

Delegation and Administrative Lobbying in Rule-Making*

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Abstract

We explore the determinants of market regulation with an analysis of the policy-making process in which the legislature delegates authority to an executive agency and special interests can lobby the executive agency. We discuss how the mere threat of administrative lobbying by the industry may be sufficient to induce the agency to set policies preferred by the industry. Our analysis also shows that policy conflict, the difference between the legislature's preferred policy and the agency's implemented policy, is increasing in the agency's vulnerability to lobbying but decreasing in the interest group's lobbying cost when the legislature prefers more extreme policies. Administrative lobbying either amplifies or mitigates the conflict between the legislature and the agency. Relatedly, our analysis shows that the "ally principle" does not hold and the legislature prefers an agency that is slightly more biased against the industry. The legislature delegates greater discretion to the agency when policy uncertainty is higher, when policy conflict between the legislature and the agency is a lower, and when administrative lobbying mitigates the policy conflict between legislature and agency.

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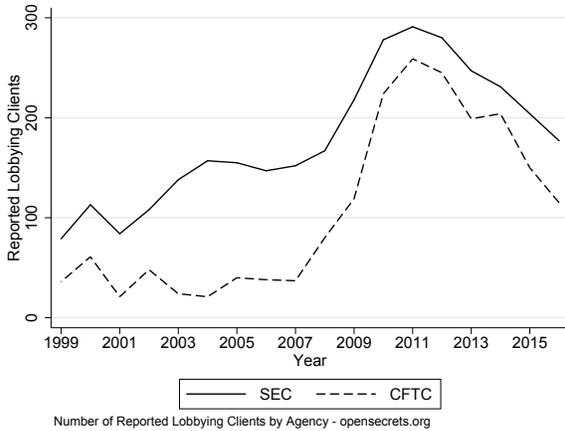
1 Introduction

Ten years after the financial crisis, the global economy has come full cycle. We are now in the recently unthinkable position where over-regulation is the cry and the current U.S. administration is seeking to deregulate the banking and financial services sector once again. We ask if these regulatory reforms will reflect expert opinions and constituent interests or the special interests of the banking sector they are meant to oversee. The answer to this question is important as it will likely predict the probability and severity of the next financial crisis. If expertise drives regulatory decision-making, leading to smart, efficient reforms, than the anticipated effect would be an increase in economic growth and investment, thereby freeing capital and increasing market liquidity. On the other hand, if regulatory reform is driven by exactly the same special interests as before, then the forces that lead to the collapse of the financial system in the first place will be again at play.

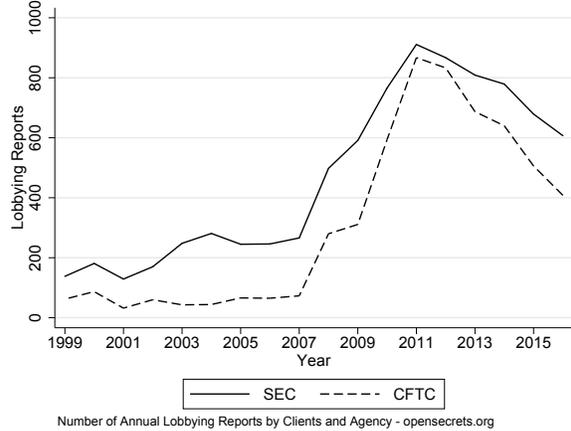
In our analysis we focus on the legislative design of statutory laws as well as bureaucratic rule-making pursuant to regulatory authority. We employ a delegation framework of joint policy-making and derive the constraints on administrative discretion. We also recognize that interest groups may engage in lobbying at the stage of rule-making and analyze industry groups' lobbying pressure as well as the agency's ability to withhold such pressure.

The prevalence of industry influence on financial regulation is and the strategic interactions between legislation, rule-making, and lobbying can be well illustrated by the recent financial reforms of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 ("Dodd-Frank"). The legislation itself was already tremendous but one specific part was not well-defined and allocated large degrees of rule-making to regulatory agencies which then caused a windfall in lobbying activities. Immediately after the enactment of Dodd-Frank and its "Volcker Rule" industry representatives and lobbyists attempted to influence the rule-making and shape essential parts of definitions, thresholds, and transparency. The financial industry's influence activities on the rule-making through the submission of comments during the rule-making process are well documented by [Krawiec \(2013\)](#)'s case study on the agency lobbying related to the Volcker Rule.

The significance of administrative lobbying in financial regulation can be seen in recent trends of lobbying activities. In [Figure 1](#) we show the lobbying activities targeting key regulatory agencies such as the Security Exchange Commission (SEC) and the Commodity Futures Trading Commission (CFTC). Overall, the reported number of lobbyists' clients, the individuals, firms,



(a) Lobbyists' Clients.



