

# Pivots or Partisans? Proposal-Making Strategy and Status Quo Selection in Congress

Online Supplemental Appendix

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## A Model Statement and Estimation Code

Below, we present the JAGS code used to generate our bill, legislator, and interest group scores. Code for generating, cleaning, and filtering the underlying data is available upon request.

```
response <- m1
response_c <- m2

y <- response[,1:ncol(response)]
z <- response_c[,1:ncol(response_c)]

N <- nrow(response)
N

# set total number of items for the latent trait model
K <- ncol(y)
K

#
# ----- #
# Define JAGS model statement
View(groups1)
MODEL <- "

model{
  for(i in 1:N){
    for(j in 1:K){
```

```

y[i,j] ~ dbern(pi[i, j])
logit(pi[i,j]) <- beta[j]*theta[i] + alpha[j]

z[i,j] ~ dbern(qi[i,j])
logit(qi[i,j]) <- (-w[i]-q[j] - rho*pow((p[j] - theta[i]), 2))
}
}

## Priors

# for identification purposes
theta[4645] ~ dnorm(0,1)T(,0)
theta[4655] ~ dnorm(0,1)T(0,)

for(i in 1:4644){
theta[i] ~ dnorm(0, 1)
}

for(i in 4646:4654){
theta[i] ~ dnorm(0, 1)
}

for(i in 4656:N){
theta[i] ~ dnorm(0,1)
}

for(i in 1:N){
w[i] ~ dnorm(0,1)
}

for(j in 1:K){

```

```

alpha[j] ~ dnorm(0, .04) # priors the same as pscl::ideal
beta[j] ~ dnorm(0, .04)
q[j] ~ dnorm(0,1)
p[j] ~ dnorm(0,1)
}

rho ~ dunif(0,1)

}"

# ----- #
# write the file as a temporary name to then read in
write(MODEL, file="MODEL.bug")

# ----- #
# create initial values for the latent variable model

# use ML scores for priors
groups1 <- groups1[order(as.numeric(groups1$group_index)),]

inits.function <- function(chain){
  return(switch(chain,
    "1"=list(theta=groups1$scores, beta=results_betas$Discrimination.D1, q = rnorm(K),
    alpha=results_betas$Difficulty, rho = runif(0,1), p = runif(K), w = rnorm(N)),
    "2"=list(theta=groups1$scores, beta=results_betas$Discrimination.D1, q = rnorm(K),
    alpha=results_betas$Difficulty, rho = runif(0,1), p = runif(K), w = rnorm(N)),
    "3"=list(theta=groups1$scores, beta=results_betas$Discrimination.D1, q = rnorm(K),

```

```

        alpha=results_betas$Difficulty, rho = runif(0,1), p = runif(K), w = rnorm(N))#

    )
  )
}

save.image(file='jagsprep.RData')

# ----- #
# generate variables to pass to JAGS
CHAINS <- 3
ADAPT <- 200
BURNIN <- 5000
DRAWS <- 50000
THIN <- 50

# set model file for JAGS model call
MODEL.FILE <- "MODEL.bug"

# ----- #

m <- jags.model(file=MODEL.FILE, data=list("y"=y, "z"=z, "N"=N, "K"=K), n.chains=CHAINS,
n.adapt=ADAPT, inits = inits.function)

update(m, BURNIN)

M <- coda.samples(m, DRAWS, variable.names=c("theta", "alpha", "beta","q", "p", "rho", "w"),
THIN)

```

```

save.image(file="postrun.RData")

# ----- #

# process JAGS estimates

load("postrun.RData")

mat1 <- as.matrix(as.mcmc(M[[1]]))
mat2 <- as.matrix(as.mcmc(M[[2]]))
mat3 <- as.matrix(as.mcmc(M[[3]]))
posterior_estimates <- rbind(mat1, mat2, mat3)

parameter.mean <- apply(posterior_estimates, 2, mean)
parameter.sd <- apply(posterior_estimates, 2, sd)

```

## B Sample of Scored Bills; Selection Models

In Figure A1 we show the chamber of origin by Congress for the sample of bills we score compared to those in the population of bills. Senate bills are slightly overrepresented among our scored bills relative to the population.

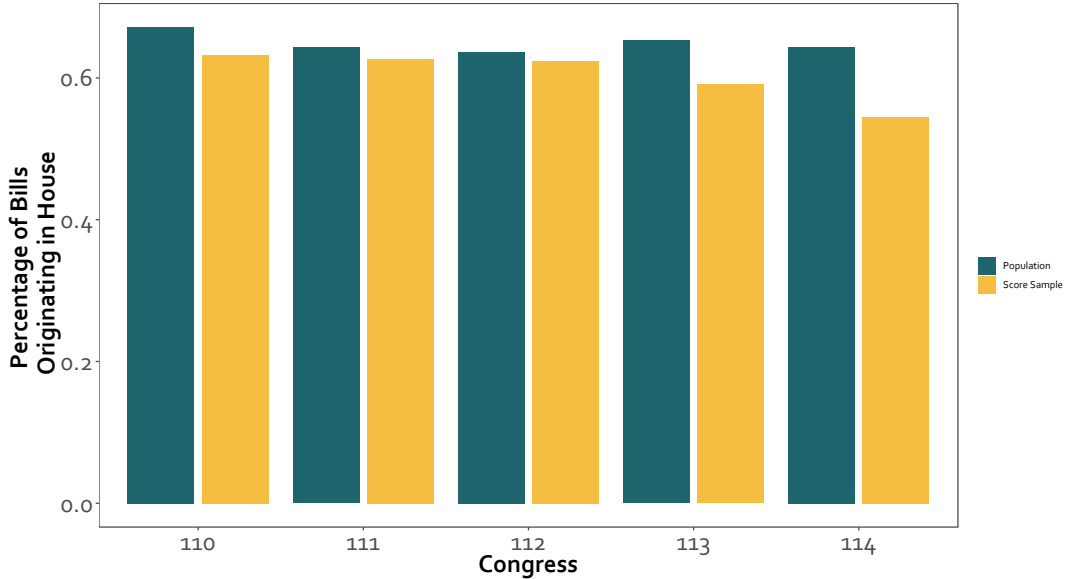


Figure A1: Chamber of Origination, by Congress

Notes: *Percentage of bills originating in the House, for all introduced bills (blue) and bills in our sample (yellow). Both overall and Congress-by-Congress percentages are similar between the population of bills and our sample.*

Figure A2 shows the percentage of bills in the population (in grey) that are not reported to from committee and those that are reported from committee, compared to these percentages in bills in our scored sample (in green). Scored bills are much more likely to have been reported from committee.

