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POLITICAL INSTITUTIONS AND BUREAUCRATIC
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POLITICAL INSTITUTIONS AND BUREAUCRATIC AUTONOMY
IN THE U.S. REGULATORY POLICY PROCESS

By

Doo-Rae Kim

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ABSTRACT

POLITICAL INSTITUTIONS AND BUREAUCRATIC AUTONOMY IN THE U.S. REGULATORY POLICY PROCESS

By

Doo-Rae Kim

The proper role of bureaucracy and its unelected officials in democratic governance has long been a matter of controversy. One part of the debate involves the argument that democratic control and bureaucratic autonomy are opposites: if there is democratic control, there cannot be bureaucratic autonomy, and *vice versa*. This dissertation reveals that conditions of democratic control and bureaucratic autonomy are not incompatible in this fashion: government agencies are subject to political control to some extent but the agencies also can strategically maneuver among competing and divided political institutions to make autonomous policy choices. This research also shows that these institutional impacts on both bureaucratic responsiveness and bureaucratic autonomy are mediated by how policy preferences are distributed inside the bureaucratic agency. The varying degrees of bureaucratic policy bias influence the institutional dynamics of bureaucratic policy choices in predictable ways.

Narratives of legislative policymaking on various issues of occupational safety and health and an extensive analysis of data on occupational safety and health enforcement provide evidence for the theoretical advancement. While the level of regulatory policy outputs of the Occupational Safety and Health Administration (OSHA) was determined primarily by directional changes in the preference configuration of representative institutions in the policy space, bureaucrats' autonomous policy choices regarding OSHA enforcement were determined by the degree of preference divergence

among those political institutions. Moreover, the magnitude and significance of the effects of institutional interactions on regulatory behavior varied systematically with occupational safety and health agencies' preference distributions, thereby supporting the general argument that bureaucratic responsiveness and bureaucratic autonomy can be better understood by considering the interplay of institutional relations and bureaucratic policy preferences.

To the memory of my grandfather

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CHAPTER 1

INTRODUCTION

Regulatory politics and policies have drawn an enormous amount of attention from political scientists and policy researchers. The attention to regulation has grown along with the expansion of government's role in our everyday life. The U.S. government now has something to say not only about protecting consumers' interests from large firms, providing welfare benefits, preserving the environment, and maintaining healthy and safe workplaces but also about allowing women to terminate unwanted pregnancy, prohibiting youths from accessing internet pornography, and granting hopeless patients the right to die with dignity. New research projects have emerged as these new areas have been defined as policy "problems" that call for government intervention.

Despite the ubiquity and complexity of regulatory policies, most research has attempted to provide an answer to one simple but most important question: "Why do the governmental agencies intervene in the private sector of society in the way they do?" This dissertation provides one part of the explanation: institutional preferences and rules affect bureaucratic choices on regulatory policy alternatives in the area of workplace safety and health. I develop a theoretical framework by which I examine how inter-institutional dynamics and rules may affect bureaucratic policy choices. I focus this research on two aspects of bureaucratic behavior such as bureaucratic responsiveness and bureaucratic autonomy.

As a prelude to discussing why this is an important matter, a brief discussion about important themes in prior explanations of such regulatory politics is in order. First, the state of regulation can be thought to be determined by *the nature of its origins*.

J. Q. Wilson (1980: 364-372) explains variations in regulatory policies in terms of patterns, actors, and consequences based on the distribution of perceived costs and benefits associated with the proposed policy. Costs and benefits may be perceived as being widely distributed or narrowly concentrated. When both costs and benefits are expected to be widely distributed, “majoritarian politics” takes place. Since no definable part of society such as an industry and a locality can get either disproportionate benefits or avoid a disproportionate share of costs, any strong support or opposition from particular segments of society is unlikely to occur. Thus, regulatory measures that seem to offer a net gain to the majority will be adopted.

When both costs and benefits are considered to be narrowly concentrated on particular segments of society, “interest-group politics” prevails. Here a certain segment of society can benefit from the regulation at the expense of another segment of society. Each side, the beneficiary group or the regulated group, has a strong incentive to organize and exercise political influence to promote or avoid the measure, while the voice of general public remains weak.

When the benefits of a prospective policy are concentrated but the costs are widely distributed, “client politics” is expected to result. While the beneficiary group is likely to organize in support, the large numbers of people who bear the diffused burdens at a low per-capita rate have little incentive to organize in opposition. Although watchdog public interest groups may emerge, client politics produces regulatory measures that almost exclusively serve economic groups’ interests.

Finally, when the benefits are widely distributed at the expense of costs concentrated on a small segment of society, “entrepreneurial politics” is likely to occur.

While the regulated group has a strong incentive to take actions, the beneficiaries who may get diffused benefits at a low per-capita rate will remain inactive. In order for this sort of regulatory legislation to be enacted, policy entrepreneurs, a group of people who willingly devote their time and resources, will have to mobilize the latent public opinion to promote their policy goal.

In a second body of literature, the regulatory policy process has been explained by *the distribution of influence among social interest groups*. On one hand, the capture theory or the producer-dominance model asserts that regulatory agencies are likely to serve producers' interests at the expense of consumers by restricting competition (Bernstein 1955; Huntington 1952; Stigler 1971; McCaffrey 1982). According to Stigler (1971), all firms seek to maximize profits, and profits can be increased if competition is reduced. Government regulations that restrict entry by requiring a firm or a member of an occupation to be licensed can be used for the firms' benefits for two reasons. First, since a small number of firms in any given industry expect to gain at a high per-capita rate from regulation, the firms find it easier to organize to bear the costs of wielding political influence. Second, self-interested government officials seek to maximize their votes or their wealth. The firms can supply these resources such as campaign contributions and lucrative jobs.

On the other hand, the general group dominance theory argues that either producer or consumer or other economic interests may become influential. According to Peltzman (1976), government officials are vote-maximizers who arbitrate among competing interests that seek to use government to redistribute resources. Politicians will favor one or another interest as economic circumstances give greater urgency to the

needs of one or the other. Furthermore, politicians have to make compromises among these competing interests to form large and heterogeneous coalition so that neither adversary party gets all it wants.

Under what conditions, does one group emerge as influential at one point in time while the other group becomes stronger at another point in time? There are three main factors that may affect whether group interests can organize effectively (Rothenberg 1994: 26-32; Olson 1965; Dunleavy 1991). First, if the potential members who share common interests are concentrated (or small in number) and the pool of the usable resources is large, there is a greater chance that an interest group can be formed and maintained. The small size of the membership and ample resources will minimize the potential problem of one's free-riding on others' contributions so that the organization can pursue the collective good---the benefits from regulation. Second, the organizational goal will reflect the voices from those who are interested in collective goods and those who make large contributions. Any substantive gap between the organizational goal and individual value will hurt the stability of the organization's membership. Third, the organizational capacities to provide politicians with valuable information and resources are another crucial factor that determines the organization's fate. Organizations can prove their political value if they provide information about electoral preferences, technological expertise, and other institutional actors' preferences and behavior. Resources that organizations can contribute include campaign money for elected officials and the promise of jobs after leaving government.

In a third body of literature, the effect of *institutional preferences and rules* on bureaucratic choices can be thought to explain regulatory policy implementation. The

main argument of this perspective is that regulatory policy or public policy in general cannot be understood without systematic investigation of the nature and dynamics of political institutions. More specifically, the argument is that institutional preferences and rules determine the pattern of regulatory behavior. This approach collapses into three subcategories: congress-centered, executive-centered, and multi-institutional perspectives.

The congress-centered explanation emphasizes the effect of congressional rules, structure, and electoral incentives on regulatory agency behavior. Numerous theoretical models focus on statutory arrangements imposed by legislators on the agency. The main argument is that statutes can create an institutional environment wherein the range of permissible bureaucratic actions is defined and monitored through various procedural requirements (Fiorina 1982; McCubbins and Schwartz 1984; McCubbins, Noll, and Weingast 1987). The role of congressional committees and subcommittees has also received attention (McCubbins 1985; Shepsle and Weingast 1987; Weingast and Moran 1983; Weingast 1984; Aberbach 1990; Knott and Hammond 2000). Especially when committees are granted monopoly power in their jurisdiction and committees' policy views are distinctively different from the rest of the chamber, the congressional committees can play a crucial role in shaping regulatory behavior.

The executive-centered explanation emphasizes the importance of the presidential power to control agency leadership (Moe 1982, 1985, 1990). The presidential resources for influence include formal powers such as appointment of agency heads, the OMB's review of agency budget and activities, and the president's unilateral agenda-setting power (Moe and Howell 1999; Cameron 2000; Howell 2003; Lewis 2003). The role of

the president in domestic policy areas has been considered to have grown as the president's organizational apparatus has expanded. The Executive Office of the President has sufficient capacities to control policy administration by the executive departments. In addition to this expansion of formal resources, the president can capitalize on people's mandate to exert informal influence on legislators (Kernell 1997). His standing in the public can be used by the president as political capital to persuade members of Congress to achieve presidential policy goals. In the era of partisan politics, the president can play a role of policy magnet that can unite his party across branches and between levels of the government.

The multi-institutional perspective advocates a broader model that includes all key institutional actors such as the president, congressional actors, and the courts to explain agency behavior (Moe 1985; Wood 1988; Wood and Waterman 1994; Scholz and Wei 1986; Scholz, Twombly, and Headrick 1991). This perspective assumes that the agency is able to respond simultaneously to discrete and even conflicting inputs from those individual institutions. Recent development of theoretical models advances propositions that clarify causal mechanisms of multi-institutional influence on agency actions (Hammond and Miller 1987; Hammond and Knott 1996, 1999; Calvert, McCubbins, and Weingast 1989; Epstein and O'Halloran 1999; Huber and Shipan 2002). Macro rules that bind institutional actors can affect a regulatory agency's behavior through their immediate impacts on the likelihood of major policy change, the level of discretion, and the range of politically-feasible bureaucratic policy choices.

Lastly, a substantial part of the variation in regulatory performance is attributable to *bureaucratic discretion and autonomy*. Bureaucratic discretion and autonomy

originates from various factors. First, the limitations of formal and institutional control mechanisms such as vague legislation, the opportunity costs of monitoring, and the shortage of time and resources suffered by political supervisors leave detailed decisions to bureaucrats (Dodd and Schott 1986). Second, the technological complexity of policy problems and bureaucratic expertise reinforce the politicians' temptations to delegate policy authority to agency (Meier 1993). Third, the organizational adaptation of regulatory agencies to fit idiosyncratic local environments leads to the undermining of nationally-determined policy directives (Lipsky 1980; Bardach 1977; Bardach and Kagan 1982; Keiser and Soss 1998). Fourth, an organization's culture, including the agency's past experiences and individual officials' professional values, can result in different regulatory outcomes (Downs 1967; Niskanen 1971, 1975; Wilson 1980, 1989; Kelman 1981; Eisner and Meier 1990; Brehm and Gates 1997; Gormley 1997; Carpenter 2001). In other words, the bureaucracy-centered explanation asserts that regulatory behavior reflects various intra-bureaucracy factors due in part to incomplete supervision by political institutions and in part to bureaucratic goals that may be different from those of the political principals, augmented by the agency's capacities to administer regulatory programs in volatile environments.

