

Business and Politics

Volume 4, Issue 2

2002

Article 6

Lobbying and Legislative Organization: The Effect of the Vote of Confidence Procedure

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Abstract

This paper analyzes how the structure of the legislature affects interest groups' incentives to lobby. Lobbying is modelled as the strategic provision of information by an interest group to a multi-member legislature, and the effectiveness of lobbying lies in the ability of information to change the winning policy coalitions. We show that with a long enough time horizon for policymakers, the distinguishing feature between the U.S. Congress and European parliamentary systems—the vote of confidence procedure—reduces an agenda setter's willingness to change policy coalitions, and thus significantly lowers the incentives for interest group lobbying.

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1. Introduction

The extension of permanent normal trade relations (PNTR) to China in 2000 was hailed as a major political victory for the second Clinton administration. Despite heightened partisanship in Congress during that period, the coalition that supported and passed the bill in the House of Representatives (HR 4444) exhibited substantial partisan overlap: three-quarters of the Republicans and one-third of the Democrats in the House voted for the bill, and it was clear that without the support from a substantial number of Democrats the bill would not have passed.

By all accounts, lobbying for and against the bill and for various provisions within it was very intense.¹ Most likely, many legislators learned about the consequences of PNTR for their district and about certain details in the bill from an interest group that favored or opposed the China trade bill for reasons quite independent of the ones shared with the legislator.

This example is far from unique. It is commonplace for policy entrepreneurs to craft a legislative coalition in the U.S. Congress “opportunistically” so as to achieve their objective. By addressing a range of interests the sponsor of a bill

We would like to thank David Baron, Francesco Caselli, Urs Fischbacher, Christian Schultz, Ken Shepsle, Elu von Thadden, and Barry Weingast for helpful comments.

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1. Congressional Quarterly Weekly 58 (16). 15 April 2000, p. 909.

can attract the support from members of the other party, and neither she nor the supporters need to fear sanctions from their respective parties except for the rare case where the issue hits a partisan “nerve.” In fact, many bills are jointly sponsored by members of both parties, underscoring the opportunistic nature of policy coalitions.

Likewise, interest groups that provide assessments of and recommendations for the design of legislation, are very common too. With hearings and open access, Congress is deftly prepared to collect information from a wide set of interests and permits interest groups to weigh in on the policy debate. We need not assume that legislators are corruptible, gullible, or naive in order for information to make a difference in policy outcomes. Members, for their own benefit, pay heed to the information brought before them by interest groups and lobbyists. With time at a premium, information is welcome and can quickly be parsed for relevant and useful content.

Interest groups, however, offer information to the policy process only if it is in their interest to do so. If information and lobbying is ineffective, groups have no incentive to spend effort and resources on lobbying activities. We analyze in this paper how the organizational structure of the legislature affects the incentives for interest groups to engage in informational lobbying, the interest groups’ optimal lobbying strategy and the degree to which decentralized information is available for policymaking. We use a formal approach to compare congressional and parliamentary system and show that the prevalence of interest group lobbying in Congress relative to a parliamentary system is a consequence of the respective legislative organization and the dynamic incentives each institution provides for interest groups and lawmakers.

Others have pointed out that party strength and the cohesion among members of a government coalition in parliamentary systems tend to exceed that of the two-party system in the U.S. Congress (Mezey, 1979; Loewenberg and Patterson, 1988). At the same time, the legislative process in parliamentary democracies is not nearly as open to a broad range of interest groups. Legislative committee hearings are much rarer and less expansive, and fewer interest groups bother to contact legislators (Liebert, 1995; von Beyme, 1998). Legislators in parliamentary system rely for their information to a greater extent on governmental sources outside the legislature, including the administration and state governments, and on a narrow set of well-entrenched constituencies.

In this paper we focus on the incentives legislative organization provides for interest groups to lobby in the legislative process. Krehbiel (1992) has studied how the committee system generates policy relevant information within the legislative organization. Lobbying as information provision has been studied in the literature (Calvert, 1985; Austen-Smith, 1998; de Figueiredo, Spiller, and Urbiztondo, 1999; Bennedsen and Feldmann, 2001). In the present analysis we show that the willingness of interest groups to provide information strategically to obtain more favorable outcomes depends, *inter alia*, on the structure of the decisionmaking institutions. The lobbying effort is *contingent* on the legislative organization. With a twist on Mayhew’s (1974) observation we conclude that the organization of Congress is particularly apt to serve the (informational) needs of its members.

Huber (1996) shows that the vote of confidence procedure is a salient institutional feature of a parliamentary system and is present in most advanced parliamentary democracies (Huber 1996, p. 8). The vote of confidence procedure can be invoked by the government, generally the prime minister, when proposing legislation to the legislative body; if invoked, the procedure ties the survival of the government coalition to the adoption of the proposed bill and therefore raises the stakes of the vote and changes the strategic calculus.²

Diermeier and Feddersen (1998) formalize the role of the vote of confidence procedure in creating cohesion within the governing coalition in a dynamic, multi-period model. We adopt their model here in a simplified fashion to study informational lobbying in a comparative context. In Bennedson and Feldmann (2002) we show that if membership in the government coalition conveys a positive rent, then the confidence procedure tends to reduce informational lobbying. In the present paper we extend that analysis into a dynamic model of legislative bargaining and compare the incentive to lobby a Congressional system (CS) without confidence procedure and a parliamentary system (PS) that provides the confidence procedure.

2. The model

The legislature

Consider a legislature composed of three legislators, i , each representing a district. The legislature meets for a term of T policy periods, after which it faces mandatory reelection. For convenience we number periods in reverse order, i.e., the last policy period is period 1 and the first period is period T . The session begins with an organizational period in which the government coalition is formed. The subsequent periods are policy periods, during which a member of the government coalition is (randomly) selected to make a policy proposal.³ The proposal is voted on by majority rule; we sometimes refer to the legislators who vote for a proposal as the policy coalition, which may or may not coincide with the coalition that forms the government. After the vote, the next period begins.

