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The Legislative Design of Regulatory Structure*

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Studies of Congress and the design of regulation have focused largely upon the origins of regulation and upon the motivations underlying the congressional delegation of legislative authority to administrative agencies. In studying the delegation of legislative authority, however, little attention has been paid to how Congress exercises control over the subsequent bureaucratic selection of regulatory policy. This paper focuses on the how by developing a simple theoretical model of the design of institutional arrangements through which Congress attempts to control bureaucratic policymaking. Specifically, this paper examines the congressional choice of the substantive discretionary authority delegated to an administrative entity. This substantive discretionary authority is constructed through the choice of two structural design options: the regulatory scope of the administrative entity and the procedural requirements imposed on administrative decision making. Propositions concerning the influence of decision uncertainty and conflict of interest on the choice of these agency structural arrangements will be derived.

Studies of regulatory choice have focused largely upon the origins and impacts of regulation: Whence does regulation arise and who is behind it?¹ Only recently have models of regulatory choice attempted to explain the political motivations underlying the congressional penchant for delegating regulatory decisions to administrative agencies (Fiorina, 1982a, 1982b; Aranson, Gellhorn, and Robinson, 1982). In studying the delegation of legislative authority, however, little attention has been paid to how Congress exercises

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¹Existing theories of regulatory choice have tended to be either bureaucratic or legislative in focus, centering upon the behavior of regulatory agencies and their relationship with regulated groups (De Alessi, 1974; Eckert, 1973; Hilton, 1972; Noll, 1971c; Russell and Shelton, 1974) or upon the electoral process and the influence and incentives of the legislative institutions (McKie, 1970; Niskanen, 1975; Peltzman, 1976; Russell and Shelton, 1974; Shepsle and Weingast, 1984; Weingast, 1978). Economic theories of regulation which applied the framework of supply and demand analysis to the choice of regulation (see Abrams and Settle, 1978; Jordan, 1972; Moore, 1961; Plott, 1965; Posner, 1971, 1974; and Stigler, 1971) focused upon a "regulator" which took on characteristics of both a legislator and a bureaucrat. These theories did not, however, explicitly consider the choice of regulatory form (with the exception of Mitnick, 1980). Critical reviews of the literature on regulatory choice can be found in Joskow and Noll (1978), McCubbins (1982), and Mitnick (1980).
control over the subsequent bureaucratic selection of regulatory policy. This paper develops a simple theoretical model of the choice of institutional arrangements through which Congress attempts to control bureaucratic policy-making. Specifically, I am concerned with the choice of institutional arrangements by Congress to constrain the bureaucracy's substantive discretionary authority. The substantive discretion available to an administrative agency is fashioned through the scope of regulatory activities granted to the agency, the instrumentality by which the agency can implement its policy choices, and the procedures required for agency decision making. The model developed explicitly considers the influence that incomplete information and conflict of interest have on the choice of institutional arrangements. Implicit in this approach is an unconventional proposition: that the substantive discretionary authority delegated by Congress to a regulatory entity is nonincreasing with increased uncertainty and conflict of interest.

**Legislative Delegation**

Perhaps because of the visibility of the federal regulatory apparatus the delegation of legislative authority to regulatory agencies has come to be regarded as the “natural” method of intervening in the economy or society. Delegation of legislative authority to administrative agencies, however, is not universal; Congress has itself dealt in detail with a number of regulatory problems. Congress prescribed directly auto emission levels in the Clean Air Act instead of delegating the choice to the EPA; Congress banned PCBs explicitly in writing the Toxic Substances Control Act (TSCA); in reorganizing Amtrak in 1979 Congress got down to determining routes and rates for passenger rail service; Congress also chose not to allow the FTC or the FDA to promulgate regulations on cigarettes or saccharin, instead enacting regulatory legislation itself. There is, then a prior question which must be considered before modeling how Congress will structure its delegation: under what conditions do legislators prefer to delegate legislative authority to administrative entities?

Perhaps the most common explanation for legislative delegation is complexity (for a discussion and critique of this explanation see Fiorina, 1982a). Creation of administrative agencies is primarily in response to the technical complexity of modern society. This complexity results in intricate, complex, and complicated administrative procedures, and, since time and other resources are scarce, the delegation of legislative authority to administrative agencies as well. Certainly there is some merit in this argument, but such an explanation is far from sufficient to explain the myriad of forms of regulatory intervention witnessed in this century.

In considering this explanation, Fiorina (1982a) suggested that “there are any number of seemingly complex issues regarding which Congress has chosen to legislate. Where the incentive exists, legislators choose to deal
with complexity and find the time and resources to do it” (p. 16). Fiorina
further suggested that “a second reason to doubt the complexity expla-
ation... arises from an honest look at the ability of the administrative
system to deal with complexity” (p. 16). Citing the failure of EPA to regulate
the more than 50,000 potentially hazardous chemical substances as author-
ized by TSCA, Fiorina asked, “Is it not conceivable that augmented con-
gressional staffs could deal with complex issues equally competently and
perhaps considerably faster than executive or independent agencies?” (p.
17).

Alternatively, Fiorina (1982a, 1982b) has hypothesized that delegation
is the result of efforts on the part of legislators to escape the costs, political
and otherwise, of regulating directly (see also Aranson, Gellhorn, and
Robinson, 1982; Fiorina and Noll, 1979; Noll, 1971a, 1971b; and Noll,
Peck, and McGowan, 1974). Delegation in Fiorina’s “shift the responsibil-
ity” model follows from four basic assumptions: first, that the ultimate
effect of regulation is to create an incidence of benefits and costs between
groups in society; second, that reelection-seeking legislators attempt to
maximize their district’s net benefit from regulation for which they are held
accountable; third, that delegation dilutes the costs and benefits of regula-
tion that constituents attribute to legislative action; fourth, that delegation
does not change the actual policy adopted, that the agency chooses precisely
the regulatory policy Congress wants. In Fiorina’s model a legislator’s
attitude toward delegation will hinge on the trade-off between the loss in his
ability to claim credit for benefits and the gain in his ability to shift the
blame for costs to the agency (Fiorina, 1982a, p. 21). Simply, the legislative
choice to delegate authority to an administrative agency in preference to
judicial enforcement of a legislative enactment follows when the act of
delegating disguises the costs of the regulation to a larger extent than it
disguises the benefits.

In studying legislative delegation Fiorina set aside problems of agency.
Administrators in Fiorina’s model are not strategic actors (i.e., they do not
make choices) but rather are mechanisms that add “political daylight be-
tween the legislators and those who feel the incidence of legislative actions”
(Fiorina, 1982a, p. 19). Conversely, I am not so much interested in why
Congress chooses to delegate but how Congress seeks to control the exercise
of delegated authority by administrative entities. For my purposes the
motivations to delegate will be taken as given: assume that it is in the interest
of a decisive set of legislators to delegate legislative authority to an adminis-
trative entity.2 It is the choice by Congress of institutional arrange-
ments

2There are reasons other than the political ones Fiorina suggests for why legislators
delegate. The job of regulating may be performed more efficiently if there is a division of labor,
or nonelected representatives (bureaucrats) may have a comparative advantage in producing
regulation. I will not assume a particular motivation for delegation, only that one exists.
with which to control bureaucratic decision making that is the focus of this paper.

The Form of a Regulatory Intervention

In creating an administrative entity and authorizing it to make decisions within its delegated authority, Congress creates for itself a problem of agency: put simply, the administrative entity may not do what Congress wants it to do. A conflict may exist between the goals and aspirations of the administrators and preferences of the Congress. Problems of agency can be categorized into two general types; shirking and slippage.