1.1. Research Questions

Since regulatory politics and policies are complex social phenomena, one cannot easily examine all possible combinations of causes and consequences. One must choose a theoretical lens through which one can focus his or her research on some particular aspects of the complex totality. This dissertation seeks to provide an explanation of the

linkage between institutions and a regulatory agency's behavioral patterns in occupational safety and health regulation.

Why are institutional preferences and rules the focal point in this research? The first reason for focusing on institutional features is that despite the importance of the relationship between representative institutions and bureaucratic organizations in a modern democratic society, we still have limited knowledge of it. The question of whether bureaucratic organizations comply with goals set by political institutions has been at the center of academic discourse ever since Woodrow Wilson (1887) claimed that the enterprise of administration should be separated from the normal process of politics. Some scholars, without questioning what happens in the political environment, delved into questions of efficient organization of administrative work involving division and coordination (Gulick 1937), the distribution of authority among different ranks inside bureaucratic organizations (Barnard 1937), and the mode of administrative decision-making (Simon 1947; March and Simon 1958). On the other hand, others saw government bureaucracies as saturated by so much politics that the politics-administration dichotomy---the idea of purely administrative organizations---was considered impossible (Waldo 1948; Long 1949; Downs 1967). It was further asserted that administration was well incorporated into the normal process of democracy so that representative political institutions determined what bureaucrats would do on behalf of the general public (Redford 1969).

Each of these views on the relationship between politics and administration left its theoretical residue in contemporary debates on political control and bureaucratic autonomy. The 'political control' perspective argues that public bureaucracies are

directed by elected leaders and that bureaucratic actions for the most part reflect politicians' wishes rather than the bureaucrats' own predispositions (Weingast and Moran 1983; McCubbins and Schwartz 1984; Moe 1982; Scholz and Wei 1986; Wood 1988; Wood and Waterman 1994). According to this view, bureaucrats provide the public with policy services in ways that serve interests of the elected political leaders, such as the president and congressional actors, who can use various control and oversight tools. On the other hand, the 'bureaucratic autonomy' perspective asserts that various intra-agency factors such as discretion, policy expertise, professional norms, and the bureaucrats' own policy preferences affect administrative decisions and that the impact of these bureaucratic factors on policy outcomes is not outweighed by that of political factors (Lipsky 1980; Rourke 1984; Wilson 1989; Meier 1993; Carpenter 2001).

Current discourse on the relationship between representative institutions and bureaucratic organization remains inconclusive. The 'political control' perspective is unable to clearly account for why a considerable part of the variation in regulatory behavior has been explained by bureaucratic factors but not by institutional preferences. The 'bureaucratic autonomy' perspective falters in the face of evidence that agencies' decisions on the distribution of regulatory resources and the level of regulatory stringency vary systematically with the preferences of elected leaders in political institutions. In sum, we are left with insufficient understanding of the concurrence of bureaucratic responsiveness to institutional preferences and autonomous bureaucratic actions.

In this context, the first set of research questions of this dissertation is as follows:

How can we better understand bureaucratic autonomy amid a variety of (political) institutional constraints in a democratic society? Does the presence of bureaucratic autonomy negate the possibility of bureaucratic responsiveness? Can we conceptualize these two seemingly incompatible processes (responsiveness and autonomy) in an integrated framework?

The second reason for focusing on institutional effects on regulatory policies is that although the literature has explored various effects of institutional preferences and rules on regulatory policies, we are still left with insufficient and inconclusive empirical knowledge about how these political institutional actors *collectively* affect agency officials' actions. The advancement of theoretical models has led our attention to the nature and the mode of interactions among political institutions in exerting influence on the agency. For instance, the U.S. Constitution and its separation of powers make important policy change difficult in the absence of a joint majority of the chambers and the president (Hammond and Miller 1987). Since a political principal can block unilateral actions by other principals and since an important policy decision needs a multilateral agreement, politically-feasible agency actions are constrained by joint actions of multiple principals such as congressional actors and the president (Hammond and Knott 1996, 1999; Calvert, McCubbins, and Weingast 1989; Epstein and O'Halloran 1999; Huber and Shipan 2002).

Past empirical research, however, has underestimated the importance of multilateral actions of political institutions to regulatory agency actions. On one hand, the importance of joint actions of political principals has been empirically examined to explain various aspects of legislative decisions such as the statutory design of

bureaucratic discretion (Epstein and O'Halloran 1999, chapter 6; Huber and Shipan 2002, chapters 6 and 7), legislative productivity (Mayhew 1991; Krehbiel 1998), and budgetary decisions (Brady and Volden 1998). However, *none* of them addresses the effect of inter-principal interactions on how agency officials take *actions* to implement policy. On the other hand, several bodies of empirical work that examined institutional effects on agency actions left out inter-institutional relations. For instance, some studies focus on the dyadic relationship between one principal and one agency while ignoring the influence of other principals (Moe 1982, 1987; Weingast and Moran 1983). A host of other empirical studies employ additive multi-institutional models that assume that political control consists of individual institutions' independent influences, thereby ignoring how these political principals *interact* with each other to influence agency actions (Scholz and Wei 1986; Scholz, Twombly, and Headrick 1991; Wood 1988, 1992).

Therefore, the second set of research questions is:

How do political institutions interact with each other to exert influence on bureaucratic choices on regulatory policy alternatives? Who should be considered pivotal among the institutional actors? How can we minimize the gap between formal models and empirical research in the institutional study of the behavior of the regulatory agency?

1.2. Research Plan

In the next chapter I provide a critical review of existing theories on the questions of political control and bureaucratic autonomy and discuss limitations of past research such

as conceptual ambiguity, the omission of inter-institutional relations, and methodological pitfalls. In chapter 3 I develop the theoretical framework. I present a multi-institutional model of bureaucratic policy choices to derive propositions about how the nature and mode of inter-principal interactions affect agency officials' policy choices and how the agency's diverse preference distribution or policy bias may mediate these institutional effects on agency officials' policy choices. Then I discuss which set of institutional actors should be considered pivotal by focusing on three alternative views of veto players: the majoritarian, the distributive politics, and the party government perspectives. I propose that the relative importance of these alternative sets of veto players depends on the characteristics of the policy issues at hand, such as salience and partisan polarization.

In chapter 4 I describe the formal structure of the Occupational Safety and Health Act of 1970 and organizational and functional features of the U.S. Occupational Safety and Health Administration. I also portray how the key institutional actors are involved and intertwined to pursue their own policy goals through OSHA's regulatory activities. Chapters 5 and 6 include statistical analyses of the federal OSHA and state occupational safety and health agencies' inspection activities to test the hypotheses. Throughout these two chapters, the process through which the national-level institutional preferences are transmitted to federal and state agencies is empirically examined. Besides the main hypotheses, whether and why federal and state agencies respond to different sets of the national institutions are discussed. In Chapter 7 I discuss whether my research questions have been successfully answered and what the implications of this research for the future research are.

CHAPTER 2

POLITICAL CONTROLS AND BUREAUCRATIC AUTONOMY

Elected policymakers typically delegate policy implementation to bureaucratic agencies in the modern administrative state. Bureaucratic agencies have been authorized to apply statutory goals in individual cases, make adjudicatory decisions for disputed policy cases, and establish administrative rules and policy standards. This delegation of authority to unelected agency officials can take place under general conditions that elected policymakers prefer to delegate legislative authority to administrative entities (Fiorina 1982; McCubbins 1985). First, the elected officials may create administrative agencies to cope with technical complexity of policy problems. By creating bureaucracies, specialized knowledge can be used to resolve the technical uncertainties involving the impact of alternative policy actions. Second, elected policymakers use delegation to minimize the political opportunity costs of directly dealing with policy problems themselves. Third, politicians can reduce the political costs of making specific decisions by shifting the responsibility to bureaucrats.

However, the delegation of policy authority to bureaucratic actors may result in generic problems of principal-agent relationships. Due to the instability of political coalitions on one hand and bureaucratic rigidity on the other hand, policy disagreements among the political principals and bureaucratic agent can come into existence. In other words, a stable contractual relationship between a political principal and a bureaucratic agent is nearly impossible since the existing winning political coalition can be replaced by other ones through electoral processes whereas bureaucratic organizations tend to develop and institutionalize their own system for executing statutory mandates (Horn

1995). As a result, policy goals of bureaucracies may differ from those of political principals. Then, the dilemma for politicians is that they must sacrifice some control to capture the benefits of delegation. Even though the elected leaders can resolve technical problems and decrease their opportunity costs by granting authority to bureaucratic agencies, they still cannot avoid agency problems such as bureaucratic noncompliance and information concealment, which can lead to agency actions that are not consistent with what the politicians expected to obtain. Thus, politicians cannot avoid the trade-off between “uncertainty about policy consequences” and “uncertainty about agency behavior” (Bawn 1995: 63).

2.1. Political Controls

Although delegation of policy authority to agencies is in accordance with politicians’ interests, the politicians still want to maintain a degree of bureaucratic compliance. Researchers who believe in the value of democratic control of the administrative apparatus argue that political institutions and elected leaders should and can direct an agency’s administrative decisions and performance (Redford 1969; Behn 2001). In a democracy, representative institutions should determine on the general public’s behalf what bureaucracy should pursue through its daily operations. Bureaucrats who can obtain legitimacy for their use of authority only through delegation are expected to carry out policy in accordance with the elected leaders’ wishes. The political control thesis argues that political institutions send signals of their preferences through various monitoring and incentive mechanisms to control bureaucratic behavior, and bureaucrats respond to those political demands. The elected leaders are principals and bureaucrats

are agents or servants; the political principals mandate policy goals, structure, and resource levels, and control agency behavior. Researchers have examined the political control or bureaucratic responsiveness processes in different ways. The dyadic approach focuses on the relations between one institution, either Congress or the president, and an agency; in contrast, the multi-institutional approach takes all those institutions into account to explain agency behavior.

2.1.1. Legislative Controls

Legislators oversee the bureaucracy in an effort to promote policy objectives and claim credits for promoting goals valued by their own constituencies (Fenno 1978; Mayhew 1974; Fiorina 1989; Keefe and Ogul 1997). According to Fenno (1978), congressional behavior is motivated by getting reelected, achieving influence, and making good public policy. Mayhew (1974) and Fiorina (1989) argue that legislators, as “professional” politicians, make self-interested policy choices to maximize their electoral credit and the chances of reelection. Thus, legislators who almost always seek reelection and longer careers in Congress want to oversee bureaucratic agencies when they see “a connection between their own political lives and bureaucratic activity” (Keefe and Ogul 1997: 382).