The difference between the congressional and the parliamentary systems, in our model, lies in the consequence of a failed vote. In the congressional system, when a policy proposal fails, then no policy is adopted and the legislature moves to the next policy period. The parliamentary system, on the other hand, allows the confidence procedure to be invoked: when the procedure has been invoked and the proposed policy proposal fails, then the government steps down and a new government is formed. The fate of the government coalition is thus tied to the outcome of the vote on the proposal.

2. In many systems the vote of confidence can even be tied to a threat of dissolving the parliament, imposing the additional potential cost on members of having to stand for immediate reelection. The effectiveness of this threat, of course, depends on the expected outcome of a potential election.

3. The structure of this policy game is similar to Diermeier and Feddersen (1998). We use the term “government coalition” to denote the collection of members from which an agenda setter is chosen—i.e., in the parliamentary system the term has its natural interpretation, while in the congressional system it simply denotes the congressional majority.

Since we are not interested in the government formation process *per se*, we simply assume that the government is formed by a random draw of two (of the three) members by Nature.

The policy process and lobbying

The model of legislative choice combines two salient aspects of legislative decisionmaking: distributive benefits and information aggregation.⁴ Within each policy period τ , the legislature decides on the allocation of a distributive policy—i.e., on the distribution of local public goods to the three districts.⁵ Let G^τ be the total amount of public goods to be distributed in period τ , and $g^\tau = (g_1^\tau, g_2^\tau, g_3^\tau)$ the vector of the allocation such that $G^\tau = \sum_{i=1}^3 g_i^\tau$. The dead-weight loss of government spending is assumed to be increasing, so that the cost of providing g^τ is convex in the total distribution; we assume a simple cost function $C(g^\tau) = 1/2 (G^\tau)^2$. We assume that there is a balanced budget within each period and that costs are shared equally among the districts through lump sum taxation, such that each district's tax burden in period τ is $1/6(G^\tau)^2$. The net benefit to district i from allocation g^τ in period τ is given by

$$u_i(g^\tau) = \theta_i g_i^\tau - 1/6(G^\tau)^2, \tag{1}$$

where θ_i is the district's (marginal) valuation of the public good.

Districts can be of two types, $\theta_i \in \{\underline{\theta}, \bar{\theta}\}$, with $0 < \underline{\theta} < \bar{\theta}$. The distribution of type is such that $\theta_i = \bar{\theta}$ with probability p and $\theta_i = \underline{\theta}$ with probability $(1 - p)$, *ex ante*. We assume that the θ_i values are uncorrelated across districts and across policy rounds (i.e., each period deals with a different distributional policy). In any decision a legislator i faces, she seeks to maximize the expected sum of benefits accruing to her district during the remainder of the legislative session, $\sum_{j=1}^T E[u_i(g^j)]$.

Lobbying is the strategic transmission of decision-relevant information to members of the legislature. The uncertainty legislators face in this model is the value each district derives from the local public good. By providing information about districts' valuation of the public good, a lobby group can potentially affect the allocation of the public good to the districts.

Suppose in each period τ a lobby group—e.g., the producer or the national representative for the beneficiaries of the public good—is interested in increasing the aggregate amount of the policy that is being allocated. The group can *search*—i.e., it can obtain a signal about a district's valuation—and then decide whether it wants to reveal this information to the decisionmakers. We assume that the search activity is costless for the lobby group and observable by the legislature.⁶

4. Distributive benefits and information are often proposed as competing explanations for legislative organization (see Shepsle and Weingast, 1995). In our model they represent complementary aspects of the policy process.

5. See Baron (1994) for a discussion of distributive policies.

6. The assumption that search is costless can easily be relaxed. We deal extensively with unobservable search in Bennedsen and Feldmann (2001) and show there that the basic logic of what follows carries through.

When the interest group searches for information about district i 's valuation, it receives a signal σ_i , which with probability q reveals the district's true type, $\sigma_i = \theta_i$, and with probability $1 - q$ is uninformative, $\sigma_i = \emptyset$. After the proposer is chosen from the government coalition, the interest group lobbies the legislature by sending a vector of messages $\mu = (\mu_1, \mu_2, \mu_3)$,⁷ where $\mu_i \in \{\sigma_i, \emptyset\}$. In other words, this model of informational lobbying assumes that information is "hard" evidence, i.e., the group can transmit or withhold evidence, but it cannot "lie" by forging information.

An environmental group or the oil industry, for example, might commission an independent study of the ecological or economic impact of oil exploration in the Arctic National Wildlife Refuge and use the study's findings in its lobbying efforts if they are favorable but suppress the report if it does not strengthen the group's position. The scientific reputation of the independent research organization in this case vouches for the veracity of the findings and thus renders credibility to the group's claim, in the absence of which the group's claim would be mere "cheap talk" and would not be credible. On the other hand, the research organization's reputation does not guard against the shelving of the results.

Once the message is sent, the proposer chooses a policy allocation g^τ , and the legislature votes on the proposal via majority rule.

In summary, the sequence of moves *within* each policy period is:

1. The lobby group decides upon its search activity.
2. Nature chooses a proposer randomly from the government coalition.
3. The lobby group delivers its message to the legislature.
4. Proposer chooses a policy allocation. In the PS, the proposer also decides upon the use of the confidence procedure.
5. The legislature votes on the proposal. If the proposal is rejected, the allocation to each district is zero. In the PS, if the confidence procedure has been invoked, losing the vote also forces the government to step down and a new government coalition is drawn by Nature for the next policy period.