(b) Lobbying Spending.

Figure 1: Administrative Lobbying.

and groups that asked lobbyists to act on their behalf, and lobbying spending has been low to moderate before the Financial Crisis and the regulation of Dodd-Frank but increased dramatically during the agencies' rule-making and implementation of the legislation, and then fell again once regulations were implemented.

To analyze the importance of administrative lobbying in financial regulation, we study the delegation of regulatory authority from the legislature to a bureaucratic agency. As it is standard in models of delegating policymaking to government agencies, we assume that the legislature has the legislative authority over policymaking but may prefer to delegated the regulation to a better informed agency. The classical trade-off is then between the agency's superior expertise and a potential policy conflict when the legislature and the agency have different ideal points in policy and rule making. We extend the classical delegation setup and consider how a regulated industry may choose the undertake lobbying efforts at the administrative stage. At the administrative stage the regulated industry may exercise costly lobbying pressure towards the agency and influence the agency's rulemaking. The agency facing a costly burden of the lobbying pressure may then choose to propose and implement a different policy that is within its delegated discretion.

Our analysis highlights that the regulatory agency chooses a lower regulatory policy level in response to greater external policy shocks and lobbying pressure by the industry. We show that a mere threat of administrative lobbying by the industry may be sufficient to induce the agency to set policies preferred by the industry. Our analysis also shows that the policy conflict, the difference between the legislature's preferred policy and the agency's implemented policy,

is increasing in the agency’s lobbying burden but decreasing in the lobby’s lobbying cost if the legislature prefers a higher policy level. This implies that administrative lobbying is either amplifying or mitigating the conflict between both branches.

Our discussion also show that the “ally principle” does not hold and the legislature prefers an agency that is slightly more biased against the industry and exercises resistance against lobbying pressure. The legislature delegates then greater discretion to the agency when there is more policy uncertainty, when there is a lower policy conflict between the legislature and the agency, and when administrative lobbying mitigates the preference conflict.

1.1 Related Literature

A primary theme in the bureaucratic design literature has been the willingness of a legislature to delegate discretionary authority to executive agencies. One consistent finding, for instance, has been that U.S. Congress delegates less authority under conditions of divided as opposed to unified government.¹ In other work on the delegation question, [Volden \(2002a\)](#) notes an asymmetry: it is easier to raise executive discretion than to lower it, so the regulatory state tends to grow over time. [Bendor and Meirowitz \(2004\)](#) examine a number of variations on the standard delegation model and note in which cases the “ally principle,” their term for delegating more to actors with similar preferences, holds. [Boehmke et al. \(2006\)](#) analyze a model in which interest groups choose whether to pursue policy reform via legislative action or agency rule-making, thus restricting agency policy making to those issues which Congress has the hardest time addressing. [Bertelli and Feldmann \(2006\)](#) consider the government’s incentive to appoint leadership to executive agencies and the influence of special interests. They show that in most circumstances the government is better off by appointing agency heads that mitigate the lobbying pressure. Similarly, [Gailmard and Patty \(2007\)](#) show that with endogenous agency expertise, grants of discretionary authority encourage investment in information gathering, but at the cost of a neutrally competent bureaucracy.²

After determining how much authority the legislature delegates, the next step is to examine how this delegated authority is structured within the executive branch. This is a basic issue of

¹See [Epstein and O’Halloran \(1994, 1999\)](#), [Volden \(2002b\)](#), [Huber and Shipan \(2002\)](#), and [Wiseman \(2009\)](#).

²Some interesting technical work has been done as well on the optimal type of discretion to offer agencies. [Melumad and Shibano \(1991\)](#) and [Alonso and Matouschek \(2008\)](#) provide instances where a principal would prefer to offer a menu of discontinuous choices to an agent receiving authority. [Gailmard \(2009\)](#), though, demonstrates that in situations where the principal cannot precommit to certain courses of action, interval-type delegation regimes, such as that used here, are optimal.

the “industrial organization” of regulatory policy making: how are agency budgets, staff, and resources determined? Where within the executive branch hierarchy are the agencies located: closer to government control (e.g., the Executive Office of the President or cabinet-level) or more independent (independent agencies and commissions)? How do we understand the division of tasks among agencies, when is a single issue split among multiple, possibly competing agencies, and when is a single agency given multiple tasks? And how do all these details of agency design affect legislature’s willingness to delegate authority in the first place?