Researchers have focused on two types of legislative controls (McCubbins and Schwartz 1984; McCubbins, Noll, and Weingast 1987). The first type is Congress’s direct supervision through its investigative and oversight mechanisms. Congress can use oversight power combined with a system of incentives and sanctions such as a promise of continuous authorization and a threat of budget cuts. Congress possesses the power to hold oversight hearings to monitor an agency’s performance and investigate its

wrongdoings. Congress also has the power to discontinue authorization of an agency as a punishment of its undesired behavior. The effectiveness of this type of “police patrol” mechanism rests on the premise that the mere existence of severe punishment of an agency’s wrongdoing can change agency officials’ incentive systems, thereby increasing the likelihood of bureaucratic compliance (Fiorina 1982). Even under conditions of inactive oversight activity and the low probability of detecting undesirable agency behavior, the agency will take actions in accordance with politicians’ wishes in fear of the formal powers of authorization, appropriation, and appointment.

The other type of legislative controls is procedural controls. Congress can induce agency actions within certain permissible bounds by using various administrative procedures such as record keeping, information disclosure, notice-and-comments, and citizen participation. These various procedural constraints through administrative due process as codified by the Administrative Procedure Act of 1946 were originally installed to impose uniform standards on the exercise of bureaucratic discretion. Administrative due process can be used to serve legislators’ informational and electoral interests (McCubbins, Noll, and Weingast 1987). Legislators can use administrative procedures to minimize informational disadvantages in dealing with agencies. Notice-and-comment rulemaking and freedom-of-information requirements can facilitate the role of affected interests in alerting politicians to agency misdemeanors. This system of “fire alarms” provides an efficient way to allocate resources to the most salient policy areas. Secondly, legislators can “stack the deck” in favor of legislative interests by creating decision-making criteria and opportunities for participation through which agency officials are held responsible to the winning legislative coalition’s constituents.

While both types of legislative controls---direct monitoring and procedural requirements---can be employed by legislators, scholars have examined their relative advantages. Some scholars assert that procedural controls are more efficient and effective than direct supervision by helping reduce politicians' opportunity costs of monitoring and by shaping institutional environments that induce agency officials to behave in predictable ways (McCubbins and Schwartz 1984; McCubbins, Noll, and Weingast 1987). But others contend that the choice between oversight and procedural tools depends on the legislators' level of knowledge about policy. Those who are knowledgeable about a certain agency and policy (i.e., committee members) may prefer oversight since they can concentrate their resources on potential problems, while those who lack such expertise will prefer procedural controls (Bawn 1997).

The role of congressional committees in shaping regulatory behavior has received special attention (McCubbins 1985; Shepsle and Weingast 1987; Weingast and Moran 1983; Miller and Moe 1983; Aberbach 1990). A body of literature has examined the possibility of preference congruency between a committee (or subcommittee) and an agency (Huntington 1952; Weingast 1984; Knott and Hammond 2000). The importance of a committee's role rests on the premise that Congress consists of loosely-coupled and functionally-specialized committees (or subcommittees); these congressional subunits exert legislative monopoly power over issues in their jurisdictions. These quasi-independent committees can protect their jurisdictions over administrative agencies by forming strong policy coalitions or "iron triangles" with interest groups and the agencies. The policy triangle produces policy outcomes based on mutual benefits of the legislators, constituency groups, and the agency. Congress as a whole distributes policy benefits

through these policy coalitions in various areas to serve local and industrial interests.

Legislative activities for distributive programs or “pork-barrel” policy certainly contribute to legislators’ home districts’ wellbeing and help secure greater political supports (Fenno 1978; Fiorina 1989).

2.1.2. Presidential Controls

The unbalanced attention of the literature on legislative delegation and control has been criticized for ignoring the presidential role in directing agency behavior (Moe 1982, 1985, 1987). The main argument of the presidential control perspective is that congressional dominance is not true since presidents are systematically ignored by the congressional dominance models even though they often play a major role in shaping agency behavior. Moe (1985: 1101) expresses his beliefs about the ineffectiveness of congressional control, due mainly to the Congress’s complex web of multiple decision-making nodes:

Yet these [congressional] powers are wielded by various committees, subcommittees, and chairs in both Houses. Thus, some congressional actors may be highly interested in influencing the NLRB, whereas others choose to focus their resources elsewhere; some of those interested in influence may be quite conservative, others quite liberal; and particularly as the cast of characters changes and the commitment of actors in the various institutional bodies ebbs and flows, serious control efforts may shift from one committee to the next and back again over time. Within this complicated context of competing principals, the NLRB is faced with conflicting demands and pressures, but also with *opportunities to avoid compliance by shifting responsibility and playing congressional actors off against one another.* (emphasis added)

Recent theoretical models highlight the president’s superior ability to take unilateral actions, which may offer opportunities for him to exert the greatest influence when interacting with other institutional actors such as Congress and the courts

(Cameron 2000; Howell 2003; Lewis 2003). For instance, Howell (2003: 14-15)

describes the president's unilateral powers as follows:

The most important is that the president *moves policy first* and thereby places upon Congress and the courts the burden of revising a new political landscape....If they choose not to retaliate, either by passing a law or ruling against the president, then president's order stands. Only by taking (or credibly threatening to take) positive action can either adjoining institution limit the president's unilateral powers.....The second important feature of unilateral power is that the president *acts alone*. There is no need to rally majorities, compromise with adversaries, or wait for some interest group to bring a case to court. (emphasis added)

The U.S. presidency also has improved its policymaking capacities. The role of the president in policymaking has grown in the last decades as its functions have been expanded and institutionalized. Since the creation of the Executive Office of the President (EOP) in 1939, the presidential staff bureaucracy has grown in size, specialization, and responsibilities. The development of the institutionalized presidency has increased the presidential power (Edwards and Wayne 1999). Thus, many agree that the presidency as an institution has become an independent policymaking powerhouse. Some scholars even coined the term "Executive Hegemony" to emphasize the president's enhanced power in both administrative and legislative arenas (Spitzer 1993).

Article II of the U.S. Constitution provides the president with a broad range of authority over the administration of government, the task of executing the law, and oversight of the executive departments. As the chief executive, the president can employ two strategies to control agencies: personnel management to staff agencies with loyal executives, and centralized fiscal management and supervision via the EOP (West 1995: 77-83). The most powerful presidential appointments fall under the "executive schedule" wherein the president can fill numerous positions such as department

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leadership, agency and bureau heads, and commissions with loyal executives. Over these political appointees, the president is granted unilateral removal power. In addition, the Civil Service Reform Act of 1978 enhanced presidential power over the U.S. civil service system by allowing the president to fill up to 10 percent of the jobs in the Senior Executive Service by political appointment. Next, the president's fiscal powers can be used for centralized management. The president via the EOP, especially the Office of Management and Budget (OMB), can establish presidential policy priorities among agency programs and pursue the administration's objectives by auditing and evaluating agency programs during executive budget preparation. Moreover, the president has discretionary controls over the use of appropriated money such as the authority to transfer budgeted funds within and among agencies and the authority of impoundment including deferral and rescission of budgeted funds.

Although the president has these weapons at his disposal, the important question is whether the president or his staff organizations are seriously committed to bringing the president's policy preferences to bear. There is some evidence of increased interest of the president and the EOP in monitoring agency policy and programs. For instance, the president's administrative involvement, through policy review programs, has been on the rise (West 1995: 85-90). Richard Nixon's executive order began the "Quality of Life Review" program, which required all proposed environmental regulations of the EPA to be submitted for comment to other agencies. Gerald Ford's Executive Order 11821 (as amended by E.O. 11949) expanded his predecessor's program and required that all major regulations be assessed by an Inflation Impact Statement (IIS) which was subject to review by the Council on Wage and Price Stability (COWPS) in the EOP. Jimmy Carter

further expanded the review program by requiring all major rules to be justified by cost-benefit analyses (Regulatory Analyses). Ronald Reagan's Executive Order 12291 required cost-benefit analysis and the Office of Information and Regulatory Affairs (OIRA) review for all regulatory proposals. This OIRA review program was kept through the Bush (senior) and Clinton administrations.

In addition to these formal powers, the president can use informal channels of influence on the national policymaking process. For instance, Moe (1982: 201) remarks that "Many individuals within the commissions may give great weight to the president's policy positions not because he wields rewards and sanctions, but simply because he holds the office of president and, in their minds, has a right to expect compliance." This sense of compliance with presidential wills has also been observed in the legislative arena. The president often uses his resources to persuade legislators to support his own policy goals. The president's standing in the public can be transformed into the president's political capital to influence individual legislators' voting behavior (Kernell 1997). The president as a party leader can also mobilize broad partisan support for his own policy agenda to achieve legislative successes in domestic policy areas (Bond and Fleisher 1990).

2.1.3. Multi-Institutional Controls

The dyadic approach---legislative and presidential control---has been criticized on the grounds that it focuses on one particular institution while ignoring other institutions and that this imbalanced attention may yield only biased inference about institutional

determinants of regulatory behavior. For instance, Moe (1985: 1095) expresses this dissatisfaction as follows:

It is plain from decades of research on bureaucratic politics that public agencies are anchored in networks of relationships with executives, legislative committee, and constituency groups.....Although this is no secret, popular models of regulation as well as quantitative empirical work have tended to focus only on very small parts of the whole---in the former case for reasons for clarity and mathematical tractability, and in the latter because of data collection and measurement problems (and because they are often guided by these same models)....It is important to remember that [these research strategies] threaten to yield biased inferences about the causes of regulatory behavior. They clearly omit factors whose causal effects may overwhelm or distort the “special” relationships on which they singularly focus.

In contrast, theoretical and empirical multi-institutional models have also been advanced. The key argument is that political institutions should be considered together to better understand institutional influence on bureaucratic behavior. Theoretical multi-institutional models focus on how political institutions interact with each other to influence agency actions (Hammond and Miller 1987; Calvert, McCubbins, and Weingast 1989; Hammond and Knott 1996, 1999; Epstein and O’Halloran 1999; Huber and Shipan 2002). These multi-institutional models build on the macro rules that bind separate institutions together, such as bicameralism and the presidential veto. Hammond and Miller (1987) show why and how the U.S. Constitution and its separation of powers induce policy stability. Under the system of bicameralism and the executive veto, policy change is difficult without the agreement of a joint majority of the chambers and the president. This is because the set of undominated policies---the core---will not be decreasing in size with the added veto players and their dissimilar policy preferences.