In the theory of agency, shirking results from a conflict of goals between the agent and Congress. The agent may pursue its own objectives to the detriment of the principal’s (Congress’s) interests: the agent’s chosen policy may not be the same as the policy preferred by the principal. Informational asymmetries between the agent and Congress exacerbate the problem. If Congress has incomplete information concerning the activities of the agent and how such activities affect outcomes, then shirking may go partially or entirely unnoticed.

Agency slippage will denote institutionally induced problems. These are problems of design and operation. Different institutional designs for agency decision making will lead to different outcomes being chosen by the agent. It may not be technologically feasible to design an institutional arrangement that perfectly translates the intentions of Congress into agency decisions. Further, administrative entities will suffer from many of the same operational problems other social choice institutions do: manipulability and instability. It is well known that most social preference relations are poorly behaved: in noncollegial games no point is invulnerable to defeat (Schwartz, 1982). Also, agency decision making may be unstable: In an unconstrained pure majority rule institution a manipulative agenda setter could, through a sequence of votes, lead the policy choice of the agency to any point in the set of policy alternatives (McKelvey, 1979; Schofield, forthcoming [1984]; Schwartz, 1981).

The generic instability of social institutions poses a problem in delegating decision-making authority: even if bureaucrats earnestly pursue the intent of Congress, the dynamics of the agent’s decision process may lead the bureaucrats to choose points that are not in line with congressional interests. Even management hierarchies do not escape the generic instability of social decision processes (Hammond and Miller, 1983). The generic instability of these processes introduces even greater uncertainty into the delegation problem for Congress. Congressmen would like to structure the agency’s decision making in order to overcome this uncertainty, and to introduce
some stability into the agency's decisions. Agency slippage, then, may be of some concern for almost any preference aggregation method.

The institutional arrangements by which Congress will attempt to exercise control over the administration of delegated authority will be referred to as the *form* of a regulatory intervention. Some of the arrangements are built into an act of Congress at the time it is passed—these I will refer to as structural arrangements. Others are employed during the course of agency implementation—these I will refer to as management arrangements.

*Structural Arrangements*

Structural arrangements seek to solve problems of agency shirking and slippage by constraining the substantive discretion of the administrative entity and by channeling the decision making within the administration to alternatives that are in compliance with congressional intent. The substantive discretion of a regulatory bureaucracy consists of the restricted domain of policy alternatives from which the bureaucracy can choose. This domain of policy choices is fashioned, in part, by Congress through its particular delegation of regulatory scope and procedural requirements. The choice of regulatory scope partitions the domain of feasible regulatory opportunities available to the regulatory entity. Procedural requirements then serve to further reduce the agent's substantive discretion and channel the regulatory entity's decision processes to only a small subset of the feasible set of regulatory alternatives. In this context, regulatory instruments (e.g., taxes) are the tools through which chosen regulatory opportunities are implemented, i.e., instruments map the regulatory entity's substantive discretion into the range of possible regulatory outcomes. Congress will further seek to channel administrative decision making within the substantive discretion allowed through its choice of the institutional setting for the agent, the preference aggregation rules to be used by the administrators to make decisions, and information requirements for decision making. Specifically, structural solutions to problems of agency shirking and slippage consist of four main elements:

1. Congress, in writing a regulatory act, defines the *institutional setting* wherein the regulatory activity is to be undertaken. Regulations can be administered through civil or criminal suits in the courts, or through independent commissions or executives agencies, through discretion granted the president or state and local entities (Aranson, Gellhorn, and Robinson, 1982; Fiorina, 1982a, survey several theories concerning the legislative choice of institutional setting). The choice of institutional setting by Congress involves a decision on how much independence Congress
wishes to grant the administrators (independence from congressional control) and the extent to which other decision-makers, such as the president or the courts, restrict or influence the choices of the administrators.

2. A regulatory act prescribes the regulatory scope delegated to the regulatory entity. The regulatory scope defines the domain of potential regulatory targets or problems the entity administering the regulation may address. For example, the Toxic Substances Control Act (TSCA) specifies the class of chemicals that EPA may regulate under its authority and those chemicals (pesticides, drugs, food additives, etc.) that EPA may not regulate under TSCA. By constraining the range of alternative regulatory targets, Congress can reinforce its control over the agency’s decision making. By constraining the range of potential regulatory targets, Congress also limits the administrator’s substantive discretion and protects itself against manipulation and exploitation by its agents. Though by itself not ensuring stability, the constraints on discretion created through the choice of regulatory scope reduce the risks attendant to shirking and slippage.

3. Moreover, a regulatory act will also spell out the legal tools or instruments that an administrative agency can use to implement the act. Generally, instruments are of the following kinds: command and control, provision of information, direct provision of some public good, and decentralized economic incentives. The set of regulatory instruments specify how the administrator may regulate particular problems within its regulatory scope. Congress in TSCA constrains EPA to use command and control instruments (bans or limitations or technology standards) on certain classes of chemical problems, while on others allows EPA to use warning labels, instructions, or tax incentives. I will not pursue this topic here, but McCubbins (1982) and McCubbins and Sullivan (1984) have modeled the choice of regulatory instruments by reelection-seeking legislators. Command and control instruments, they argued, provide an indirect means of policy implementation because such instruments hide the costs imposed by regulatory policies while accenting benefits delivered. Those groups bearing the costs of the regulation, therefore, will not fully perceive their share, while the legislator can readily claim credit from other groups for benefits delivered. The perceived changes in welfare to affected groups, then, add up favorably for reelection-minded legislators.

4. To promulgate a regulation, the administrator must satisfy certain

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3Command and control refers to the use of coercion (bans, prohibitions, limitations, technological standards, etc.) to alter behavior, whereas economic incentives reflect an effort to alter behavior through changes in the incentives at the margin (taxes, subsidies, marketable permits to pollute, etc.) facing an individual (see Buchanan and Tullock, 1975, or Mitnick, 1980, chap. 6). The provision of information changes behavior through a recharacterization of the information upon which decisions are to be made (warning labels, instructions, etc.).
procedural requirements, which are also spelled out in the act (sometimes in reference to the Administrative Procedures Act or the National Environmental Policy Act). The act specifies the process of hearings, the standards of evidence and burdens of proof in decision making, the points of access for outside parties, the opportunities for judicial review, and standards for review. Regulatory procedures specify the path of legal requirements an administrator must follow to implement a regulation (i.e., the use of some instrument on a certain target). Such procedural requirements perform two main functions for the Congress: a structural and an informational function.

Structuring procedures, by limiting the policy comparisons the agency can make, serve to protect Congress from exploitation by its agents. Within the regulatory scope defined by Congress, structural procedures limit the set of feasible comparisons; the domain of policy alternatives available for consideration by the agency at any point is confined to only a small subset of the regulatory scope. For example, the Occupational Safety and Health Administration is prohibited from promulgating regulations on various safety issues until directed to do so by the National Institute of Occupational Safety and Health.

