternative measures. Compared to NOMINATE, MLscores may be less subject to bias due to partisan agenda control. Compared to CFscores, MLscores include groups that do not make campaign contributions directly and do not require the assumption that campaign contributions are non-strategic. While each measure carries with it distinct advantages, there are many substantive applications for which MLscores will be best suited.

Within research on interest groups specifically, MLscores could enrich a variety of literatures. For example, recent innovations in the study of interest groups have highlighted the role of lobbying coalitions. Scholars might incorporate MLscores into studies of how coalitions form (Phinney, 2017; Heaney and Lorenz, 2013) and how they pursue legislative influence (Lorenz, 2017; Grossmann and Dominguez, 2009; Baumgartner et al., 2009). Additionally, future scholarship might investigate the relationship between interest group ideology and their tactical and strategic decisions. Interest groups with different ideological leanings might be better suited for, or more inclined toward, different types of arguments (Baumgartner et al., 2009, ch. 7) and other tactical and strategic decisions (Victor, 2007; McKay, 2012; Evans, 1996).

Perhaps most importantly, MLscores open up multiple opportunities for studying relationships among interest groups, lobbyists, and policymakers. As noted earlier, three main models of interest group influence each posit that groups should target legislators based on ideological alignment with them or lack thereof. Though each model produces numerous hypotheses, perhaps the most directly comparable between them are different hypotheses about which legislators will be targeted for lobbying—strong allies (legislative subsidy, e.g., Hall and Deardorff, 2006), opponents and weak allies (informational, e.g., Austen-Smith and Wright, 1994), or weak opponents (exchange, e.g., Tripathi et al., 2002; Denzau and Munger, 1986). Paired with data on lobbyists' legislator-targeting decisions, MLscores can be used to test these theories against each other within particular issue contexts.

Further still, MLscores allow one to directly test various theoretical accounts of campaign finance. Indeed, though many scholars argue that ideological proximity alone cannot predict donation patterns, few studies are able to assess these claims empirically on the broad scale enabled by our scores. Such tests are particularly important to the use of CFscores, as Bonica (2016) has shown that strategic concerns (outside of ideological proximity), such as a candidate’s incumbency status, influence giving patterns. By placing legislators and groups on the same scale, MLscores provide a powerful means for examining the ideological underpinnings of campaign finance.

More broadly, MLscores permit a better understanding of how interest groups influence not just individual policymakers, but policy outcomes. Spatial models have informed the study of Congress for decades (e.g. Krehbiel, 1998), but while spatial models have contributed much insight into lawmaking in Congress, for example, interest groups have rarely been incorporated into empirical tests of those models. MLscores permit testing the implications of spatial models that include interest groups as actors motivated by policy preferences. For instance, little is known about how a member’s ideological proximity to relevant interest populations covaries with said member’s bill sponsorship patterns, legislative effectiveness, or ascendancy to leadership positions. Similarly, little is known about how a member-office’s ideological location within an interest community influences how many of staff revolve to the private sector (or how much they are paid). Previous work has examined how majority status, committee memberships, Hill connections, and other factors influence revolving activity and pay (e.g. LaPira and Thomas, 2017; McCrain).

Conclusions

In this article, we generate a new measure of political actors’ ideal points, based on roll call data as well as data on interest groups’ public positions on congressional legislation. The resulting MLscores map members of Congress onto the same ideological dimension as interest groups, enabling analyses of these actors’ preferences that has heretofore been difficult without making assumptions about both sets of actors’ tendency towards strategic behavior. Here, we introduce and validate the MLscores, showing that they reflect well-understood trends in both interest group and legislator behavior.