Figure A3 shows the percentage of bills in the population (in grey) that passed their chamber of origin and those that have not, compared to these percentages in bills in our scored sample (in green).

Figure A4 shows the percentage of bills in the population (in grey) that are “Substantive and Significant,” “Substantive but not Significant,” and “Commemorative” by Volden and Wiseman’s (2014) criteria compared to these percentages in bills in our scored sample (in green). Our scored bills over-sample substantive and significant bills.

Figure A5 shows the percentage of bills in the population (in grey) across Policy Agendas Project major topic codes compared to these percentages in bills in our scored sample (in green). Our scored bills are spread across all topic areas, but under-sample defense, international affairs, and public lands the most, while oversampling on banking/finance & domestic commerce, environment, labor, and agriculture.

In Figure A6 we categorize bills by whether we calculate cIGscore proposal locations, cutpoints, and status quos for

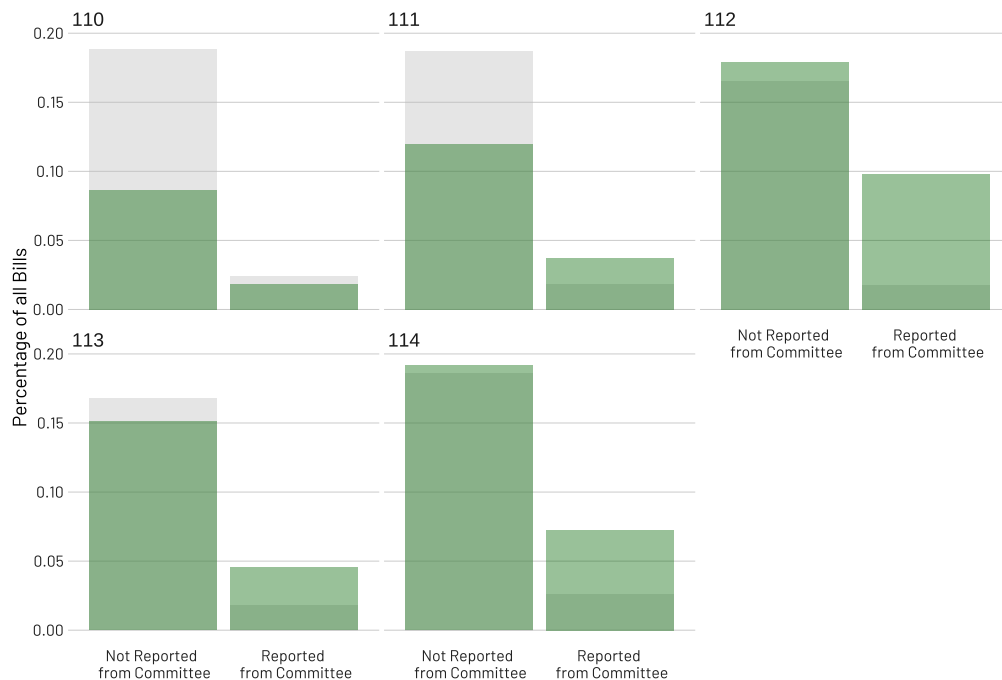


Figure A2: Report from Committee, by Congress

Notes: *Percentage of bills that that were reported from committee, for both the population of bills (grey) and those in our sample (green). Within-congress percentages represent the percentage of **all** bills in the entire 5 congresses.*

them, and then compare pre-existing Nominate cutpoints for bills that we score and do not score (Poole and Rosenthal 1997). Following the procedure we use to identify Congressional roll calls for our cIGscore calculations, we plot the Nominate cutpoints for only final roll call cast for each bill. The distributions of Nominate cutpoints for both scored and unscored bills span the ideological space, and both distributions peak around 0, demonstrating the greatest mass in the area of the scale associated with party-line votes. However, the Nominate cutpoint distribution for unscored bills extremely leptokurtic, with a prominent spike around 0, compared to the distribution for scored bills. We attribute this to the fact that the bills we score are substantially more likely to be substantive and significant, and more likely to move through the legislative process, passing committees, and their chamber of origin. As such, they are more likely to receive bipartisan support and thus not have cutpoints right at 0. Moreover, we find a spearman rank correlation of .44 between the Nominate cutpoints and cIGscore cutpoints. This suggests that we are picking up the same ideological dimension as Nominate, and that our proposal location estimates are not overly affected by the non-random sample of bills used in estimation.

Additionally, we explore the extent to which the cutpoints of the bills on which each of the thousands of interest groups whose positions we use for scoring are systematically different from the bills they do not take positions on. To do this we again rely on pre-existing Nominate cutpoints as we need cutpoints for both bills that we score and those that we do not. We are able to estimate t-tests on the difference of means in cutpoints for bills with that groups took positions on and those