Informational requirements can be used to assimilate information relative to uncertain policy alternatives. In delegating legislative authority members of Congress may be uncertain as to the relative merits of various policy alternatives. This uncertainty may have to do with the nature of the problem regulation is supposed to redress (it is not known which chemicals are toxic or how toxic). Alternatively, this uncertainty may have to do with the potential costs of controlling the hazard (at the time of regulation it was not known if the cost of reducing vinyl chloride emissions would be in the billions of dollars, as industry claimed, or much less, as it eventually turned out). Or, the congressman may be uncertain as to the electoral impact of various policy choices. In delegating, then, Congress will require the agency to undertake steps to accumulate information on potential policy alternatives. Under TSCA, for example, extensive testing guidelines are detailed for promulgating a regulation. The details of these procedures extend to specifying the kind of experiments that constitute evidence in the regulatory proceedings.

Also, Congress will choose the preference aggregation procedures, or voting rules, for decision making within the bureaucracy. The choice of voting rules helps channel bureaucratic policymaking. Regulatory commissions, for example, choose policy by a simple majority rule vote among commissioners. Though many executive agencies have a hierarchical structure, policy choices within them may implicitly take on the characteristics of a majority rule choice among the various program offices. Other forms of hierarchical structures can be mandated to overcome a myriad of problems
ranging from efficiency to technical expertise or oversight (see Weber, 1921/1978; Gulick, 1937; Hammond and Miller, 1983).

Many of the procedural requirements imposed by Congress on agency decision making are in response to court objections (see Aranson, Gellhorn, and Robinson, 1982). Also, many of the procedural requirements are imposed on all agencies through the Administrative Procedures Act (APA) and the National Environmental Policy Act (NEPA). Congress can and does, however, impose procedures over and beyond those required by the courts, APA, and NEPA, and may impose these procedures for strategic reasons.

Management Arrangements

Once a regulatory act is passed, and while it is being implemented, Congress has additional means of control through rewards, sanctions, and monitoring (and of course, further structural controls are not ruled out, as Congress can amend the original act). These are the means of control commonly studied in the theory of agency (Ross, 1973; Mitnick, 1975; Jensen and Meckling, 1976; Holmstrom, 1979; Moe, 1984). These management functions serve to induce behavior on the part of the agent that is in compliance with the principal’s interests.

Congress, in structuring its relationship with a regulatory agency, will attempt to induce agency compliance through the application of rewards and sanctions. Rewards and sanctions arise largely through the exercise of its constitutionally defined powers of authorization, appropriation, and appointment. Weingast has argued that many of these powers possessed by Congress when exercised in an informal way establish a system wherein Congress yields considerable, albeit indirect, influence over the bureaucracy’s choice of regulatory policy (Weingast and Moran, 1983; Calvert, Moran and Weingast, forthcoming [1986]; Weingast, 1984).

In general, Congress possesses all the powers it might ever need to ensure agency compliance; and though sanctions are used infrequently, their presence creates incentives for bureaucrats to comply with congressional desires (for a game-theoretic analysis of agency compliance, see Miller, 1977). In implementing a regulatory policy, the agency will respond to the structure of incentives fashioned by Congress. Congress holds the power of life or death in the most elemental terms throughout the existence of any agency. The power to terminate, either by refusal to renew authorization or refusal to appropriate funds, is firmly lodged in Congress and nowhere else. That Congress is willing and able to act if the agency commits an impropriety is made clear by the examples of congressional intervention in FTC regulatory decisions concerning cigarette advertising (Fritschler, 1969), or more recently children’s television and funeral homes, or in the congressional dismantling of the Area Redevelopment Administration in 1963 (Ripley, 1972).
Procedural requirements can be used to establish a decentralized institutional arrangement for monitoring bureaucratic activities (see Fiorina, 1981; Weingast, 1984; McCubbins and Schwartz, 1984). Congressional oversight policy concerns whether, to what extent, and in what way Congress attempts to detect and remedy executive branch violation of legislative goals. McCubbins and Schwartz (1984, p. 166) make the distinction between two forms of oversight: "police-patrol" oversight, which is comparatively centralized, active, and direct, as opposed to "fire-alarm" oversight, which is less centralized and involves less active and direct intervention than police-patrol oversight.

Many elements of the form of a regulatory intervention have been studied in a number of guises. The last section of this paper develops a comprehensive and theoretically parsimonious view of the choice of these institutional elements. The main theoretical sections of this paper model the choice by Congress of structural features to solve the problems of agency shirking and slippage. Specifically, hypotheses will be derived relating the influence of incomplete information and conflict of interest to the choice of regulatory scope and procedures.

Assumptions and Notation

In delegating legislative authority to an administrative entity, Congress will seek to mitigate the problems of agency. Congress will seek structural solutions to the problems of agency shirking and slippage by structuring the agent's decision making so as to induce outcomes that reflect congressional interests. The strategy set for congressional choice consists of the structural arrangements which serve to establish the rules of the game for the bureaucracy. In choosing these structural arrangements, congressmen will pursue their own individual goals. These goals may consist of retaining their seat in office, serving their constituents or closely affiliated groups, or attaining their own policy interests. In choosing the rules of the game, though, congressmen will recognize that bureaucrats, in implementing the policy, will have their own goals: attainment of political or policy aspirations; achieving stability in their relationship with Congress; or possibly, increasing their budget and program jurisdiction. To ascertain the effect of some important influences on the congressional choice of regulatory form, then, I must first model bureaucratic decision making and the impact that various aspects of the congressional delegation have on bureaucratic choice.

Bureaucratic Decision Making

Let \( B = 1, 2, \ldots, b \) be an agency consisting of \( b \) bureaucrats who must collectively choose an element from the set \( X \subset R^m \). Assume that each bureaucrat has a preference suborder over the points in \( X \). This suborder
reflects that there may exist large subsets of the policy space over which particular bureaucrats have little knowledge. Let $R_j$ represent bureaucrat $j$’s preference suborder. A binary relation $R_j$ on $X$ is a suborder if and only if the transitive closure of $R_j$ is irreflexive (Fishburn, 1973). In each $R_j$ suborder bureaucrats either have strict preference $P_j$ between alternatives in $X$ or have undefined preferences $V_j$ between alternatives in $X$ for which they have incomplete information. Thus, though the bureaucrat can order some of the alternatives in $X$, he cannot order all of the alternatives; the information with which to compare these alternatives does not exist. It is assumed that $V_j$ is a reflexive binary relation and that $P_j$ is strictly quasi-concave.

It is interesting to note that this view of uncertainty is different from the usual view of uncertainty. Economists generally take a subjective view of uncertainty, treating it as a description of the beliefs of a decision maker. Knight (1948) viewed uncertainty from a non-Bayesian perspective. According to Knight, a decision-maker decides in the realm of certainty if every available action leads to a unique consequence. One decides in the realm of risk if every action leads to a consequence with a known probability. One decides in the realm of uncertainty if actions lead to a consequence but the probabilities are unknown or not even meaningful. Most decision theories no longer differentiate between the contexts of risk and uncertainty. Though the use of suborders to describe incomplete information is novel, the propositions to be proven later can be derived from more standard approaches, such as expected utility (see McCubbins, 1983), or through a Bayesian game (see McCubbins and Page, forthcoming [1986]).