In step 2 above, Nature designates one of the two legislators in the government coalition as the proposer (or agenda setter), and the other as coalition partner. The third legislator, who is not a member of the governing coalition, remains the minority legislator. We will thus refer to the three legislators (and the three districts) using the subscripts *as*, *cp*, and *mi*. In any given policy period the proposer may choose to include the coalition partner and/or the minority legislator in a policy coalition.

Finally, in step 5, we make the assumption, which is standard in setter games, that when a legislator is indifferent between voting for the proposal or against it she resolves the indifference by voting for the proposal.

7. The message vector is sent to all legislators simultaneously. This is without loss of generality since the lobby group's optimal strategy is to reveal high values of θ only even if messages were privately sent to individual legislators.

3. Results

We solve for the optimal strategies in this game by backward induction. Our equilibrium concept is Perfect Bayesian Nash equilibrium. One characteristic feature of the congressional legislative system is that it does not have a vote of confidence procedure, i.e., even if the government—or majority party—loses important votes, it does not step down. In fact, this happens quite frequently.

We derive the optimal lobbying strategy for the lobby group in the congressional system and use this as a benchmark against which we measure the lobby's incentive to engage in information provision in the presence of a vote of confidence procedure in the subsequent section. However, before we can analyze the lobby's value from searching for information, we need to know what the aggregate level of public good for given expectations of districts' marginal benefit will be—i.e., we need to know what G the agenda setter optimally proposes.

Informational lobbying in the last period

Let us start by considering the last policy period of the legislative term. After this period the government must step down, which renders the confidence procedure innocuous. The congressional and the parliamentary systems are thus equivalent in this case.

The agenda setter optimally proposes an allocation of the public goods that maximizes the net benefits to his district subject to the condition that the proposed allocation will be supported by a majority of the legislators, i.e., by at least one other legislator. Since for any total allocation G a second legislator's participation constraint is easier to satisfy the higher her valuation of the public good is, the agenda setter will include the legislator as partner in the policy coalition whose expected valuation $E\theta_j$ is higher, and allocate sufficient public goods to the partner's district so that her participation constraint is met. The remaining legislator receives an allocation of zero. (If the other two legislators have the same expected marginal utility, the agenda setter picks randomly one of them as her policy coalition partner.)

Solving this constrained maximization problem is straightforward and yields the following aggregate level of public good:

$$G^* = 3(E\theta_{as} \cdot E\theta_j)/(E\theta_{as} + E\theta_j), \tag{2}$$

with $j = \arg \max_{i \in \{cp, mi\}} E\theta_i$.

The aggregate allocation of public good is thus an increasing and strictly concave function of the expected marginal benefits for each of the two policy coalition partners. Since we are interested in the lobby group's behavior, and the lobby by assumption only cares about the aggregate amount of public good, we do not need to state the actual allocation of public good to each region. We define $G^*(\cdot, \cdot)$ as a function with two arguments given in (2).

We can now analyze the group's search and information transmission behavior in period 1. We will show that, given the agenda setter's best response

function G^* , the interest group has a unique best lobbying strategy. By searching in a district, the group may be able to reveal that the district's valuation is high, or it may not be able to convey positive information, in which case the agenda setter updates his belief about the district's valuation. As a matter of notation, let $E(\theta_i | \text{no search in } i) = \theta^o$ be the *ex ante* expectation of the district's type given the prior distribution θ_i , and let $E(\theta_i | \text{unsuccessful search in } i) = \theta^s$ be the posterior expectation of θ_i after the interest group searched for information in district i and did not reveal any positive findings.⁸

The interest group needs to choose in which districts to search so as to raise the expected valuations in the policy coalition. In the last policy period the lobby strictly prefers to search for information. This is easily seen by considering a search in the minority district only: with probability pq the lobby finds evidence for $\theta_{mi} = \bar{\theta}$, which implies that the proposer would choose the minority district as a majority partner. If the lobby does not find this positive evidence, the proposer lowers his expectation about the minority district's valuation of the public good and will choose the cp as partner in the policy coalition, and the aggregate good will be as high as if the interest group had not searched. The interest group's expected value of searching in the minority district relative to not searching is

$$V_{mi} = pq[G^*(\theta^o, \bar{\theta}) - G^*(\theta^o, \theta^o)] > 0.$$

The following lemma verifies that this is indeed the group's optimal search strategy by calculating the corresponding values for all search strategies.

Lemma 1. *In the last policy period the interest group's unique optimal search strategy, in both legislative systems, is to search in the minority district alone.*

Proof. We have already argued that in the last policy period the confidence procedure has no effect on the behavior of the legislators. Thus, the interest group's optimal search strategy will be the same in both legislative systems. It remains to show what this strategy is.

Since the group does not know at the time of searching which member of government will be selected as the agenda setter, there are five distinct search strategies. Analogous to V_{mi} above we calculate the net gain for each of these remaining search strategies: V_{gv} (search in one government member's district), $V_{gv, gv}$ (search in both government members' districts), $V_{gv, mi}$ (search in one government member's district and the minority legislator's district), and $V_{gv, gv, mi}$ (search in all three districts).

$$V_{gv} = 1/2[pqG^*(\bar{\theta}, \theta^o) + (1 - pq)G^*(\theta^s, \theta^o)] \\ + 1/2[pqG^*(\bar{\theta}, \theta^o) + (1 - pq)G^*(\theta^o, \theta^o)] - G^*(\theta^o, \theta^o) < V_{mi},$$

$$V_{gv, mi} = 1/2\{(pq)^2G^*(\bar{\theta}, \bar{\theta}) + pq(1 - pq)[G^*(\theta^s, \bar{\theta}) + G^*(\bar{\theta}, \theta^o)] \\ + (1 - pq)^2G^*(\theta^s, \theta^o)\} \\ + 1/2[(2pq - pq^2)G^*(\bar{\theta}, \theta^o) + (1 - pq)^2G^*(\theta^o, \theta^s)] - G^*(\theta^o, \theta^o)$$

