

A Direct Test of Legislative Gatekeeping

(Online Appendix)

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Appendix A: Details About Lobbyist Disclosures

All 50 states currently have reporting requirements for state-level lobbyists. However, the extent of required disclosure varies markedly across states.¹ Lobbying rules in Iowa, Nebraska, and Wisconsin are rare in that they require lobbyists to report the bills and resolutions on which they lobby legislators, as well as the principals on whose behalf they lobby on each bill or resolution.² Further, lobbyists in Iowa and Nebraska are required to report the positions they communicated towards legislators on behalf of their principals. Although lobbyists in Wisconsin are not required to disclose positions, they do so in a large majority of cases. Between 2003-2016, in 83.3% of cases where lobbyists registered an interest in a bill or resolution, they also reported a position.

The format in which positions are reported is different in each state. In Iowa, lobbyists must choose between *For*, *Against*, and *Undecided* within one day of lobbying a legislator.³ Similarly, they must report any change in the communicated position within one working day.⁴ Lobbyists report lobbied positions through an online system, and the *lobbyist declarations* are made publicly accessible on the website of the Iowa State Legislature. A declaration also includes the name of the bill or resolution, the lobbyist's name, the principal's name, and the date of the declaration.⁵ Each bill in the online *BillBook* has a link to the relevant lobbyist declarations.⁶ Unlike Nebraska and Wisconsin, Iowa requires officials representing state offices and agencies to register their positions.

Wisconsin has a similar reporting system to Iowa. Lobbyists must register their principals' in-

¹A state-by-state overview is available from the National Conference of State Legislatures at <http://www.ncsl.org/research/ethics/50-state-chart-lobbyist-registration-requirements.aspx>.

²See Iowa Code §68B.36 and lobbyist rules passed in the Iowa state legislature, §49-1488 of Nebraska Revised Statutes, and Chapter 13 of the Wisconsin Statutes.

³*Undecided* is also used to indicate that a lobbyist is monitoring a bill of (potential) interest to his or her principal.

⁴Since 2015, lobbyists may also choose *Withdraw* as a position to indicate that the principal is no longer interested in the legislation. However, previous declarations will remain visible.

⁵Information on the time of the declaration is available from 2009.

⁶<https://www.legis.iowa.gov/legislation/BillBook>

terest within 15 days of first communicating with a legislator. Furthermore, lobbyists who choose to report their principals' position can choose between *For*, *Against*, *Other*, and *Undisclosed*. In addition, lobbyists can upload documents and links to documents in support of their position, as well as a comment with a maximum of 250 characters. These statements are immediately made publicly accessible through the website *Eye on Wisconsin*, currently maintained by the Wisconsin Ethics Commission.⁷ As in Iowa, lobbyists in Wisconsin may amend their principals' reported position at any point in the legislative process, with previously reported positions remaining publicly accessible. The online database shows the date a position was first reported or amended. Differently from Iowa and Nebraska, it does not show which lobbyist reported the position.

In Nebraska, lobbyists must register the positions they communicated on behalf of their principals on a *Statement of Activity* (Nebraska Accountability and Disclosure Commission Form D) within 45 days of the end of a legislative session (see §49-1488). Lobbyists are required to report communicated positions on bills. Whereas in Iowa and Wisconsin the reported positions refer to the version of the bill that is current at the time, the reported positions in Nebraska generally refer to the last version of the bill. However, some lobbyists also report their principals' positions at different stages of the legislative process (e.g., *Support as Introduced*, *Oppose as Amended*).⁸ Electronic versions of filed forms are available on the website of the Nebraska state legislature.⁹

I collected and assembled all lobbyist declarations from Iowa between 2005 and 2016, all statements of activity from Nebraska between 2003 and 2016, and all principal lobbying efforts in Wisconsin between 2003 and 2016. I do not include declarations from Iowa from 2003 through

⁷The website is available at <https://lobbying.wi.gov/Home/Welcome>. The Government Accountability Board was replaced by the Elections Commission and the Ethics Commission on June 29, 2016, pursuant to Wisconsin Act 118.

⁸Since 2015, lobbyists in Nebraska must submit statements of lobbying activity electronically, which limits their options to *Support*, *Oppose*, and *Neutral* (LB 782, 2012). Prior to 2013, many statements were submitted manually, allowing for more variation in how positions were described.

⁹See <http://nebraskalegislature.gov/lobbyist/view.php?v=principal>.

2004, as these do not include information on the lobbyists' principals and the date when the declaration was made. I also do not include statements from Nebraska before the 2003 session to maintain a relative balance in the time period across states.¹⁰

Appendix B.1: Combining Declarations with Roll Call Votes

Since introduced bills are frequently amended in the legislative process, linking lobbyist declarations to roll call votes on bill passage requires making assumptions about which version of a bill a declared position refers to. I employ bill histories in Iowa, Nebraska, and Wisconsin to determine the dates of successful amendments so as to identify which bill version was current at a particular date.¹¹ I assume that any successful amendment constitutes a change in the bill version.¹²

Next, I assume that declarations apply to the then-current bill versions. Therefore, I do not assume that declarations refer to previous bill versions. In Iowa and Wisconsin, where position statements made throughout the legislative process are reported by date, I assume that a declaration made at a time when a previous bill version was current carries over to subsequent versions until a new declaration replaces it.¹³ Any bill version that was current for a day or less is disregarded, under the assumption that potential changes in the principal's position cannot be picked

¹⁰The Nebraska state legislature makes all statements of activity since 2001 available on its website. The current *Eye on Wisconsin* website shows lobbying efforts from 2003-2016. Prior lobbying efforts are available in paper format from the State of Wisconsin Historical Society (see <http://www.gab.wi.gov/lobbying>).