In addition, we compare MLscores to existing measures of these actors’ policy preferences. We believe that, for some analyses, MLscores have significant advantages over both NOMINATE (Poole and

Rosenthal, 1991) and CFscores (Bonica, 2014). Because Maplight bills include bills on which interest groups took positions but there were no roll-call votes while excluding partisan messaging bills with little policy content, they are less subject to bias resulting from the partisan agenda-setting. Indeed, legislators in the MLscore space appear somewhat less polarized than in the NOMINATE space, suggesting that partisan agenda-setting explains some portion of the apparent ideological polarization of the parties in recent decades. At the same time, by comparison to CFscores, MLscores offer ideal point estimates for many of the lobbying organizations in Washington that do not give PAC contributions directly to candidates. MLscores' and CFscores' distributions also vary; in particular, MLscores depict a more polarized interest group community than do CFscores. We believe this is because CFscores for PAC contributors are biased toward the center of their distribution by the tendency of PACs to contribute to incumbents in order to buy access (Powell and Grimmer, 2016). This is not to say that MLscores are always preferable to either NOMINATE or CFscores. The most obvious reason is that both NOMINATE and CFscores capture activity far further back in time than MLscores do, a limitation of MLscores' source data. This and other limitations of MLscores mean that analysts will still need to be thoughtful in deciding which measure to use to test empirical expectations from their theories.

Future methodological work may build upon the creation of MLscores by exploring features of position-taking that are unique to interest groups. For example, future studies may examine how abstention, which is far more common for interest group position-taking than for roll call voting, may influence the estimation of interest group ideal points. Additionally, because some interest groups are narrow in issue focus, future work may explore whether groups display greater ideological heterogeneity across issues than do members of Congress. Doing so may reveal that our unidimensional scores are more useful summaries for some groups than others.²⁸ While our future work examines each of these issues, we encourage others to explore these extensions as well.

In the meantime, the extensive validation exercises pursued here demonstrate the utility of MLscores as a way to capture the policy preferences of legislators and interest groups in a shared ideological space. As such, they facilitate the joint study of the politics of interest group advocacy and the politics

²⁸For example, while the National Wildlife Foundation and the Build-a-Bear Workshop have similar MLscores (-0.410 and -0.408, respectively), their differences in issue emphasis (apart from their shared appreciation of wildlife, of course) render comparisons between the two difficult.

of Congress. To fully understand the influence of interest groups, we have to understand how their efforts interact with congressional institutions as well as the policy preferences of legislators themselves. To fully understand congressional institutions, legislator behavior, and legislative outputs, we have to account for the massive community of interest groups attempting to influence them. The joint measurement of interest group and legislator policy preferences is only a first step.

References

- Stephen Ansolabehere, James M Snyder Jr, and Micky Tripathi. Are pac contributions and lobbying linked? new evidence from the 1995 lobby disclosure act. *Business and Politics*, 4(2):131–155, 2002.
- Stephen Ansolabehere, John M De Figueiredo, and James M Snyder. Why is there so little money in us politics? *The Journal of Economic Perspectives*, 17(1):105–130, 2003.
- David Austen-Smith and John R Wright. Counteractive lobbying. *American Journal of Political Science*, pages 25–44, 1994.
- David Austen-Smith and John R Wright. Theory and evidence for counteractive lobbying. *American Journal of Political Science*, pages 543–564, 1996.
- Michael A Bailey and Forrest Maltzman. *The constrained court: Law, politics, and the decisions justices make*. Princeton University Press, 2011.
- Michael Barber and Nolan McCarty. Causes and consequences of polarization. *Political Negotiation: A Handbook*, 37, 2015.
- Frank R Baumgartner, Jeffrey M Berry, Marie Hojnacki, Beth L Leech, and David C Kimball. *Lobbying and policy change: Who wins, who loses, and why*. University of Chicago Press, 2009.
- Anthony M Bertelli and Christian R Grose. The lengthened shadow of another institution? ideal point estimates for the executive branch and congress. *American Journal of Political Science*, 55(4):767–781, 2011.
- Sarah A Binder. *Stalemate: Causes and consequences of legislative gridlock*. Brookings Institution Press, 2004.
- Adam Bonica. Mapping the ideological marketplace. *American Journal of Political Science*, 58(2):367–386, 2014.
- Adam Bonica. Avenues of influence: on the political expenditures of corporations and their directors and executives. *Business and Politics*, 18(4):367–394, 2016.