8. Naturally, $\theta = (1 - p)\underline{\theta} + p\bar{\theta}$. An unsuccessful search from the interest group's point of view comprises the events $\sigma_i = \underline{\theta}$ or $\sigma_i = \bar{\theta}$. The interest group always transmits a favorable signal and withholds an unfavorable one so that, using Bayes' Rule, we have $\theta^s = (1 - p)/1 - pq)\underline{\theta} + (p - pq)/(1 - pq)\bar{\theta}$. Note that $\theta^s < \theta^o$.

$$\begin{aligned} &< 1/2[pqG^*(\theta^o, \bar{\theta}) + (1 - pq)G^*(\theta^o, \theta^o)] \\ &\quad + 1/2[pqG^*(\bar{\theta}, \theta^o) + (1 - pq)G^*(\theta^o, \theta^o)] - G^*(\theta^o, \theta^o) = V_{mi}, \end{aligned}$$

$$\begin{aligned} V_{gv, gv} &= (pq)^2G^*(\bar{\theta}, \bar{\theta}) + pq(1 - pq)[G^*(\bar{\theta}, \theta^o) + G^*(\bar{\theta}, \theta^s)] \\ &\quad + (1 - pq)^2G^*(\theta^s, \theta^o) - G^*(\theta^o, \theta^o) \\ &< pqG^*(\bar{\theta}, \theta^o) + (1 - pq)G^*(\theta^o, \theta^o) - G^*(\theta^o, \theta^o) = V_{mi}. \end{aligned}$$

$$\begin{aligned} V_{gv, gv, mi} &= pq[(2pq - pq^2)G^*(\bar{\theta}, \bar{\theta}) + (1 - pq)^2G^*(\bar{\theta}, \theta^s)] \\ &\quad + (1 - pq)[(2pq - pq^2)G^*(\theta^s, \bar{\theta}) + (1 - pq)^2G^*(\theta^s, \theta^s)] - G^*(\theta^o, \theta^o) \\ &< pq[pqG^*(\bar{\theta}, \bar{\theta}) + (1 - pq)G^*(\bar{\theta}, \theta^o)] + \\ &\quad (1 - pq)[pqG^*(\theta^s, \bar{\theta}) + (1 - pq)G^*(\theta^s, \theta^o)] - G^*(\theta^o, \theta^o) \\ &< pqG^*(\theta^o, \bar{\theta}) + (1 - pq)G^*(\theta^o, \theta^o) - G^*(\theta^o, \theta^o) = V_{mi}. \end{aligned}$$

Each inequality above follows from Jensen's inequality and the fact that the agenda setter's response function $G^*(\cdot, \cdot)$ is strictly concave. Thus, V_{mi} maximizes the expected allocation of public good. \square

We have now shown that in the last policy period of the legislative term, Congressional system and parliamentary system provide the exact same incentive to lobby. In particular, the interest group collects information about a "marginal" district that would not otherwise be included in the policy coalition (in this case, the minority district), and manages to change both the composition of the policy coalition as well as the allocation of policy so that the overall outcome changes in its favor.

Lobbying in absence of the confidence vote procedure

In this section we work our way backward for the game without the vote of confidence procedure. A legislator in period τ maximizes her expected future benefits over the remainder of the legislative term, i.e.,

$$u_i^\tau = \sum_{j=1}^\tau E[u_i(g^j)].$$

The expected benefits can be rewritten as

$$u_i^\tau = E\theta_i g_i^\tau - \theta/6(G^\tau)^2 + v_i^\tau. \tag{3}$$

With v_i^τ we denote the continuation value of the game in period τ , which implies that $v_i^\tau \equiv E u_i^{\tau-1}$, where the expectation is conditional on information available in period τ . We will show below that v_i^τ is identical for the two members of the governing coalition, and we will refer to it as v_{gov}^τ ; the continuation value for the minority legislator is strictly lower.

In the absence of the confidence procedure there is no strategic link between the policy periods. To see this, consider the voting decision by a non-proposing legislator i facing a proposal g^τ at date τ . She supports the proposal if and only if her utility from the proposal plus the continuation value v_i^τ of future policy periods is greater than her utility from an allocation $g_i^\tau = 0$ with no tax cost, plus v_i^τ . Thus, v_i^τ does not affect the legislator's voting decision. Furthermore, since the utility function is additively separable, v_{as}^τ does not affect the agenda setter's own utility from a given proposal (see (3)). Finally, g^τ does not affect the expected

value of future policy periods since, by assumption, the budget is balanced within each period.⁹

The interest group in period τ also faces no strategic consideration as it only operates in this period.

The absence of a strategic link between the policy periods implies that each period in the legislative game without confidence procedure is strategically equivalent to the last period. We can therefore state the following Lemma without proof:

Lemma 2. *In the dynamic policy game without vote of confidence procedure (congressional system), in each policy period τ the interest group's unique optimal search strategy is to search in the minority district alone.*

The solution to our legislative game without vote of confidence procedure can be summarized as follows. First, Nature draws the government coalition. Then in each policy period the active lobby group searches for information in the minority district. If the lobby finds positive information about a high marginal valuation of the public good in the minority district, it transmits this information to the legislature. If the lobby delivers evidence for high valuation, the proposal reaches beyond the governing coalition (majority) and picks the outside district as a policy partner to support the current policy, with no repercussion for the future of the governing coalition. In case of no evidence from the lobby or evidence of low valuation, the proposer picks her government partner as the policy partner.¹⁰ The agenda setter proposes an aggregate amount of public good given in (2) and distributes it such that the non-policy partner receives zero public good, the policy partner receives sufficient amount of public good to weakly support the proposal, and the agenda setter receives the rest.