¹¹Bill histories identify the dates of legislative actions, e.g., introductions, committee referrals, committee reports, filed or adopted amendments, or floor votes. In Iowa, bill histories are available at <https://www.legis.iowa.gov/legislation/billTracking/billHistory>. In Iowa, I also merge bill histories and declarations for study bills and subsequently introduced identical bills. Further, I merge bill histories and the declaration records for identical companion bills within the same chamber. In Nebraska, bill chronologies are available by session (e.g., http://www.nebraskalegislature.gov/session/view_archives.php?leg=98 for the 98th Legislature, 2003-2004). In Wisconsin, bill histories are listed on bill websites (e.g., <http://docs.legis.wisconsin.gov/2015/proposals/reg/asm/bill/ab1> for AB 1 in the 2015-2016 legislature).

¹²Another way to proceed would be to distinguish between contentious and non-contentious amendments.

¹³In Iowa, since I aggregate declarations of multiple lobbyists for the same principal, and since lobbyists tend to make initial *Undecided* declarations before declaring support or opposition, I exclude all such declarations by lobbyist 1, for principal A on bill X, unless lobbyist 1 previously declared support for or opposition to bill X for principal A.

up in such a short interval. However, declarations from the day of a successful amendment are not disregarded but matched to subsequent bill versions if these last longer than one day.¹⁴

In Nebraska, position statements are generally made after the end of a session. Therefore, I assume that positions such as *Support* or *Oppose*, without reference to amendments or specific bill versions, apply only to then-current bill versions. This reduces the number of positions on initial bill versions for bills that were subsequently amended. I use the bill histories to determine the bill version current at the end of the session. However, whenever a more detailed position was provided, such as *Oppose as Introduced*, *Support as Passed*, I manually code these accordingly, i.e., with a *nay* vote on the first bill version and a *yea* vote on the last bill version. I also manually code positions on amendments or procedural motions, when they can be matched to a roll call vote. Any discrepant position on behalf of a principal that cannot be reconciled is coded as missing.¹⁵

In the ideal point estimation, I only use lobbyist declarations that indicate a position for or against a motion. Where any other positions are linked to a bill version or motion, I code the position as missing. This is done to simplify the analysis, as other response categories are harder to interpret. In particular, the position *Undecided* in Iowa may indicate that a lobbyist is monitoring a bill, rather than a genuinely undecided position. In Wisconsin, the *Other* position may indicate support for parts of the bill and an opposition to others, support for or opposition to an amendment, a neutral position, or a general interest. Similarly, the *Neutral* position in Nebraska, may indicate monitoring of bills, support and opposition of different parts, as well as well as a middle posi-

¹⁴These assumptions imply active lobbyists that follow the progress of bills and change their declarations if their principals' positions change. I assume that lobbyists in Iowa and Wisconsin use the online reporting system to communicate changes in their principals' positions to legislators as quickly as possible. In Iowa, this assumption is also motivated by Rule 2.2 of the Joint Rules Governing Lobbyists (HJR 7 2015-2016), requiring lobbyists to declare changes in their principal's position within a business day. Results from robustness tests in which I make different assumptions when merging declarations with bill versions, e.g., that declarations refer to the first bill version or only the then-current bill version are available upon request.

¹⁵This affects less than 50 positions.

tion.¹⁶ Without additional information, naive coding of such “third” positions as a middle category between *Oppose* and *Support* is likely to result in biased estimates (e.g., Lo 2013).¹⁷ A similar argument applies to abstentions (e.g., Rosas, Shomer, and Haptonstahl 2015).

In the final step, I construct the legislator-principal-vote matrix from the matched position statements by combining the declarations on bill versions with legislator roll calls whenever a bill version is associated with a final passage roll call vote. Whenever a bill version is not associated with a roll call vote, e.g., because it died in committee, I add the positions associated with the bill version to the matrix as a separate column. Therefore, declarations on bills without floor consideration are coded as “votes” on the initial version of the bill.¹⁸

Appendix B.2: Committee Registrations in Wisconsin

In Wisconsin, for bills on which a lobbyist chose not to disclose the position of a lobbying communication, but registered a position at a committee hearing, I determine the principal’s position by combining the committee registrations with the online lobbying disclosures. Moreover, I combine legislators’ positions registered at committee hearings with the corresponding bill version.¹⁹

Since hearings in the non-originating chamber are often on already amended bills, I use bill histories to link positions to the correct bill versions. I do not assume that positions from committee registrations carry over to subsequent versions, since committee registrations, unlike positions on

¹⁶The use of the *Neutral* position in Nebraska increased from about 900 in 2012 to about 12,500 in 2016, while the combined number of supporting and opposing positions stayed roughly the same across the years.

¹⁷In a robustness check where the response category *Undecided* is naively coded as a middle category between *For* and *Against*, and Iowa legislators are scaled together with principals’ positions on bills in Iowa, the results lack face-validity. In particular, all principals’ ideal point estimates are located in a very narrow band between all Democrats and all Republicans. Similarly, results from Nebraska when *Neutral* is treated as a middle category lack face-validity in that almost all principals, including unions, have more conservative estimates than the most conservative legislator.