Some of these questions have received scholarly attention in recent years. [Gailmard and Patty \(2010\)](#) for instance, examine the resource question: Why would the legislature have incentives to increase bureaucratic capacity even though they know that it will be used to pursue the president’s policy agenda rather than their own? The answer they provide is that when the president has the option of acting unilaterally, the legislature might as well give them the expertise to act in an informed rather than uninformed manner.

Regarding agency location, [Lewis \(2003\)](#) argues that presidents will want politically responsive agencies to implement their preferred policies, while the legislature will prefer to “insulate” agencies from outside political influence, all the better to serve the favored interest groups that lobbied for government action. [Stephenson \(2006\)](#) examines the similar question of when authority will be delegated to politically responsive agencies as opposed to courts, arguing that courts are more ideologically heterogeneous across issue areas but more stable over time. And [Stephenson \(2008\)](#) argues that partially insulated bureaucrats actually make policy more similar, on average, to public opinion, as politically responsive politicians may tend to swing policy from one extreme to the other.

The distribution of tasks across agencies has been examined in two papers by [Ting \(2002, 2003\)](#). The former analyzes the circumstances under which a legislature will choose to assign multiple tasks to a single agency, as opposed to dividing them among several different agencies. It finds that agencies should be tasked with projects that are complementary, in the sense that the agency itself should prefer that they all be completed rather than concentrate on a few at the expense of others. It is under these conditions that legislatures can design rewards and punishments for the agency to extract more work for less cost. [Ting \(2003\)](#) provides the flip side of this analysis, exploring the incentive to give a single job to multiple agencies, thus setting them up in competition with each other. The major finding is that legislators will only rarely wish

to set up competing power-centers in different agencies for the same policy, since agencies might strategically shirk, letting the other factors produce policy in the given area and concentrate their own resources elsewhere.

Our study takes this process one step further, from the delegation of power to agency design and on into the agency policy making process itself. As required by the Administrative Procedure Act of 1946, executive agencies engaged in rule making activities must announce a “notice and comment” period, notifying affected interests of the proposed regulations and giving them a chance to comment. Furthermore, agencies must respond to all comments received, defending their proposals or changing the regulations in response to concerns raised. Otherwise, the rule making process could be judged “arbitrary and capricious” by the courts and the rules themselves struck down. These requirements thus formally enfranchise outside interests into the rule making process.

However, few studies have formalized the role of interests in agency rule making. As mentioned in the introduction, many observers have worried that regulated interests end up effectively controlling the agencies, rather than vice-versa. Several Chicago school economists model the capture of agencies by special interests: [Stigler \(1971\)](#), [Peltzman \(1975\)](#), and [Becker \(1983\)](#) all examine the market for regulatory protection, assuming that legislators will accommodate industry demands for protection up to the point where the marginal votes gained from doing so equal the marginal votes lost. Recently, [Gailmard and Patty \(2014\)](#) provide an informational rationale for semi-captured, independent agencies. They argue that in environments where it is crucial to elicit information from the regulated industry, agencies with ideal points close to the industry may be more effective in coaxing out the necessary information.

We also examine the impact of industries on regulation, but in our model industry’s role is different than the benign information provision of former models.³ Rather, we assume that industries can spend resources to directly mitigate the impact of proposed regulations, for instance, by entering multiple objections during the notice and comment period or by making implicit costly threats of potential legal actions later. Our approach, then, admits for the raw exercise of industry power to weaken or negate altogether regulatory policy making at the executive stage.⁴

³[McCubbins and Schwartz \(1984\)](#) introduced the role of interest groups as watch dogs for Congress which provide potential fire alarms that inform about the bureaucracy’s performance. For studies in this spirit see [Laffont and Tirole \(1993\)](#), [Lupia and McCubbins \(1994\)](#), [Epstein and O’Halloran \(1995\)](#), [Hopenhayn and Lohmann \(1996\)](#), as well as [Milner and Rosendorff \(1996\)](#).

⁴A few theoretical studies have considered the direct impact of interest groups on the choices of bureaucrats ([Laffont and Tirole \(1993\)](#), [Sloof \(2000\)](#), [Bennedsen and Feldmann \(2006b\)](#)).