Lobbying and the role of the confidence vote

The ability to link a policy proposal to a confidence vote creates a truly dynamic model with strategic interdependence across policy periods. To see this, consider the government coalition partner's (*cp*) evaluation of a given policy proposal to which a confidence vote is attached. If he supports the proposal he will still be in the government coalition in the next period, which has a positive value to him. If he rejects the policy proposal and the proposal fails, the government steps down, and with a probability of two-thirds he will participate in the next government (this is identical for all *i*). In other words, by causing the proposal to fail in period τ he reduces his chance of enjoying the rent from belonging to the future government coalitions by one-third. The loss would thus be, $\delta_{gov}^\tau \equiv 1/3 (v_{gov}^\tau - v_{mi}^\tau)$. Thus, *cp*'s voting decision in period τ is affected by the size of δ_{gov}^τ ,

9. In addition, interperiod reciprocal arrangements between legislators cannot be sustained since they would break down in the last period and thus unravel by backward induction.

10. In the established equilibrium the lobby may also deliver information about low marginal valuation, since the minority district is excluded from the policy majority as long as there is no positive evidence for high valuation.

which depends on the payoffs of future periods (except when $\tau = 1$, the last period before mandatory election).

We now find equilibrium behavior in the dynamic model with confidence vote by solving the game backwards from period 1. In particular, we need to determine how the δ_{gov}^τ develop over time.

In Proposition 1 below we state that when the proposer can link its policy proposal to a vote of confidence and there are sufficiently many policy periods remaining, then a lobby has less incentive to search than without the confidence procedure. In particular, we show that the lobby does not gain from using the search strategy that is optimal in the congressional system. Hence, the expected gain from searching, and thus the lobby's incentive to search, is strictly smaller (possible negative) than in the congressional system.

Date 1: The continuation value in period 1, v_i^1 , is normalized to zero for all legislators as the government needs to step down for sure at the end of the period. By Lemma 1, the lobby group's unique optimal search strategy is to search in the minority district and to report any positive finding. The proposer chooses as policy partner the one with the highest expected θ_i . The expected utility in period 1 for the agenda setter, u_{as}^1 , the coalition partner, u_{cp}^1 , and the minority legislator, u_{mi}^1 , are

$$\begin{aligned} u_{as}^1 &= pq\psi_{as}(\theta^o, \bar{\theta}) + (1 - pq)\psi_{as}(\theta^o, \theta^o) \\ u_{cp}^1 &= -pq/6G^*(\theta^o, \bar{\theta})^2 \\ u_{mi}^1 &= -(1 - pq)/6G^*(\theta^o, \theta^o)^2 \end{aligned}$$

$\psi_{as}(\theta_{as}, \theta_j) = u_{as}(g^*)$ is the agenda setter's utility from the optimal policy allocation, which depends, like G^* , on the districts' valuations of the public good. It is easy to show that $\psi_{as}(\theta_{as}, \theta_j) = (3/2)\theta_{as}^2\theta_j/(\theta_{as} + \theta_j)$.

Inspecting (4) we observe that the coalition partner's expected benefit is minus her expected tax share whenever the lobby group does find evidence for high valuation in the minority district, since she receives a zero expected benefit whenever she is included in the policy coalition. The expected benefit for the minority district is, similarly, minus the expected tax share times the probability of not being included in the policy coalition. In the last policy period (period 1) the proposer has no incentive to attach the confidence vote.

Date $\tau > 1$: In period τ the lobby group has the highest incentive to engage in information provision when the search strategy identified in Lemma 1 (i.e., searching in district mi) such that the proposer is willing to change the majority composition in response to the message received from the lobby group. Assume this is the case for all subsequent periods 1 through $(\tau - 1)$. The following Lemma describes the laws of motion for each legislator's expected utilities and for the value of being a government member δ_{gov}^τ , for any period τ .

Lemma 3. *Suppose in each period 1, ..., τ the lobby searches in the minority district only and that the proposer includes the minority district in the policy coalition if and only if the lobby provides positive evidence for $\theta_{mi} = \bar{\theta}$. Then for $\tau > 1$,*

$$\begin{aligned}
 u_{as}^\tau &= [1 + (\tau - 1)/2]u_{as}^1 + (\tau - 1)/2u_{cp}^1 + (1 - pq)\delta_{gov}^\tau, \\
 u_{cp}^\tau &= (\tau - 1)/2u_{as}^1 + [1 + (\tau - 1)/2]u_{cp}^1 - (1 - pq)\delta_{gov}^\tau, \\
 u_{mi}^\tau &= \tau u_{mi}^1,
 \end{aligned} \tag{4}$$

where

$$\delta_{gov}^\tau = (\tau - 1)[1/6(u_{as}^1 + u_{cp}^1) - 1/3u_{mi}^1].$$

Proof. The lemma holds trivially for $\tau = 1$. The proof for $\tau > 1$ is by induction.