¹⁸I consider a bill as unamended until the amendment has been passed by the chamber.

¹⁹Committee votes in the Iowa Senate, and the Nebraska and Wisconsin legislatures are additional potential sources of position data. The Iowa House does not publish the votes of individual committee members.

“Eye on Lobbying”, cannot be amended without another hearing. Since appearing for information does not indicate a position, I code such registrations as missing votes. Using bill versions, I then augment the vote matrix by filling in missing votes with positions from committee registrations.

Appendix B.3: Identity of Principals Across Time

Merging principals’ position-records across legislative sessions requires assumptions about the identity of a principal.²⁰ I use the principals’ registered names, addresses, and websites to identify matches across time.²¹ I do not merge subsidiary and parent (or holding) companies, unless registrations indicate a representation by the parent company. If one company with a registered lobbyist acquired another company with a registered lobbyist and the registration record did not reflect this change, I change the name to reflect either its new subsidiary name, or, if the acquired company was likely represented by a new parent company, to the name of the new parent company.

For municipalities, school districts, public power districts, and state-wide offices, I use the identity of the mayor, superintendent, president, or office-holder to create separate voting records. For county governments, I use changes in partisan control, and for state boards with leaders appointed by the governor, I use the identity of the governor to create separate voting records. In Iowa, I merge state agency positions with the position record of the then-current governor.

Appendix C.1: The Joint Model of Cosponsorship and Voting

To estimate the status quo positions of proposed bills, I combine data from roll call votes, lobbying declarations, bill cosponsorships, and legislator covariates to estimate a joint statistical model of

²⁰This issue does not usually arise in item-response analysis, because the subjects tend to be individuals.

²¹In Nebraska, I also use an official directory of name changes to identify name changes among principals.

voting and bill cosponsorship, which closely follows the model developed by Peress (2013). The first part of the model consist of a standard item-response model (e.g., Bafumi *et al.* 2005; Clinton, Jackman, and Rivers 2004), which relies on a vote matrix to estimate the cutpoint and discrimination parameters of votes, as well as ideal points of elected officials and lobbying principals.²² The second part of the model uses bill cosponsorships, bill-fixed effects, and legislator covariates to estimate the positions of bill proposals on the same ideological dimension as that recovered from the voting model.²³ The log-likelihood function for the data is given by:

$$\begin{aligned}
l(\alpha, \beta, p, q, \delta, \tau, \theta) = & \sum_{n=1}^N \left\{ \sum_{t \in T_v} y_{n,t} \log F(\beta_t(\theta_n - \tau_t)) + (1 - y_{n,t}) \log(1 - F(\beta_t(\theta_n - \tau_t))) \right\} \\
& + \sum_{n=1}^N \left\{ \sum_{t \in T_c} y_{n,t} \log F\left(\frac{-(p_t - \theta_n)^2 - \alpha'x_n - q_t}{\delta_t}\right) \right. \\
& \left. + (1 - y_{n,t}) \log\left(1 - F\left(\frac{-(p_t - \theta_n)^2 - \alpha'x_n - q_t}{\delta_t}\right)\right) \right\}.
\end{aligned}$$

Here, N is the number of legislators, T_v the set of voting decision indices, and T_c the set of cosponsorship decision indices. The first part of the model represents the vote choice $y_{n,t}$ of actor n on vote t . This part of the model identifies the ideal point of actor n (θ_n) and the cutpoint of vote t (τ_t). Further, $\beta_t = 2(p_t - s_t)/\sigma_t$, where p_t is the proposal location (“yea”), s_t is the status quo (“nay”), and σ_t is the standard deviation of the differences between the errors of voting for p_t or s_t .

A legislator with an ideal point at a vote’s cutpoint (also known as midpoint) is indifferent between voting for p_t and s_t .²⁴ Given assumptions about σ_t , the first part of the model also identifies the location of the proposal and the status quo (Carrol *et al.* 2009). For example, if $\sigma_t = 1$, since

²²For bills without floor consideration, estimates are based on lobbying declarations. For bills with floor consideration, estimates are based on roll call votes and lobbying declarations.

²³Following Peress (2013, 619), I restrict attention to bills with at least 3 cosponsors.

²⁴The cutpoint τ_t can be rewritten as $\frac{p_t^2 - s_t^2}{\sigma_t} / \frac{2(p_t - s_t)}{\sigma_t}$ or $\frac{\alpha_t}{\beta_t}$.

$s_t = \frac{p_t + s_t}{2} - \frac{p_t - s_t}{2}$, it follows that $s_t = \tau_t - \beta_t/4$.

The second part of the equation models the choice of legislator n to cosponsor bill p_t based on quadratic loss as distance to her ideal point increases, a bill-specific fixed effect (q_t), and a vector of legislator-specific covariates, x_n . The underlying assumption is that unlike bill *sponsorship*, bill *cosponsorship* is nonstrategic, and used by legislators to signal their preferences (e.g., Woon 2008). Moreover, cosponsorship is assumed to be governed by the same ideal points as voting (Peress 2013). Legislator n will sponsor bill t if the utility from cosponsoring is greater than a random threshold, for which the mean varies by legislator and bill.²⁵ Further, x_n accounts for party membership and whether the legislator was a majority or minority party leader of the committee to which the bill was referred.²⁶ Finally, the bill-fixed effect q_t allows the salience of bills to vary and accounts for large differences in the likelihood of cosponsorships across bills (Peress 2013, 618).