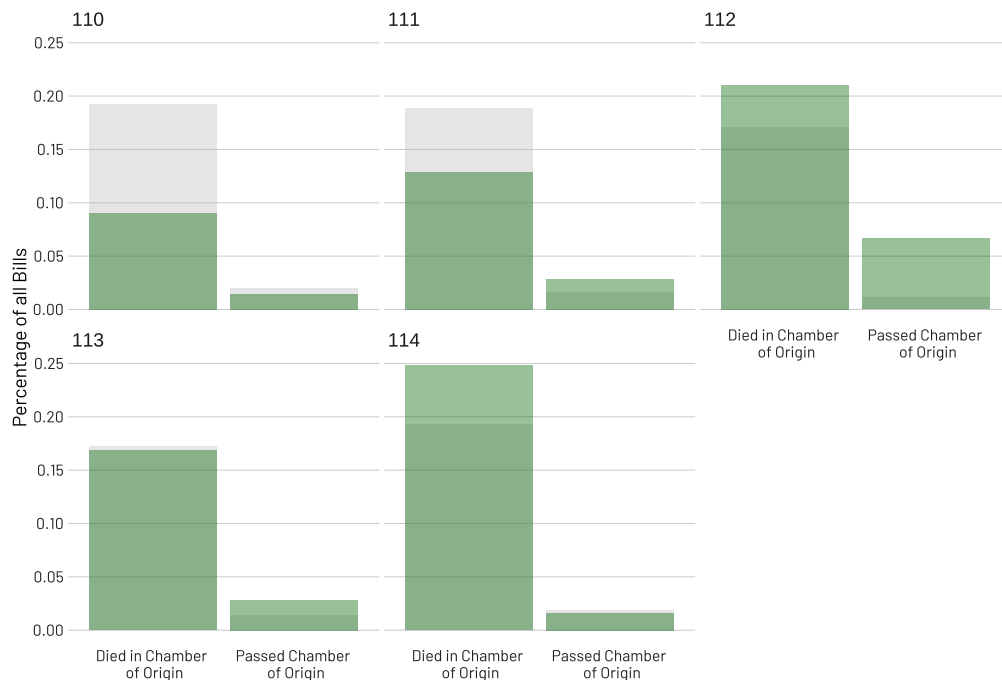


Figure A3: **Passage through Chamber, by Congress**

Notes: *Percentage of bills that passed through their chamber of origin. Percentages are inclusive of bills that progressed further than passage through the chamber (i.e., a bill that passed through both chambers and became law is counted both as passing through the chamber of origin. All bills in green, scored bills in grey.*

they do not for 2,864 groups in our sample. As before, we rely on the cutpoint from the final roll call vote for a given bill.

<sup>1</sup> For each group, we thus conduct a t-test of difference in cutpoints between bills on which a group took positions and bills on which they do not. We plot the distribution of the False Discovery Rate-adjusted p-values from these t-tests in Figure A7. We observe that for the vast majority of groups, the cutpoints of bills on which they take positions does not differ significantly from the cutpoints of bills on which they do not take positions.

It is important to note that selection into scoring is more than just a product of whether a bill receives sufficient interest group position-taking. Bills must also receive a minimally sufficient number of cosponsors for estimation, in this case at least 3 cosponsorships. Roughly 50 percent of all bills introduced in the 110th - 114th Congresses receive at least 3 cosponsorships. In general, lack of cosponsorship is not usually the binding constraint on inclusion for scoring. For example, of the 2,306 bills within the 5-core of the interest group position taking network (i.e. those that meet our threshold or scoring based on their position-taking activity), *none* receive insufficient cosponsorship to be scored. Conversely, of the 35,875 bills in this period with sufficient cosponsorship activity, 93.6 percent do not have sufficient interest group position-taking to be scored.

<sup>1</sup>This is smaller than our full set of groups because we are limited to examining bills that received roll call votes and thus have Nominate cutpoints. Recall a feature of our data is that we have group positions (and thus scores) for bills that never receive votes in Congress

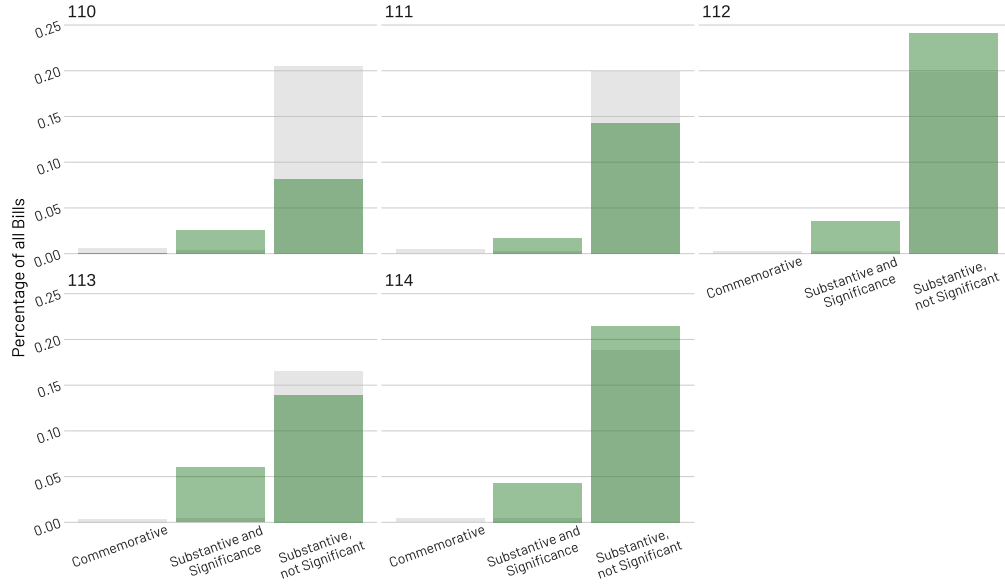


Figure A4: **Percentage of Significant Bills, by Congress**

Notes: *Percentage of bills that were classified as “Substantive and Significant,” “Substantive but not Significant,” and “Commemorative” by Volden and Wiseman (2014) criteria. All bills in grey, scored bills in green.*