The level of uncertainty facing bureaucrats is relative to the number of alternatives in the space of alternatives that are incomparable, i.e., between which the suborder does not define a preference relation. Uncertainty is decreasing in the refinement of bureaucratic preferences: increases in information have the effect of filling in the preference suborder, i.e., defining a preference $P_j$ between alternatives for which no preference ($V_j$) was previously defined. Increases in information, I assume, do not alter existing strict preferences; if enough information existed previously so that a strict preference prevailed between alternatives, then new information cannot alter that relationship. In essence this rules out partial information; either there is perfect information between alternatives, so that a strict preference exists, or there is incomplete information and no preference is defined between some pair of alternatives. The preference suborder can be indexed to reference the level of uncertainty, or the refinement of preferences. Let $k$ and $l$ represent two different levels of information such that $k$ conveys less information than $l$. Since information does not alter existing preferences but only refines the preference suborder, it follows that $P_j^k \subseteq P_j^l$ and $V_j^l \subseteq V_j^k$. 
Let $C^4(\cdot)$ be the choice set for the agency defined over the nonempty subsets of $X$. Also, let $P^A$ represent the agency preference relation. For two points $x$ and $y$ in $X$, $x \neq y$, $x$ is said to be socially preferred by the agency to $y$, $x P^A y$, if and only if $x \in C^4((x, y))$ and $y \notin C^4((x, y))$.

The Congressional Choice of Structural Arrangements

The problem for Congress is to design structural arrangements that protect it against the problems of agency slippage and shirking. Structural arrangements serve to define the agent’s substantive discretion. I will model the choice of two important structural arrangements: regulatory scope and procedural requirements. Congress in choosing the regulatory scope for the agent places restrictions on the domain of policy alternatives available to the agent; in essence the regulatory scope partitions the domain of regulatory targets into a feasible and infeasible set for the agent. Congress restricts the choice to a subset $\tilde{X}$ of the policy space $X$. The set $C^4(\tilde{X})$ is said to be a restricted choice set for $X$. Different subsets $\tilde{X}$ of $X$ may yield different restricted choice sets, i.e., if $X_1$ and $X_2$ are subsets of $X$, it will often be the case that $C^4(X_1) \neq C^4(X_2)$. Congress, through restrictions on the regulatory scope of the agent, can protect itself against some of the problems of agency (shirking and slippage) by eliminating some of its least preferred alternatives from the range of alternatives to be considered by the agent, and thus restricting the agent’s choice set to one more in line with congressional intent.

Procedural requirements may also serve to protect Congress from exploitation by its agent (e.g., see Shepsle, 1983). Procedural requirements, by limiting the comparisons between alternatives in any choice set, may add further restrictions to those imposed through the regulatory scope and may channel the choice from that set for the agent.

The restrictions on agency activity imposed through the regulatory scope and procedures delegated provide predictability to agency decision making. Congress is able to ensure itself against inferior policy choices through these restrictions. Perhaps more importantly, the gain in predictability enables congressmen to be more certain about exactly what it is they are delegating. The game in Congress, then, becomes one over the choice of rules, of institutional structure for the agency. Let $N = \{1, 2, \ldots, n\}$ be a legislature consisting of $n$ members who must choose an element, or

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4In Fiorina’s model it is unclear why legislators will ever prefer enforcement by an administrative entity to enforcement by the courts, since both institutional settings present equally uncertain expectations over outcomes. It is clear in this model why agencies would be preferred in some cases. Congress can structure an agency’s decision processes in order to induce stable outcomes, or bias its decision making in some fashion. Thus, the structural arrangements detailed here provide the mechanism whereby members can reduce their uncertainty over delegation.
a subset, of the set \( X \subseteq \mathbb{R}^m \). Assume each member has a preference suborder over the points in \( X \). Let \( R_i \) represent member \( i \)'s preference relation, and let \( C^L(\ast) \) be the choice set for the legislature defined over the nonempty subsets of \( X \). We can define \( P^L \), the legislative preference relation: for any two points \( x \) and \( y \) in \( X \), \( x \not= y \), \( x P^L y \) if and only if \( x \in C^L((x,y)) \) and \( y \in C^L((x,y)) \).

Legislative preferences, \( R_i \), may derive from a reelection motive and may therefore reflect the preferences of an individual member's constituency or those of an important interest group. In a framework as general as this one though, no assumption is necessary as to the source of legislative preferences. Legislative preferences, \( R_i \), will be taken as given.

**Delegation versus Specific Enactment**

Within this modeling framework it is possible to state general conditions under which the legislature will choose to delegate as opposed to enacting regulations specifically in legislation. Denzau, Riker, and Shepsle (1984) have provided the key in this context. They pointed out that "in most legislatures, the status quo is the last motion against which an alternative is pitted. That is, there is always a 'vote on final passage,' a 'vote to table,' a 'vote to recommit to committee,' or some such motion that requires an implicit comparison between a proposal and the status quo" (Denzau, Riker, and Shepsle, 1984, p. 16). Voting the status quo, \( x^0 \), last means that a final outcome that changes the status quo will be restricted to the set of all \( y \in X \), \( y \neq x^0 \), such that \( y P^L x^0 \).

In this paper, if the status quo is the last motion against which all alternatives are pitted, a necessary condition for a specific enactment by the legislature is that there exists a \( y \in X \) such that \( y P^L x^0 \). In other words, that there exists an unambiguous winner in a binary choice against the status quo. This frequently may be the case: Congress in delegating legislative authority to the EPA in the Clean Air Act also specifically included emission requirements for new cars in the writing of the Act; in writing TSCA Congress specifically ordered the EPA to promulgate a regulation banning PCBs.

On the other hand, a necessary condition for delegation (which is considerably weaker than the condition for specific enactment) is that for all members of some decisive coalition there exists an \( x \in X \), \( x \neq x^0 \), such that \( x R_i x^0 \). In other words, the status quo is not unambiguously the most preferred alternative for each member of some decisive coalition. It should be noted that the alternatives \( x \in X \) such that \( x R_i x^0 \) need not be the same alternative \( x \in X \) for all members of the coalition. Intuitively, this suggests that a necessary condition for delegation is that a substantial number of members are agnostic (\( x V_i x^0 \)) concerning the choice of regulatory form, and are therefore willing to go along with (possibly through some reciprocal agreement) those members who have strong feelings on the choice.
Regulatory Scope, Procedural Requirements, and Substantive Discretion

I have assumed that some decisive set of legislators (from the family of decisive sets) has a motivation to delegate.\(^5\) In delegating, legislators also choose, through the form of their delegation, the substantive discretion for the administrative entity (i.e., the restricted choice set \(C^A(\hat{X}) \cap W^A(x^0)\)). In so doing they will first seek to partition the set of feasible alternatives into those allowed for agency consideration and those forbidden, through their choice of regulatory scope. In examining an individual legislator’s decision to delegate, it seems reasonable to assume that members would prefer not to delegate alternatives that are unambiguously dominated by the status quo. This assumption enables us to put a bound on the regulatory scope each member would find acceptable to delegate to the agency. Let \(Q_i(x^0) = \{x \in X \mid x R_i x^0\}\), and let \(\pi_i\) be the regulatory scope member \(i\) would individually prefer to delegate to the agency. Then \(\pi_i \subseteq Q_i(x^0)\). The only other assumption I will make about the individual choice of regulatory scope is that the regulatory scope preferred by each member, \(\pi_i\), is nondecreasing as a function of changes in the member’s underlying preference suborder which increase the number of alternatives that are undominated by the status quo; i.e., \(\partial \pi_i / \partial Q_i \geq 0\).