This finding about the nature of multi-institutional policymaking opens the door to a new area of research: how the interactions among these institutions affect

bureaucracy. Since major policies are made by collective efforts of the institutional actors, bureaucratic choices should be bounded by the joint actions of the multiple institutions. Calvert, McCubbins, and Weingast (1989: 589) make this point clear:

[T]he actual [bureaucratic] choice of policy is traceable not to bureaucratic preferences but to the preferences of legislative and executive politicians....Even though the agency may be the sole active decisionmaker, policy outcomes are traceable to the preferences of all institutions and to the constitutional process in which they act.

Hammond and Knott (1996: 163) also provide an explicit view:

In our view, control of the bureaucracy is function of the interactions of the president and Congress....Whatever the extent of constraints on an agency, one cannot single out any one institution as primarily responsible for these constraints. Instead, control of the bureaucracy must be seen as a systematic matter: the president, House, and Senate *collectively* control the bureaucracy. (emphasis in original)

This multi-institutional framework has been employed by a host of empirical studies on regulatory policy, especially economic, occupational safety and health, and environment protection regulation (Moe 1985; Scholz and Wei 1986; Scholz et al. 1991; Wood 1988, 1992; Wood and Waterman 1994; Shipan 2004; Whitford 2005). These empirical studies develop an *additive multi-institutional* model, wherein political influence is assumed to consist of individual and discrete institutional effects. Wood and Waterman (1994) make a clear remark on this progress: “the simple dyadic images depicted by past research should now give way to an image of bureaucracies as continually adapting to multiple, concurrent, and diverse stimuli” (101). Their study examined various executive sources of political influence, including a new presidential administration, presidential appointment of a new agency head, executive order for reorganization and the tone of presidential statement. For the part of Congress, budget

appropriation, congressional oversight hearings, and the enactment of new legislation were considered.

This multi-institutional research on regulatory agencies provides empirical evidence for one of the main arguments advanced by the multiple-principal framework: all key institutional actors should be considered together to explain bureaucratic decisions and behavior. As assumed by positive theories, various centralized formal controls that can be used by the president and congressional actors over an agency have been examined by the multi-institutional research. By adding political institutions to the explanatory equation, the multi-institutional approach at least overcomes the omitted variable problems that plagued the dyadic approach.

In addition to its inclusion of multiple institutions, the multi-institutional research program has discovered causal mechanisms that link institutional preferences and agency behavior. First, empirical studies systematized the interactions between political institutions and government bureaucracies as “stimulus (signal)-and-response” relations (Wood 1988, 1992; Scholz and Wei 1986, Scholz et al. 1991; Wood and Waterman 1994). Wood and Waterman (1994) depict bureaucracy as an adaptive entity responding concurrently to stimuli of different types. They identify three different stimulus types: discrete, event, and tonal. “Discrete” events are stimuli that occur just once but are expected to have effects that last for some time. The appointment of a new agency head, a large one-year budget cut, the enactment of new enabling act, or a landmark judicial ruling can be considered this type of stimulus. “Event” processes are sequences of discrete event stimuli that pass through time. This type of stimuli includes a set of time-ordered budgets, all congressional hearings, and all relevant rulings by the courts.

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“Tonal” stimuli are those that develop gradually over time rather than being manifested through each discrete event, such as gradual change in the public mood and the news media attention.

Bureaucracy in turn responds to these multiple stimuli. External stimuli are distributed across time and so are bureaucratic responses. Bureaucratic response to stimulus can take place instantly (zero-order), occur some time later (lagged), or be distributed across time. The difference in bureaucratic response can be accounted for by three factors: technology, rationality, and politics. Technical factors include intra-organizational dependence and bureaucratic inertia that tend to increase response time. Bounded rationality of political and bureaucratic actors may generate ambiguous, weak, and conflicting signals and responses. Lastly, divergent interests among politicians and bureaucrats may lead to slow and incremental bureaucratic responses.

Another important advancement of the multi-institutional research program is that it provides systematic knowledge about various channels through which the top-level politicians’ preferences reach front-line officials at the bottom ranks of government hierarchy. First, centralized hierarchical control is a part of the causal mechanism by which the national politicians’ policy preferences influence lower-level agency officials (Moe 1985). According to this view, it is unlikely that agency officials at lower ranks of the government bureaucracy take their cues directly from politicians, given the complex structural and incentive system of bureaucratic organizations. Those political cues can be delivered to the rank and file of the bureaucracy primarily through the mediation of top agency officials. Moe (1985) describes this ‘two-tiered, strictly hierarchic system’: “Political authorities attempt to control the behavior of their immediate subordinates (the

[NLR] Board), and the Board in turn attempts to control its own organizational subordinates, the staff” (1100). The hierarchical control channel, thus, rests on the effectiveness of supervision-compliance relations within bureaucratic organizations. Ideology or policy preferences embedded in the organizational decisions at the top of the bureaucratic hierarchy provide signals to lower-level bureaucrats regarding daily operations.

The flow of national political influence through local channels to field bureaucrats has also been examined by researchers (Scholz and Wei 1986; Scholz, Twombly, and Headrick 1991). Scholz and Wei (1986) provide a very clear view of this:

Once the national policy is set, a programmatic agency, however, is likely to respond to the more subtle concerns of congressmen for their particular districts by initiating more intense enforcement efforts in areas and industries where congressmen hope to maintain strong labor support and by developing more cooperative enforcement programs in areas and industries where business backing is important to congressmen (1252).

The impact of local channels on street-level bureaucratic behavior rests on the assumptions that top agency officials want to maintain support from particular elected officials and that field officials are inclined to capitalize on elected officials’ willingness to provide local leadership. To the extent that required local resources are more problematic than central resources, the effect of local channels can even outweigh that of centralized channels via the formal hierarchy.

Scholz, Twombly, and Headrick (1991) extend this bottom-up explanation further by focusing on the influence of local partisan activities on OSHA enforcement as follows:

[P]artisan activities of elected officials and their electoral coalitions in the local arena provide important systematic influences on bureaucratic behavior, particularly in circumstances in which conflict reduces the ability of central

institutions to exercise political control. We emphasize the role of nonlegislative or “home-style” activities of legislators and their support coalitions in electoral districts of local, state, and federal legislatures (830).

As the authors argue, the dependence of a regulatory agency upon local political support and resources can divert implementation from the national policy goals set by central leaders, thereby generating variations across regions and localities. However, it may be also true that the national elected officials can exert influence through these local channels on the street-level bureaucrats to pursue the national policy goals. The national politicians through their home-style activities can get involved in ‘daily battles’ of implementers in the field. That is, the prominent elected officials are not just distant and minor participants of bureaucratic operations. The national-level political signals may be strong enough to reach the bottom ranks of bureaucratic hierarchies.

2.2. Bureaucratic Autonomy

The principal-agent framework has been used by most of the institution-based explanations of bureaucratic behavior to rediscover the importance of democratic hierarchies in shaping bureaucratic behavior. The thrust of this view is that democratic institutions can control what unelected officials in governmental agencies do to make bureaucratic outcomes consistent with what the general public may wish. However, the principal-agency relationships, especially the stable and ordered hierarchical relations among political institutions and bureaucratic agencies, have come under suspicion. This criticism emphasizes the imperviousness of the “fourth branch of government” to political control. For instance, Rourke (1986: *ix-x*) succinctly stated this view as follows:

[T]he actual role of bureaucrats may deviate widely from their theoretical role as servants of policy. Bureaucrats may help to create as well as to carry out the

public will by generating new policy initiatives which the public accepts. In some areas of policy their expertise may even entitle them to act at their own discretion, limited only by the vaguest set of guidelines laid down by the White House or Congresses. So, as is often the case with the master-servant relationship, the activities of some bureaucratic servants may very much resemble those of a master.

From this view, the external checks by political institutions and elected leaders over specific policy areas and agencies are considered at best superficial and perfunctory. Capitalizing on the ineffectiveness of political controls and bureaucratic insulation from political institutions, bureaucrats may use their discretion to pursue their own goals that may not be in accordance with those of the principals. According to Rourke (1984), bureaucratic 'power' rises from four factors: expertise, constituency, vitality, and leadership. Bureaucratic expertise confers power through superior knowledge of a problem or policy. Constituency goes to the core of political relationships through the ability of bureaucracy to mobilize political support or curb political opposition. Vitality refers to the professional commitment of bureaucratic personnel to job, program, and organization. Leadership will bring greater expertise to an organization, effectively mobilizing constituencies, and improving personnel commitment to make the organization more vital.

Similarly, Carpenter (2001) emphasizes the importance of bureaucracy's entrepreneurial efforts to define the functions for an organization, to mobilize external supports and resources, to maintain the highest-level of expert knowledge, and to defend the mission and goals of an agency. From this perspective, bureaucratic autonomy is a result of political struggle of innovative bureaucratic organizations in the jungle of politics. Carpenter makes a very strong point about when and how we can observe bureaucratic autonomy. According to him, bureaucratic autonomy occurs when

bureaucrats take sustained patterns of “actions consistent with their own wishes, actions to which politicians and organized interests defer even though they would prefer that other actions (or no action at all) be taken” (4). He then suggests that the general conditions under which bureaucratic autonomy emerges are:

- Autonomous bureaucracies are *politically differentiated* from the actors who seek to control them. They have unique preferences, interests, and ideologies which diverge from those of politicians and organized interests.
- Bureaucratic autonomy requires the *development of unique organizational capacities*---capacities to analyze, to create new programs, to solve problems, to plan, to administer programs with efficiency, and to ward off corruption. Autonomous agencies must have the ability to act upon their unique preferences with efficacy and to innovate. They must have bureaucratic entrepreneurs.
- Bureaucratic autonomy requires *political legitimacy*, or strong organizational reputations embedded in an independent power base. Autonomy first requires demonstrated capacity, the *belief* by political authorities and citizens that agencies can provide benefits, plans, and solutions to national problems found nowhere else in the regime. These beliefs must also be grounded in *multiple networks* through which agency entrepreneurs can build *program coalitions* around the policies they favor. (14: emphasis in original)

Some scholars argue that bureaucratic interests are not necessarily self-serving.

Instead, bureaucracies may function as a “representative” institution where the competing interests of diverse social groups can be compromised and a stable set of solutions can be pursued without the direct mediation of the elected leaders and political institutions. This follows from the contention that “political” questions differ from “administrative” questions only in who decides them, not in differences in content (Meier 1993).

These observations may accurately reflect what autonomous bureaucracies may look like. Nonetheless, while these could be a systematic description of the characteristics of autonomous bureaucratic organizations, they may not be causal factors.

So the question is: due to what factors will bureaucracies be able to pursue their own goals, develop their own policy capacities, obtain external resources and support, and even represent the interests of various social groups?