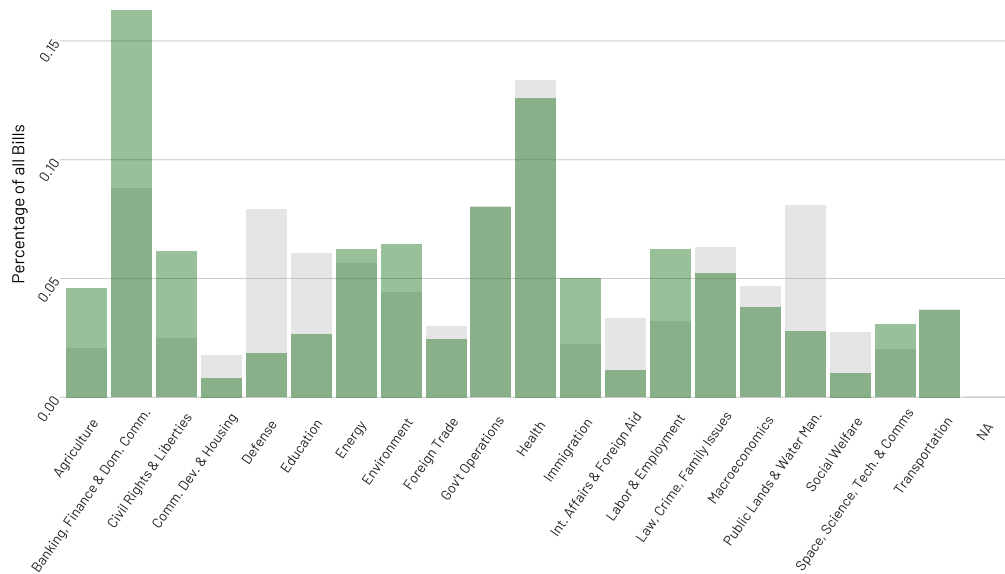


Figure A5: **Percentage of Bills by Major Issue Area**

Notes: *Percentage of bills classified within each of the Policy Agenda Projects’ major topic codes. All bills in grey; scored bills in green.*

Selection into the scoring procedure is subject jointly to the requisite interest group position-taking and legislator cosponsorship activity demanded by our estimation procedure. We further explore this selection of bills into our scoring

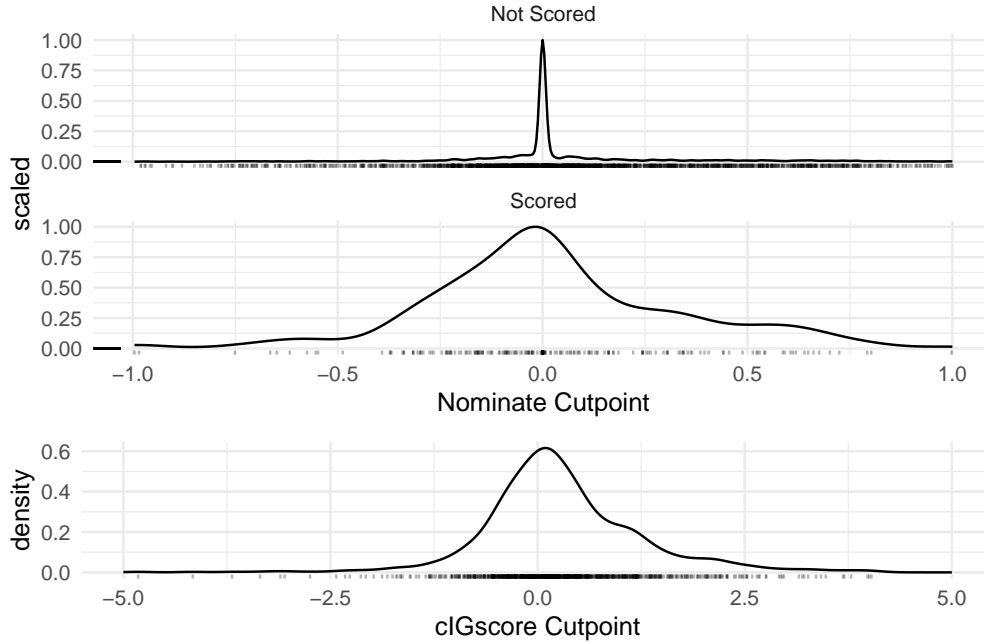


Figure A6: Comparison of cIGscore Cutpoint Distribution with Nominate

set by running a series of models in Table A1 in which the dependent variable is whether or not a bill is scored (Models 1-4) and whether the cosponsorship threshold is met (Models 5-8). In Models 1-2 and 5-6, we examine all bills; in Models 3-4 and 7-8, we restrict to “substantive & significant” (c.f., Volden and Wiseman 2014) bills only.

Across the models, which include a series combinations of fixed effects and other covariates, several patterns emerge. First, the bills scored / eligible to be scored are systematically more likely to be sponsored by a member of the majority party, to be reported from committee, and in some models, passed through the chamber of origin. Power committee bills, bills sponsored by committee chairs, and bills sponsored by party leaders also exhibit significant correlations with scoring status and cosponsorship attraction. Across the models, there do not appear to be major differences in scoring status compared to meeting our cosponsorship threshold, providing at least some evidence that interest groups and cosponsors are attracted to similar bills.

In sum, interest groups are taking positions on—and cosponsors are joining onto—bills that stand at least some chance of passing or receiving attention. Given that neither interest groups nor legislative offices have unlimited budgets or time, this makes sense. Moreover, given that our interests relate to the differential patterns of **effective** legislators, we believe that “truncating” our measurement toward more “serious” policymaking efforts only understates the revealed effects. However, should others use our data in the future, they should be aware of these selection features before making inferences about the population of bills.