Based on the assumption of symmetric preferences, the status quo can be calculated as the reflection of the proposal location on the estimated cutpoint, i.e. $\hat{s}_t = 2\hat{\tau}_t - \hat{p}_t$ (Peress 2013). This approach provides an alternative to estimating status quos only via voting data and does not rely on assumptions about σ_t for identification. However, since many bills lack cosponsors it limits the number of bills for which status quos can be estimated with sufficient accuracy (Peress 2013, 619).

To estimate status quos for a larger set of proposed bills, I use adjusted vote-based status quo estimates when there are not enough cosponsorships for a sufficiently accurate estimate of p_t . In particular, instead of relying on the strong assumption that the error standard deviation σ is homogenous, I employ parameter estimates from the joint model to estimate $\hat{\sigma}_g$, for a group g of bills based on the state, chamber, session, and majority vs. non-majority party sponsor.²⁷ I then adjust

²⁵That is, if $-(p_t - \theta_n)^2 > \alpha'_n x + q_t + \epsilon_{n,t}^c$, where the error term $\epsilon_{n,t}^c$ has cdf $F(\epsilon/\delta_t)$, and $F = \text{logit}^{-1}$.

²⁶The Nebraskan legislature does not distinguish committee leaders by majority or minority party.

²⁷Since there are no $\hat{\sigma}_g$ for bills sponsored by minority party members in Iowa, I adjust all available estimates based on state, chamber, and session.

the vote-based status quos using estimates of σ_g .

In particular, since $\beta_t = 2(p_t - s_t)/\sigma_t$, $\hat{\sigma}_t$ can be estimated by $2(\hat{p}_t - \hat{s}_t)/\hat{\beta}_t$ from the joint model. I then estimate $\hat{\sigma}_g$, as the median of all σ_t within a group of bills, i.e., $\hat{\sigma}_g = \text{Median}(\hat{\sigma}_t | t \in g)$.²⁸ Since the original estimation of the model assumed $\sigma = 1$, s will be biased if this assumption is not met.²⁹ Therefore, I calculate the adjusted status quos as $\hat{a}s_t = \hat{\tau}_t - \hat{\beta}_t/4 * \hat{\sigma}_{g(t)}$, where $g(t)$ is the group of vote t .

Appendix C.2: Estimation of the Joint Model in Stan

To simplify the estimation and increase the precision of cutpoint estimates, I conduct the analysis using three within-state estimations. This is especially relevant for Nebraska, where legislators are less polarized than in most other states (Masket and Shor 2015). To balance the trade-off between precision of the parameter estimates and estimating a substantial number of status quos, I reduce the vote matrix so that all “votes” have a minimum number of 9 actors voting on it, all actors have at least 9 votes, and the minority vote is greater or equal to the maximum of 2 votes or 2.5% of the votes. Votes that do not meet these requirements are excluded. In cases where all legislators vote or abstention is not strategic, unanimous roll calls are unlikely to capture a left-right dimension. Instead, they may capture deference to the chamber majority or non-partisan inter-chamber conflict (Poole and Rosenthal 2007, 230). To prevent bias that can arise from legislators and lobbying principals having different item parameters (e.g., Jesse 2016), I exclude votes which combine unanimous roll calls with opposing positions from lobbying principals from the vote matrix.

I implement the joint model using the probabilistic programming language Stan (Carpenter *et*

²⁸Since I estimate $\hat{\sigma}_g$ from the draws of posterior distribution and also adjust status quos for each draw, I recode $\hat{\sigma}_g$ to 1 in the very small number of iterations it is negative.

²⁹Remember that $s = \tau - \beta/4$ or $s = \tau - \frac{2(p-s)}{4\sigma}$ is only the same as $s = \frac{p+s}{2} - \frac{p-s}{2}$ if $\sigma = 1$.

al. 2017) via the *R* package *rstan* (Stan Development Team 2017) which is designed for Bayesian inference. The combination of Hamiltonian Monte Carlo and No-U-Turn-Sampler (Hoffman and Gelman 2014) increase the efficiency of sampling by avoiding a random-walk behavior and addressing the issue of correlated parameters. Due to this high level of efficiency, I rely on three chains with burn-in periods of 750 iterations, drawing the subsequent 750 samples from the posterior distribution in Iowa and Wisconsin. In Nebraska, where convergence is somewhat slower, I rely on 1500 iterations for the burn-in period and sampling.

The variables have the following independent priors (mean, standard deviation): $p \sim N(0, 1)$, $\theta \sim N(0, 1)$, $\tau \sim N(0, 1)$, $q \sim N(0, 5)$, $\beta \sim N(0, 5)$. The parameters for legislator covariates the following priors: $party \sim N(0, 1)$, $com_maj_leader \sim normal(0, 2)$, $com_min_leader \sim N(0, 2)$. Moreover, $\delta \sim \gamma(v, v)$, where $\nu \sim N(20, 3)$. Further, I constrain the parameters to the following intervals: $\tau \in (-2.5, 2.5)$, $\beta \in (-35, 35)$, $p \in (-2.5, 2.5)$, $\delta \in (0, 15)$, $v \in (0, 15)$.