We extend the standard model of delegation ([Epstein and O'Halloran \(1999\)](#)) and consider in a first step how interest group lobbying effort is costly to the industry and also possibly costly to regulators as well. We assume, that is, that regulators would rather reach a given outcome by announcing a rule and having it accepted by all parties, rather than initially propose a tougher regulation and have it weakened to the same point by industry lobbying.⁵ [Bennedsen and Feldmann \(2006b\)](#) follow a similar starting point but model lobbying by interest groups at the agency level as “menu-auction” interaction between bureaucrats and interest groups in which special interests offer contributions in exchange for policy favors.⁶ Our approach of costly lobbying efforts provides similar predictions but we provide an analysis that allows for an empirical test of our predictions of costly lobbying efforts and agency rule-making.⁷ For example, special interest groups and lobbyists are required in the United States to file lobbying reports under the Lobbying Disclosure Act (1995) that actually document their costly lobbying efforts and are not direct transfers to bureaucrats.⁸ Similar rules are present, or discussed, in other countries ([Chari et al. \(2010\)](#)) and provide the data for empirical tests.

Our analysis of our lobbying-delegation model is related to recent empirical studies on the political economy of financial regulation.⁹ In a series of papers [Mian et al. \(2010, 2013\)](#) investigate how constituents and special interests as well as legislators’ ideologies shaped the mortgage credit expansion in the mid-2000s as well as the implementation of the Emergency Economic Stabilization Act (2008) and American Housing Rescue and Foreclosure Prevention Act (2008). They show that policymakers responded to both constituent interests as well as campaign contributions from industry representatives. Another recent series of papers by [Agarwal et al. \(2014\)](#)

⁵We assume that any policy that is initially proposed by the agency can be influenced by interest groups’ lobbying efforts. However, the implemented policy has to be within the discretionary authority delegated by the legislature. In this assumption we differ from [Gailmard \(2002\)](#) who considers policies announced by the agency that are outside its discretionary authority and are costly and may not necessarily be overturned by courts.

⁶Many studies have focused on the direct influence of interest groups on legislative decisions. Legislative decisions may be shaped by monetary transfers or other private benefits provided by interest groups to legislators. A common modeling choice is the “menu-auction” approach introduced by [Bernheim and Whinston \(1986\)](#). For popular studies see for example [Grossman and Helpman \(1994, 2001\)](#). Other lobbying models have focused on the direct interactions between information provision and financial transfers ([Bennedsen and Feldmann \(2006a\)](#), [Dahm and Porteiro \(2008\)](#), [Groll and Ellis \(2014, 2017\)](#)).

⁷[You \(2017\)](#) considers “ex-post” lobbying by special interests that try to influence, by lobbying agencies and legislators, the distribution of benefits through the implementation of bills. The focus is on the gains from bills for private and collective special interests as well as the solution of the collective action problem in organizing ex post lobbying activities.

⁸The empirical challenge for the menu-auction approach in this setting is a lack of transparency in the exchanges between bureaucrats and lobbyists as well as the legal implications of participation in such exchanges.

⁹In earlier work [Groll et al. \(2016\)](#) have applied a delegation framework to understand and test the political factors that impacted the U.S. Congress’ delegation of regulatory authority to address market and systemic risk in financial markets in the time period of 1950 to 2010.

and [Lucca et al. \(2014\)](#) focuses on federal and state U.S. banking regulators’ incentives to implement rules on banking regulations. Besides finding how institutional differences and salience about local economic conditions shape differences and offsetting actions in rule implementations between federal and state regulators, they do not find evidence that is a “revolving door” for regulators to banking and “quid-pro-quo” exchanges. This provides empirical support for our modeling choice that lobbying at the regulatory agency level does not follow a traditional menu-auction approach but rather a lobbying pressure in form of information provision, opinion and comment statements, as well as threats of legal action against regulators’ rulemaking.

2 Model

Our formal model of interest examines the strategic interactions among the legislature, or simply Congress (C), an executive agency (A), and an interest group (I) representing a regulated industry. As in the standard delegation model, all actors have ideal points and quadratic preferences over outcomes in a uni-dimensional outcome space: $u_i(x) = -(x - x_i)^2$ for $x \in X = R_1$. Without loss of generality we assume that $x_I = 0$ and $x_A > 0$. We further assume that $x_C > 0$, so if the value of x represents the strength of regulation, the industry prefers less regulation than either Congress or the agency.

Congress may delegate authority to make policy decisions to the agency, and final policy outcomes are a function of both the policy p chosen and an external shock ω according to the equation $x = p + \omega$. The external shock ω is uniformly distributed: $\omega \sim U \in [-R, R]$. When delegating, Congress can also place discretionary constraints on the agency’s policy choice. Thus Congress can set a status quo policy p_0 and discretion limit d so that $|p - p_0| \leq d$.

Where we differ from the standard model is our assumption that the interest group can affect outcomes directly by lobbying the agency after the agency announces its proposed rule of p_A . In particular, we assume that $p = p_A - e$, where e is the amount of costly lobbying effort exerted by the interest group ([Richardson, 2010](#)) at the rule-making stage. We envision this effort coming in the form of presenting analysis and testimony at the notice and comment stage of rule-making, as well as broader lobbying efforts aimed at legislators, executive officials, and the public at large to weaken industry regulations. The group’s cost of this effort is $c(e)$, with $c' > 0$ and $c'' > 0$.