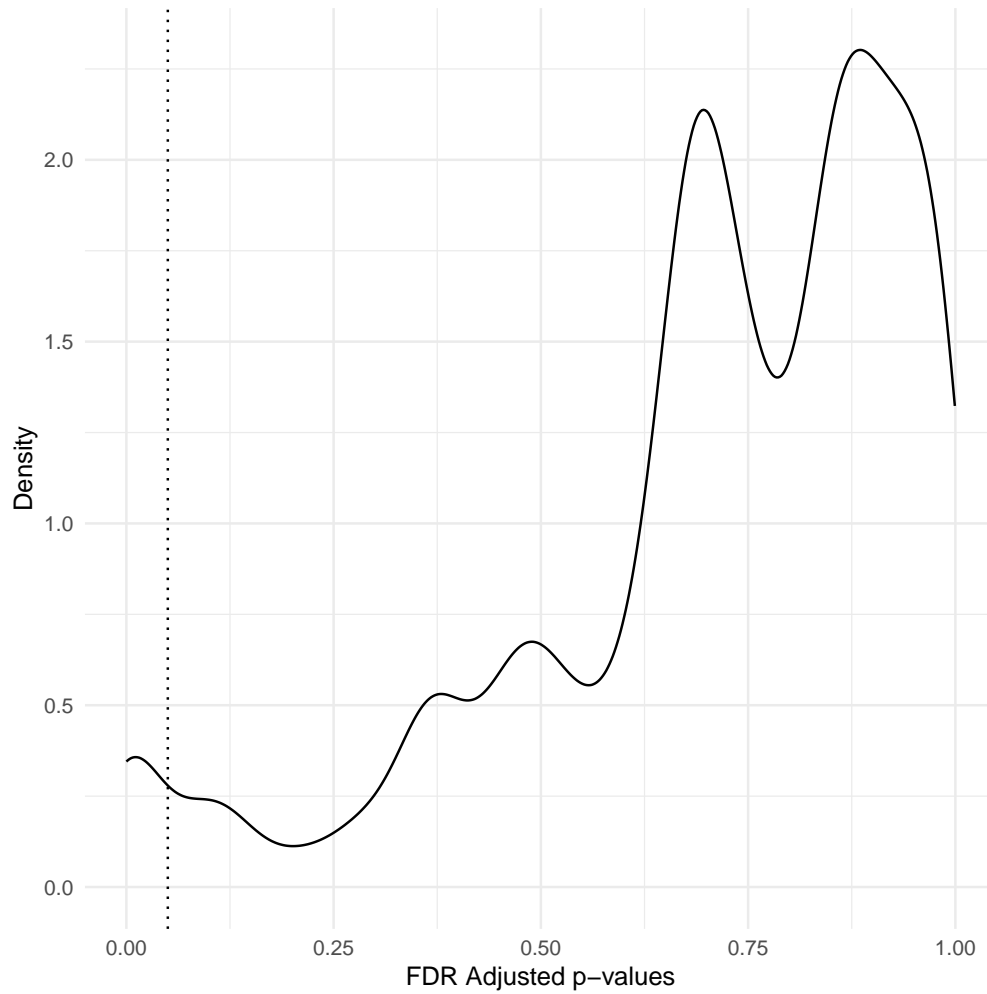


Figure A7: **Distribution False Discovery Rate adjusted p-value from t-tests of difference in cutpoint between bills on which groups took positions and those on which they did not by group**

Notes:  $N = 2,864$ .

	<i>Dependent variable:</i>			
	Bill Scored		3 or More Cospon.	
	(1)	(2)	(3)	(4)
<i>Extremism</i>	0.007** (0.003)	0.005 (0.003)	0.051*** (0.011)	0.048*** (0.011)
<i>Seniority</i>	0.001*** (0.0001)	0.001*** (0.0001)	0.002*** (0.0005)	0.002*** (0.0005)
<i>Committee Chair</i>	0.004* (0.002)	0.002 (0.002)	-0.032*** (0.007)	-0.034*** (0.007)
<i>Subcommittee Chair</i>	-0.004** (0.001)	-0.005*** (0.001)	-0.009 (0.006)	-0.010* (0.006)
<i>Majority Party</i>	0.015*** (0.002)	0.015*** (0.002)	0.056*** (0.008)	0.056*** (0.008)
<i>Power Committee</i>	-0.004*** (0.001)	-0.004*** (0.001)	0.045*** (0.005)	0.044*** (0.005)
<i>Majority Leader</i>	0.005** (0.003)	0.005** (0.003)	0.042*** (0.010)	0.043*** (0.010)
<i>Minority Leader</i>	0.006** (0.003)	0.004 (0.003)	0.061*** (0.011)	0.058*** (0.011)
<i>Female</i>	-0.001 (0.001)	-0.001 (0.001)	0.028*** (0.005)	0.028*** (0.005)
<i>Black</i>	-0.004** (0.002)	-0.005** (0.002)	-0.016** (0.008)	-0.016* (0.008)
<i>Latinx</i>	-0.002 (0.003)	-0.002 (0.003)	0.017* (0.010)	0.017* (0.010)
<i>Reported from Committee</i>	0.023*** (0.002)	0.022*** (0.002)	0.102*** (0.008)	0.101*** (0.008)
<i>Passed Chamber of Origin</i>	-0.012*** (0.002)	-0.010*** (0.002)	0.047*** (0.009)	0.048*** (0.009)
<i>Senate Bill</i>	0.003** (0.001)	0.004*** (0.001)	-0.149*** (0.005)	-0.148*** (0.005)
<i>Significant Bill</i>	0.116*** (0.004)	0.116*** (0.004)	-0.023 (0.014)	-0.025* (0.014)
<i>Civil Rights/Liberties</i>	0.030*** (0.004)	0.028*** (0.004)	0.127*** (0.016)	0.124*** (0.016)
<i>Health</i>	0.003 (0.003)	0.003 (0.003)	0.084*** (0.011)	0.083*** (0.011)
<i>Agriculture</i>	0.021*** (0.005)	0.022*** (0.004)	-0.034** (0.017)	-0.034** (0.017)
<i>Labor/Employment</i>	0.021*** (0.004)	0.020*** (0.004)	0.039*** (0.015)	0.038*** (0.015)
<i>Education</i>	-0.004 (0.003)	-0.004 (0.003)	0.038*** (0.013)	0.037*** (0.013)
<i>Energy</i>	0.011*** (0.004)	0.011*** (0.004)	-0.001 (0.013)	-0.002 (0.013)
<i>Environment</i>	0.004 (0.003)	0.005 (0.003)	-0.054*** (0.013)	-0.054*** (0.013)
<i>Immigration</i>	0.027*** (0.005)	0.027*** (0.004)	0.060*** (0.017)	0.059*** (0.017)
<i>Transportation</i>	0.001 (0.004)	0.0004 (0.004)	-0.053*** (0.014)	-0.053*** (0.014)
<i>Law/Crime/Family</i>	0.001 (0.003)	0.001 (0.003)	0.060*** (0.012)	0.060*** (0.012)
<i>Social Welfare</i>	-0.007* (0.004)	-0.008** (0.004)	0.034** (0.015)	0.033** (0.015)
<i>Comm. Dev./Housing</i>	-0.004 (0.005)	-0.003 (0.005)	0.009 (0.018)	0.010 (0.018)
<i>Banking/Finance/Commerce</i>	0.018*** (0.003)	0.018*** (0.003)	-0.037*** (0.012)	-0.037*** (0.012)
<i>Defense</i>	-0.013*** (0.003)	-0.013*** (0.003)	-0.023* (0.012)	-0.024** (0.012)
<i>Space/Tech</i>	0.010** (0.005)	0.010** (0.005)	-0.027 (0.017)	-0.028 (0.017)
<i>Foreign Trade</i>	-0.008*** (0.003)	-0.007** (0.003)	-0.441*** (0.011)	-0.437*** (0.011)
<i>Int. Affairs</i>	-0.012*** (0.004)	-0.012*** (0.004)	0.097*** (0.015)	0.095*** (0.015)
<i>Gov't Operations</i>	-0.001 (0.003)	-0.002 (0.003)	-0.033*** (0.012)	-0.034*** (0.012)
<i>Public Lands/Water</i>	-0.011*** (0.003)	-0.010*** (0.003)	-0.226*** (0.012)	-0.226*** (0.012)
<i>Arts/Entertainment</i>	-0.012 (0.023)	-0.013 (0.023)	-0.006 (0.084)	-0.005 (0.084)
Constant	-0.003 (0.004)	-0.017*** (0.004)	0.493*** (0.014)	0.485*** (0.014)
Congressional FEs		✓		✓
Observations	57,778	57,778	57,778	57,778
Adjusted R <sup>2</sup>	0.033	0.039	0.129	0.129

