

Interest Group Subsidies to Legislative Overseers

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Abstract

A rich theoretical literature has illuminated the institutional mechanisms through which legislators control agency policy. We focus on the behavioral ones, examining the decisions of individual legislators to intervene in agency rulemaking. We argue that interest groups play an important but incompletely understood role in the oversight process. They may sound alarms when agencies threaten harm, but they also subsidize the interventions of sympathetic overseers post-alarm. We test the theory's hypotheses with data from face-to-face surveys of lobbyists involved in an EPA rulemaking to revise air quality standards. We find that public and private interest groups successfully employ this strategy but that the latter have the advantage, an advantage that does not flow from their substantial contributions to congressional campaigns.

Bureaucratic discretion has been greeted with both adulation and condemnation by students of democratic institutions. Early in the 20th Century, progressive reformers held that a science of administration could solve the tendencies of democratic government toward patronage-based politics, ideological conflict, and political corruption. By mid-century, however, progressive idealism was losing its luster. Theodore Lowi was perhaps its fiercest critic within political science. In *The End of Liberalism* (1969), Lowi lamented the perversion of political accountability that came with the broad grants of discretion that Congress increasingly gave to executive agencies. In Lowi's view, ambiguous statutes and interest group influence were the principal culprits, as the practice of scientific administration touted by Progressivism turned out to be insidiously interest-driven as well. In economics, George Stigler (1971), echoing Marver Bernstein (1955), developed an economic theory of regulation, which emphasized the powerful incentives of private industries to capture public bureaucracies. And a generation of scholars studying Congress-agency relations asserted that representative government was being displaced by policy "subgovernments" – triumvirates of likeminded agencies, interest groups, and legislative committees.

Near century's end, popular worries about bureaucratic accountability remained strong, but academic scholarship turned more sanguine. Beginning with Arnold's classic, *Congress and the Bureaucracy* (1979), a range of empirical studies concluded that the preferences of elected officials affected at least some of the decisions of agency bureaucrats (e.g., Ferejohn and Shipan 1989; Wood and Waterman 1991). In a series of influential theoretical papers, in turn, McCubbins, Weingast, and colleagues (e.g., McCubbins 1985; McCubbins and Schwartz 1984; McCubbins, Noll, and Weingast 1987; Weingast and Moran 1983) argued that diligent oversight of agency decisions *ex post* may be too costly, but elected officials compensate by designing procedural requirements that control such things as reporting and information, the range of informants, participation in rulemaking, and

standing to sue. More recent work has emphasized the selective use of statutory specificity to limit discretion when future bureaucratic fidelity is in doubt (Bawn 1997; Huber and Shipan 2002).

An important and substantial literature has thus illuminated the institutional mechanisms of political control. We know far less, however, about the behavioral ones – the decisions of individual legislators to intervene in agency decisions *ex post*. Procedural and statutory mechanisms may conserve the need for such actions, but they do not eliminate them. Indeed, such interventions are occasionally necessary for institutional mechanisms to work. As McCubbins and Schwartz (1984) emphasize, disaffected interests will invariably sound a “fire alarm” in Congress when agency decisions do them harm. But the question then becomes: What do legislators do in response, if anything, and why? What happens after the alarm?

These questions animate what follows. Specifically, we begin to explain legislators’ interventions in agency rulemaking. Although part of a larger institutional process, these decisions are made by individuals. A given legislator decides whether to challenge, or defend in the face of a challenge, a particular agency rule. He or she writes a letter, submits comments, gives a speech, introduces a bill, offers an appropriations rider, or, more commonly, challenges (defends) an agency policy during a congressional oversight hearing.

These actions are important but theoretically puzzling. They are important in that they can focus attention on issues that autonomy-minded bureaucrats might prefer to avoid. And because such actions are costly, they signal the agency that unresponsiveness might generate reputation-damaging investigations or sanctions (Carpenter 2001). They are theoretically puzzling because legislators’ costs of intervening are high, their capacity low, and their incentives weak (Scher 1963). Nonetheless they often try to assert control over agency decisions (Aberbach 1990; 2001).

Our attempt to address this puzzle leads us to examine a specific mechanism of interest group influence in legislative oversight. We draw on a since neglected model of oversight activity set

forth in Shepsle (1978) and a model of lobbying in Hall and Deardorff (2006). In contesting agency actions, we argue, interest group lobbyists “subsidize” interventions by individual legislators whose preferences over agency policies already agree with the group. Lobbyists provide issue-specific expertise and assistance to resource-constrained overseers, thereby lowering the costs of intervening in agency policymaking. Interest groups, then, do not simply sound the alarm in Congress when agencies threaten them harm. They help sympathetic overseers respond to the call.

In the second half, we provide a test of the theory’s implications by examining the interventions of legislators in EPA revisions of clean air regulations during the 105th Congress. Analyzing data from contemporaneous group records and face-to-face interviews with key lobbyists, we find consistent evidence that interest groups selectively subsidize legislative overseers and that those subsidies mobilize group-friendly legislators to intervene. We find that public and private interest groups successfully employ this strategy but that the latter have the advantage, an advantage that does not flow from their substantial contributions to congressional campaigns. The empirics of a single case are not conclusive, of course, and we suggest some directions for future work.

Institutions of Political Control

Lowi and other critics of American pluralism helped create a textbook view of Congress-agency relations. Congress increasingly delegated authority to an unaccountable bureaucracy even as oversight became its “neglected function” (Bibby 1968). Of course, delegation had its virtues; far better than Congress could agencies acquire specialized knowledge about policies and their effects. But these very virtues helped to insulate agencies from critical congressional review (e.g., Scher 1963, 532-33). As a result, political control was inherently inadequate (Dodd and Schott 1979; Ogul 1976).

More recent work has emphasized institutional mechanisms of political control that operate in the absence of systematic oversight. Prominent studies in the 1980s developed what came to be known as the “positive theory of congressional dominance” (Moe 1987). In this view, Congress

compensated for its limited capacity by creating institutional arrangements and procedures that rigged agency decision making to favor legislators' preferences, without them having to pay the high costs of subsequent, systematic review. In an early and influential paper, McCubbins and Schwartz (1984) distinguished between "police patrol" and "fire alarm" oversight. The former referred to regular legislative audits of agency decisions. The latter referred to statutory provisos -- reporting requirements, advisory commissions, or procedural mechanisms -- that enabled favored groups and constituencies to monitor agencies and, if displeased, to sound an alarm in Congress. A large literature has since extended the logic of control through structure and process as well as statutory constraints on agency discretion (e.g., Bawn 1997; Epstein and O'Halloran 1999; Huber and Shipan 2002). Especially relevant here, Lupia and McCubbins (1994) and Epstein and O'Halloran (1995) incorporate interest groups as third-party signalers seeking to influence a congressional response to bureaucratic action *ex post*. We draw on this work below but locate our theorizing at the individual level and identify a different informational mechanism.