- Royce Carroll, Jeff Lewis, James Lo, Nolan McCarty, Keith Poole, and Howard Rosenthal. Dwnominate scores with bootstrapped standard errors. *Available at: voteview.com/dwnomin.htm*, 2011.
- Jowei Chen and Tim Johnson. Federal employee unionization and presidential control of the bureaucracy: Estimating and explaining ideological change in executive agencies. *Journal of Theoretical Politics*, 27(1):151–174, 2015.
- Joshua Clinton, Simon Jackman, and Douglas Rivers. The statistical analysis of roll call data. *American Political Science Review*, 98(2):355–370, 2004.
- Joshua D Clinton, Anthony Bertelli, Christian R Grose, David E Lewis, and David C Nixon. Separated powers in the united states: The ideology of agencies, presidents, and congress. *American Journal of Political Science*, 56(2):341–354, 2012.
- Arthur T Denzau and Michael C Munger. Legislators and interest groups: How unorganized interests get represented. *American Political Science Review*, 80(1):89–106, 1986.
- Sergey N Dorogovtsev, Alexander V Goltsev, and Jose Ferreira F Mendes. K-core organization of complex networks. *Physical review letters*, 96(4):040601, 2006.
- Diana Evans. Before the roll call: Interest group lobbying and public policy outcomes in house committees. *Political Research Quarterly*, 49(2):287–304, 1996.
- Morris P Fiorina and Samuel J Abrams. Political polarization in the american public. *Annu. Rev. Polit. Sci.*, 11:563–588, 2008.
- Richard Fleisher and John R Bond. The shrinking middle in the us congress. *British Journal of Political Science*, 34(3):429–451, 2004.
- Matt Grossmann and Casey BK Dominguez. Party coalitions and interest group networks. *American Politics Research*, 37(5):767–800, 2009.

- Simon F Haeder and Susan Webb Yackee. Influence and the administrative process: Lobbying the us president's office of management and budget. *American Political Science Review*, 109(3):507–522, 2015.
- Richard L Hall and Alan V Deardorff. Lobbying as legislative subsidy. *American Political Science Review*, 100(01):69–84, 2006.
- Richard L Hall and Frank W Wayman. Buying time: Moneyed interests and the mobilization of bias in congressional committees. *The American Political Science Review*, pages 797–820, 1990.
- John Mark Hansen. *Gaining access: Congress and the farm lobby, 1919-1981*. University of Chicago Press, 1991.
- Thomas G Hansford and Sarah Depaoli. Estimating the ideal points of organized interests in legal policy space.
- Christopher Hare, David A Armstrong, Ryan Bakker, Royce Carroll, and Keith T Poole. Using bayesian aldrich-mckelvey scaling to study citizens' ideological preferences and perceptions. *American Journal of Political Science*, 59(3):759–774, 2015.
- Michael T Heaney and Geoffrey M Lorenz. Coalition portfolios and interest group influence over the policy process. *Interest Groups & Advocacy*, 2(3):251–277, 2013.
- Simon Hix, Abdul Noury, and Gerard Roland. Dimensions of politics in the european parliament. *American Journal of Political Science*, 50(2):494–520, 2006.
- Marie Hojnacki. Interest groups' decisions to join alliances or work alone. *American Journal of Political Science*, pages 61–87, 1997.
- Ronald J Hrebenar and Ruth K Scott. *Interest group politics in America*. Routledge, 2015.
- Kevin W Hula. *Lobbying together: Interest group coalitions in legislative politics*. Georgetown University Press, 1999.
- Shanto Iyengar, Gaurav Sood, and Yphtach Lelkes. Affect, not ideologya social identity perspective on polarization. *Public opinion quarterly*, 76(3):405–431, 2012.