Starting values for θ , τ , β , are obtained using the function *ideal* in the *R* package *pscl* (Jackman 2015). Starting values for p are set as the median of cosponsor ideal points. Starting values for q are obtained by z-scoring the number of cosponsors on a bill. Starting values for party are obtained similarly. Starting values for committee leadership positions are set at -1 (for a positive effect). Starting values for δ are drawn from a gamma distribution similar to the prior distribution for γ .³⁰

Appendix C.3: Convergence Diagnostics

Visual inspection of the traceplots and the potential scale reduction factor ($PSRF/\hat{R}$) (Gelman and Rubin 1992) show a high level of convergence in the Markov Chains. The \hat{R} are calculated with all three MCMC chains. Table 1 shows, for each of the three within-state estimations, the number

³⁰For each parameter, a random error term was added to the starting values of chains 2 and 3.

and percentage of parameters for which $\hat{R} > 1.1$.

Table 1: Percentage and Number of Parameters with Potential Scale Reduction Factor $\hat{R} > 1.1$

Estimation	$\% \hat{\theta}$	$\# \hat{\theta}$	$\% \hat{\beta}$	$\# \hat{\beta}$	$\% \hat{\tau}$	$\# \hat{\tau}$	$\% \hat{p}$	$\# \hat{p}$
Iowa	0.1	1	0.3	14	0.5	23	0.2	4
Nebraska	0.4	2	1.3	31	1.9	45	0	0
Wisconsin	0.1	1	0.2	14	0.3	17	< 0.1	6

Note: This table shows, for each within-state estimation, the percentage and number of parameters for which $\hat{R} > 1.1$.

Appendix D: Comparisons Between Different SQ Estimates

Absent auxiliary information from bill co-sponsorships, status quo and proposal locations in the joint model of cosponsorship and voting are only identified by the choice of the standard deviation of the difference in errors of voting for the status quo and the proposal, σ_t .³¹ For the initial estimations, I assume that $\sigma_t = 1, \forall \sigma_t$. Due to the need to rely on such strong assumptions, Carrol *et al.* (2009) advise against using bill and status quo estimates from voting models without auxiliary evidence. In the following, I compare status quos estimated solely from vote choices to status quos estimated jointly via vote choices and cosponsorships.

In addition, I compare both sets of estimates to status quos that rely on bill cutpoints and assumed bill positions. In particular, I employ the shortcut of assuming that the proposal location is given by the ideal point of the bill sponsor (Peress 2013, 622-623).³² Below, I compare status quo estimates which rely on this assumption to status quos estimated via votes and cosponsorships.³³

³¹NOMINATE models identify the proposal and status quo location from the data via the choice of a scaling parameter and the non-linearity of the choice function (Carroll *et al.* 2009, 567).

³²The Wisconsin legislature distinguishes between coauthors (co-introducers from the same chamber) and cosponsors (co-introducers from the other chamber). In my analysis, I treat coauthors as cosponsors. For bills introduced by state agencies in Iowa, I code the bill position as that of the governor's ideal point.

³³As in the case of cosponsorship-based estimates, this approach relies on the equation $s_t = 2\tau_t - p_t$.

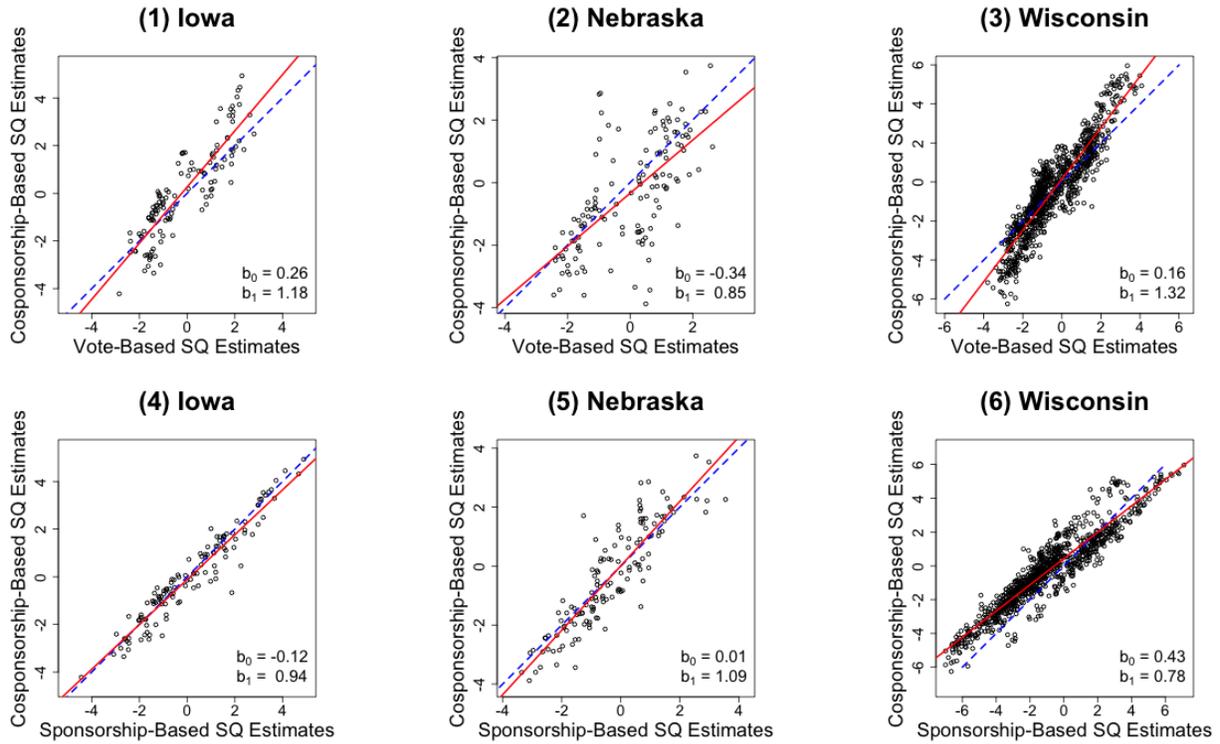
Panels 1-3 in Figure 1 shows scatterplots between status quos estimated via cosponsorship and status quos estimated via voting without adjustment. The correlations are 0.88 (Iowa), 0.66 (Nebraska), and 0.91 (Wisconsin). In comparison with Figure 2 in the main analysis, this indicates that if the bill-group-specific $\hat{\sigma}_g$ are good estimates of σ_g , the adjustment of the vote-based estimates via $\hat{\sigma}_g$ will improve the approximation of cosponsorship-based estimates with vote-based estimates.