In refocusing on the behavioral rather than institutional mechanisms of control, we emphasize that the two are complementary. Institutional arrangements work by structuring the information, incentives, and constraints faced by individual actors. At the same time, institutional design is an imperfect science and legislator-designers imperfect scientists. Well-intended provisions can produce unintended consequences, which overseers will want to detect and correct. Likewise, institutionally "favored" groups can lose place of privilege, as old legislators are replaced, majorities shift, court decisions are rendered, or issues are redefined. Under such conditions, favored groups will have greater incentives to sound an alarm, but they will also expect a congressional response. In sum, institutional mechanisms may reduce the need for *ex post* oversight, but they also create occasions for it and heighten expectations for corrective action should groups sound an alarm. Those groups -- and their opponents -- will want legislators to weigh in, and on their side.

Legislators' Interventions in Agency Policy Making

Individual legislators weigh in by *intervening* in agency decision making. An intervention, as we conceive it, refers to a more or less costly signal directed at an agency regarding a particular agency policy, existing or proposed. We assume that such action reveals two, analytically distinct elements of the legislator's preference about which agencies should care. One is the direction or valence of her position. Is the legislator more or less supportive, opposed, or undecided with respect to the agency policy? The second element is the legislator's "willingness to pay" for the policy she prefers. If the agency proves unresponsive, how hard will she work to overcome its informational advantage and, if necessary, impose (prevent) reputational costs or, say, budgetary sanctions?

The most common way that legislators reveal their underlying willingness to pay for a (different) agency policy is by challenging or defending it in oversight hearings. Indeed, one might think of oversight hearings as efficient institutions for enabling numerous legislators to convey position and intensity to agency officials. Other opportunities include letters to agency heads, comments filed during notice and comment, or the introduction of bills, resolutions, or riders.

Such actions, we assume, autonomy-minded bureaucrats cannot safely ignore (Carpenter 2001). The more costs the legislator pays at this stage, the more credible is the implied threat (promise) to pursue (prevent) subsequent, more punitive measures. Those measures need not be, typically will not be, legislative remedies, which require majority support in committee and on the floor. More immediately threatening are efforts to embarrass or berate, to sanction or coerce, or to otherwise tarnish the agency's reputation publicly. Hence, the fact of two letters or statements provides more information than one. Lengthy letters, multiple arguments, substantive comments – all of these things indicate that the legislator will work to impose reputational costs if the agency remains unresponsive. *Ceteris paribus*, costly actions by more critics suggest that unhappy

consequences are all the more likely. They are the concrete means by which “Congress” puts “pressure” on agency actors.

Explaining Legislators’ Interventions

In the large literature on political control of the bureaucracy, few studies directly investigate the decisions of individual legislators to intervene in agency policymaking (but see Duffin 2003). As we note above, this is surprising, as these choices are both substantively important and theoretically problematic. The costs of oversight are high, individual capacity is low, and their incentives are weak. Nonetheless, legislators intervene in agency policymaking with some frequency. Why?

Our answer to this question builds on a simple constrained optimization model of oversight activity suggested by Shepsle (1978, 251-256) and a theory of lobbying elaborated by Hall and Deardorff (2006). In the conclusion to his classic study of committee assignments, Shepsle (1978, 251-54) speculates about congressional neglect of oversight, characterizing it as a simple resource allocation problem. Were the parent chamber to provide more oversight staff, some of that labor would be “siphoned off” to meet other priorities. Such is the microeconomic nature of “multiple-use” resources. At the same time, Shepsle shows that at least some – and perhaps most – of the added labor would go to expand oversight activity.

Hall and Deardorff’s model (2006) focuses on legislative effort, not oversight activity, and the agent responsible for the behavioral change is a lobbyist, not, say, an administrative committee that controls staff budgets. But the key mechanisms – the provision of a supplemental budget to a legislator’s capacity – are quite similar. Individual legislators care about multiple policies, have an underlying willingness to pay for different policies, and derive utility from promoting “progress” toward (or “regress” away from) outcomes that they or their constituents care about and that policies are intended to affect. However, because they value progress on more than one issue and have finite resources, legislators make implicit tradeoffs. The problem, then, is to explain why, in

the face of constraints, some legislators more than others intervene in particular matters of agency policymaking. Our explanation emphasizes three factors: utility, capacity, and subsidy.

The Utility of Oversight

As an institutional matter, legislative oversight has the high Madisonian purpose of checking the executive branch, but as an individual matter, the motivation is less lofty. Agency decisions tend to have what Arnold would call weak “traceability” (1990). Even if recalcitrant bureaucrats bend to the legislator’s pressure and adopt a policy that improves outcomes for the legislator’s constituents, those happy results may be traceable to the agency. It is not certain that they will be traceable to the legislator. She may rightly claim credit for the outcome. But the low visibility of her action and the fact that the relevant policies arose from the executive will mitigate the credibility of such claims to voters. This is one reason why Fiorina (1977) argues that legislators will intervene with bureaucrats mainly in the form of constituency service, where the benefits to constituents are concentrated and directly attributable to the member (see also Aberbach 1990, 111-112). In a rare empirical test, Duffin (2003) finds that constituency representation has little effect on legislators’ oversight activity.

That voters do not easily connect agency policies to their representatives does not end the matter, however. When the benefits or costs of agency policies are concentrated, overseers’ interests should be piqued (Arnold 1979; Duffin 2003). Such incentives will be magnified if groups are closely watching what legislators do. They might then report what they observe to their members, or legislators might simply anticipate that happening (Fiorina 1974; Hansen 1991).¹ The consequence is that the expected utility per unit of effort on that issue will increase *relative to other issues*. Under such circumstances legislators will be more likely to intervene, absent any assistance.

The Capacity to Intervene

As we discuss above, both the textbook and the contemporary view of oversight stresses the limited capacity of legislators to supervise agencies (Huber and Shipan 2000). They may be alerted

to what the agency is doing. They may have a general sense of whether it will produce a desirable outcome. But challenging (defending) the specific agency proposal in any credible way requires the development of issue-specific knowledge and engagement in costly action.

Some legislators more than others have the capacity to pay these costs. Again we build on Duffin (2003), who argues that membership on the (sub)committee of jurisdiction is critical. These panels tend to be repositories of expertise (Esterling 2004). If a fire alarm is sounded, that is where it rings. Indeed, Bawn (1997) concludes that, because their costs are lower, committee members will prefer oversight to statutory mechanisms of political control. Likewise important to oversight is the (sub)committee leaders' greater staff capacity (Shepsle 1978, 251-254, but see 256). Professional staff can screen information, prepare their bosses for hearings, compose comments, or draft letters to agency officials. Aberbach (1990) thus finds that committee leaders have in their staff an "intelligence system" to help them limit the informational advantages of bureaucrats.