I also assume little about the collective process for the choice of regulatory scope. Let \(X^S\) be the particular partition \(\hat{X}\) of \(X\) that is the scope of feasible alternatives delegated by the legislature to the administrative entity. It seems reasonable to assume that collectively the members of the legislature will exclude all of those alternatives that are unambiguously dominated by the status quo for all the members of some decisive group. Thus, the regulatory scope delegated by the legislature will be constrained in the following fashion:

\[
X^S \subseteq \bigcup_{i \in G} Q_i(x^0) = \{x \in X \mid \text{there does not exist a } y \in X \text{ such that } y P_i x \text{ for some } i \in G \text{ and } x R_i y \text{ for no } i \in G \text{ for some decisive group } G \text{ in the family of decisive coalitions}\}.
\]

In voting on a particular delegation, members may vote only for delegations in which the regulatory scope is constrained to their most preferred set of alternatives. Or, members may vote for delegations that include only alternatives that they individually rank as undominated relative to the status quo (i.e., \(Q_i\)). On the other hand, members may make trade-offs between their ideal delegation and getting a bill passed. For example, they may vote for delegations that include alternatives that they individually

\(^5\)I assume that there is a single issue space \(X\) (a subset of \(R^m\)) and there is no vote trading across issues.
would like to exclude (e.g., some $x \in X$ such that $x^0 P_i x$), as long as there are safeguards included in the delegation that inhibit the agency's choice of these dominated alternatives. The gain to the member is that it becomes possible to take some action on an important issue (presumably for which the legislator can claim some credit), whereas the risks that the agency may choose alternatives which the member would prefer to exclude are reduced.

A principal means of providing safeguards is through procedural requirements. Structuring procedures have been described as ways to limit policy comparisons by the agency. Members individually will seek to constrain the choices available to the agency to only those which are undominated by the status quo. Each legislator $i \in G$ (for some decisive set $G$) will demand structural restrictions on all points $x \in X^S$, such that $x P_i x^0$. On the other hand, informational requirements which require the agency to collect information on policy alternatives will be desired for all points $x \in X^S$, such that $x V_i x^0$. Informational requirements bias decision making as well. Informational requirements make alternatives more costly and therefore less attractive to the agents. These procedures do not necessarily constrain agency choices but do make it more difficult to pursue alternatives over which information is incomplete. Let $\text{PROC}_i$ be the set of all points $x \in X^S$ for which member $i$ demands either structuring or informational procedures:

\[ \text{PROC}_i = \{x \in X^S | x^0 R_i x\}. \]

The collective delegation of procedural requirements for the agent will be on a subset of the union of those points which do not unambiguously dominate the status quo for some member. Let $\text{PROC}$ be the collective delegation of procedural requirements. $\text{PROC}$, then, is constrained in the following fashion (for some decisive set $G$):

\[ \text{PROC} \subseteq \bigcup_{i \in G} \text{PROC}_i \]

This condition sets only a bound on the set of alternatives for which the legislature may prescribe procedural requirements. If there is a strong norm of reciprocity between members over the choice of procedures, then we may get strict equality in this condition ($\text{PROC} = \bigcup_i \text{PROC}_i$). On the other hand, the collective choice process may limit the selection of procedures by restricting the choice of procedures to only those members on the substantive committee for this issue. Again, a wide range of trade-offs are possible for members considering whether to support some proposed delegation. Members might go along with some set of slightly weaker procedural requirements than they would otherwise prefer if the institutional setting within which the agent is to be placed provides some additional safeguards, or if the member is guaranteed some ability to affect agency decision making through management techniques.
Lastly, I will assume that the decisions of any decisive coalition (there may be many such decisive coalitions) in selecting the form of a regulatory intervention satisfy a notion of nonnegative responsiveness. This assumption is similar to the notion of nonnegative responsiveness for social welfare functions (cf. Kelly, 1978). Though nonnegative responsiveness for social welfare functions is a very weak assumption, the assumption made here is somewhat stronger. Nonnegative responsiveness here is taken to mean that changes in the individual preferences of members which lead to changes in member preferences over the domain of targets (scope) to be delegated to the administrator (i.e., the regulatory scope) and over the set of procedural requirements will not induce a negative response in the regulatory scope and procedural requirements as enacted by any decisive coalition. Thus, if some member \(i\)'s preferences change in such a way that the set of alternatives he wishes to delegate to the agency expands, then the regulatory scope \(X^S\) delegated by the legislature will not contract. \(X^S\) and PROC, then, are nonnegatively responsive to changes in an individual member's preferences over regulatory scope and procedural restrictions that change because of fundamental changes in an individual member's suborders \(R_i\).

I require this somewhat awkward-looking assumption because the theory of collective choice is not far advanced. In assuming nonnegative responsiveness, I am not so much interested in theorizing about which sets will be chosen—the model is indeterminate in that regard—rather I am interested in the determinants of the size of these sets for any decisive coalition—what influences the breadth of scope and extensiveness of the regulatory procedures.

Together the regulatory scope afforded the agent and the procedural requirements imposed on the agent determine the substantive discretion delegated to the agent by Congress. These requirements constrain the domain of alternative regulatory policies available for consideration by the agent. The substantive discretion of the agent, then, can be defined as follows (for any status quo \(x^0\)):

\[
D(x^0) \subseteq \{ y \in X | y P_i x^0 \text{ for all } i \in G \} = C^A(\hat{X}) \cap W^A(x^0)
\]

where \(G\) is some decisive set of members. It is interesting to note that there may not exist any points \(y \in X\) that unanimously beat the status quo for the members of any decisive coalition. Thus, though the legislature may delegate a broad scope of regulatory targets, it may constrain this scope through procedural restrictions in such a way that the agency can do nothing, i.e., \(D(x^0) = \emptyset\). This may, then, amount to regulation as symbolic politics (Edelman, 1964). On the other hand, in some cases a broad range of policy alternatives may dominate the status quo. In such a case the substantive discretion of the agency may be quite large.
Independent Variables

The propositions to follow relate the influence of incomplete information and conflict of interest among legislators to the size of the sets \(X^S\), PROC, and \(D\). Information has been described as a refinement in preference suborders. A natural definition for conflict of interest can be suggested given the framework of member preference relations developed here. A measure of conflict of interest among legislators could be based upon the level of agreement between member preference orderings. A high degree of agreement between preference orderings would imply that there was no conflict of interest, whereas perfect disagreement between preference orderings would imply a great degree of conflict of interest. Define the set \(A\) as the set of agreements between member suborders:

\[
A = \{(x, y) : x R_i y \text{ for } x, y \in X \text{ for all } i \in G\}
\]

The size of set \(A\) then, by definition, increases and decreases in conflict of interest.\(^6\)

The Legislative Choice of Regulatory Form

Regulatory Scope

This section examines the comparative static properties of changes in the regulatory scope, procedures, and substantive discretion delegated to an administrative agency with respect to changes in uncertainty and conflict of interest. Increased uncertainty implies that the range of alternative policy choices over which the legislator has little or no information, and thus over which the legislator cannot discern a clear optimum, is increased. Under uncertainty the political risks associated with policy choices may be large. A reelection-seeking legislator, in delegating, would seek to shirk the blame for costs incident to specific regulatory choices while at the same time claiming credit for benefits provided. Since control of agency decision making can be maintained while mitigating the potential losses associated with uncertain choices, the legislator would prefer not to make any choices under uncertainty, but rather would seek to delegate a domain of regulatory targets that are not known to be dominated by the existing status quo. Thus, greater uncertainty implies a greater degree of discretion over regulatory targets delegated to an administrative agency.