2.2.1. Agent Problems

In the framework of the principal-agent model, bureaucratic autonomy has been attributed mainly to agent “problems.” The major problem is asymmetric information combined with conflict of interest among political principals and bureaucratic agents. Problems of asymmetric information include hidden preferences (adverse selection), hidden actions (moral hazard), and policy uncertainty (bureaucratic expertise) (Miller 1992; Moe 1984). A bureaucratic agent can misrepresent his or her true policy preferences to a principal. Given limited information about the agent’s quality and worldview, a principal may choose a wrong person for a bureaucratic position. The mistakenly chosen person could lack the capacity to carry out the task or perform the assigned job in the direction that the principal has not expected. Moral hazard can occur when the principle cannot obtain complete information about her subordinate’s behavior. The bureaucratic agent can conceal his performance simply by cheating or by free-riding on his colleagues’ team efforts. Policy uncertainty refers to the impact of unexpected external shocks on policy outcomes about which only the policy implementer can know in detail. The principal may obtain at best inaccurate (or probabilistic) clues about what happens in the real world.

These agent problems have been considered in the context of the multi-institutional framework. For instance, Calvert, McCubbins, and Weingast (1989: 595) argue that:

Imperfect information could arise at many points in the process. The elected authorities might not know exactly the true preferences of the agent. Indeed, policymaking by an agency often starts with the gathering of information about the policy problem to be addressed, information presumably not known to the elected authorities at the time of appointment. It may not even be clear in advance what the ultimate policy alternatives will be....Any slippage between the expectations of the appointers and the preferences of the appointee creates the possibility that the agent's preferences will have an independent effect on the ultimate policy choice.

In a similar vein, Moe (1985: 1101) describes the possibility of limited political control over the NLRB decisions as follows:

Added to this is the ever-present information asymmetry: the NLRB knows far more about the content and direction of its own behavior, from the lowest-level staff investigatory decisions to formal Board decisions, than these political authorities can hope to ascertain, even should they adopt costly and extensive monitoring methods.... Because the Board has its own interests to pursue, both as an organization (budget, slack, autonomy) and as a collection of individuals (career, ideology), the authorities can expect partial compliance at best.

Regarding the consequence of vague procedural legislation and centralized monitoring system's limited effects, Scholz et al. (1991: 832) also remark on behavior of OSHA inspectors as follows:

Observers of regulatory enforcement consistently comment on the broad discretion that each inspector must deal with in determining how closely to scrutinize a given establishment, whether observed conditions constitute a violation, and whether a violation is intentional and should be cited or "accidental" and should be dealt with informally.

A stylized case of bureaucratic noncompliance was provided by Wood's study on EPA (1988). He asserts that a bureaucratic agency can effectively resist political pressure that is in conflict with its policy preference even during a period of limited and

resources and political constraints. Hierarchical control is effective only when there is a consensus among political principals and bureaucratic agency. Wood (1988: 227-8) concludes that:

[C]onsiderations of hierarchy, although important, have obvious limitations for explaining outcomes in some implementation policy processes. For clean air, a principal-agent model would predict that the Reagan administration, given the most Republican Congress since the 1950s and extraordinary political influence, should have been able to shift the preferences of the environmental bureaucracy....But in the end EPA's revealed preferences were completely opposite from what the model predicted....[E]nforcements were pursued more vigorously than at any time in the agency history and in a manner inconsistent with the ideological dispositions of elected political institutions.

2.2.2. Complexities of Hierarchy

Even if there is no agent problems in the relationship between political institutions and political appointees in bureaucratic agencies so that top agency officials are under tight supervision of or in complete consensus with political authorities, there are still possibilities that the hierarchical control inside the bureaucratic organizations are ineffectual. This is due to the complexity of bureaucratic organizations and many other latent problems of internal control in hierarchies. This phenomenon can result especially when the superior-subordinate relations in a formal organization are unstable. In the first place, the weakness of superior-subordinate relations can be attributable to various agent problems such as adverse selection (misrepresentation of human resource quality), moral hazard (exploitation of informational advantage in part of operational units), and the inseparability of team-based activities inside the agency (Miller 1992). These factors tend to weaken the influence that the superior can exert on the subordinate.

A more fundamental issue may be whether hierarchical organizational structures guarantee clear-cut lines of command. In fact, the non-linearity in organizational

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decision-making has been examined in an extensive body of the literature (Barnard 1938; Simon 1946; March and Simon 1958; Lindblom 1959; Landau 1969; Allison 1971; Cohen, March, and Olson 1972; Hammond and Miller 1985; Hammond 1986; Heimann 1993; Brehm and Gates 1997). There are several factors that can be thought to hamper effective hierarchical controls. Unclear lines of command in a formal organization may result from the conflict between different sources of influence such as expertise and formal authority (Hammond and Miller 1985). More specifically, there are various situations in which the formal-superior cannot control the expert-subordinate even in hierarchical organizations. The non-linearity of organizational decision-making also may take the form of bilateral relationships between the superior and the subordinate (Barnard 1937; Brehm and Gates 1997). The bilateral interactions may negate the strict command-and-compliance relations by emphasizing mutual adjustment and reciprocal influences between different ranks of a hierarchy (Landau 1969). Furthermore, when organizational goals are too ambiguous and the level of organizational unity is declining, subunits of the organization are likely to engage in competition for organizational resources and influences to promote their own parochial interests rather than organizational goals (Lindblom 1959; Allison 1971).

These phenomena may stem from the limited human capacity or bounded rationality (Simon 1946). Organization may not be considered as a unitary rational actor but a cooperative human effort to increase human capacities to cope with complex environments. Although organization can improve the limited human capacity to some degree, organization itself also may trigger problems; organized activities can be characterized more accurately by satisfaction, mutual adjustments, the mobilization of

selective and sequential attention, and redundancy (March and Simon 1956; Landau 1969). The irony is that within hierarchical systems, the interactions among elements of the same system can be much more complex than the interactions between different systems. Due to this complexity, bureaucratic organizations may not be a reliable control mechanism.

2.2.3. Multilateral Institutional Relations

The essence of the multi-institutional explanation of bureaucratic behavior is that the acts of the institutional actors are so intertwined that political influence is exerted as a concerted effort. However, due to their divergent policy preferences and goals, it may be difficult for these institutional actors to send consistent signals to the agency. In the separation of powers system, multiple principals may compete for greater influence on the agency. For instance, Moe (1984: 768) remarks that:

Bureaus are “partial agents” of various governmental principals, without being under the complete authority of any one in particular, and without any common understanding of how authority is legitimately divided among the competing principals....American politics is, by its nature, a context of competitive principals, it is hardly paradoxical that politicians impose constraints “on themselves”. In fact, politicians impose constraints on one another in a competitive effort to see to it that their own interests are protected from the intrusions of politician-opponents. This is rational for individual politicians and groups of politicians, but the net result is that politicians in general have a more difficult time controlling the bureaucracy. This can only tend to strengthen the foundations of bureaucratic autonomy.

What is the impact of policy conflict among the political principals on bureaucratic autonomy? There are some theoretical and empirical answers for this question. Several bodies of empirical work on bureaucratic behavior in the area of regulatory policy have found that inter-principal competition and its inconsistent signals

result in bureaucratic noncompliance. For instance, as Moe (1985) put it, “[A]ll political authorities have formidable bases for influencing the NLRB in desired directions, but compliance is nonetheless problematic, which results partly from institutional conditions that they can do little about: the ambiguity and competitive arrangement of governmental authority” (1102). Similarly, Kelman (1981) observes that “When the president and the relevant congressional committee give an agency different signals, as in the OSHA case, the bureaucrat who is trying to be responsive is in a quandary. It also creates opportunities for agencies to play both against each other” (105). Bureaucratic noncompliance can also take place as a symbolic response to political demands while pursuing bureaucratic goals. Scholz and Wei (1986) remark in their analysis of OSHA enforcement activities that “[B]ureaucrats will respond to political demands by changing lower-cost, ‘symbolic’ output that may help generate the desired political support, even if it may have no effect on accidents, but will respond to task factors with ‘instrumental’ output that agency professionals consider to be more likely to affect outcomes, even though it is also more costly” (1255-6). Tsebelis (2002) also provides some empirical conjectures on the relationship between institutional fragmentation and bureaucratic autonomy. His analysis of the independence of the central bank in EU countries shows that institutional fragmentation as measured by the number of institutional and partisan veto players tends to increase the Central Bank Independence index scores.

Although these descriptions reveal some patterns of bureaucratic response in conflict-ridden political environments, they do not provide a clear causal mechanism for the phenomenon. Theoretical developments on this subject have begun only in recent years. Hammond and Knott (1996, 1999) have developed a multi-institutional model of

bureaucratic autonomy. According to Hammond and Knott, bureaucratic autonomy can arise from institutional rules, such as executive veto, bicameralism, committee gate-keeping and judicial review, and the preference configuration of these institutions. Based on a veto-player game which approximates the decision rules that require a multilateral agreement, they demonstrate the existence of a set of equilibrium policies, which may be called the core. Knowing that any policy choice inside the core cannot be replaced by any decisive coalition of veto players, a farsighted strategic agency manager will choose the best policy (i.e., one closest to her ideal point) from the set of equilibrium policies. As Hammond (2003) put it, “The existence of a set of equilibrium policies, and change from one equilibrium policy to another, without fear that its chosen policy will be upset by any decisive coalition of elected officials” indicates the degree of bureaucratic autonomy (76). A larger core will give the agency head substantial room for “unilateral policy change.” Since the core gets larger with greater divergence among veto players, policy conflict or institutional fragmentation should lead to bureaucratic autonomy.

While Hammond and Knott present the institutional and political conditions under which bureaucratic agencies can take unilateral choices, Epstein and O’Halloran (1999) and Huber and Shipan (2002) focus on institutional and political factors that determine the level of bureaucratic discretion in legislations. Both models begin with the question of why there are considerable variations in statutory restrictions on bureaucratic discretion. But they come to different conclusions. Epstein and O’Halloran (1999), based on a gridlock interval analysis, propose that while policy conflicts between the congressional committee and the chamber floor will lead legislators to write less detailed law (more discretion for bureaucrats), policy conflict between branches, the president

and Congress, will lead to more detailed law (less discretion for bureaucrats). But the former impact will diminish as the latter impact increases. In other words, heightened inter-branch conflict will generally decrease bureaucratic discretion, which is not consistent with the results of the empirical research already mentioned.

Huber and Shipan (2002) attribute variations in legislative delegation to political and institutional factors: whether the legislators possess information and time to write detailed legislation (legislative capacity), to what degree politicians distrust the agency (policy conflict), and whether legislators have reliable non-statutory mechanisms that can induce desirable policy outcomes (non-statutory factor). They examine the independent impact of institutional arrangements such as the executive veto and bicameralism by holding these factors constant. In a model of the executive veto, a legislator can avoid the presidential veto only if she writes a high-discretion bill allowing the bureaucrat to implement a policy preferred by the president to the status quo. In a model of bicameralism, due to increasing bargaining costs, preference divergence between chambers will inhibit a restrictive bill that may secure only one chamber's interest. Therefore, overall policy conflict between branches or between chambers is expected to increase bureaucratic discretion.