**Table A1: Full Models of Selection Into Scoring Procedure**

Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

## C Convergence

Below, we present Gelman-Rubin ( $\hat{R}$ ) statistics for Parameter Estimates. We omit traceplots and tables of individual parameter statistics, due to the sheer number of estimates included in our analysis. The Gelman-Rubin  $\hat{R}$  is a summary statistic that compares the ratio of the average variance within each chain to the overall variance in all chains. A ratio close to 1 indicates convergence for estimates, with below 1.10 seen as generally indicative of convergence. As the histogram indicates, the vast majority of our parameter estimates meet this criteria, though a handful do exceed 1.1. These include  $\beta$ ,  $\gamma$ , and  $\theta$  parameters only and constitute less than 0.1 percent of all parameters.

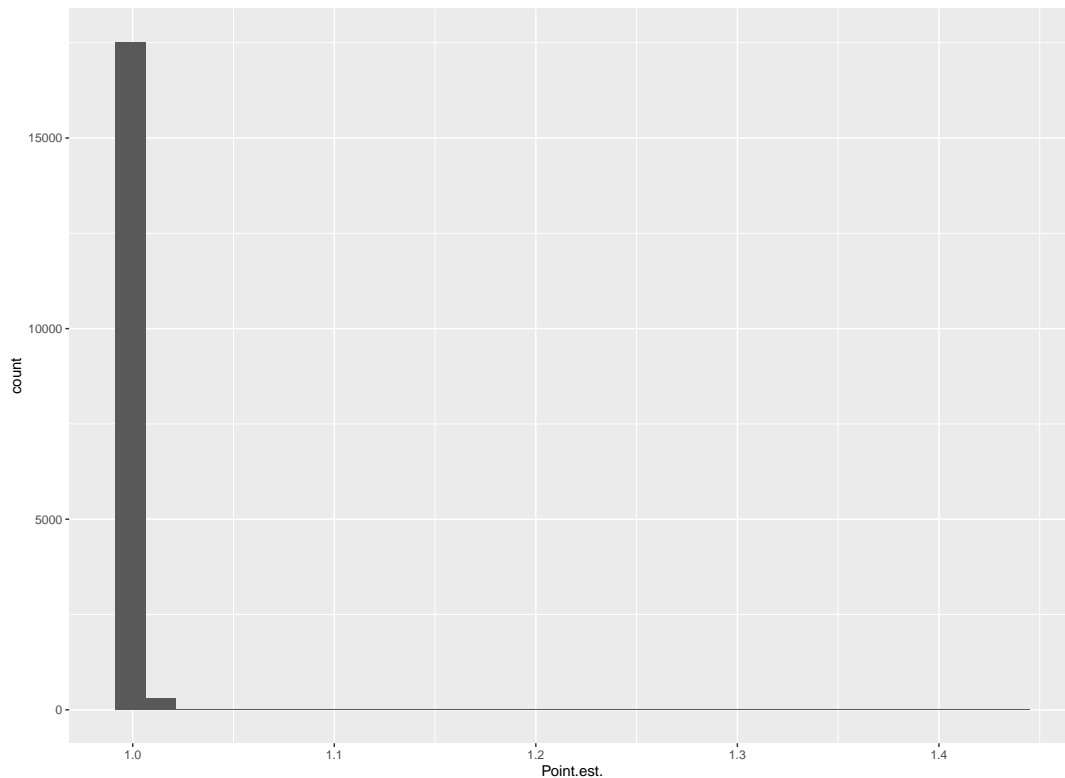


Figure A8: Gelman-Rubin ( $\hat{R}$ ) Statistics for Parameter Estimates

## D cIGscore correlations with IGscores

In Figure A9, we compare cIGscores with Crosson, Furnas and Lorenz’s (2020) IGscores. As the figure depicts, for both legislators (blue) and interest groups (yellow), cIGscores exhibit high Spearman correlations with IGscores:  $\rho = 0.960$  for legislators,  $\rho = 0.980$  for interest groups, and  $\rho = 0.979$  overall. As we note in the main text, these correlations provide reassuring evidence that the cosponsorship data and bill/group sample differences are not dramatically altering the dimension recovered by our estimation procedure.