Panels 4-6 in Figure 1 compare status quos estimated via cosponsorship with status quos estimated via assumed bill positions. The correlations for each of the states are 0.96 (Iowa), 0.89 (Nebraska), and 0.94 (Wisconsin). Interestingly, these correlations are stronger than those between cosponsorship-based estimates and either adjusted or the unadjusted vote-based estimates. Moreover, the comparison in Iowa and Nebraska (but not in Wisconsin) closely tracks the 1:1 line. This suggests that at least for the estimates in the sample, bill sponsorship in Iowa and Nebraska are not as strategic as in Wisconsin. Results using cosponsorship-based estimates, unadjusted vote-based estimates, and sponsorship-based estimates are presented in Appendices F.1 and F.2.

Appendix E.1: Rules on Agenda Control in Iowa and Wisconsin

In Iowa and Wisconsin, chamber rules put majority party legislators in positions to block legislation, in a way that is largely consistent with the party cartel theory (Cox and McCubbins 2005, Chapter 3). First, agents of the majority party select committee chairs (Iowa House Rule 46, Iowa Senate Rule 34, Wisconsin Assembly Rule 9(2)(b), and Wisconsin Senate Rule 20(2)(a)). Second, procedural rules put committee chairs in these chambers in a position to delay or kill legislation, since they can choose not to hold a committee hearing, and are not required to report all bills to the floor (Anzia and Jackman 2013). Third, the same is true to some extent for rules on calendar

Figure 1: Adjusted Status Quo Estimates Versus Cosponsorship-Based Status Quo Estimates



Note: Panels 1-3 compare vote-based status quo estimates assuming a homogenous σ (horizontal axis) with status quos that are estimated using bill cosponsorship decisions and votes (vertical axis). In the second row, the estimates on the horizontal axis are based on assumed bill positions. The dashed blue lines represent 45-degree lines, and the solid red lines represent the respective regression lines. The regression coefficients are shown in the bottom right corner of each panel. In each row, the number of comparisons is 124 in Iowa, 135 in Nebraska, and 922 in Wisconsin.

scheduling by agents of the majority party.

To be sure, none of chambers give absolute veto rights to committees, and each chamber has a discharge procedure to withdraw bills from committee. In the Iowa House (Senate), bills that have been in committee for eighteen (fifteen) legislative days may be withdrawn by a majority of elected members (Iowa House Rule 60 and Iowa Senate Rule 42). In Iowa, the House Speaker and the majority leader in the Senate can prevent a floor vote by re-referral of the bill to committee (House Rule 43 and Senate Rule 33(5)). The Iowa Senate majority leader can also chose whether to schedule a vote (Senate Rule 6(4) and Senate Rule 6(7)). Arguably, this institutional setup may

more closely resembles a veto game rather than a gatekeeping game (Crombez, Groseclose, and Krebiehl 2006).

In Wisconsin, discharge motions and petitions are limited by the amount of time a bill has been in committee and whether a public hearing has been scheduled (Assembly Rule 15 and Senate Rule 41). With respect to re-referral of bills and scheduling, Assembly Rule 42(1)(c) allows the Speaker to re-refer a bill to committee even if it has been withdrawn by a majority. On the other hand, Senate Rule 41(1)(c) not only gives a majority the right to withdraw a bill from committee, but also to place it on the next succeeding calendar. However, after an initial failure of a discharge motion, any further attempt requires a two-thirds majority (Assembly Rule 15(3) and Senate Rule 41(1)(b)).