Subsidizing Oversight

We assume that interest groups understand this, hence that the high costs of information and the variable capacity of legislators define lobbyists' strategies (Schlozman and Tierney 1986, 297-301). In the oversight context, we contend, lobbying works less through persuasion or implicit trades but through matching grants of staff labor and information (Hall and Deardorff 2006), which legislative overseers need to credibly intervene in agency policymaking. In this way, lobbyists ameliorate the central problem of oversight as individual legislators confront it. Models of persuasion and exchange generate alternative hypotheses, which we take up below.

In policy areas that affect their group, lobbyists are well-equipped to provide the labor and informational subsidies we posit. Interest groups are not "mere supplicants," Schlozman and Tierney (1986, 300) observe; they provide legislators with "valued information and assistance." Banks and Weingast observe specifically that interest groups participate "in the monitoring process

by providing politicians with a source of information independent of the agency” (1992, 512), a premise central to Epstein and O’Halloran (1995) and Lupia and McCubbins (1994).

If lobbying is a form of subsidy to overseers – rather than a mechanism of persuasion or exchange – several testable hypotheses follow. First, lobbyists will lobby overseers who share their preferences rather than lobby those opposed or near the fence (Hall and Deardorff 2006), a hypothesis consistent with Lupia and McCubbins (1994) and both formal and empirical work on legislative lobbying (e.g., Austen-Smith 1995; Baumgartner and Leech 1997; Hojnacki and Kimball 1998). In the context here, overseers should want the assistance of their allies. The second and more important hypothesis, dependent on the first, is that the more lobbyists lobby their legislative allies, the more those allies’ will intervene with agency decision makers. Subsidized offices will be able to conduct oversight at a lower cost and more credibly challenge (defend) what an agency has proposed. Third, through this mechanism public interest groups, even those without a PAC or a large membership, can induce at least some activity by sympathetic overseers.

Finally, we consider hypotheses suggested by alternative theories of interest group influence.

Exchange models typically characterize the group-legislator relationship as an implicit trade of campaign contributions for legislative votes (e.g., Stratmann 1998) or a longer-term investment to secure policy dividends (e.g., Snyder 1992). The literature on vote-buying has uncovered decidedly mixed results (e.g., Wawro 2001; Wright 1996), but Denzau and Munger (1986; see also Box-Steffensmeier and Grant 1999) argue that contributions buy services or effort from legislators, which might include intervening with an agency. If buying oversight effort is the purpose, in turn, the cheapest sellers should be the contributors’ confirmed allies (Hall and Wayman 1990). Thus the alternative exchange hypothesis: Controlling for lobbying, the higher the campaign contributions given to legislative allies, the more those allies will intervene in agency decisions. To our knowledge, no systematic work save Boehmke’s state-level analysis (2007) has tested any hypothesis that

legislators intervene with agencies in return for contributions, though examples of it – the Keating Five, the Abramoff Indian gaming scandal – have been well publicized.

A second class of models characterizes lobbying as a game with asymmetric information. Lobbyists acquire private information about policies' effects, and they use it strategically to persuade legislators to take positions consistent with their own (e.g., Ainsworth and Sened 1993; Austen-Smith 1995; Rothenberg 1992). Although the Lupia and McCubbins (1994) and Epstein and O'Halloran (1995) models generate no individual-level predictions, the median member is the lobbyist's theoretical target.

The 1997 Fight over EPA Clean Air Regulations

We explore these hypotheses using a rich if case-specific dataset on interest group lobbying regarding an EPA proposal to strengthen the National Ambient Air Quality Standards (NAAQS) for ground-level ozone (smog) and particulate matter (PM, or soot). The revised NAAQS were proposed by the EPA in late 1996 and were approved by President Clinton in June of 1997. These rules promised to have major but geographically variable consequences. On the one hand, medical experts testified that the stricter rules would improve health in polluted areas, especially for the elderly, children with asthma, and others with cardiopulmonary disorders. For this reason, public health and environmental interest groups lobbied actively on the issue. At the same time, the rules would impose significant costs on polluting industries – iron and steel, heavy manufacturing, transportation, mining, and utilities – many of whose firms might have to modify operations or relocate in order to meet the new standards. Thus were the regulations hotly contested. Industry groups sounded the alarm in Congress, predicting economic harm to themselves and job loss in their locales. They also challenged the scientific evidence the EPA used to justify the specific health standards. Industry testimony came from toxicologists and epidemiologists, who challenged the causal link between airborne particulates of a particular size and discernibly worse public health.

We make no claim that this case is somehow typical, but it has two elements that make it useful for exploring our account of subsidizing oversight. First, it involves issues of technical complexity and difficult tradeoffs, which should make members uncertain on the merits and thus targets for strategies of persuasion. At the same time, these issue attributes make interventions more costly, the member thus less likely to intervene. Second, the NAAQS issue pitted well-financed private interests against relatively weak public interest groups, making it possible for us to assess whether lobbyists for the latter can influence legislators through the subsidy mechanism we identify and whether lobbyists for the former can influence legislators through the mechanism others have identified – campaign contributions.

Measurement and Specification

Legislative Interventions: We define an intervention as a costly action by a legislator with respect to a particular agency policy. Our study focuses on the House Commerce Committee, the principal House oversight committee with jurisdiction over clean air standards and, according to our interviews, the primary focus of lobbying on this issue. In measuring the strength of a legislator's intervention, we tried to capture what the agency would take as a credible challenge or defense. We thus coded and then counted the number of substantive comments – criticisms, arguments, statements, or lines of questioning – the point of which were to challenge (defend) the agency's proposed air quality standards.² We used two data sources.³ The first was the public docket generated during the comment period on the proposed rule. Established by the 1946 Administrative Procedures Act, the notice of proposed rulemaking is perhaps the most common “fire alarm” institution. The docket held comments from all parties, including letters to the EPA from members of Congress, copies of which we obtained. The second source is the transcripts of five oversight hearings held in the 105th Congress prior to the rule going to the White House for approval.⁴

Most committee members made at least one substantive comment in opening statements or exchanges with hearing witnesses. Some said little, while others evaluated the proposal in detail, challenging or supporting it on numerous grounds. About a quarter of the committee submitted one or more letters to EPA Administrator Carol Browner. Summing the arguments made in the hearings and letters, we create two dependent variables indicating the strength of an individual member's intervention: comments opposing the EPA proposal and comments supporting it. Anti-regulation comments ranged from 0 to 40, pro-regulation from 0 to 22.

Constituency Interests. As we point out above, constituency interests in this case were visible to legislators on the House Commerce Committee, even if they may not (yet) have been widely visible to voters at home. Scientific testimony emphasized that the two pollutants posed significant health risks, especially to asthmatic children and elderly with cardiopulmonary disease. We try to capture the potential ill-effects by combining two indicators taken from EPA documents: congressional district levels of PM 10 (particulate matter of 10 microns or greater) and ground-level ozone – the two pollutants covered by the proposed regulations.⁵ We expect that the higher the district pollution level, *ceteris paribus*, the more numerous the legislator's comments in favor of the EPA regulations and the fewer the comments against. At the same time, the effects of the regulations might cut two ways – improving air quality on the one hand but inhibiting economic development on the other. We thus control for the number of manufacturing jobs in the district, the coefficient on which should be positive in the anti-regulation model and negative in the pro-regulation model.