- Simon Jackman. pscl: Classes and methods for r. developed in the political science computational laboratory, stanford university. department of political science, stanford university, stanford, ca. r package version 1.5.2 5. <http://www.pscl.stanford.edu/>, 2017.
- David R Jones. Party polarization and legislative gridlock. *Political Research Quarterly*, 54(1):125–141, 2001.
- Keith Krehbiel. *Pivotal politics: A theory of US lawmaking*. University of Chicago Press, 1998.
- Timothy LaPira and Herschel F Thomas. Just how many newt gingrich’s are there on k street? estimating the true size and shape of washington’s revolving door. *Estimating the True Size and Shape of Washington’s Revolving Door (April 2, 2013)*, 2013.
- Timothy M LaPira and Herschel F Thomas. *Revolving door lobbying: Public service, private influence, and the unequal representation of interests*. University Press of Kansas, 2017.
- Geoffrey M. Lorenz. Prioritized interests: Diverse lobbying coalitions and congressional committee agenda-setting. working paper, 2017.
- Andrew D Martin and Kevin M Quinn. Dynamic ideal point estimation via markov chain monte carlo for the us supreme court, 1953–1999. *Political Analysis*, 10(2):134–153, 2002.
- Nolan McCarty, Keith T Poole, and Howard Rosenthal. *Polarized America: The dance of ideology and unequal riches*. mit Press, 2016.
- Joshua M McCrain. Congressional staff and effective legislating in the house of representatives. *Journal of Politics*.
- Amy McKay. A simple way of estimating interest group ideology. *Public Choice*, 136(1):69–86, Jul 2008. ISSN 1573-7101. doi: 10.1007/s11127-008-9281-2. URL <https://doi.org/10.1007/s11127-008-9281-2>.
- Amy McKay. Buying policy? the effects of lobbyists’ resources on their policy success. *Political Research Quarterly*, 65(4):908–923, 2012.

- David Nelson and Susan Webb Yackee. Lobbying coalitions and government policy change: An analysis of federal agency rulemaking. *The Journal of Politics*, 74(2):339–353, 2012.
- Robin Phinney. *Strange bedfellows: Interest group coalitions, diverse partners, and influence in American social policy*. Cambridge University Press, 2017.
- Keith T Poole. *Spatial models of parliamentary voting*. Cambridge University Press, 2005.
- Keith T Poole and Howard Rosenthal. Patterns of congressional voting. *American journal of political science*, pages 228–278, 1991.
- Keith T Poole and Howard Rosenthal. D-nominate after 10 years: A comparative update to congress: A political-economic history of roll-call voting. *Legislative Studies Quarterly*, pages 5–29, 2001.
- Eleanor Neff Powell and Justin Grimmer. Money in exile: campaign contributions and committee access. *The Journal of Politics*, 78(4):974–988, 2016.
- Markus Prior. Media and political polarization. *Annual Review of Political Science*, 16:101–127, 2013.
- Kay Lehman Schlozman and Henry E Brady. *The unheavenly chorus: Unequal political voice and the broken promise of American democracy*. Princeton University Press, 2012.
- Keith E Schnakenberg. Informational lobbying and legislative voting. *American Journal of Political Science*, 61(1):129–145, 2017.
- Keith E Schnakenberg and Christopher J Fariss. Dynamic patterns of human rights practices. *Political Science Research and Methods*, 2(1):1–31, 2014.
- Chris Tausanovitch and Christopher Warshaw. Measuring constituent policy preferences in congress, state legislatures, and cities. *The Journal of Politics*, 75(2):330–342, 2013.
- Sebastian Thieme. Measuring the ideology of private interests: Evidence from lobbyist declarations in three states. 2017.
- Micky Tripathi, Stephen Ansolabehere, and James M Snyder. Are pac contributions and lobbying linked? new evidence from the 1995 lobby disclosure act. *Business and politics*, 4(2):131–155, 2002.

Jennifer Nicoll Victor. Strategic lobbying: Demonstrating how legislative context affects interest groups' lobbying tactics. *American Politics Research*, 35(6):826–845, 2007.