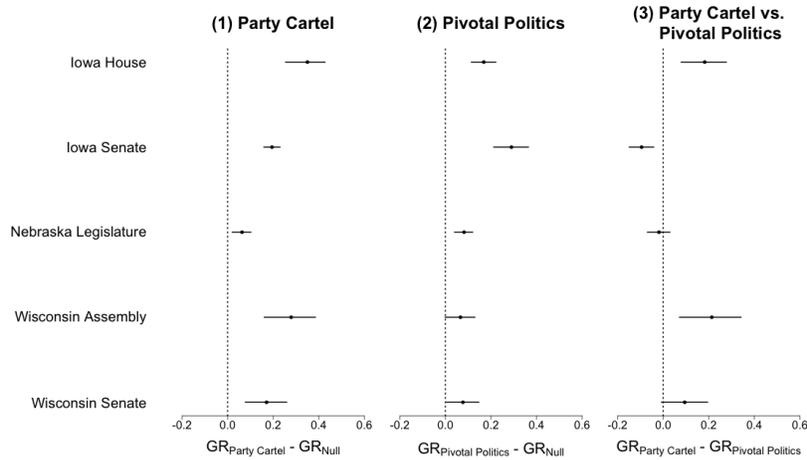
Appendix E.2: The Filibuster in Nebraska

In Nebraska, 33 out of 49 senators are required to invoke cloture (Rule 7, Sec. 10). Although floor debate is limited to 3×5 minutes for each non-introducing speaker per pending question (Rule 2, Sec. 10), each amendment is interpreted as a separate question, providing many opportunities to delay debate. Further, Rule 7, Sec. 11, which enables the Speaker to declare amendments/motions to be dilatory and therefore out of order, can only be invoked if a senator introduces more than 2 motions/amendments. Therefore, if 17 (49-32) senators participate in a filibuster with 2 amendments/motions each, with each participating senator debating 2 amendments/motions, the time allowed for debate exceeds 140 hours ($17 \times 2 \times 17 \times 15 = 8670$ minutes). In practice, the rule on dilatory motions does not get invoked, and open filibustering occurs.³⁴

³⁴See, e.g. the floor debates of Sen. Smith on LR 23 (02/23/04); Sen. Christensen on LB485 (04/03/14 and 04/04/14); and Sen. Chambers on amending Rule 7, Sec. 3 of the Rules (01/15/15). Transcripts are available at http://nebraskalegislature.gov/transcripts/search_past.php.

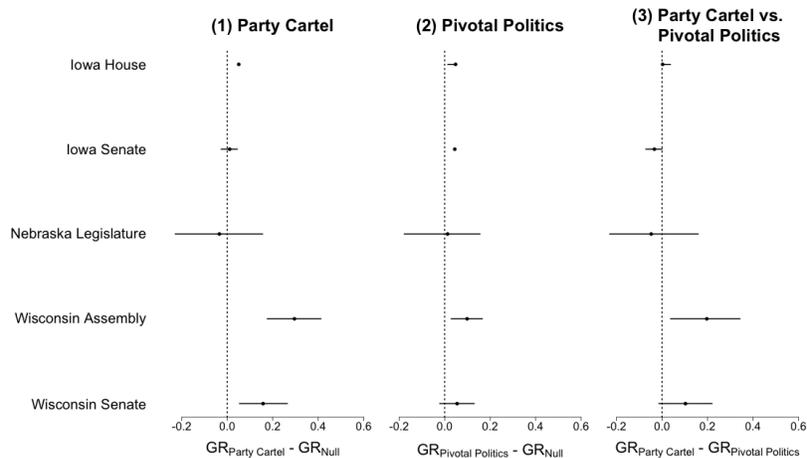
Appendix F.1: Gatekeeping Hypothesis Tests with Alternative SQs

Figure 2: Gatekeeping Hypothesis Tests with Unadjusted Vote-Based Status Quo Estimates



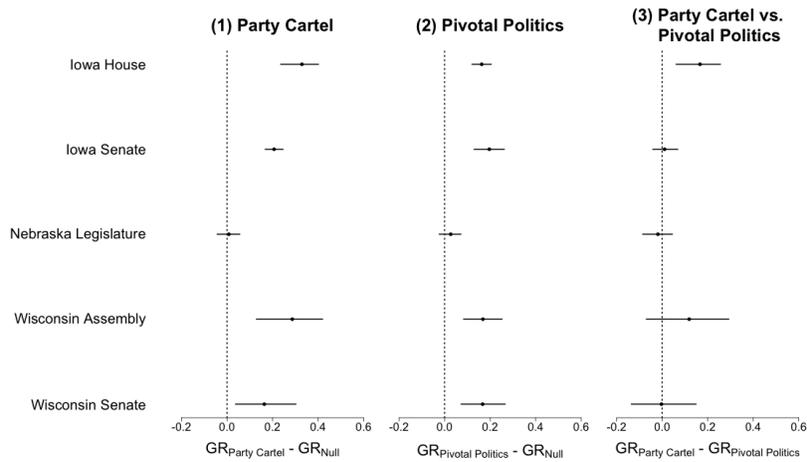
Note: The panels in this figure present hypothesis tests of nonrandom gatekeeping using the 95%-credible interval of the difference between two proportions. The first panel tests the party cartel hypothesis against a plausible null hypothesis: the proportion of estimated bills that are blocked. The second panel shows tests of the pivotal politics gatekeeping hypothesis against the plausible null. The third panel examines whether there is a difference between the performance of the party cartel and the pivotal politics gatekeeping hypotheses. Estimates rely on the assumption of homoskedasticity in σ .

Figure 3: Gatekeeping Hypothesis Tests with Cosponsorship-Based Status Quo Estimates



Note: The panels in this figure present hypothesis tests of nonrandom gatekeeping using the 95%-credible interval of the difference between two proportions. The first panel tests the party cartel hypothesis against a plausible null hypothesis: the proportion of estimated bills that are blocked. The second panel shows tests of the pivotal politics gatekeeping hypothesis against the plausible null. The third panel examines whether there is a difference between the performance of the party cartel and the pivotal politics gatekeeping hypotheses. All estimates are based on the joint model of bill cosponsorship and votes.