Legislative Capacity... Legislative capacity is captured here by three variables, which indicate the relative availability of staff and the procedural advantages owing to institutional position. The first is membership on one of the two subcommittees with jurisdiction over the proposed regulations. The second is a four-point index of leadership position, from subcommittee ranking minority member to full committee chair. We expect both of these variables to have a positive

impact on legislators' oversight activity. Third, we use an analogous index of legislators' leadership positions on other (sub)committees, positions that make the member more effective on other issues, thus raising the opportunity costs of oversight activities on House Commerce. Consistent with the other variables, we transform the leadership variables to a 0 to 1 scale.

Lobbying. Our measure of lobbying is based on a survey instrument, administered in face-to-face interviews with group representatives who lobbied Congress in the period before issuance of the final rule. We sought out the principal lobbyists who lobbied for the coalition of groups on each side, based on the reports of committee staff and other lobbyists. We identified eight on the pro-regulation side and interviewed six; we identified fourteen on the anti-regulation side and interviewed nine, including all of those identified as "major players." The instrument builds directly on those developed by Wright (1990) and Hojnacki and Kimball (1998), except that our count variable extracts more information than their ordinal scale; in particular we avoid some truncation at the high end. The form listed all committee members and asked the respondent to estimate the number of times during the rulemaking controversy that he or she had "face or phone" contacts with the member or the member's staff: "none (0)," "once or twice, (1-2)" "several times (3-5)," "many times (6-10)," or "repeated contact (>10)." When the lobbyist marked "repeated contact (>10)," we asked him/her to estimate the actual number of contacts with that member's office regarding the NAAQS rulemaking. We sum these counts across groups on each side, producing two variables for every member: the number of contacts with industry lobbyists and the number of contacts with health and environment lobbyists.⁶ By this measure, the industry advantage was substantial. The number of industry contacts with individual committee members exceeded the health and environmental coalition contacts by a ratio of about 2 to 1.

Policy Positions. Our measure of committee members' expected positions on the NAAQS rule takes advantage of remarkably detailed, private files made available to us by leaders of the health and

environmental coalition (hereafter, HEC). These files help us avoid a potential endogeneity problem in that the coalition's classification of committee members' likely support for the rule were made more than a month before lobbying commenced. The HEC lobbyists relied primarily on the League of Conservation Voters (LCV) support score from the previous congress but reclassified members on a 1 (strong opponent) to 5 (strong ally) scale based on past experience or, in the case of freshman, based on candidate surveys and endorsements from environmental groups (League of Conservation Voters 1997). For those classified separately from the LCV score, we transformed the lobbyists' 1-5 rating to a 0-100 scale to correspond to the LCV scale.⁷ We designate the measure the modified LCV score, hereafter MLCV.⁸ *Ceteris paribus*, we expect that it will have a negative effect on comments against the rule and a positive effect on comments supporting the rule.

Campaign Contributions. While our theoretical focus is on lobbying, we specify an alternative model that includes PAC contributions to friendly and uncertain legislators. Although the contributions of pro-regulation groups were negligible, anti-NAAQS groups contributed nontrivial sums to some Commerce members in the previous cycle, ranging from zero to \$153,000, with more than half receiving \$30,000 or more. If industry groups are buying overseers' public positions much as they would their votes, the effect of contributions to uncertain legislators should be positive and small (cosigning a single letter will do) for anti-regulation interventions. If interest groups are directly "buying the time" and thus mobilizing sympathetic legislators, as Hall and Wayman (1990; but see Wawro 2000) argue, then the coefficient on industry contributions to their allies should be positive and large. In the third pro-regulation model, we also incorporate contributions from the industry PACs to opponents and to undecideds to test for the possibility that industry contributions might have demobilized opponents or bought the silence of centrist legislators.

Lobbying Allies

Our main concern is with lobbyists' influence on legislators' decisions to intervene with agency policymakers, but our predictions presuppose particular patterns of lobbying. Recall the first hypothesis: If lobbying is a mechanism of subsidizing overseers, lobbyists will tend to lobby their allies, not the uncommitted or opposed. The evidence from the NAAQS case demonstrates this tendency. Figure 1 shows the total number of contacts by HEC groups and industry groups with their respective allies, opponents, and uncommitted legislators. As discussed above, the cut-points we use to identify allies of the respective sides are intentionally conservative, with only the bottom fifth (0-20) of the MLCV scale classified as industry allies and the top fifth (80-100) as HEC allies.

Figure 1 about here

Even so, pro-regulation lobbyists had more than twice as many contacts with allies as with uncommitted legislators and over four times as many contacts with allies as opponents. The pattern of industry lobbying is also skewed, more surprisingly so. Contemporaneous reports put the industry lobbying expenditures on this issue at over \$40 million, vastly more than the pro-regulation side. But flush with resources, industry lobbyists nonetheless concentrated them on those who were already clearly committed allies. As Figure 1 shows, industry lobbyists interacted with allies relative to uncommitted legislators by a factor of over three to one and with allies relative to opponents by a factor of almost six to one. Likewise, we find no initial evidence of competitive lobbying, as lobbying by one side appears to be independent of the other. The negative binomial coefficient from regressing industry contacts on HEC contacts is $-.003$ with a z-statistic of $-.35$

The bivariate picture thus provides preliminary support for our first hypothesis while undercutting the alternative hypothesis that lobbyists seek to sway undecided or centrist overseers. It is also unlikely that these patterns represent the influence of lobbying on legislator's preferences,

rather than the reverse, for the issue-specific preference scale was constructed by the HEC lobbyists for their private use over a month in advance of the congressional review.

Statistical Model

The patterns of lobbying behavior anticipate our analysis of legislators' interventions in agency decision-making. Recall the nature of our two dependent variables: the number of substantive comments by House Commerce member i that favored the EPA proposal and the number of comments by i that opposed the proposal. Because our theory predicts that messages pro and con will be differently affected by similar factors, we analyze them separately. As a consequence, two data generation processes might produce a value of zero for a legislator's number of comments. The first arises from our theoretical account. The legislator's position is favorable to a particular side, but factors of low capacity, competing commitments, or disinterested constituency disincline the member to pay the time and information costs to intervene. The second arises from the necessarily separated nature of our analysis, which systematically inflates the number of zeros: The legislator does not intervene pro (con) simply because he or she does not hold that position,

We thus employ zero-inflated Poisson (ZIP) regression to estimate the multivariate models (see Greene 1997; Long 1997). ZIP is a maximum likelihood estimator appropriate for non-negative count variables where the number of zero values is inflated by some systematic process.⁹ In estimating the count models, ZIP regression first estimates the probability that an event count will be zero, based on specified characteristics of the individual legislator and can be written as $\psi_i = F(z_i\gamma)$, where F is the logistic cumulative distribution function and z_i consists of two variables used to estimate the policy position of legislator i prior to any lobbying: their MLCV score and their party identification.