For the sake of concreteness, we take $c(e) = \alpha e^2$, so that $\alpha > 0$ measures the relative cost of lobbying to the interest group, and low values of α indicate the ability to exert greater pressure

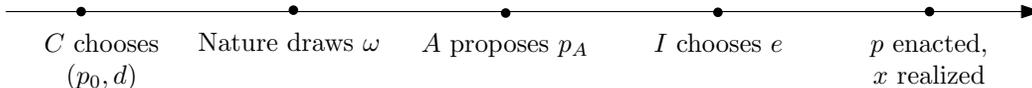


Figure 2: Order of Events.

on regulators. This lobbying also reduces the agency’s utility by an amount $-\beta e$, where $\beta \geq 0$ is the cost to the agency of having its original proposals moved back towards the interest group’s ideal point. It is possible to set $\beta = 0$, so that $\beta > 0$ indicates that the agency would prefer to implement a given policy outcome directly, rather than propose a tougher regulation and have the industry lobby to weaken the agency’s proposal.

Overall, then, $u_C = -(x - x_C)^2$, $u_I = -x^2 - \alpha e^2$, and $u_A = -(x - x_A)^2 - \beta e$, where $x = p_A - e + \omega$. The order of events is illustrated in Figure 2 and is the following: First, Congress sets the status quo and the discretion limit, (p_0, d) . Then nature draws ω which is observed by both the agency and the interest group. Third, the agency proposes its policy rule p_A . Fourth, the interest group observes p_A and chooses its lobbying effort level e . Finally, policy p is enacted and policy outcome x with corresponding utility levels is realized. We solve the game for its subgame perfect Bayesian-Nash equilibria in the Appendix and discuss the results and intuition in the following section.

3 Administrative Lobbying, Rule-Making, and Policy Outcomes

In the following we want to address our earlier questions of how regulation is shaped from the legislative stage to the implementation stage when the regulated industry engages in lobbying efforts to influence the rule-making shape. We apply our model to derive the predictions and discuss here now the implications with regard to the delegation of authority, the agency’s implementation of regulation, as well as the industry’s lobbying response. Our analysis highlights the various strategic considerations and interactions and provides first policy recommendations to safeguard the law- and rule-making process.¹⁰

3.1 Administrative Lobbying

Starting at the end of the game, we consider the industry’s lobbying response to the agency’s proposed policy and the realized policy shock. The proposed policy is within the discretionary

¹⁰We provide the detailed mathematical derivations and solutions in the Appendix.

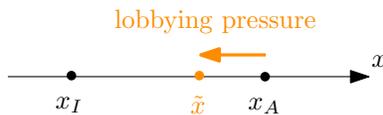


Figure 3: Industry's and Agency's Ideal Points and Regulation.

bounds of the agency, which have been defined by the legislature, but could be influenced by the industry exercising lobbying pressure at the rule-making stage. The industry determines its optimal lobbying pressure by considering the marginal payoff from changing the proposed policy to a different policy rule and the marginal cost of exercising lobbying pressure. The industry's optimal lobbying pressure is then influenced by the agency's rule, the policy shock, and the relative lobbying costs such that the lobbying effort is decreasing as the agency's ideal point becomes closer to the industry's one, the magnitude of external shocks decreases, the relative lobbying costs increase. In other words, if the interest group finds lobbying inexpensive or the agency's proposed policy too far away from its bliss point, it will respond with greater administrative lobbying to influence the rule making.

3.2 Agency's Policy Choice

If the agency anticipates the industry's lobbying response, then it will take it into account when it proposes a policy rule. Hence, the agency considers the policy shock, its preferred policy, and the industry's response when it makes a proposal in the rule making process. Obviously, the agency proposes a lower policy level in response to greater external shocks or if the agency does not find a strong regulation desirable. Not so obvious, the agency will respond to the lobbying pressure by proposing a lower policy level and this policy level is increasing in the industry's relative cost of lobbying but decreasing in the agency's lobbying burden. These two elements, the relative cost of lobbying and the agency's lobbying burden, determine the *effective* administrative lobbying pressure and the effect on the agency's proposed policy rule as a deviation from the agency's preferred policy. This effect of lobbying on the rule-making is illustrated in Figure 3 as greater lobbying pressure moves the policy proposal \tilde{x} away from the agency's preferred policy, x_A , but towards the industry's preferred level of x_I .