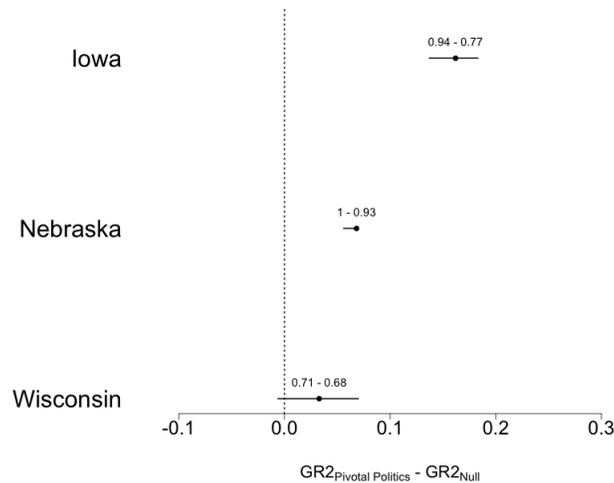
Figure 4: Gatekeeping Hypothesis Tests with Status Quos Based on Assumed Proposal Location



Note: The panels in this figure present hypothesis tests of nonrandom gatekeeping using the 95%-credible interval of the difference between two proportions. The first panel tests the party cartel hypothesis against a plausible null hypothesis: the proportion of estimated bills that are blocked. The second panel shows tests of the pivotal politics gatekeeping hypothesis against the plausible null. The third panel examines whether there is a difference between the performance of the party cartel and the pivotal politics gatekeeping hypotheses. Estimates rely on the assumption that the proposal location is given by the ideal point of the bill sponsor.

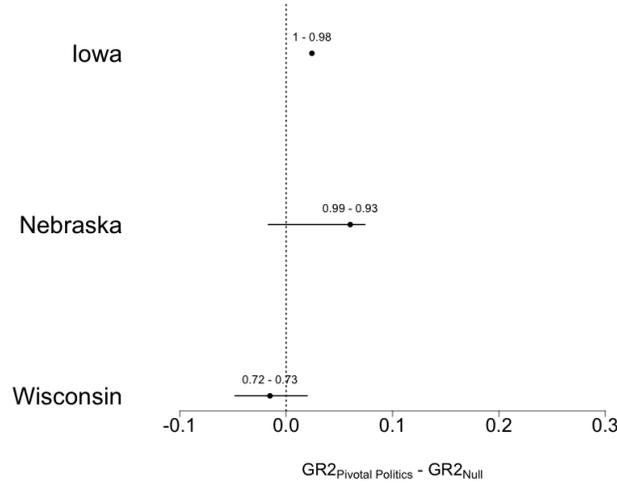
Appendix F.2: Gridlock Hypothesis Tests with Alternative SQs

Figure 5: Gridlock Hypothesis Tests with Unadjusted Vote-Based Status Quo Estimates



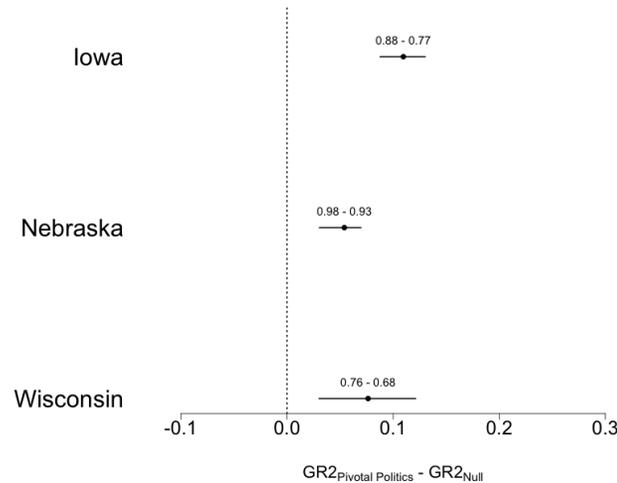
Note: This figure shows results from tests of the pivotal politics gridlock hypothesis against the null hypothesis of random bill passage in Iowa, Nebraska, and Wisconsin. The first number over the estimates is the gridlock ratio. The second number is the proportion of bills with estimates that are not enacted. Estimates are based on votes and the assumption of homoskedasticity in σ .

Figure 6: Gridlock Hypothesis Tests with Cosponsorship-Based Status Quo Estimates



Note: This figures shows results from tests of the pivotal politics gridlock hypothesis against the null hypothesis of random bill passage in Iowa, Nebraska, and Wisconsin. The first number over the estimates is the gridlock ratio. The second number is the proportion of bills with estimates that are not enacted. Estimates are based on the joint model of bill cosponsorship and votes.

Figure 7: Gridlock Hypothesis Tests Based on Assumed Proposal Location



Note: This figures shows results from tests of the pivotal politics gridlock hypothesis against the null hypothesis of random bill passage in Iowa, Nebraska, and Wisconsin. The first number over the estimates is the gridlock ratio. The second number is the proportion of bills with estimates that are not enacted. Estimates rely on the assumption that the proposal location is given by the ideal point of the bill sponsor.

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