The second stage – which is of primary interest here – models the number of substantive comments, given the decision to oppose/support the proposal. Here, the count of legislative

comments results from a Poisson process, which estimates both zero and positive counts as a function of constituency, capacity, and lobbying variables. Following Long (1997):

$$\Pr(y_i | x_i) = \frac{\exp(-\mu_i) \mu_i^{y_i}}{y_i!}$$

where $\mu = \exp(x\beta)$. Formally, then, the ZIP estimator combines a binary model and a Poisson count model. Again following Long (1997):

$$\Pr(y_i = 0 | x_i) = \psi_i + (1 - \psi_i) \exp(-\mu_i)$$

$$\Pr(y_i | x_i) = (1 - \psi_i) \frac{\exp(-\mu_i) \mu_i^{y_i}}{y_i!} \quad \text{for } y_i > 0$$

The use of the ZIP estimator thus allows us to specify the two data generation processes that might produce an observed zero count for legislators' comments, modeling the first process to adjust for the high number of zero values in the second. However, the estimation of the pro-regulation and anti-regulation interventions also raises the possibility of cross-equation correlation in the error term. In order to more efficiently estimate the pro and con models, we treat them as a series of seemingly unrelated equations, which provide robust standard error estimates.

One limitation of ZIP regression is that it does not accommodate conventional tests for endogeneity, an issue here to the extent that lobbyists might lobby (friendly) members because they expect them to be active. A priori, we think this unlikely. The opposite logic – if an ally is going to be active anyway, the lobbyist should spend his time assisting those who are not – seems equally plausible. Nonetheless, it is better to submit such speculations to statistical tests. We took two tacks, both of which use instrumental variables to identify the models and conduct tests for endogeneity. Neither test indicated that endogeneity was biasing our results, and the coefficients on friendly lobbying remained large and statistically significant.¹⁰

Results

Table 1 presents the results of the zero-inflated Poisson regression for the number of comments *opposing* the EPA rule.¹¹ Table 2 shows the results for the number of arguments *supporting* the rule. Overall, the results of this case support the theory's main predictions, this despite the small number of observations. We briefly take up the impact of constituency and capacity, then turn to the results of primary interest here – the effects of lobbying on the interventions of overseers.

Tables 1 and 2 about here

Our account of legislators' expected utility calculations led us to hypothesize that in salient cases such as this one, constituency concerns might matter in a way not necessarily common in the conduct of oversight. At the same time, such interests should cut opposite ways for legislators on opposite sides of the regulation. We find support for this only in the in the anti-regulation model, where district air pollution has the expected negative effect. Legislators otherwise inclined to speak out against the EPA's rule tempered their criticism if they represented a high pollution district. The effect in the pro-regulation model, in turn, should be positive. Instead the coefficient is slight and in the wrong direction. One explanation for the difference is suggested by Fiorina (1974), who argues that constituents are more apt to blame legislators for doing harm than reward them for doing good, especially when the latter is a geographically dispersed public good, such as clean air. However, we find no such asymmetric effect. The rule stood to concentrate costs in districts' with high employment in manufacturing, but manufacturing jobs did not significantly induce interventions on behalf of industry, nor did they disincline members who supported the rule from actively doing so, results that proved robust to alternative measures and interactions.¹²

The second category of variables focuses on variations in capacity to pay the individual costs of oversight. Across both models and all specifications, the results strongly support our expectations that greater capacity increases the extent to which legislators engage in costly oversight.

We calculate that subcommittee membership increases anti-regulation comments by two and pro-regulation comments by one. Unsurprisingly, leadership position increases oversight participation in both models. Going from, say, a subcommittee rank and file to committee ranking member accounts for an increase of anti-regulation comments by three and pro-regulation comments by two.

We also find evidence that legislators with leadership commitments on other House committees will be have higher opportunity costs for Commerce Committee oversight. In the model of pro-NAAQS regulations (Table 2), the higher opportunity costs diminish interventions by about one comment. The same variable has a comparable negative effect on anti-regulation comments (Table 1), although our statistical confidence in that effect is weaker.

Subsidizing Overseers

We now turn to the effects of lobbying on legislators' interventions in agency rulemaking—the focus of this study. The first columns of Tables 1 and 2 show the results for a simple model of interventions that tests for whether lobbying by industry groups increases pro-industry interventions and whether lobbying by HEC groups increases pro-environmental interventions.¹³ At the same time, the models test for whether each side can induce opponents to forego intervening against them. Insofar as subsidies can supplement but not subtract resources (Hall and Deardorff 2006), we predict no such effect. Insofar as lobbying involves mixed strategies of mobilization and persuasion through, say, constituency cross-pressure, we should find both.

In the first model of anti-NAAQS interventions, industry lobbying has a strong impact on comments against the regulations, while HEC lobbying has no demobilization effect. Similarly, in the pro-NAAQS model, HEC lobbying increases the comments in support of the regulations. And while we do see a negative effect on pro-NAAQS interventions for lobbying by the anti-NAAQS side, the coefficient does not meet even generous levels of statistical significance. These first results

thus support the subsidy account of lobbying overseers, both in the strong mobilization effects and the negligible effects of oppositional lobbying.

We take the specifications of Model 1 to be a reasonable approximation of the theoretical story we have told. As we note above, if all lobbying were friendly lobbying, the simple model would be identical to a conditional model – only friendly lobbying would matter. Figure 1 shows that to be the clear tendency. At the same time, there is some variance in whom each side lobbies. We thus turn to a second model of overseers' interventions to examine the differential impact of lobbying contacts with allies, undecided or centrist legislators, and opponents.¹⁴ Consistent with our theory and the results of Model 1, we do not include HEC lobbying in the remaining models of anti-NAAQS interventions nor industry lobbying in the remaining models of pro-NAAQS interventions.

Figure 1 about here

As the second columns of Tables 1 and 2 show, the zero-inflated Poisson coefficients for lobbying friendly legislators are positive and statistically significant. To the extent that private industry groups lobbied legislators who were prejudged to be allies, those legislators put greater pressure on the EPA in a pro-industry, anti-regulation direction. To the extent that the HEC groups lobbied legislators with strong environmental positions, those legislators sent more comments to the agency in support of stricter regulations. The effects of friendly lobbying in both models, we would add, are robust to different specifications and alternative measures of the dependent variables.

Figure 2 about here

Figure 2 translates the likelihood coefficients of the 2nd models into substantive effects, based on changes in the friendly lobbying variables and holding the other variables at their means or, for ordinal measures, their medians. When an environmentally minded subcommittee member who represents a district with average pollution levels has no contacts with pro-regulation groups, we estimate that she will make about one argument regarding the agency rule. This amounts to entering

a prepared statement into the hearing record or co-signing a letter to the EPA Administrator. As lobbying increases, the number of comments in support of the proposed regulations also increases. As Figure 2 shows, a legislator who has 30 contacts with HEC lobbyists will make almost four comments favoring the proposed regulations, all else equal. Thus does it appear that HEC lobbying had a subsidizing effect, enabling otherwise time-constrained allies in Congress to defend more vigorously the stricter air quality standards in the face of strong industry opposition. For a small group of relatively resource-poor public interest groups, we take this to be a fairly strong result.