Now the question is how far can administrative lobbying actually move the rule making? As usual, the answer is – it depends. If lobbying is relatively inexpensive, or the group is very efficient in undertaking lobbying, then the interest group is increasing its efforts as we discussed

above and the agency experiences a greater pressure which will cause greater lobbying burden to the agency and therefore a greater change in the proposed policy level. On the other hand, if the agency is easily burdened by lobbying pressure, maybe because of a lack of resources or little resistance to lobbying efforts, then the interest group does not need to undertake much effort to burden the agency and the agency's policy proposal can be easily captured. Consequently, if the burden to the agency of industry lobbying is high relative to the industry's lobbying cost, the agency may propose a policy rule so that the industry gets its ideal point of no regulation, $\tilde{x} = x_I$, without the interest group having to actively lobby to obtain this outcome. This can serve as a convenient definition of agency capture: the mere threat of lobbying causes the agency to accommodate industry wishes, so that in equilibrium the industry escapes effective government control without actually having to expend resources to do so.

However, if the ideal points are far apart or the effective administrative lobbying pressure is not sufficiently threatening enough, then the lobby undertakes a lobbying effort, as illustrated in Figure 3, that is i) decreasing in the agency's lobbying burden, ii) increasing in the agency's ideal point, and iii) decreasing in the industry's lobbying cost if the agency's ideal point is greater than the twice lobbying pressure, and vice versa.¹¹ As a result, the agency's regulation is then i) increasing in its ideal point, ii) increasing in the interest group's lobbying cost, but iii) decreasing in the agency's lobbying burden.

3.3 Legislature's Policy Choice

The legislature, anticipating the agency's choices and the industry's lobbying efforts, has to decide which status quo policy it would like to set and how much discretion it would like to allocate to the better informed agency to address policy shocks that are unobservable to the legislature. The traditional delegation trade-off arises: benefiting from the agency's expertise or moving policy outcomes closer to the agency's preferred levels. We refer to the differences in preferences as *preference conflict* which is illustrated as the horizontal difference in ideal points in Figure 4. The wider the gap between x_A and x_C the greater is the preference conflict. We know from above that the agency will be subject to lobbying pressure and may not announce its ideal point x_A as policy proposal but the regulation level \tilde{x} which has been shaped by administrative lobbying at the rule-making stage. The lobbying pressure moves the policy outcome to the left and we can

¹¹For mathematical details see Appendix A.2.

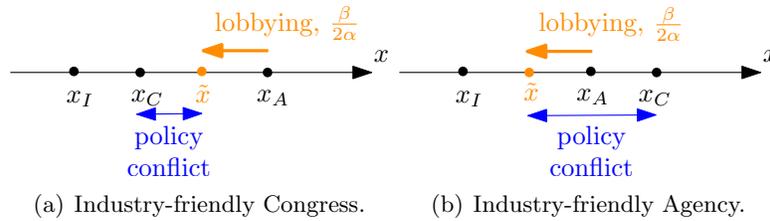


Figure 4: Ideal Points, Lobbying Pressure, and Policy Outcomes.

see immediately that the “ally principle” fails to hold. Congress prefers an agency not with its own ideal point, but one biased slightly against the industry which serves as resistance against the industry’s lobbying efforts.

Furthermore, lobbying has two effects on the preference conflict and the resulting *policy conflict* as the difference between the agency’s announced regulation and Congress’s ideal point. If the agency is more biased against the industry than Congress, as illustrated in Figure 4(a), administrative lobbying by the industry reduces the policy conflict between both branches. However, if the agency is more industry-friendly than Congress, as illustrated in Figure 4(b), then industry’s lobbying pressure increases the policy conflict between the branches. Additionally, the policy conflict is driven by the effectiveness of administrative lobbying. If administrative lobbying is mitigating the policy conflict between the two branches, then the conflict is decreasing in the agency’s lobbying burden but increasing in the industry’s lobbying cost; if lobbying is increasing the policy conflict, then the opposite holds.

Status Quo and Discretion Taking the preference conflict and the industry’s lobbying pressure into account, Congress chooses its optimal status quo policy and delegated discretion in order to maximize its expected payoff from industry that is regulated by the better informed but differently biased agency.¹²

Congress’ preferred status quo policy follows immediately from its ideal point; and when Congress’ desire for greater regulation increases, then the status quo policy increases as well. The optimal discretion follows from Congress’ policy uncertainty, the preference conflict between Congress and the agency, as well as the industry’s lobbying pressure.