\(^6\) Axelrod (1970) defined conflict of interest as "the extent of the incompatibility of goals" of the participants (p. 19). This is the essence of this formulation. The measure of agreement (and thus the inverse which measures conflict) here satisfies four of Axelrod's properties: symmetry, independence (of a sort), continuity, and boundedness. Since preferences here are ordinal, the measure will not satisfy additivity. Measures like Axelrod's could be developed if preferences were assumed to be cardinal.
Moreover, under uncertainty there is, naturally enough, a greater need for information. Congressmen and congressional staffs are capable of eliciting information concerning the various policy alternatives. Such information retrieval, however, may have high opportunity costs, taking away time and resources from other electorally oriented activities. On the other hand, the problem of choice, and therewith the costs of eliciting information, can be delegated to an administrative agency. Information uncovered by the agency will be available, albeit indirectly, to congressmen. Inasmuch as Congress can exercise substantial control over the activities of regulatory agencies, congressmen would prefer to delegate the regulatory choices, and therewith a large portion of the information costs, to the agency and sit back in an oversight role awaiting clarification of the issue. This strategy costs congressmen little in terms of policy control and enables them to pass the costs of decision making on to the agency. Formally, Proposition 1 follows as a consequence of the model.

**Proposition 1 (Uncertainty and the Choice of Regulatory Scope);**
*Ceteris paribus*, the regulatory scope, $X^\mathcal{S}$, delegated to the administering agency is *nondecreasing* in the level of uncertainty.

**Proof:** Let the index $k$ correspond to the level of information contained in a preference suborder $R_i^k$, and let $X_i^k$ be the regulatory scope determined by the set of suborders $R_i^k, i \in G$ (similarly for the subscript $l$). I need to show that if $P_i^k \subseteq P_i^l$ (i.e., $k$ contains less information than $l$), then $X_i^k \subseteq X_i^l$. Take an $x$ not in $X_i^k$; this implies either (1) $x^0 P_i^k x$ for all $i \in G$, which in turn implies $x^0 P_i^l x$ for all $i \in G$, which implies that $x$ is also not an element of $X_i^l$, or (2) $x$ not in $X_i^k$ could also arise even if $x R_i^k x^0$ for at least one member $i \in G$. Then $x R_i^k x^0$ implies either (i) $x^0 P_i^l x$, which implies $x$ not in $\pi_i$, which implies $x$ will not be an element of $X_i^\mathcal{S}$, or (ii) $x R_i^l x^0$, and since $x$ is not in $X_i^\mathcal{S}$ even though $x R_i^k x^0$ (i.e., $x \in \pi_i$), then by nonnegative responsiveness $x$ is also not an element of $X_i^\mathcal{S}$. Q.E.D.

With similar effect increased conflict leads to more disagreement between members concerning what the regulatory scope for the agency should be. This makes it harder for a decisive coalition to agree upon a substantive range to delegate to the agency. Excluding policy alternatives that are points of controversy during the writing of the legislation will increase the likelihood of defections from the legislative coalition. Since controversial decisions need not be made during the writing of the legislation, the cooperative solution is to delegate all the points of controversy that are undominated for at least one member relative to the status quo. This solution necessarily increases the number of policy alternatives included in the range of targets delegated to an administrative agency. Thus, the magni-
tude of the regulatory scope delegated is nondecreasing with increases in
conflict among members of the decisive coalition. Formally, the proposed
relationship is as follows.

**Proposition 2 (Conflict of Interest and the Choice of Regulatory
Scope):** Under uncertainty, the regulatory scope, \(X^S\), afforded the admin-
istering agency by the legislature is nondecreasing in the amount of conflict of
interest among legislators, *ceteris paribus*.

**Proof:** Let \(k\) index preference suborders, and let \(A^k\) be the set of
agreements defined by the preference suborders \(R^k_i\) for \(i \in G\) (similarly for
the index \(j\)). I must show that if \(A^j \subset A^k\) (i.e., that there is more conflict under
\(j\) that \(k\)), then \(X^S_k \subset X^S_j\). Take an \(x\) not in \(X^S_j\), this implies either \((1) x^0 \mathcal{P}_i x\) for
all \(i \in G\), which, since there are more agreements in \(A^k\) than \(A^j\) in turn
implies that \(x^0 \mathcal{P}_i x\) for all \(i \in G\), which implies that \(x\) is not an element of
\(X^S_k\), or \((2) x \mathcal{R}_i x^0\) for at least one member \(i \in G\). Then \(x \mathcal{R}_i x^0\) implies either
\((i) 0 \mathcal{P}_i x\) for all \(i \in G\), which in turn implies that \(x\) is not an element of
\(X^S_k\), or \(x \mathcal{R}_i x^0\) for at least one member \(i \in G\); and, since \(x \mathcal{R}_i x^0\) and \(x\) was not
an element of \(X^S_j\), then by nonnegative responsiveness \(x\) is not in \(X^S_k\). Q.E.D.

**Procedural Requirements**

That increased decision uncertainty and increased conflict among
members leads to an increased delegation of regulatory scope to an adminis-
trative agency is in many respects counterintuitive. With increased uncer-
tainty and conflict comes increased political risks for legislators. It would
be expected, then, that congressmen would want more control of the regula-
tory process, not less, when the stakes are high. What is argued here, however,
is *not* that congressmen prefer less control in such situations; rather, that they prefer to exercise their control not by making potentially
costly policy choices themselves, but instead by exercising control over the
choice of policy by a regulatory agency. Procedural prohibitions and deci-
sion making requirements provide a principal means of controlling agency
activities.

The level of procedural delegation is therefore intricately linked to the
level of regulatory scope. Increased uncertainty leads to increased proce-
dural requirements for three reasons.

1. With increased uncertainty there exists an increased incentive to
delegate greater regulatory scope to an administrative agency. A greater
delegation of potential targets for regulation creates a greater need for
congressional control. Monitoring agency activities, therefore, is of in-

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7 Similar results to Proposition 2 have been hypothesized by Aranson, Gellhorn, and
creased importance to congressmen. McCubbins and Schwartz (1984) argued that decentralized oversight techniques will be preferred by reelection-seeking legislators. Weingast (1984) similarly argued that such decentralized techniques will be effective in giving Congress control over agency activities. Decentralized oversight techniques rely, in large measure, upon labyrinthine and intrusive regulatory procedures. Thus, with increased uncertainty congressmen will prefer to prescribe an increasingly extensive array of regulatory procedures for agency decision making.

2. It follows that reelection-seeking legislators would prefer to focus the agency’s regulatory discretion away from targets with potentially high political costs. With increased uncertainty the political risks associated with virtually all regulatory alternatives are increased. Fewer alternatives are unambiguously preferred by the membership to the status quo. More and more of the alternatives in an expanded regulatory scope are politically risky for the members. Members will seek procedurally to limit the agency from taking action relative to these alternative regulatory targets. Legislators would prefer, then, to make these choices more difficult, by extending the procedural requirements necessary for the promulgation of a regulation.

3. Moreover, with greater uncertainty congressmen will not know beforehand what their interests will ultimately be (i.e., what their preference order over uncertain alternatives will be). They would like constituents and interest groups to reveal their preferences and powers before being pinned down to particular substantive solutions to particular problems. Their need for information, naturally enough, grows relative to their uncertainty. With an increased need for information and expanded regulatory scope comes an increased incentive to prescribe a greater number of “information discovery” procedures to the agency. Formally, the proposed relationship is as follows.