In the case of industry lobbying in opposition to NAAQS, lobbying of like-minded legislators increases the number of interventions in opposition to the EPA regulations. Figure 2 illustrates that a legislator who was contacted about 30 times by industry lobbyists would make about four comments in opposition to NAAQS as compared to the 2 ½ comments expected of a legislator who was not lobbied by industry. While the coefficient is not very large, however, industry lobbied far more heavily against the NAAQS rule, including 30 or more contacts with nine members. And lobbying at the high end has an even stronger effect; friendly legislators who were contacted by industry lobbyists a total of 80 times made ten more comments in opposition to the proposed regulations – a 400% increase in oversight activity compared to no friendly lobbying. In contrast, in only one case did the HEC groups lobby a member more than 30 times.

The industry advantage appears even stronger for subcommittee and committee leaders. Relative to a subcommittee backbencher, for instance, the impact of going from 0 to 20 lobbying contacts is 1 ½ times greater for the two subcommittee ranking minority members and three times greater for the two subcommittee chairs, both of whom supported industry in opposing the rule. The effects are magnified further for full committee leaders, both of whom sided with industry. Taken together, the results are nicely anticipated by the Denzau and Munger (1986; see also Hall and

Deardorff 2006) argument that committee leaders have higher productivity in translating resources into effort, which in this case worked to limit EPA discretion.

These findings hold up even controlling for the measure (MLCV) of members' expected support for the HEC position. As hypothesized but unsurprising, this variable helps to predict legislators' interventions in support of the rule. A typical legislator whose expected level of support is high makes nearly two more arguments than a legislator who is only moderately supportive of clean air policies.¹⁵ In all three anti-regulation models shown in Table 1, in turn, the coefficient is correct in sign (negative), but it proves statistically and substantively significant only in Model 1. We suspect this reflects the imperfectly measured mix of constituency (pollution v. economic development) impulses that inclined some overseers to take costly action opposing the EPA.

The open-ended parts of the interviews provide a concrete view of lobbyist-legislator interactions and reinforce our inferences about subsidizing oversight: "Giving assistance," "putting together data and analysis," "mak[ing] the research understandable," "drafting questions for hearings" – such comments appear frequently in the transcripts of almost every interviews. Several lobbyists observed that high staff turnover in Congress caused legislative offices to rely more heavily on them: "Because so many staffers are young, fresh out of college, they don't know the issue," one lobbyist observed," adding that his coalition got "panic calls" right before hearings from staffers in need of questions that their members could ask. Some of the "cooperation and coordination" had less to do with policy issues than political intelligence. For instance, one long time lobbyist observed that "much more time is spent trying to figure out who's clearly on your side and then you strategize with them." This is not to suggest that all lobbying in the NAAQS fight was about subsidizing allies. Lobbyists on both sides described attempts to persuade weakly committed legislators to co-sign letters to the EPA authored by active overseers. We suspect that this fact makes the NAAQS oversight case somewhat unusual in that it was a high-profile, controversial issue, where coalition-

building began early, with the principals anticipating a possible fight over legislative preemption. Being atypical in this way, however, one should see lobbying focused more on undecided legislators, especially on the primary committee of jurisdictions. As the next section clarifies, we do not.

Alternative Hypotheses

Embedded in the second models of Tables 1 and 2 are tests of the alternative hypotheses that lobbying works by inducing uncertain or antagonistic legislators to change positions and take action consistent with the lobbyists' leanings. We have already seen in Figure 1 that relatively little lobbying focuses on these two types of legislators, especially one's opponents, but the zero-inflated Poisson model provides a better test of the hypotheses. Neither model (column 2 in Tables 1 and 2) confirms them. The sign on all coefficients are negative, not positive, and do not reach statistical significance. If lobbyists are pursuing a strategy of moving centrist legislators, in sum, they are doing relatively little of it, and the results here suggest that their efforts are ineffective in any case.

Embedded in the Model 3 of Tables 1 and 2 are tests of hypotheses about the impact of campaign contributions in shaping oversight behavior. In order to test the subsidy account against the exchange model developed by Denzau and Munger (1986), we estimated a model of friendly lobbying but include measures of industry contributions to differently positioned legislators. In the anti-regulation model, we examine the impact of industry contributions to their allies, which is the oversight equivalent of Hall and Wayman's (1990) "buying time" hypothesis. Sympathetic legislators who receive industry money should intervene more vigorously with the agency in opposition to the rule. As the third column of Table 1 shows, we find no support for the hypothesis. Neither did money induce anti-regulation comments from originally undecided legislators. To the contrary, both PAC variables are small and incorrect in sign. In other analyses, likewise, we found little effect of campaign contributions on costly interventions through their effect on lobbying.

A second test of money's effects appears in the third model of Table 2, which estimates comments sent in favor of the EPA regulation. Campaign contributions by the health and environmental groups were too meager to permit an analysis similar to the pro-regulation equation. However, it is possible that industry money given to opposing overseers "bought their silence," a form of implicit bribery that Hall and Wayman (1990) label "demobilization." To test for this, we add to the pro-regulation equation a term capturing industry campaign contributions to opposed and uncertain legislators. As Table 2 shows, only one of the contributions variables is marginally significant, and it is incorrect in sign. Taking the anti-regulation and pro-regulation results together, it appears that industry campaign money neither mobilized industry-friendly overseers nor demobilized their opponents. This despite the fact that a great deal of campaign money flowed from industry PACs to Commerce Committee members during the previous election..

Conclusion

The responsiveness of public agencies to elected officials is a basic issue in the study of democratic institutions. The need for delegation is unavoidable, the barriers to systematic monitoring substantial. Important theoretical work has illuminated the institutional mechanisms through which legislators assert control. We have focused on the behavioral ones, examining the efforts of legislators to assert control by intervening with agency decision makers.

We argue that interest groups play an important but incompletely understood role in the conduct of oversight. They sound alarms when agencies do them harm, as McCubbins and Schwartz contend, but they do much more than that. They help generate the response post-alarm, selectively subsidizing the interventions of committee allies in agency decision making. Lobbying thus mitigates what numerous scholars have identified as the most important impediments to agency accountability – oversight's high costs and overseers' limited capacity to pay them.