In more detail, Congress delegates greater discretion when i) there is more policy uncertainty for Congress, ii) its ideal point is closer to the agency’s ideal point, and iii) the lobbying pressure (burden and cost) mitigates the preference conflict between Congress and agency. Regarding the

¹²For mathematical details see Appendix A.3.1.

policy conflict between both branches and combining the last two parts, we can state: if there is less policy conflict between Congress and the pressured agency, then Congress delegates greater discretion. Hence, policy outcomes from Congress' perspective improve with greater discretion whenever lobbying decreases the conflict between Congress and the agency. On the other hand, greater discretion would decrease policy outcomes if lobbying increases the conflict between both.

Finally, we can summarize that regulatory outcomes are higher when i) industry's lobbying costs are high, ii) agency's lobbying burden is low, and iii) agency's policy ideal point is higher.

4 Conclusion

We explored the determinants of financial market regulation with a formal model of the policy-making process in which the legislature delegates authority to a government agency and special interests can lobby the executive agency. We showed that the mere threat of administrative lobbying by the industry may be sufficient to induce the agency to set policies preferred by the industry. Our analysis also highlighted that policy conflict, the difference between Congress' preferred policy and the agency's implemented policy, is increasing in the agency's vulnerability to lobbying but decreasing in the interest group's lobbying cost when Congress prefers more extreme policies. Administrative lobbying either amplifies or mitigates the conflict between Congress and the agency. Relatedly, our formal findings showed that the "ally principle" does not hold and Congress prefers an agency that is slightly more biased against the industry. Congress delegates greater discretion to the agency when policy uncertainty is higher, when policy conflict between Congress and the agency is a lower, and when administrative lobbying mitigates the policy conflict between Congress and agency.

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A Appendix: Formal Solution

Here we are solving our lobbying-delegation model and provide the mathematical solutions for our illustrative and intuitive discussions above.

A.1 Administrative Lobbying

Starting at the end of the game and working backwards, for a given policy proposal p_A and shock ω , the industry will set its lobbying effort e to maximize $-(p_A - e + \omega)^2 - \alpha e^2$. This leads to lobbying in the amount of

$$e^*(p_A) = \frac{p_A + \omega}{1 + \alpha}. \quad (\text{A.1})$$

Thus positive amounts of lobbying are exerted whenever $p_A + \omega > 0$ and it goes to zero when the agency accommodates the industry by making final policy outcomes equal to the interest group's ideal point. Note that $\partial e^*/\partial p_A > 0$, so that the interest group spends less resources lobbying an agency with preferences closer to their own. Further, the greater the shock, $\partial e^*/\partial \omega > 0$, the more lobbying effort the interest group undertakes.

A.2 Agency's Policy Choice

Knowing the interest group's best response to the announced policy rule, $e^*(p_A)$, the agency will propose policy rule p_A to maximize $-[p_A - e^*(p_A) + \omega - x_A]^2 - \beta e^*(p_A)$, yielding

$$p_A^* = \frac{(1 + \alpha)(2x_A\alpha - \beta)}{2\alpha^2} - \omega \quad (\text{A.2})$$

iff $|p_A^* - p_0| \leq d$ and constrained by (p_0, d) , otherwise.

Combining equations (A.1) and (A.2), final policy outcomes will be:

$$\tilde{x} = p_A^* - e^*(p_A^*) + \omega = x_A - \frac{\beta}{2\alpha}. \quad (\text{A.3})$$

Notice that this point lies in the interval between the agency's and the interest group's ideal points as long as $x_A > \beta/2\alpha$. We refer to the term $\beta/2\alpha$ as the *effective* administrative lobbying pressure which is a combination of the agency's lobbying burden and industry's lobbying cost. For values of β greater than or equal to $2\alpha x_A$, the agency sets p_A such that $x = 0$ and the industry does not lobby – the pure threat of lobbying results in industry-friendly outcomes. However, for

greater ideal points of policy outcomes, $x_A > \beta/2\alpha$, the industry undertakes a lobbying effort and the effective administrative lobbying pressure is not sufficient to prevent regulation. Note that the agency's regulation is then i) increasing in its ideal point, ii) increasing in the interest group's lobbying cost, but iii) decreasing in the agency's lobbying burden.