**PROPOSITION 3 (Uncertainty and the Choice of Administrative Procedures): Ceteris paribus, the level of administrative procedures, PROC, is nondecreasing in the degree of uncertainty.**

**Proof:** From the proof of Proposition 1, we know that $X_i^S \subseteq X_k$, where the index $l$ represents greater information than the index $k$. Let $\text{PROC}_{i,k}$ represent the set of alternatives for which procedures are demanded by member $i$ with preference suborder $R_{i,l}$. I must show that $\text{PROC}_{i,l} \subseteq \text{PROC}_{i,k}$. Take $x$ in $X_k^S$ such that $x$ is not in $\text{PROC}_{i,k}$. This implies that $x P_{i}^l x^0$, which in turn implies that $x P_{i}^l x^0$, which implies that $x$ is not in $\text{PROC}_{i,l}$. Since $x$ is not an element of $\text{PROC}_{i,k}$, if $x$ is not in $\text{PROC}_{k}$, where $\text{PROC}_{k}$ is the collective set of procedures required by the decisive coalition for preference suborders $R_{i,l}$, for all $i$ in $G$, then by nonnegative responsiveness, $x$ is not an element of $\text{PROC}_{i}$. Q.E.D.
For example, the Toxic Substances Control Act presented Congress with a regulatory problem immersed in uncertainty. The uncertainty had to do with the nature of the problem regulation was supposed to redress, as well as with respect to the potential costs of controlling hazards (see McCubbins and Page, forthcoming [1986]). EPA under Section 4 of the Act must promulgate test rules for those chemicals that it requires to be tested. Such tests generate information about the health and environmental effects of the new chemical. Each test rule is in itself voluminous and requires many months, even years, to develop. In the case of chloromethane the cost of promulgating the test rule (about $300,000) was several times more than the cost of the tests to be required.

With similar effect, a high level of conflict among congressmen creates an incentive to delegate increasingly large regulatory scope to an administrative agency. Again, with increased agency discretion there is an increased need to exercise control over agency decision making. Problems associated with agency shirking and slippage increase with increasing discretion. Thus, there is an incentive to increase the level of regulatory procedures, to establish a system of control over regulatory decision making. With increased conflict there are increased political risks and therewith increased incentives to direct the choice of regulation by the agency, through the imposition of extensive procedural requirements, away from potentially costly alternatives. Formally, the proposed relationship is as follows.

**PROPOSITION 4 (Conflict of Interest and the Choice of Administrative Procedures):** Under uncertainty, the level of administrative procedures, PROC, is nondecreasing in the level of conflict of interest among legislators, *ceteris paribus*.

**PROOF:** From the proof of Proposition 2 we know if \( A_j \subseteq A_k \) then \( X_j^S \subseteq X_k^S \). By the proof of Proposition 3 we know that if \( X_j^S \subseteq X_k^S \) then PROC\(_j\) \subseteq PROC\(_k\). Q.E.D.

**Substantive Discretion**

In large measure the regulatory scope and procedural requirements imposed by Congress determine the substantive discretionary authority of the regulatory agency. Increases in uncertainty imply that the scope of regulatory authority delegated to the executive branch will increase, and that the range of regulatory targets available will be expanded. On the other hand, the number of procedural restrictions will also be increased, thereby reducing the net delegation to the agency. From the congressman's point of view, increasing uncertainty makes it increasingly difficult for the agency to choose policies that make him unambiguously better off. It may be in his interest to delegate, but without more information the risks associated with choosing uncertain
policy alternatives make it prudent for the congressman to limit the agency's choice to those that unambiguously are preferred to the status quo. Incomplete information makes meaningful policy comparisons more difficult and thus reduces the number of policy alternatives that are clearly preferred to the status quo. The net effect of increased uncertainty, then, is to reduce the substantive discretion afforded administrative agencies.

**Proposition 5 (Uncertainty and Substantive Discretion):** Ceteris paribus, the discretion, \( D(x^0) \), of a regulatory agency is nonincreasing in uncertainty.

**Proof:** Let \( k \) index the level of information in member suborders, \( R_k \). Let \( D_k \) be the agency discretion granted for member suborders \( R_k \) for \( i \in G \) (similarly for \( l \)). I need to show that if \( P_i^k \subseteq P_i^l \), then \( D_k \subseteq D_l \). Take \( x \in D_k \). This implies that \( x P_i^k x^0 \) for all \( i \in G \). This implies \( x P_i^l x^0 \) for all \( i \in G \), which further implies \( x \in D_l \). Q.E.D.

Under circumstances of high conflict of interest, congressmen will prefer to pass the hot potato to the administering agency by delegating to the agency a large scope over the policies to be pursued. On the other hand conflicting preferences will also lead to a greater level of administrative requirements for decision making. Even with greater conflict there is no need to relinquish control entirely. More complicated procedural requirements can be written in to cover unexpected contingencies. A hot potato may be passed on, but there is no need to send over a loose cannon.

With greater conflict of interest between congressmen, fewer policy alternatives will arise that can generate unanimous support within the decisive coalition. Since the substantive discretion of the agency will consist of only those points that the decisive coalition unanimously prefers to the status quo, increasing conflict will reduce the substantive discretion delegated to the regulatory agency.

**Proposition 6 (Conflict of Interest and Substantive Discretion):** Ceteris paribus, the discretion, \( D(x^0) \), of a regulatory agency is nonincreasing in conflict of interest among legislators.

**Proof:** I must show that if \( A_j \subseteq A_k \) then \( D_j \subseteq D_k \). Take \( x \in D_j \). This implies that \( x P_i^j x^0 \) for all \( i \in G \), since \( A_j \subseteq A_k \). This implies that \( x P_i^k x^0 \) for all \( i \in G \), which implies that \( x \in D_k \). Q.E.D.

These last two propositions are contrary to the conventional wisdom on delegation. The conventional view holds that the greater the complexity of an issue, or the more conflictual the issue, or the more uncertain the decision making, the _greater_ will be the legislature's delegation (e.g., see Aranson, Gellhorn, and Robinson, 1982; Fiorina, 1982a; Mitnick, 1980).
These last two propositions show that increased conflict and uncertainty lead to less, not more, delegation. In the principal-agent context here if there exist conditions that may accentuate the ability of the agent to shirk (e.g., conflict and uncertainty) then the principal will attempt to create tighter, not looser, controls on the agent's activities.

It has been suggested elsewhere that environmental and health regulation entails a relatively greater degree of decision-making uncertainty than does economic regulation (Joskow and Noll, 1978; McCubbins, 1982). Further, McCubbins (1982) has argued that environmental and health issues often present a relatively greater level of conflict than do economic regulatory issues. If indeed there is more uncertainty and more conflict in environmental and health regulation than in economic regulation, then the model predicts a difference in the form of regulation, for these two areas. Specifically, the model predicts a series of, in principle, testable hypotheses.

1. A broader scope of substantive authority delegated to the agency administrator under environmental and health regulation compared with economic regulation.

2. More procedural requirements for decision making in environmental and health regulation as compared with economic regulation. The model predicts more public hearings and comment, more points of access to agency decision making by outside parties, more access to judicial review, and more strenuous burdens of proof and standards of evidence for environmental and health regulation.

3. Taken together, the form of the regulatory intervention guarantees a greater substantive discretion granted to economic regulatory entities as compared with environmental and health regulatory entities.

**Conclusion**

The form of a regulatory intervention specifies the mechanisms by which Congress will attempt to maintain control over the administration and implementation of delegated authority by an administrative agency. By examining the influence that decision uncertainty and conflict of interest has upon the selection of regulatory scope, administrative procedures, and ultimately on agency discretion, we are in a position to consider comprehensively the forms that a regulatory intervention will take.