2.3. Limitations of Past Research

Although an extensive body of the literature has examined various effects of institutional preferences and rules on regulatory agency actions, there are several weaknesses that should be addressed further. In this section, I discuss major limitations of this previous research, such as conceptual ambiguity of the notion of bureaucratic autonomy,

underestimation of the importance of inter-institutional relations, and methodological pitfalls.

2.3.1. Conceptual Ambiguity: ‘Independence,’ ‘Noncompliance,’ and ‘Reciprocity’

The notion of bureaucratic autonomy as a behavioral pattern remains ambiguous in the literature. Researchers tend to describe an autonomous bureaucracy in terms of their own images of bureaucracy such as a politicized institution (Rourke 1984; Meier 1993), a policy entrepreneur (Carpenter 2001), bureaucratic noncompliance (Wood 1988), or an agency’s responsiveness to both institutional and task factors (Scholz and Wei 1986; Scholz, Twombly, and Headrick 1991).

The view of bureaucracy as a politicized institution has a long history. Norton Long (1949: 250) argued that “the lifeblood of administration is power.” Bureaucracies may cultivate their own bases of support to maintain their status in the broader political system. This view was echoed by later scholarly work on contemporary bureaucracies. Rourke (1984) and Meier (1993), for instance, contend that bureaucracies can capitalize on their better knowledge of policy problems and implementation technologies, cohesive professionalism, effective leadership to bring resources and authority to the organization, and capacities to mobilize external support to curb political opposition. Moreover, bureaucracies can represent diverse social interests without the mediation of political institutions. When viewed as such politicized institutions, bureaucracies can be described as “the fourth branch” of government that functions as if they are by themselves legitimate governance institutions.

The biggest problem with this view is that the major principles of a democratic polity are violated. In a democratic society, political power can be legitimate only when it comes out of the general public's will, which is expressed and delivered through electoral processes. Only elected officials in the representative institutions have electoral mandates on which they are expected to base their policymaking. Unelected officials, however, can exert autonomy only after they are granted or delegated authority by the representative institutions. Bureaucratic decision-making thus should be considered in the context of the broader political system. If bureaucrats exert independent influence on policy outcomes without the consent of the elected officials, they do mischief to the democratic principles. Furthermore, if bureaucracies are independent powerhouses, why should we observe bureaucratic responsiveness to politicians' wishes? There has been ample evidence that bureaucrats consider institutional preferences when they carry out policy decisions made by the elected officials. In other words, bureaucrats cannot do whatever they want to do due to political constraints on bureaucratic actions.

The notion of bureaucratic noncompliance has also been used to describe a particular behavioral pattern that does not match political institutions' policy preferences (Wood 1988; Wood and Waterman 1994; Eisner and Meier 1990). For instance, after observing bureaucratic noncompliance in EPA regulatory activities, Wood and Waterman (1994: 126) argue that:

Bureaucratic resistance to duly elected politicians may actually sometimes be more consistent with democracy and public preferences than bureaucratic responsiveness may be.

However, observing bureaucratic noncompliance with policy directions is not sufficient evidence for autonomous bureaucratic choices. It remains unclear whether the

bureaucrats intended to perform assigned tasks in the opposite direction or they just failed to accomplish policy goals due to bureaucratic inertia or incompetence. In other words, the reasons why we oftentimes observe bureaucrats doing things differently from what they are told to do remain puzzling. Is it bureaucratic resistance or bureaucratic failure?

Bureaucratic responses to both political and bureaucratic factors have often been used as evidence for bureaucratic capacity to find equilibrium solutions amid inconsistent and conflict-ridden external forces. For instance, Scholz and Wei (1986) contend that:

The image of public bureaucracy is that of an organization that responds rationally to political demands but does so in a complex, federalist environment in which statutory commands and oversight by central institutions provide only one set of conflicting signals. The role of federal agencies in the American policy process is not simply one of translating central political decisions into organizationally efficient routines....Instead, the creative role of the bureaucracy requires the development of organizationally feasible tasks that will gain and maintain sufficient support from critical actors in multiple operational arenas without undermining central support needed for formal budgets and statutory adjustments.

This view bases its explanation on the assumption that bureaucratic behavior is a function of political inputs and bureaucratic discretion. The problem here is that there is no sound logic for distinguishing bureaucratic discretion from bureaucratic behavior. Simply put, it is erroneous to put bureaucratic discretion into the explanatory equation as an independent factor along with the political input variables, thereby ignoring the fact that bureaucratic discretion is also one aspect of bureaucratic behavior.

Still there is another view that relations between democratic institutions and bureaucracy is reciprocal. When viewed as a 'creative' organization, bureaucracy may receive signals of political institutions only selectively to fit its organizational needs and

capacity. If politically imposed policy goals are balanced with bureaucratic demands, the relationship between political institutions and bureaucracy can be considered as being reciprocal. As Wood and Waterman (1994: 126) put it:

[B]ureaucracies are more than vacuous receptacles of democratic power responding in any direction political principals want them go. Rather, bureaucracies also have power in their own right and sometimes use that power to alter outcomes in their relations with other actors....[R]elations between politicians and the bureaucracy are *bidirectional*, with politicians sending signals and bureaucracies responding at some times and with bureaucracies sending signals and politicians responding at other times. (emphasis added)

In a similar vein, Krause (1999: 12) argues that:

Policy administration is the product of joint (endogenous) interaction between governmental organizations and political institutions, subject to environmental considerations.

This perspective emphasizes the role of bureaucratic feedback to politicians so much that the relationship between political institutions and bureaucracy is considered to be bilateral. This kind of view underestimates the importance of asymmetry between the bottom-up bureaucratic influences and the top-down political influences. Although bureaucratic inputs may be one possible factor that elected policymakers should consider to set policy goals, it is only one of numerous factors. On the other hand, political inputs including general policy directions may be important more than any other factors for agency officials to set their own guidelines for policy implementation. A very informed observer, Herbert Kaufman (1981: 166), notes that:

Members of Congress and their staffs have been known to defer to the judgment of the leaders of the agencies, accepting their reports and recommendations despite competing pressures from other quarters; influence ran in both directions. But *the relationships were not symmetrical*. Congress could rarely be led by the chiefs if it was strongly unwilling; the reverse was not equally true. Congress's displeasure therefore was not risked often or casually by the chiefs, and its favor and respect were diligently nurtured. (emphasis added)

So what kind of behavioral patterns can be considered to be autonomous bureaucratic behavior? The concept of bureaucratic autonomy still remains ambiguous in the existing literature. As Hammond (2003: 76) decries:

Earlier definitions referred to the general ability of a bureaucracy to do what it wants, but the definitions did not embed the bureaucracy in any particular political context. This left it unclear as to whether the bureaucracy could adopt any policy it wanted or just some policies, and if just some policies were feasible the definition did nothing to specify what particular policies were feasible and why.

That is, at the center of the ambiguous conceptualization of bureaucratic autonomy lies confusion about the relationship between political accountability and autonomous bureaucratic behavior. All those terms used by researchers, such as “Independence,” “Noncompliance,” and “Reciprocity”, build on the view that bureaucratic autonomy is an antithesis of political accountability in varying degrees. Do autonomous bureaucracies always violate the principles of democracy? Is there some possibility that politically accountable bureaucracy can also exert some degree of autonomy?

2.3.2. The Omission of Collective Institutional Actions

Although theoretical models increasingly emphasize the joint actions of multiple institutions in affecting bureaucratic decisions and actions, previous empirical research seems to be based on an insufficient understanding of the nature of interactions among political principals and agency officials. Most empirical research on political control did not appropriately consider how multiple principals interact with each other. Early works focused only on the *dyadic* relationship between one political institution (i.e., either Congress or the president) and one agency (Weingast and Moran 1983; Moe 1982,

1987). Analyses of the dyadic interactions have produced only inconsistent results. Depending on their focus, it is Congress but not the president or the president but not Congress to whom agencies are held accountable. Considering the fact that all those institutions have formal authority over agency actions, the dyadic approach leads to the omission of important independent variables. Since the dyadic models examine one institution while completely neglecting the others, the validity of any inference from the under-specified models is in question.

As previously noted, recent empirical studies tend to use *additive multi-institutional* models that include all political institutions. Apparently these models are not under-specified. However, most of these studies underestimate the importance of the fact that these institutions interact with each other as they try to influence the agency. In other words, this approach builds on the erroneous assumptions that the relations among political institutions are nonreciprocal and that political influence flows through multiple, disjointed, and independent channels. Moe (1985: 1109) once concluded that:

We have been able to estimate the impacts of each of the three governmental institutions [---the president, Congress, and the courts] while controlling for the other two, and each accounts for a significant portion of the variance, which adds substantially to our confidence in assessing political control.

This kind of conventional empirical design does not fit our understanding of inter-institutional relations. We have learned from positive theories that the relative alignment of an agency with one particular institution cannot be identified by the covariate relationship in a multiple regression model (Hammond 1998). Instead, it is determined by the location of the agency's ideal point and the distance between the status quo and *all* political institutions' ideal points. That is, there are situations in which changes in agency behavior responding to an individual principal do not lead to a close

alignment of the agency and the principal. For example, pro-business shifts of bureaucratic actions corresponding to an inauguration of a Republican administration do not necessarily imply that the agency's position is closest to the Republican president if we do not consider the agency's position relative to other political institutions. If the agency's position has been closely aligned with a Democratic-controlled Congress, the agency's position can be closer to Congress than to the president even after the agency's pro-business policy shifts. Since the additive multi-institutional model considers political influence as consisting of independent streams of discrete institutional preferences, there is no way to examine interactions among separate but intertwined powers. Hammond and Knott (1996: 120, 126) criticize this careless treatment of inter-principal interactions in empirical research as follows:

[M]ost major components of the literature lack an explicit theory of how the president, Congress, bureaucracy, and courts interact to make public policy. Lack of an explicit theory makes it difficult to know what would constitute disconfirming evidence for any hypothesis about who controls the bureaucracy....Some of these [empirical] studies have focused on the influence of just one institution at a time, and *even the broader, multi-institutional studies rarely have tested theories that specify the nature of the interactions among these institutions. This leaves the reader unsure as to whether key variables have been considered, or even whether the proper statistical measure has been constructed for evaluating data about influence over policy outcomes.* (emphasis added)

This gap between theoretical models and empirical research has not been bridged successfully; the formal-empirical divide in the literature on political control and bureaucratic autonomy still remains substantial.