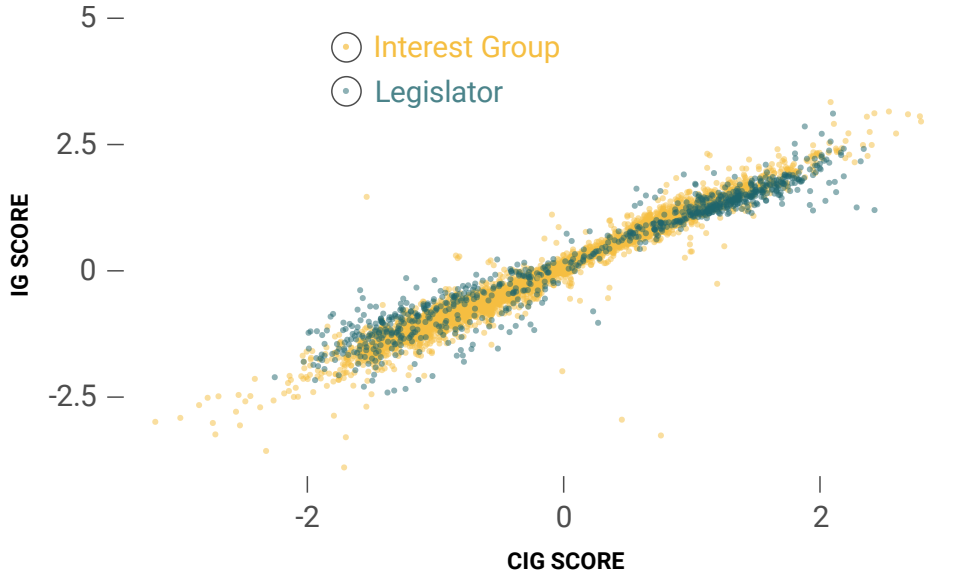


Figure A9: cIGscores v. IGscores

Notes: *Correlations between IGscores and cIGscores are  $\rho = 0.960$  for legislators,  $\rho = 0.980$  for interest groups, and  $\rho = 0.979$  overall.*

## E Must Pass Legislation

As an additional validation exercise we posit that reauthorization bills (e.g., The Farm Bill, The National Defense Authorization Bill), sometimes referred to as *must pass* legislation, should have more moderate proposal locations than bills that are not reauthorizations, as they are bills that are needed to pass to maintain current policy. We compare the distribution of proposal locations between reauthorization bills and other bills in Figure A10. To do so, we utilize data from Crosson (2019). Crosson systematically identified all expiring authorizations between 1951 and 2016, and then isolated the bills designed to serve as reauthorizations for those programs. Although likely not a census of reauthorizations, the bills offer a useful means for tagging “must-pass” legislation for this validity check.

As Figure A10 depicts, reauthorization bills ( $n=70$ ) do indeed tend to score more moderately than do bills that are not primarily reauthorizations. This result serves to further demonstrate the content validity of the cIGscore measures.



Figure A10: Comparison of Proposal Locations for Reauthorization Bills vs Non-reauthorization bills.

## F Robustness of Results when Accounting for Selection Effects

As we note in the main body of the paper, the sample of bills that we can score is by no means a random sample. Indeed, in order for us to score a bill, our procedure requires a certain amount of “interest” in a bill, both from cosponsors and from interest groups. This is particularly noteworthy, given that previous literature has underscored how special interests are most likely to invest in effective legislators. As such, we execute some selection models, in order assuage the concern that our main results are driven solely by selection effects.

We believe that Heckman-style selection models provide a framework addressing for this issue. That is, we can use this approach to first specify a series of models that capture interest group and cosponsor attraction to particular bills. In the second stage of the estimation, then, we can account for this selection and obtain residual associations between our primary independent variable of interest—Legislative Effectiveness—and our proposal extremity outcome.

More specifically, we estimate a first-stage model of whether or not a bill was scored:

$$Pr(\mathcal{S}_{it} = 1) = (\mathbf{Z}\gamma + \epsilon)$$

where  $\mathcal{S}_{it}$  represents whether bill  $i$  during Congress  $t$  was scored by our procedure.  $\mathbf{Z}$  captures variables influencing  $\mathcal{S}_{it}$  and are drawn from Lorenz, Furnas and Crosson (2020) and Volden and Wiseman (2014). These variables, we include bill-specific information (importance, type, number of cosponsors, and so on) and sponsor characteristics (taken from the Center for Effective Lawmaking’s “benchmark” models). Note, however, that we do not use the bill-progress variables found in By estimating this model, we are then able to estimate the following modified specification of a base model for the relationship between proposal extremity and legislative effectiveness:

$$\mathcal{P}_{it}|\mathcal{S} = 1 = \mathbf{X}\beta + r\sigma_u \frac{1}{h(x)}(\mathbf{Z}\gamma)$$

where  $\mathcal{P}_{it}$  represents proposal extremity,  $r$  equals the correlation between  $\epsilon$  and unobserved determinants  $u$  of  $\mathcal{P}$ ,  $\sigma_u$  represents the variance of  $u$ ,  $\frac{1}{h(x)}$  represents the inverse Mills ratio, and  $\mathbf{X}\beta$  captures the base model specification of proposal extremity. Below, we present the results of both portions of the estimation.

As table A2 depicts, the negative association between LES and proposal extremism remains significant, as it does throughout our much of our specification curve in the main text. In fact, the coefficient on *Legislative Effectiveness* is quite similar in magnitude in the selection-adjusted models, compared to the original unadjusted models. We believe it is possible that, because interest groups tend to focus their attention on more serious laws and more serious lawmakers, our bills are covering a specific (though quite important) subset of all bills. If the U.S. system does in fact reward moderation, and if effective lawmakers realize this, then we are testing our hypotheses on a smaller amount of variation than is available in the universe of bills (were all those bills scoreable). It stands to reason, then, that the estimates in the paper may well be conservative ones.