Date 2. The future value of being in the government for each coalition partner is

$$\delta_{gov}^2 = 1/3(v_{gov}^2 - v_{mi}^2) = 1/6(u_{as}^1 + u_{cp}^1) - 1/3u_{mi}^1.$$

By assumption the lobby searches only in the minority district and the proposer is willing to include this district in a policy majority if $\mu_{mi} = \bar{\theta}$. Thus, with probability pq the proposer picks mi as a policy coalition partner without invoking the confidence procedure. With probability $1 - pq$ the proposer uses cp to support the policy and extracts the rent (continuation value) by attaching a confidence vote. Whichever legislator is picked as policy partner receives reservation utility zero. Thus, the expected utilities for the proposer, the coalition partner, and the minority legislator are

$$\begin{aligned}
 u_{as}^2 &= u_{as}^1 + v_{gov}^\tau + (1 - pq)\delta_{gov}^2, \\
 &= 3/2u_{as}^1 + 1/2u_{cp}^1 + (1 - pq)\delta_{gov}^2, \\
 u_{cp}^2 &= u_{cp}^1 + v_{gov}^\tau - (1 - pq)\delta_{gov}^2, \\
 &= 1/2u_{as}^1 + 3/2u_{cp}^1 - (1 - pq)\delta_{gov}^2, \\
 u_{mi}^2 &= 2u_{mi}^1.
 \end{aligned}$$

It is trivial to verify that these values satisfy the Lemma.

Date $\tau > 2$. Assume the Lemma is true for all periods up to $\tau - 1$. Again, the agenda setter can appropriate the coalition partner's future rent from belonging to the government coalition whenever the lobby group does not present favorable information about the preferences of the minority district. Hence, the expected payoffs for the legislators are

$$\begin{aligned}
 u_{as}^\tau &= u_{as}^1 + v_{gov}^\tau + (1 - pq)\delta_{gov}^\tau, \\
 &= u_{as}^1 + 1/2[1 + (\tau - 2)/2 + (\tau - 2)/2](u_{as}^1 + u_{cp}^1) + (1 - pq)\delta_{gov}^\tau, \\
 &= (1 + (\tau - 1)/2)u_{as}^1 + (\tau - 1)/2u_{cp}^1 + (\tau - 1)(1 - pq)\delta_{gov}^\tau, \\
 u_{cp}^\tau &= u_{cp}^1 + v_{gov}^\tau - (1 - pq)\delta_{gov}^\tau, \\
 &= u_{cp}^1 + 1/2[1 + (\tau - 2)/2 + (\tau - 2)/2](u_{as}^1 + u_{cp}^1) - (1 - pq)(\tau - 1)\delta_{gov}^\tau, \\
 &= (\tau - 1)/2u_{as}^1 + (1 + (\tau - 1)/2)u_{cp}^1 - (\tau - 1)(1 - pq)\delta_{gov}^\tau.
 \end{aligned}$$

The future value of being in the government for each coalition partner in period τ is

$$\begin{aligned}
 \delta_{gov}^\tau &= 1/3(v_{gov}^\tau - v_{mi}^\tau) = 1/6(u_{as}^{\tau-1} + u_{cp}^{\tau-1}) - 1/3u_{mi}^{\tau-1} \\
 &= 1/6[1 + (\tau - 2)/2 + (\tau - 2)/2](u_{as}^1 + u_{cp}^1) - (\tau - 1)/3u_{mi}^1, \\
 &= (\tau - 1)\delta_{gov}^2.
 \end{aligned}$$

Suppose now that the lobby in period τ provides positive evidence for a high

valuation in the minority district, $\mu_{mi} = \bar{\theta}$. The proposer is willing to forego the benefit the confidence procedure if and only if

$$\psi_{as}(\theta^o, \bar{\theta}) \geq \psi_{as}(\theta^o, \theta^o) + \delta_{gov}^\tau. \quad (5)$$

Since $u_{cp}^1 + u_{cp}^1 > 0$ and $u_{mi}^1 < 0$, we observe that δ_{gov}^τ increases without bound as τ increases; therefore the proposer will always prefer using the confidence procedure and require the support from the coalition partner whenever τ is large enough. Let $\bar{\tau}$ be the maximum τ for which (5) holds, and define $t^* = \min \{\bar{\tau}, T\}$. Thus, for $\tau \leq t^*$ the proposer is willing to craft the coalition opportunistically when she receives information from the lobby group.

When $\tau > t^*$, the proposer enforces voting cohesion among the government coalition. Hence, the lobby may either choose another search strategy that is able to affect the composition of the majority or abstain from searching. In the former case, Lemma 1 proves these strategies have a lower expected gain for the lobby group. We thus arrive at the following proposition:

Proposition 1. *For all policy periods τ from T to $t^* + 1$ an interest group's expected gain from searching and providing information is strictly smaller in the system with confidence procedure than in the system without confidence procedure. In the last t^* policy periods the two systems provide an interest group with the same expected gain from lobbying.*

The proposition states that for periods $\tau > t^*$ incentive for an interest group to engage in informational lobbying is strictly smaller in the parliamentary system than it is in the Congressional system. The intuition behind this result can be provided in two steps. First, having a large number of policy periods remaining before the end of the legislative term increases the value of belonging to the governing coalition. As Diermeier and Feddersen have shown, this implies that the members of the governing coalition have an incentive to support the proposals put forward by other members of the governing coalition, so that the vote of confidence procedure enhances voting cohesion among coalition partners. Second, a national lobby group's incentives to provide information is based on its ability to influence the composition of the policy coalition, and thereby to affect policy choices. If the value of government membership is high enough, and if the proposer is willing to invoke the confidence procedure and enforce voting cohesion, then there is little role for the interest group to affect the composition of the policy majority. Hence, the interest group's incentive for informational lobbying is diminished.

A second implication of Proposition 1 is that the activity of informational lobbying in the parliamentary system should be increasing over the course of the legislative term. The closer to the mandatory election date, the more impact will the transmitted information have, as it is increasingly likely to affect the composition of the policy coalition; at the same time, voting cohesion in the legislature should decline. In a Congressional legislature our model predicts a constant, high level of informational lobbying.

Table 1 sums up the main results of the analysis and their implication for the incentive of special interest lobby groups (SIGs) to engage in information provision.