2.3.3. Methodological Pitfalls

How the extent of autonomous bureaucratic behavior can be empirically tested is even more ambiguous. By and large, past research has examined the presence of bureaucratic

autonomy from the perspective of a political stimulus and a bureaucratic response. This stimulus-response system can be expressed succinctly in the following form:

$$\text{Policy Outputs (Bureaucratic Behavior)} = f(X, T)$$

Bureaucratic behavior or policy output is considered to be a function of a set of political inputs (X) and a set of bureaucratic discretion variables (T). In the dyadic approach, X includes variables representing the policy preferences of one institution--either the Congress or the president; in the multi-institutional approach, X includes the policy preferences of all seemingly pivotal institutions. If coefficients on both X and T turn out to be significant, one might conclude that not only do bureaucrats respond to institutional preferences X but they also exert discretion to adjust their task to factors in T (Scholz and Wei 1986). If coefficients on T but not on X turn out to be significant, one might conclude that institutional preferences do not matter and only bureaucratic factors do matter (Eisner and Meier 1990; Wood 1988).

This stimulus-response system, however, entails methodological pitfalls when it is applied to testing hypotheses of politics-bureaucracy relations. The major problem is that it is extremely difficult for us to determine the extent to which bureaucrats are held accountable for democratic control mechanisms. If the net impact of political inputs can be articulated only by holding constant bureaucratic discretion factors, we should assume that the amount of bureaucratic discretion is independent from institutional preferences. However, we already know that bureaucratic discretion is not exogenous to institutional factors. Theoretical models have demonstrated that the amount of bureaucratic discretion may be determined by various factors such as the level of policy conflict between branches of the government and the transaction costs to write a detailed

legislation. Second, although bureaucratic responsiveness and bureaucratic discretion are both components of bureaucratic actions, the stimulus-response system as used in past empirical research treats bureaucratic discretion as one determinant of bureaucratic actions. This is odd since the amount of bureaucratic discretion or the level of bureaucratic autonomy is an essential part of bureaucratic behavior. Both bureaucratic responsiveness and bureaucratic autonomy (or discretion) should be explained by some other factors including the political institutions' policy preferences.

The other major problem is that empirical works include both some measures of the institutions' preferences (i.e., interest group ratings, partisanship, and so forth) and some measures of the exercise of control tools (i.e., change in budget, appointment of new agency head, reorganization, and so forth) in the set of political inputs (X).

Although both are important factors that influence agency actions, these should not be treated as if they are exogenous to one another. In fact, the likelihood of a use of control tools is also determined by the preference configuration of the institutional actors. The amount of money allocated to an agency cannot be independent from the policy preferences of the president and Congress. If the president and Congress do not want to maintain the current scope and extent of the agency's program, they will reduce funds for it. If the president and Congress do not want to expand a regulatory agency, they will agree to choose a person who can streamline the agency on behalf of her principals.

Unless these uses of control tools are seen to reflect the political principals' preferences, there is no logical ground for one's expectation that the principals' preferences will make a noticeable difference in agency actions. When we predict some systematic relationship between institutional preferences and agency actions, we should

assume that agency officials will keep watch on changes in institutional preferences because the former will be afraid of punishment by institutional actors on bureaucratic actions that are not in accordance with institutional preferences. If we take this kind of endogeneity for granted, we should consider either the preferences of institutional actors or uses of control tools but not both at the same time. In sum, we cannot examine the effects of the preferences of institutional actors while controlling for uses of control tools such as budgets and appointments, and *vice versa*.

CHAPTER 3

THEORETICAL FRAMEWORK

Positive theories of bureaucracy have asserted that agency actions are bounded by the elected officials' preferences since politicians define policy goals and the set of feasible policy alternatives for an agency (McCubbins, Noll, and Weingast 1989; Calvert, McCubbins, and Weingast 1989). Building on the principal-agent framework, these models assume that the amount of bureaucratic discretion is a function of two factors: informational asymmetry and policy uncertainty. First, following Weberian depiction of bureaucratic secrecy, informational asymmetry has received enormous attention (Bendor, Taylor, and Van Gaalen 1987; Banks and Weingast 1992). An informational imbalance between the political principals and the agent is thought to originate from the agent's policy expertise and the politicians' monitoring costs. Second, policy uncertainties, such as post-policymaking random shocks, are assumed to be revealed to policy implementers but not to policymakers, so that politicians end up with only limited knowledge about "real world" policy outcomes.

In addition to the agent problems, a host of studies have focused on multi-institutional relations to explain varying degrees of bureaucratic autonomy. One line of research emphasizes the institutional constraints on the level of legislative delegation. Epstein and O'Halloran (1999) argue that policy conflict between different branches of the government will motivate legislators to impose heavier restrictions on agency actions. In contrast, Huber and Shipan (2002) contend that legislators opt for writing a high-discretion bill allowing the bureaucrat to implement policy preferable to other

institutional actors amid inter-institutional policy conflict in order to minimize the threat of executive veto and bicameral bargaining costs.

In this context, Hammond and Knott (1996, 1999) make a unique contribution to our better understanding of bureaucratic autonomy in multi-institutional environments. Unlike other models, their model implicitly assumes that the agency has already been given lots of legal discretion. Rather, the focus of their model is on the question of whether the agency is able to take full advantage of the legal discretion it has been given. Hammond and Knott pay much attention to the very nature of the inter-principal interaction and the role of a strategically-sophisticated agency manager within the framework of multiple veto players.¹ The institutional rules governing inter-institutional relations such as the executive veto and bicameralism tend to lead to policy stability (or maintenance of current policy) since a major policy change can take place only if there is an agreement among key institutional actors on replacing the status quo policy with a new policy.

Focusing on this theoretical expectation about policy change (or disequilibrium), Hammond and Knott demonstrate the existence of a set of status quo policies which those principals cannot agree to replace with other alternatives. Knowing this, a strategic agency head can choose a policy closest to her own ideal point in the set of equilibrium policies. Hammond and Knott (1996: 144) argue that the potential *variability* of

¹ As they put it, “[T]he two major reasons for bureaucratic autonomy...are asymmetric information and multiple principals. The most general model should, of course, include both factors. However, incorporating asymmetric information would entail mathematical complexities which, for reasons for tractability, would require simplifications elsewhere in the model, especially a reduction in the number of institutions considered. In the face of this trade-off our choice is to maintain a relatively complete set of institutions” (1996: 127).

politically-feasible policy options for the agency indicates the degree of bureaucratic autonomy as follows:

[P]olitical autonomy [of an agency] means that the agency director can adopt a new policy without being reversed by the president or Congress. The key to understanding agency autonomy, then, is whether there exist any policies that the president and Congress cannot upset if chosen by the director. It follows that the most appropriate measure of an agency's political autonomy is simply the size of the set of equilibrium policies produced by the president and Congress. (emphasis in original)

As the size of the set of equilibrium policies---the core---increases, so does the extent of bureaucratic autonomy. The size of the core, regardless of policy dimensionality, is non-decreasing or increasing with a greater preference divergence among the veto players. The size also is non-decreasing as new veto institutions are added.² The extent of bureaucratic autonomy rests on some interactions of institutional preference configurations and institutional fragmentation (or the number of veto institutions). For instance, the added veto institution can increase the core only if it is a preference outlier; and an increase in preference divergence among outlying institutions can increase the size of the core even with a fixed number of veto institutions.

Viewing bureaucratic actions in this way clarifies the conceptual confusion about the notion of bureaucratic autonomy in the literature. As Hammond (2003: 77) put it:

[A] bureaucracy can be more or less autonomous, depending on the size of the set of equilibrium policies. Moreover, by relating the extent of bureaucratic autonomy to the size of a set of equilibrium policies, there is always a boundary to the set. This boundary sets limits on what the bureaucracy can and cannot do: it can move from policy to policy within this equilibrium set, but it cannot sustain a policy that lies outside this equilibrium set. [T]he preferences of the elected officials will always collectively constrain the range of bureaucratic

² These propositions build on findings of Hammond and Miller (1987) in their *APSR* article, "The Core of the Constitution." Hammond and his coauthors have continued to extend them in a variety of policymaking processes (Miller and Hammond 1990; Hammond and Hill 1993; Miller, Hammond, and Kile 1996; Knott and Hammond 2000; Hammond 2003; Hammond and Butler 2003). Very similar propositions have been presented in several bodies of work by Tsebelis (1995, 1999, 2002).

choices....[But] as long as the bureaucracy selects some new policy from inside the boundary the disagreements among the politicians will keep them from upsetting the bureaucracy's choice and imposing some other policy. (emphasis added)

3.1. A Spatial Model

I now present a spatial model of bureaucratic policy choices to highlight basic relationships among policy actors and the underlying flow of causality. This model, which I call “Multiple-Principals and Large-N-Agents” or MPLNA, extends Hammond and Knott’s spatial model of bureaucratic autonomy in order to incorporate a large but finite number of agency officials. Agency actions can be seen as the aggregate sum of individual members’ actions. Take an example of regulatory enforcement activities of the Occupational Safety and Health Administration (OSHA). OSHA’s regulatory performance or regulatory stringency has been measured by the sum of individual enforcement officers’ activities such as the number of inspections, the number of violations cited, or the amount of penalties (Scholz et al. 1986, 1991). Therefore, rather than assuming an agency as a unitary actor represented by a single head, we can consider an agency as a distribution of a large number of individual officials, each of whom has somewhat independent decision-making authority in the field. The hierarchical structure of bureaucratic organizations will be left aside despite its importance in shaping regulatory behavior (Moe 1985; Padgett 1981; Carpenter 1996). But not all intra-bureaucracy factors will be ignored; in particular, agency-level policy bias, viewed as a skewed distribution of bureaucratic policy preferences, will be included in the model.

Let me begin by assuming that there are multiple veto players $i = 1, 2, \dots, k$, whose ideal points are denoted by V_i and a large number of agency officials $j = 1, 2, \dots, n$,

whose ideal points are A_j .³ Veto players are individual or collective actors whose agreement is necessary for a change of the status quo. It follows that a change in the status quo requires a unanimous decision of all veto players. In contrast, agency officials do not possess veto power. Each player's utility profile is assumed to be single-peaked on his or her most-preferred policy and symmetric in a one-dimensional policy space, $X = [0, 1]$. In the context of regulatory policy production, 0 indicates a complete absence of regulatory activities and 1 indicates the maximal level of regulatory activities. At the agency level, the aggregate distribution of preferences (ADP) of the agency officials is assumed to be Beta-distributed such that $A_j \sim \text{Beta}(a, b)$ in the domain of $[0, 1]$.⁴ If the two Beta-distribution parameters are restricted to $a = 1$ and $b = 1$, this means that the agency officials' ideal points are assumed to be spread evenly over the whole domain of the policy space. We can take advantage of the flexibility of Beta distribution when we consider various distributional-shapes of bureaucratic preferences in the latter discussion. Agency official j 's policy choice is denoted by C_j . Lastly, complete information is assumed: each veto player knows the other veto players' ideal points; each agency official knows the veto players' ideal points; and no random factor interferes between policy choices and outcomes.