1. **Institutional Setting.** Using the set of assumptions outlined earlier, Fiorina (1982a) has concluded that the incentive for congressmen to delegate authority to an administrative agency increases with increased conflict among affected interest groups. Also, Fiorina (1982b) hypothesized that increased uncertainty will lead to an increased desire on the part of individual members to delegate (see also Aranson, Gellhorn, and Robinson, 1982; McCubbins and Page, forthcoming [1986]). It seems reasonable to assume
within his framework that the collective decision will possibly reflect changes in the preferences of the individual members, and therefore increased conflict and uncertainty will increase the likelihood of legislative delegation.

Within the framework of the model herein, insofar as regulation is just another way to distribute particularized benefits, we might always expect Congress to delegate. Delegation in this regard is a means for solving the cooperation problem in Congress over passing out these distributive benefits. If the agency is structured in such a way that it is responsive to the requests of individual members for regulations that supply benefits to their constituencies, then delegating the choice of regulation is an institutional way of ensuring a universalistic norm in distributing benefits. Weingast (1979) has shown that such norms are in the rational self-interest of legislators.

In delegating, what might be the motivations for the congressional choice of institutional setting? Making Fiorina's assumptions within the context of the model here suggests that the important trade-off congressmen make is between controllability and accountability. Delegating to an administrative agency or to state and local entities adds the "political daylight" between legislators and the costs of the regulation, but it also introduces other political actors, such as the president, who will seek to influence (and therefore, in part, take responsibility for) the decisions of the agent. On the other hand, commissions are independent of the executive branch and are more readily controlled by Congress. Credit claiming for benefits conferred is more easily achieved. Commissions, then, are ideally suited to provide the institutional mechanism for insuring the universalism norm. This may explain why economic regulation is largely carried out through commissions and environmental and health regulation is delegated to executive agencies and the states.

2. Regulatory Scope. As derived herein, the scope of regulatory authority delegated to an administrative agency is nondecreasing in uncertainty and conflict of interest (Propositions 1 and 2).

3. Regulatory Instruments. Employing a roughly similar set of assumptions to Fiorina's (1982a), I have elsewhere argued that Congress will prefer the imposition of command and control instruments for the implementation of its policy objectives (McCubbins, 1982; McCubbins and Schwartz, 1984; McCubbins and Sullivan, 1984). When there is more conflict and greater uncertainty, congressmen have greater concern with procedural safeguards. The very flexibility of economic incentives (the source of their strength to economists) is interpreted by congressmen as uncontrolled uncertainty. A more favorable political climate for decentralized economic incentives is where there is little conflict and uncertainty (McCubbins and Page, forthcoming [1986]).
4. **Procedural Requirements.** The level of procedural requirements prescribed for agency decision making will be nondecreasing in uncertainty and conflict of interest (Propositions 3 and 4). Further, the choice of voting rules will, in large measure, depend upon the type of institutional setting chosen, but there will be some latitude. Though we know the social choice aspects of many of these voting systems, we know little about how easily Congress can manipulate them.

5. **Rewards and Sanctions.** Rewards and sanctions are largely limited to those prescribed in the Constitution. Weingast has argued that sanctions need only be imposed sporadically by the legislature to be effective. The presence of such rewards and sanctions, and their probabilistic nature creates incentives for administrative agencies to comply with congressional desires (Calvert, Moran, and Weingast, forthcoming [1986]; Weingast and Moran, 1983; Weingast, 1984; Ferejohn, forthcoming [1986]).

6. **Monitoring Technology.** Weingast (1984) and McCubbins and Schwartz (1984) have argued that Congress will adopt an extensive and somewhat effective policy of passive and decentralized oversight while largely neglecting active and centralized oversight. Congressmen engaged in centralized ("police-patrol") oversight inevitably spend time examining a great many executive branch actions that do not violate legislative goals or harm no one, for which they receive scant credit from their constituents. Under a decentralized ("fire-alarm") policy, congressmen do not address concrete violations unless potential supporters have complained about them, in which case they can receive credit for intervening (see McCubbins and Schwartz, 1984). Not only will congressmen prefer a decentralized oversight policy, they argued, but that a "fire-alarm" policy will be the most efficient and effective (from a congressman's point of view) monitoring technology.

These hypotheses suggest a comprehensive view of legislative delegation. Congress in delegating authority to an agent attempts to solve the principal's problem in a principal-agent relationship—that is, Congress as the principal selects an institutional arrangement with its agent so as to maximize the benefit it derives from the agent's performance. This paper has developed hypotheses concerning how and why Congress will solve its problem as principal and what exogenous forces will influence the shaping of this principal-agent relationship.

Some evidence for the hypotheses developed here exists in the secondary literature. For example, West (1981) documented how congressionally prescribed procedural requirements at the FTC were expanded in response to increased controversy surrounding FTC activities; Fritschler (1969) told a similar story concerning the congressional reaction to the attempt by the FTC to regulate cigarette advertising; Calvert, Moran, and Weingast (forthcoming [1986]) chronicled how increased controversy surrounding FTC activities in
1979 led to an increase in procedural restrictions and a legislative veto and ultimately to a cut in the Commission's substantive discretion, which "restricted several proposed or ongoing regulations" (p. 19). In particular, "(1) the agency was barred from conducting any study of the insurance industry except at the specific request of either the Senate or House Commerce Committee; (2) the 1974 Magnuson-Moss bill was interpreted as not giving FTC any authority to regulate trade groups that set industry standards; (3) the bill suspended for three years the 'unfairness' standard for determining improper advertising . . . (4) the agency was prohibited from pursuing its efforts to cancel trademarks that had become generic words" (p. 19).

For further examples, Jackson's (1970) case study of the enactment of the Federal Food, Drug, and Cosmetics Act of 1938 chronicled the influence that conflict of interest had upon the regulatory scope and procedural requirements at the FDA; Marcus (1980) documented how Congress expanded the procedural requirements at the EPA in response to growing conflict surrounding its activities; and Weingast (1980) showed how a procedural bottleneck at the Nuclear Regulatory Commission, induced by congressional concern over the controversial nature of nuclear energy, led to a sharp decline in the number of regulations produced. Further, Schultze (1977), Breyer (1982), and others have documented the overreliance by Congress on command and control instrumentality. A survey of these case studies together with a limited dependent variable analysis might lend substantial empirical support to the propositions advanced herein.

What do the results of this analysis imply about the performance of regulatory agencies? If indeed there is more uncertainty and more conflict in environmental and health regulation than in economic regulation, then the model predicts a difference in the form of the regulation for these two areas. More specifically, economic regulation will have less regulatory scope and more procedural discretion, relative to environmental and health regulation. Further, economic regulatory entities will enjoy a broader range of substantive discretion than will environmental and health regulatory agencies. If the response of individuals within regulatory entities to the system of incentives created by Congress is to be risk-averse toward taking action with incomplete information (see Ferejohn, forthcoming [1984]) then it seems likely that environmental and health regulation will be all but nonimplementable under the given institutional status quo created by the Constitution. Delegating complex and adversarial regulatory procedures together with broad discretion over the range of regulatory targets, under conditions of heated controversy, establishes conditions under which environmental and health agencies will seek shelter by not actively pursuing their regulatory mandate (a good example of this is chronicled by Weingast, 1980). Economic regulation on the other hand will be relatively more "successful" as such programs provide
particularistic benefits to specific concentrated industries similar to those provided by public works programs. In the final analysis, then, regulation when it works will largely be only an off-budget pork barrel, the benefits of which will accrue largely to industry.

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