TABLE 1. Summary of results and implications for informational lobbying

Legislative organization	Time horizon	Result	Implication
No vote of confidence procedure.	Any	Information transmission affects the composition of the policy coalition.	SIGs have an incentive to engage in informational lobbying.
Vote of confidence procedure exists.	Long ($\hat{t} > t^*$)	Information does not affect the composition of policy coalitions.	SIGs have a weaker incentive to engage in informational lobbying.
	Short ($\tau \leq t^*$)	Impact of information on the composition of a policy coalition is rising.	Close to a parliamentary election, SIGs' incentive to engage in informational lobbying increases.

4. Examples

The relevance of the identified difference in relative incentives to engage in informational lobbying in the Congressional and the parliamentary systems depends on the size of t^* . In this section we explore the range of parameters for which Proposition 1 is most meaningful. We provide simulation results in Figures 1 and 2 below.

The model has essentially three parameters that determine the incentive for the interest group to lobby: the probability of finding positive evidence, q , the *ex ante* probability of high marginal utility in any district, p , and the relative variation in the tastes across districts, $\bar{\theta}/\underline{\theta}$.

Figure 1 shows how the value of t^* is affected by the parameters of the model. Our benchmark values are: $\bar{\theta}/\underline{\theta} = 2$, $q = 1/2$, and, $p = 1/2$. In the first panel we vary $\bar{\theta}/\underline{\theta}$ from 1 to 10. Using these parameters we solve Eqs. (1) through (5) numerically, which gives us an implied value of t^* , the maximum number of policy periods in which the two legislative structure provide lobby groups with the same incentives to engage in information gathering.

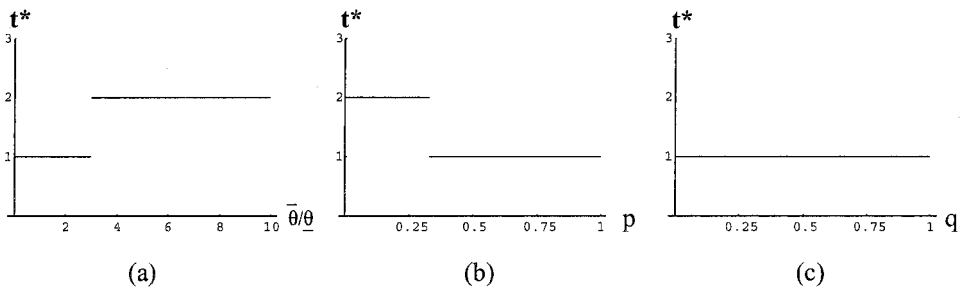


FIGURE 1. The number of periods for which the two legislative structures provide the same incentives for lobby groups to engage in information gathering. Panel (a): $p = 0.5$ and $q = 0.5$; Panel (b): $\bar{\theta}/\underline{\theta} = 2$ and $q = 0.5$; and, Panel (c): $\bar{\theta}/\underline{\theta} = 2$ and $p = 0.5$.

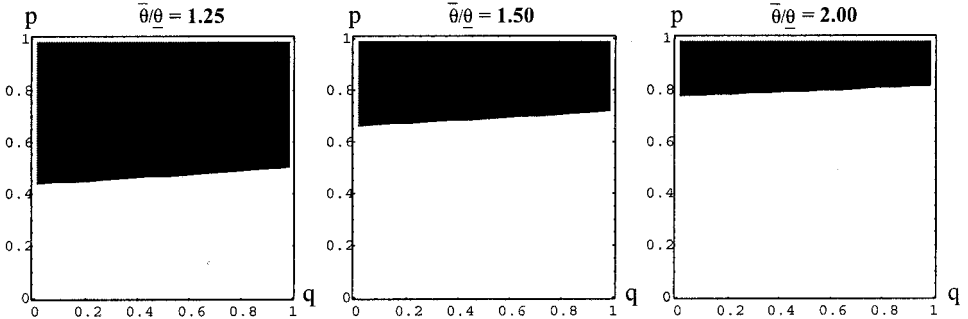


FIGURE 2. The set of parameters for which a lobby confronting a parliamentary legislature chooses to abstain from information gathering.

We observe that when the intensity of preference for the public good varies between districts less than 300 percent, i.e., $\bar{\theta}/\underline{\theta} < 3$, $t^* = 1$. Hence, as long as the taste variation across districts is not extreme it is only in the last policy period that the two legislative structures provide the same incentives for lobby groups to engage in information provision. For extreme values of taste variation, we observe no more than $t^* = 2$ in the present example. In the two following panels, we fix the taste variation at 2 and vary p and q . Notice that t^* is not affected by variation in q at all (for $p = 0.5$), and only for small value of p is t^* greater than 1 (at $q = 0.5$).

From the example presented in Figure 1 and other, nonreported, simulations, it appears that t^* is small, and equal to one for a large range of plausible parameters.¹¹ Thus, the lack of action in Figure 1 supports the main insight of our analysis: in comparing multiple rounds of legislative bargaining in the parliamentary system with multiple rounds of bargaining in the congressional system, the parliamentary system provides strictly lower incentives to engage in informational lobbying in most policy periods.

For a small enough degree of taste variations between districts the result can be stated in a stronger form. A sufficient condition for the interest group not to lobby at all, except for in the last policy period is the following:

$$\delta_{gov}^2 < \psi_{as}(\bar{\theta}, \bar{\theta}) - \psi_{as}(\bar{\theta}, \underline{\theta}) \tag{6}$$

The right hand side of the inequality denotes the highest gain a proposer can ever achieve from breaking the governing coalition. The expression then says that in the penultimate period the value for the coalition partner of maintaining the government coalition exceeds the gain the agenda setter may obtain by responding to informative messages from the lobby group. If (6) holds, then the lobby can never affect the policy majority in any period except for the last and therefore has no incentive to engage in information provision.