	Bill Scored?		Prop. Extremity
(Intercept)	−3.980*** (0.172)	(Intercept)	1.223*** (0.162)
<i>Legislative Effectiveness</i>	0.069*** (0.012)	<i>Legislative Effectiveness</i>	−0.044* (0.018)
<i>Majority Status</i>	0.303*** (0.043)	<i>Sponsor Extremism</i>	0.299*** (0.034)
<i>Seniority</i>	0.011*** (0.003)	<i>Majority Status</i>	−0.994*** (0.101)
<i>Chair</i>	0.008 (0.047)	<i>Seniority</i>	0.012* (0.005)
<i>Subcommittee Chair</i>	−0.039 (0.036)	<i>Chair</i>	−0.148* (0.068)
<i>Multiple Referrals</i>	0.087*** (0.014)	<i>Subcommittee Chair</i>	−0.023 (0.055)
<i>Number of Cosponsors</i>	0.007*** (0.0003)	<i>Power Committee</i>	−0.022 (0.048)
<i>Important Bill</i>	1.108*** (0.149)	<i>Majority Leader</i>	−0.061 (0.086)
<i>Reported from Committee</i>	0.480*** (0.041)	<i>Minority Leader</i>	0.396** (0.142)
<i>Passed Chamber</i>	−0.193*** (0.050)	<i>Female</i>	0.071 (0.063)
Issue FEs?	✓	<i>Black</i>	−0.227+ (0.118)
Bill Type FEs?	✓	<i>Latinx</i>	0.091 (0.134)
Num.Obs.	73 675	<i>State Leg_x_Prof.</i>	0.204 (0.129)
R2	0.509	Num.Obs.	73 675
R2 Adj.	0.502	R2	0.509
RMSE	0.70	R2 Adj.	0.502
		RMSE	0.70

+ p < 0.1, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

Table A2: Two-Stage Heckman Models for Proposal Extremism

## G Estimation with Uniform Prior for $p$

In our main estimation, we use a typical normal-distribution prior for the proposal location parameter,  $p$ , within our model. Recognizing that that this could bias some of our more low-information bills toward more moderate estimates, we reestimated our model using a less informative prior for  $p$ : the uniform distribution, from -1 to 1. We compare the resulting ideal points and proposal location estimates below.

As the graphs underscore, though there are some differences between the estimation outputs, the estimates are largely quite correlated with our main scores—with  $\rho = 0.975$  for the ideal points and  $\rho = 0.966$  for the proposal locations.

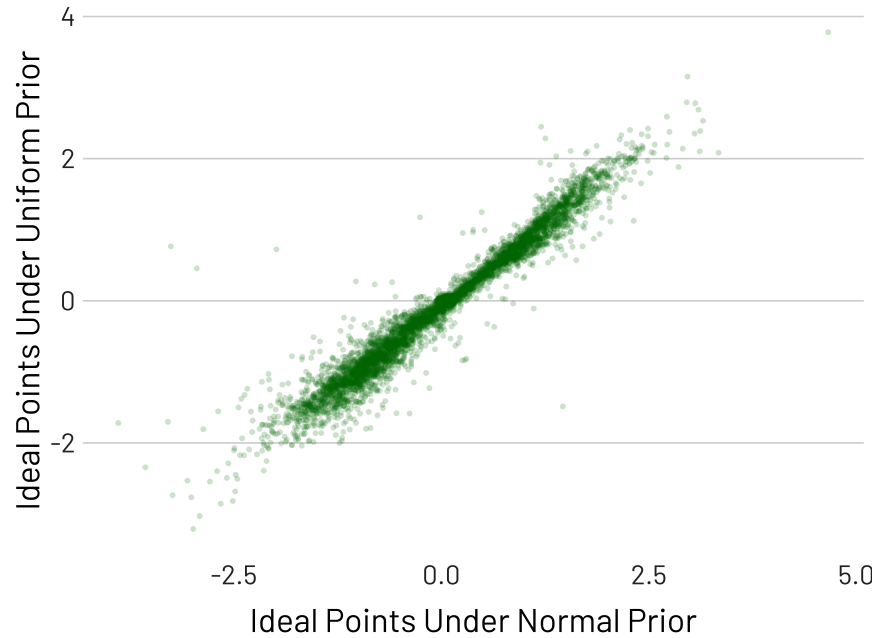


Figure A11: Ideal Point Estimates Under Uniform and Normal Distribution Priors for  $p$

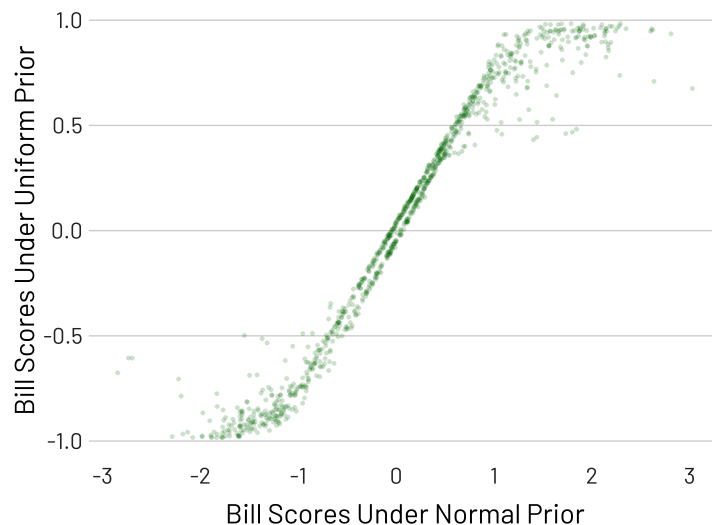


Figure A12: Bill Location Estimates Under Uniform and Normal Distribution Priors for  $p$

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