Our account of oversight behavior gives rise to several hypotheses, for which we provide preliminary tests using data from a 1997 EPA clean air rule. Consistent with the theory, we find that advocates for both sides mainly lobbied legislators they considered allies *ex ante*. Second and more importantly, we find that lobbying has a positive, substantial effect on oversight involvement. Again, this finding holds for both private and public interest groups. At the same time, the results in this case show that public interest groups provided only a partial counterweight to lobbying by private industry, a finding consistent with Golden (1998) and Yackee and Yackee (2006). The behavioral effects of public interest group lobbying were significant, but the amount of industry lobbying far exceeded the lobbying by the HEC. Industry also contributed heavily to Commerce members; thus might we also find money to be the mechanism of industry influence. We do not.

The analysis of this paper, of course, is exploratory, the research less important for what it finds than for where it points. To our knowledge, it represents the first attempt to model the effects of lobbying on the behavior of individual overseers. It identifies a micro-level mechanism of interest group influence not widely recognized. And it provides a story that makes sense of lobbying in the oversight context, where the individual costs of involvement are high and majorities are especially remote.

Insofar as the empirics go, however, this paper provides only a beginning. The case of oversight studied here was unusually salient, with both private and public interest groups unusually active. Future work should pursue a wider range of cases with varying levels of conflict and salience, including those under unified as well as divided government. As Baumgartner and Leech (1998) argue, we need to get beyond studying lobbying one case at a time. To do that, researchers will need to confront the difficulties of collecting individual-level lobbying data on multiple cases with high lobbyist response rates (see Hojnacki and Kimball 1998).

If lobbying leads legislative allies to more aggressively intervene, it does not necessarily mean that an agency will change policies. The more interveners disagree, the more will the signals be mixed, and the more the agency will enjoy discretion, absent new legislation. We provide a means of characterizing that disagreement in terms of both valence (position) and intensity (costly intervention). To what extent does such disagreement over rulemaking occur in Congress, and what motivates it? To what extent is it a product of polarized committees, a divided Congress, a divided government or – as we might now suggest – divided interests, selectively subsidizing their respective allies to intervene? Important questions, we think, to which this paper says little. At the same time, it does provide a framework for future research that looks beyond the study of institutional arrangements to the selective behavior of overseers and the interest groups that lobby them.

We end with a query about the normative implications of our story, one premised on the highly expensive nature of Washington lobbying. If elected representatives continually abdicate policymaking responsibility to unelected bureaucrats, the standard refrain goes, the promise of our institutions to provide democratic accountability starts to sound hollow. But what if politicians do exercise control over agency policymakers, but that control itself depends on the selective subsidies of private groups who can most afford to provide them? Legislators' oversight priorities may therefore become skewed toward relatively resource-rich interests, even if their legislative votes do not. Perhaps we should not so readily embrace processes of political control until we examine the potentially undemocratic influences on the controllers.

Endnotes

¹Grass-roots or “outside” lobbying is a strategy for affecting legislators’ expected utility calculations by changing their perceptions of an issue’s salience back home (e.g., Kollman 1998; Goldstein 1996). Grass roots efforts in this case did not begin in earnest until after the EPA rule was issued.

²One author and one research assistant separately coded the documents, and inter-coder reliability measured at $r = .74$. The counts were averaged and rounded to create the two dependent variables.

³Two legislators also introduced bills to reverse the rule, and several criticized the EPA on the floor, but most of this activity took place after the rule was finalized and thus was not counted here.

⁴The hearings were held jointly by two subcommittees, and 31 of the 51 Commerce members sat on one of them. Subcommittee nonmembers were also permitted to attend, and over half did.

⁵We created the index by transforming the two pollution levels to a 0-1 scale and taking the higher of the two. Including them separately had a negligible effect on the coefficients of principal interest.

⁶In counting the number of contacts, we assigned the midpoint for the first four categories and the number the respondent gave for the fifth category. If he or she provided a range, e.g., “30 to 40”, we again took the midpoint. We then summed across the lobbyists’ contacts for each side.

⁷The adjusted LCV is highly correlated with DW Nominat scores, but for reasons we discuss in the text, the modified LCV score directly captures the issue-specific expected support levels as the HEC perceived them before oversight action began. It also solves the problem of no prior roll call data for members in their first term.

⁸We do not include member’s party, with which MLCV is correlated ($r = .73$). Our reasons are theoretical as well as statistical. Like MLCV, party should predict policy position, and thus belongs in the first-stage inflation equation. Party does not capture “willingness to pay” for the policy, the relevant concept in the oversight model. In fact, both parties were highly active on this issue.

Including party, in any case, does not diminish the effects of friendly lobbying, though in the pro-

regulation model the coefficients on lobbying undecided and opposed legislators became negative, not positive, though still small.

⁹Standard Poisson regression is less appropriate here, as it assumes that the conditional mean of the outcome is equal to the conditional variance, and our data do not meet this condition.

¹⁰The appropriate test for endogeneity follows Wooldridge (2002) and approximates the conventional Durbin-Wu-Hausman test by using an augmented regression for a count dependent variable. To check the basic model, we regressed the two endogenous lobbying variables (industry lobbying / HEC lobbying) on the model's exogenous variables and four instruments:

member/candidate mentions in news articles on clean air issues in the previous congress, the legislator's percent of the vote in the previous election, the member's party, and length of time on the committee. At least two instruments were significant in each equation. We included the generalized residuals in a second stage negative binomial oversight model, finding that (i) the effects of friendly lobbying remain substantively and statistically significant; and (ii) the coefficients on the residuals were not significantly different from zero in either the pro- or anti-regulation models of legislator interventions.

¹¹ In the anti-regulation logit equation, the MLCV score is consistently positive and statistically significant, which correctly predicts an increased probability that the event count will be zero the more environmentalist the member's policy preferences, while party was statistically insignificant. In the pro-regulation inflation equation, neither variable is statistically significant. We tested for robustness in the inflation equations using other variables with little effect on the ZIP coefficients.

¹²For example, we identified districts with counties whose air quality would be thrown out of attainment under the new standards, making it thus difficult to build or expand manufacturing or other polluting industries. The variable had little impact when estimated with the proper controls.

¹³Strong substantive reasons support the assumption that lobbying is exogenous with respect to oversight interventions. In particular, the opportunity costs of activity on any given issue are difficult for the member to foresee, much less the lobbyist, independent of variables observable to lobbyist and political scientist alike. And if students of oversight since Scher (1963) are correct, oversight activity is easily displaced by short-run changes in the legislative calendar.

¹⁴By partitioning the lobbying in this way we capture the total lobbying contacts by the respective sides, lobbying contacts interacted with the MLCV “friendliness” measure’s full range, and the friendliness measure, thus respecting the admonitions of Brambor, Clark, and Golder (2006). regarding model specifications with interactions. We separately estimated variants with lobbying-friendliness products and their constitutive terms. The coefficients on the friendly lobbying interaction were larger in both models than those reported here, but in one the coefficient was several times larger, due at least in part to multicollinearity which is a particular problem when using MLE with a small sample size (Long 1997, 53-54). We present the more conservative estimates.

¹⁵Holding all other variables at their mean or median, a legislator with a MLCV score of 100 is expected to make 3.4 arguments in support of the proposed regulation as compared to the 1.4 expected arguments by a legislator with a MLCV score of 60.