The shaded area in Figure 2 shows the range of parameters for which Eq. (6) is satisfied for three different degrees of taste differences. For parameters in this range no lobby will engage in information provision in any policy period, except

11. Our simulations shows that only very small values of p combined with extreme values of $\bar{\theta}/\underline{\theta}$ induce a “high” t^* , i.e., t^* higher than 5.

the final period before an election. The figure confirms the importance of the different incentive provided by the two different legislative structures: when district specific taste difference are relatively small, it is likely that lobby groups confronting a parliament will abstain completely from engaging in informational lobbying.

5. Discussion and extensions

In this paper we have shown in a dynamic model that the availability of a vote of confidence procedure reduces the incentive for interest groups to provide information to the legislative process as long as the time horizon for the sitting government is long enough to impose strong party discipline.

In the U.S. Congress, where no vote of confidence is available to the leadership, policy coalitions often cut across party lines. Interest groups can facilitate “opportunistic coalition formation” by providing strategic information to identify members of either party whose preferences are most aligned with the agenda setter’s and thus assure the passage of legislation favorable to the group’s interest. The China Trade Bill mentioned in the introduction is a prime example of intensive lobbying that led to an opportunistic policy coalition supporting a wildly adorned “Christmas tree” bill.

In parliamentary systems, in which the vote of confidence procedure can enforce coalitional voting discipline, the agenda setter can often better achieve her policy goals by relying on loyal coalition partners than trying to assemble a favorable *ad hoc* policy coalition. While member’s preferences are important for the agenda setter to tie the most favorable policy packet, interest groups’ incentive to provide member-specific (or district-specific) policy information is attenuated as it cannot affect the composition of the policy coalition. Consequently, MPs are less the target of special interest groups’ lobbying efforts and groups have to focus on other strategies (beyond the scope of the present investigation) with which to wield policy influence.

Our dynamic framework of informational legislative lobbying imposes a number of simplifying assumptions. In this section we briefly discuss a variety of ways of relaxing some of these assumptions and their impact on our comparative institutional analysis. Finally, we address the implications of introducing committees into the legislative structure. We argue that the main insight of our previous analysis, that legislative systems without a vote of confidence procedure provides stronger incentives for SIGs to engage in informational lobbying, prevails in all these extensions of our basic framework.

Our first discussion concerns the assumption that information search is observable by all players in our model. This clearly simplifies the analysis and highlights the working of the information externality; however, the assumption is not crucial for our result. In practice, legislators cannot be expected to monitor interest group activities all too closely. As long as we maintain that players are rational and make the best (equilibrium) predictions about other players’ unobserved behavior and that players’ actions are optimal given their beliefs, the main results obtain in an environment in which the interest group’s search activity is unobservable. The main difference is that in the case of unobservable

search, the search activity itself does not induce the proposer to revise her beliefs—i.e., there is no “Bayesian cost” to the group for searching.¹² Instead, the proposer infers whether or not the group has an incentive to search and forms her expectations accordingly. Thus, *in equilibrium* the failure to report a positive finding still carries the Bayesian updating cost.

In our model we assumed for analytical simplicity that the legislature only contained three legislators. Extending the model to any (odd) number of legislators does not affect our main result. In the congressional setting the value of engaging in information search increases because there it is easier to have an impact on the composition of the policy majority. On the other hand, when the value of government membership is sufficiently high, it is not possible to affect policy composition in the parliamentary system. Hence, the lobby has smaller incentives to lobby in the latter system.

Finally, we assumed that the lobbies only care about the aggregate, or national, level of the public good. A special interest group’s benefit is often localized, and it may have a particular knowledge of the local incidence of the public good that it might want to convey to the legislators. In this case, they compete for inclusion of their district in the majority by providing information. Our general result prevails and may even be amplified, since this inclusion motive is absent in the parliamentary system.

Our approach in the previous analysis treats the legislature as a relatively unstructured decisionmaking body. An important extension of the analysis would consider the role of committees in the legislative process. Krehbiel (1992) and others have suggested that a key feature of the committee system is to generate policy-relevant information within the legislative organization.

Assume, first, that a committee is a mirror image of the legislature—i.e., the distribution of preferences is identical to the whole legislature—and that the committee members do not collect information themselves. Obviously, our analysis carries through in this case, since the lobby group now has the same incentive to transmit information to the committee as it previously had to transmit information to the whole legislature.

If the committee members collect information themselves, the main insight of the paper extends to the committee’s incentive to generate information: the existence of the vote of confidence procedure in the parliamentary system reduces the committee members’ incentive to engage in information provision. In a parliament with the vote of confidence procedure, information affect only the level of public good provided to each district and not the composition of the policy majority. Hence, the committee members have strictly less incentives to spend resources on information search relative to the congressional system without the vote of confidence procedure. Hence, legislative organization matters for information transmission even in the absence of SIGs when committees generate policy relevant information.

In general, the distribution of committee members’ preferences is not identical to the distribution of preferences in the whole legislature. If committees attract

12. With Bayesian cost we mean the fact that the proposer’s belief change to the disadvantage of the group. (See also Bennedsen and Feldmann, 2001.)

preference outliers and the informational role of committees is attenuated, interest groups may fill the void and act as information providers. The above results, however, would still apply, and the vote of confidence procedure would reduce the groups' incentive to do so.

Applying our basic framework of analysis to committees thus leads to the conclusion that the incentive for committees to provide information is stronger in a legislative system without the vote of confidence procedure. This suggests that we should observe stronger committees in the U.S. Congress than in European parliaments, about which there is little doubt in the literature (cf., Lees and Shaw, 1979).

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