A.3 Congress' Policy Choice

Congress, on the other hand, would like the agency to set policy so that the outcome, net of industry lobbying, is Congress' ideal point: $p_A - e^*(p_A) + \omega = x_C$, which simplifies to $p_C^* = x_C \frac{(1+\alpha)}{\alpha} - \omega$. For any given value of ω , then, Congress' and the agency's ideal policies differ by an amount of

$$p_C^* - p_A^* = \left(\frac{1+\alpha}{\alpha} \right) \left(x_A - x_C - \frac{\beta}{2\alpha} \right). \quad (\text{A.4})$$

This expression goes to zero when $x_A = x_C + \frac{\beta}{2\alpha}$. Thus the ‘‘ally principle’’ fails to hold in our model: Congress prefers an agency not with its own ideal point, but one biased slightly against the industry, since policy outcomes are a convex combination of the agency's ideal point and the industry's desire for no regulation and lobbying pressure. In other words, lobbying by the interest group mitigates the preference conflict between Congress and the agency if $x_C < x_A$, as illustrated in Figure 4(a), or increases the conflict if $x_C > x_A$, as illustrated in Figure 4(b), over policy outcomes \tilde{x} .

However, Congress is unable to observe the policy shock ω and can only determine the status quo policy and delegate discretion to the agency in order to affect policy outcomes to some extent.

A.3.1 Status Quo and Discretion

Congress anticipating the agency's policy rule proposal and the interest group's pressure – as well as a resulting policy conflict – can set its optimal status quo policy p_0 and discretion limit d . The policy outcomes given any status quo, discretion, and external shock are

$$x^* = \begin{cases} p_0 + d + \omega & \text{if } -R \leq \omega < \tilde{x} - p_0 - d \\ \tilde{x} & \text{if } \tilde{x} - p_0 - d \leq \omega \leq \tilde{x} - p_0 + d \\ p_0 - d + \omega & \text{if } \tilde{x} - p_0 + d < \omega \leq R. \end{cases} \quad (\text{A.5})$$

Given these anticipated policy and outcome alternatives, Congress sets (p_0, d) to maximize

its expected utility such that

$$EU_C(p_0, d) = - \int_{-R}^{\tilde{x}-d-p_0} \frac{(p_0 + d + \omega - x_C)^2}{2R} d\omega - \int_{\tilde{x}-d-p_0}^{\tilde{x}+d-p_0} \frac{(\tilde{x} - x_C)^2}{2R} d\omega - \int_{\tilde{x}+d-p_0}^R \frac{(p_0 - d + \omega - x_C)^2}{2R} d\omega \quad (\text{A.6})$$

The optimal status quo policy follows from

$$\frac{\partial EU_C}{\partial p_0} = \frac{2(d-R)(p_0 - x_C)}{R} = 0 \Rightarrow p_0^* = x_C, \quad (\text{A.7})$$

In other words, the Congress' optimal status quo policy is identical to its ideal point; and when Congress' desire for greater regulation increases, then the status quo policy increases. Further, the optimal discretion limit follows from

$$\frac{\partial EU_C}{\partial d} = \frac{(d-R)^2 + (p_0 - \tilde{x})(p_0 + \tilde{x} - 2x_C)}{R} = 0. \quad (\text{A.8})$$

which can be written as

$$d^* = R - \left| x_A - x_C - \frac{\beta}{2\alpha} \right| \quad (\text{A.9})$$

We can see immediately that a higher policy uncertainty, a greater R implying a wider range of possible policy shocks, yields a greater optimal discretion level. A greater preference conflict over policy outcomes, $\tilde{x} - x_C$, has a negative effect on discretion which limits the interest group's influence and the agency's policy proposal.

The preference conflict, as the difference in Congress' ideal point and the agency's ideal point, $x_A - x_C$, has ambiguous effects on discretion. For example, if the agency is relatively more industry friendly than Congress, $x_A < x_C$, then a further increase in the preference difference, meaning the agency moving relatively closer to the industry, results in less discretion. However, if the agency is slightly more biased against the industry than Congress, $x_C < x_A < x_C + \frac{\beta}{2\alpha}$, then a further preference conflict increases actually discretion such that the interest group's pressure can offset the preference conflict. Finally, if the agency is too opposed against the industry and lobbying pressure cannot move the policy sufficiently close to Congress' ideal point, $x_A > x_C + \frac{\beta}{2\alpha}$, then here again, Congress places greater constraints on the agency.

The more responsive the agency is to the effective administrative lobbying pressure, $\beta/2\alpha$,

Congresses increases or decreases discretion depending on the agency's preference relative to Congress' ideal point. For example, if the agency is industry friendly or slightly more opposed than Congress, $x_A < x_C + \frac{\beta}{2\alpha}$, then the more effective administrative lobbying is by the interest group, lower α or greater β , the smaller is discretion to prevent industry capture of the agency. However, if the agency is relatively more extremist against the industry than Congress, $x_A > x_C + \frac{\beta}{2\alpha}$, then more effective administrative lobbying can move the agency's policy rule closer to Congress' ideal point and Congress sets greater discretion.