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Table 1. Zero-Inflated Poisson Model of Legislator Interventions in Opposition to Proposed NAAQS Regulations

	<i>Basic Lobbying Model</i>	<i>Conditional Lobbying Model</i>	<i>PAC Contributions Model</i>
<i>Constituency Interests</i>			
District Pollution Index	-1.30* (0.44)	-2.01* (0.51)	-1.93* (0.58)
District Manufacturing Jobs	0.003 (0.004)	0.005 (0.005)	0.006 (0.005)
<i>Legislative Capacity</i>			
Subcommittee Membership	0.69* (0.24)	0.84* (0.25)	0.72* (0.31)
Commerce Committee Leadership Position	0.97* (0.27)	1.37* (0.29)	1.49* (0.25)
Other Committee Leadership Position	-3.08 (2.05)	-2.96 (1.99)	-3.24 (1.90)
<i>Expected HEC Support</i>			
	-1.60* (0.50)	-0.17 (0.73)	-0.91 (0.62)
<i>Lobbying</i>			
Total Industry Lobbying	2.39* (0.26)		
Total HEC Lobbying	0.07 (2.10)		
Industry Lobbying of Friendly Legislators		2.69* (0.24)	2.44* (0.37)
Industry Lobbying of Uncertain Legislators		-0.20 (0.47)	
Industry Lobbying of Opposed Legislators		-1.13 (1.70)	
<i>Campaign Contributions</i>			
Industry Contributions to Friendly Legislators			-0.54 (0.45)
Industry Contributions to Uncertain Legislators			-1.06 (0.98)
Constant	1.33 (0.45)	1.21 (0.37)	1.60 (0.56)
N	51	51	51

Two-tailed hypotheses tests: * p<.05

Note: Reported estimates are coefficients for the count process of the ZIP model with robust standard errors from seemingly unrelated estimation in parentheses. The binary process used to predict the probability that legislator intervention must have a zero count is estimated using a logit model with two independent variables: the MLCV score and party identification

Table 2. Zero-Inflated Poisson Model of Legislator Interventions in Support of Proposed NAAQS Regulations

	<i>Basic Lobbying Model</i>	<i>Conditional Lobbying Model</i>	<i>PAC Contributions Model</i>
<i>Constituency Interests</i>			
District Pollution Index	-0.82 (0.52)	-0.68 (0.59)	-1.28 (0.83)
District Manufacturing Jobs	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
<i>Legislative Capacity</i>			
Subcommittee Membership	2.23* (0.88)	2.39* (0.89)	2.34* (0.83)
Commerce Committee Leadership Position	2.55* (0.81)	1.91* (0.70)	2.21* (0.73)
Other Committee Leadership Position	-3.31* (1.52)	-3.81* (1.65)	-3.63* (1.75)
<i>Expected HEC Support</i>	2.57* (0.54)	2.06* (0.56)	2.06* (0.41)
<i>Lobbying</i>			
Total Industry Lobbying	-1.40 (1.85)		
Total HEC Lobbying	6.02* (1.59)		
HEC Lobbying of Friendly Legislators		6.24* (1.57)	6.48* (1.62)
HEC Lobbying of Uncertain Legislators		-3.23 (2.19)	
HEC Lobbying of Opposed Legislators		-0.71 (1.03)	
<i>Campaign Contributions</i>			
Industry Contributions to Opposed Legislators			0.53 (0.29)
Industry Contributions to Uncertain Legislators			-2.53 (2.35)
Constant	-3.83 (0.99)	-3.39 (0.97)	-3.30 (0.91)
N	51	51	51

Two-tailed hypotheses tests: * p<.05

Note: Reported estimates are coefficients for the count process of the ZIP model with robust standard errors from seemingly unrelated estimation in parentheses. The binary process used to predict the probability that legislator intervention must have a zero count is estimated using a logit model with two independent variables: the MLCV score and party identification.

FIGURE 1.

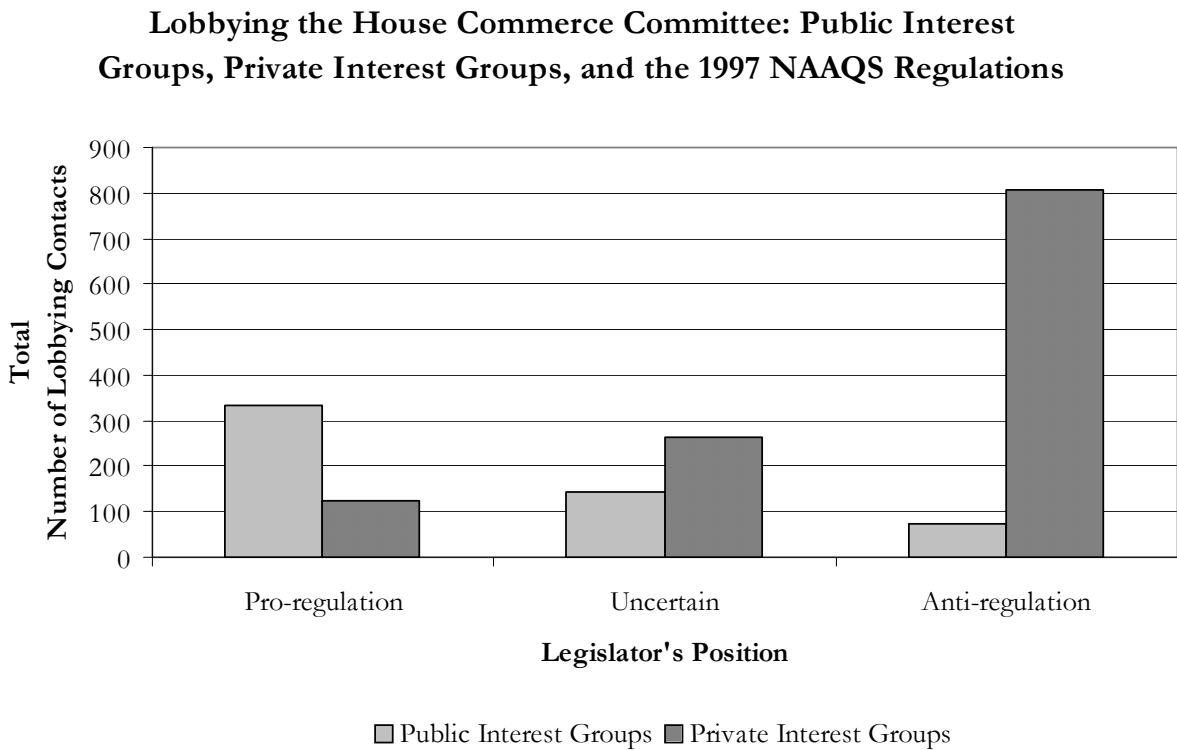


FIGURE 2.

Effects of Friendly Lobbying on Legislative Activity