³ It is implicitly assumed that a veto player is a representative member of each political institution for simplicity. For instance, under the bicameral-executive veto system, veto players can be thought to be the president, and the two chamber median legislators in the House and the Senate. In this case, the number of veto players is considered as $k = 3$. However, as discussed latter, the number of *de facto* veto players can be greater than 3 depending on different views of who the key congressional actors are.

⁴ Since the range is confined to $[0, 1]$, the standard Beta distribution is used here. That is, PDF

$$= f(x) = (x^{a-1} (1-x)^{b-1}) / B(a, b) \text{ and CDF } F(x) = \int_0^x x^{a-1} (1-x)^{b-1} dx / B(a, b),$$

where $B(a, b) = \int_0^1 x^{a-1} (1-x)^{b-1} dx$; $0 \leq x \leq 1$; $a, b > 0$. Latter in this section, I discuss several situations where agency officials' preference distributions can vary. With this Beta-distribution it is easy to get a variety of distributional shapes by changing restrictions to the two shape parameters, a and b , so that we can incorporate agency officials' heteroscedastic preference distributions into the spatial model.

3.1.1. Policy Disequilibrium and Policy Equilibrium

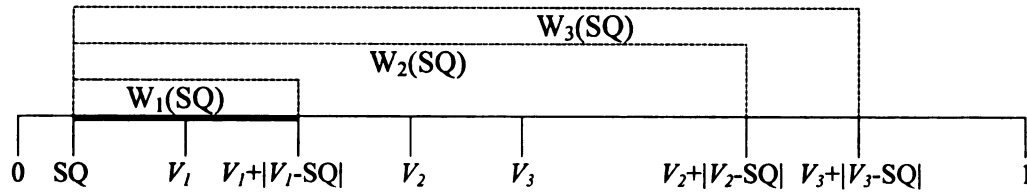
Let me first consider the conditions of policy change (disequilibrium) and policy stability (equilibrium). Following Hammond and Knott, the condition of *policy disequilibrium* is a non-empty winset or $W(SQ) \neq \emptyset$; in other words, for a given status quo there exists a set of policy alternatives that make all veto players better-off. Figure 1(a) presents this condition. For simplicity, consider three veto players, $i = 1, 2, 3$, whose preferences are ordered as $V_1 < V_2 < V_3$ as illustrated in Figure 1. The winset of an arbitrary status quo, $W(SQ)$, is $[SQ, V_1 + |V_1 - SQ|]$, which is the intersection of three winsets for the veto players, $W_1(SQ) = [SQ, V_1 + |V_1 - SQ|]$, $W_2(SQ) = [SQ, V_2 + |V_2 - SQ|]$, and $W_3(SQ) = [SQ, V_3 + |V_3 - SQ|]$. As long as $W(SQ)$ is not empty, three veto players will agree on replacing the status quo with any alternative inside the winset.

Next, the condition of *policy equilibrium* is an empty winset, that is $W(SQ) = \emptyset$. In other words, if there is no other policy alternative increasing all veto players' payoffs, the status quo is maintained. In fact, the status quo with an empty winset is an element of the core, a set of policy alternatives that are not dominated by any other alternatives, given a profile of actors' preferences and decision rules (Davis, DeGroot, and Hinich 1972; Hammond and Miller 1987; Friedman 1990; Tsebelis 2002). This is due to the very nature of interactions between veto players: any decisive coalition of veto players cannot change the status quo without a multilateral agreement of *all* veto players.

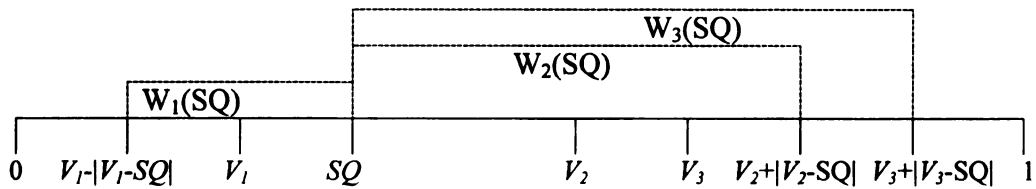
Figure 1(b) shows this stalemate. Any proposal to replace SQ with some other alternative, let us say to the left toward veto player 1's ideal point, V_1 , will face veto by other two veto players. By the same token, a proposal favoring V_2 will face veto player 1's opposition

Figure 1. Policy Disequilibrium and Policy Equilibrium

(a) Condition of Policy Disequilibrium: A Non-Empty Winset



(b) Condition of Policy Equilibrium: An Empty Winset



and the attempt favoring V_3 cannot avoid being vetoed by veto players 1 and 2. This equilibrium will be maintained for any status quo as long as it lies inside the interval of $[V_1, V_2]$.

We can derive the following properties from the logic of policy (dis)equilibrium discussed above.

Property 1. Policy disequilibrium: a non-empty winset: If $SQ < \min(V_i)$ or $SQ > \max(V_i)$ for any status quo policy SQ , the winset $W(SQ) = \cap W_i(SQ) \neq \emptyset$.

Property 2. Policy equilibrium: an empty winset: If $\min(V_i) \leq SQ \leq \max(V_i)$ for any status quo policy SQ , the winset $W(SQ) = \cap W_i(SQ) = \emptyset$.

These properties together suggest that any policy alternative lying inside the interval of $[\min(V_i), \max(V_i)]$ cannot be defeated by any decisive coalition of veto players, and thus these undominated policies remain stable. The interval of $[\min(V_i), \max(V_i)]$ is called the *Policy Equilibrium Interval* (PEI) hereafter.

3.1.2. Policy Equilibrium Interval and Agency Actions

What do these theoretical properties of the policy equilibrium interval suggest for the agency officials' decisions? The policy equilibrium interval cannot change the preference profiles of bureaucratic agents. However, it can influence bureaucratic policy choices given the hierarchical arrangement governing the relationship between veto players and bureaucratic agents.

More specifically, agency officials can make policy choices while striving to meet two conditions. First, agency officials will attempt to avoid political upset of their policy choices. In order for this condition to be met, agency officials should choose alternatives from the set of equilibrium policies such that $\min(V_i) \leq C_j \leq \max(V_i)$.

Agency officials know that if their chosen policy lies outside the interval the politicians could agree to replace the would-be status quo with a new policy. However, as long as agency officials adopt policy options inside the policy equilibrium interval of $[\min(V_i), \max(V_i)]$, these bureaucratic choices are politically feasible following the logic of policy equilibrium---the lack of an agreement among the veto players. Second, agency officials will attempt to maximize their payoffs. For this condition, agency officials should adopt the option which is closest to their own ideal points such that $\min|A_j - C_j|$. The only way to minimize the loss of bureaucratic utility is to choose the options closest to their most preferred policy among the options inside the policy equilibrium interval. In sum, these conditions suggest that agency officials will adjust their choices to avoid a prospective political upset and also try to minimize their loss of utility.

We can examine these strategically-sophisticated agency officials' policy choices through two cases: (1) when the agency officials' ideal points lie outside the policy equilibrium interval, and (2) when the agency officials' ideal points lie inside the policy equilibrium interval. First, when agency officials' ideal points lie outside the PEI, they will choose the policy that constitutes the boundary or "limit" of the PEI. For any agency officials whose ideal points lie to the left of $[\min(V_i), \max(V_i)]$, $\min(V_i)$ is the policy option that can maximize agency officials' payoff, given that they cannot choose their own ideal points. And for those whose ideal points lie to the right of $[\min(V_i), \max(V_i)]$, $\max(V_i)$ can maximize agency officials' payoffs. Therefore, we can deduce the following properties.

Property 3. Agency's policy choices with a non-empty winset:

- (1) If $A_j < \min(V_i)$, agency officials' policy choices (C_j) are $\min(V_i)$, the lower limit of the policy equilibrium interval.

(2) If $A_j > \max(V_i)$, agency officials' policy choices (C_j) are $\max(V_i)$, the upper limit of the policy equilibrium interval.

Second, for those agency officials whose ideal points lie inside the policy equilibrium interval, agency officials' ideal points can be chosen without fearing political upset.

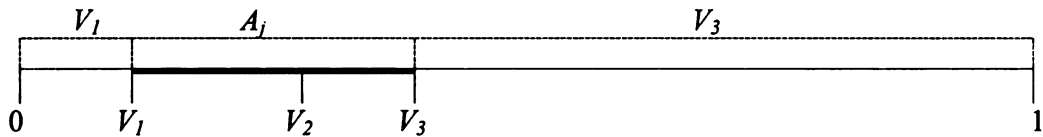
Property 4. Agency's policy choices with an empty winset: If $\min(V_i) \leq A_j \leq \max(V_i)$, agency officials' policy choices (C_j) are A_j , their ideal points.

What do these relations among elected policymakers and agency officials imply for bureaucratic actions in regulatory policymaking processes? Changes in the location and size of the policy equilibrium interval $[\min(V_i), \max(V_i)]$ will affect bureaucratic choices and actions. For example, there are possibilities that the elected political leaders are replaced through electoral processes by others who have different policy preferences and that this political upheaval changes the policy equilibrium interval. In Figure 2(a) and (b), V_1 fails to get reelected and her position is taken over by V_1^* ($> V_3$). As a result, the previous PEI, $[V_1, V_3]$, is replaced by a new interval, $[V_2, V_1^*]$. Consequently, both the location and the size of the interval have changed: the interval moves to the right and the interval gets smaller. The replacement of V_1 by V_1^* , which yields the shift of the policy equilibrium interval from $[V_1, V_3]$ to $[V_2, V_1^*]$, will redefine the set of politically-feasible policy options for the agency and the extent to which agency officials can take unilateral actions. More succinctly, the agency's policy choices can be presented as follows before and after the replacement of V_1 by V_1^* :

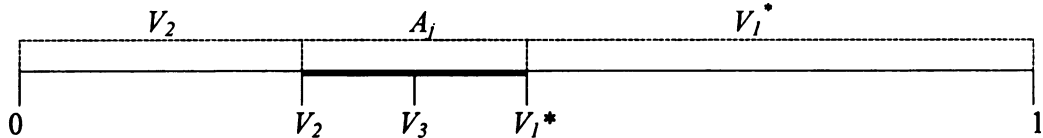
$$C_j = \begin{cases} V_1 & \text{if } A_j < V_1 \\ A_j & \text{if } V_1 \leq A_j \leq V_3 \\ V_3 & \text{if } V_3 < A_j \end{cases} \longrightarrow C_j = \begin{cases} V_2 & \text{if } A_j < V_2 \\ A_j & \text{if } V_2 \leq A_j \leq V_1^* \\ V_1^* & \text{if } V_1^* < A_j \end{cases}$$

Figure 2. Policy Equilibrium Interval and Agency Policy Choices

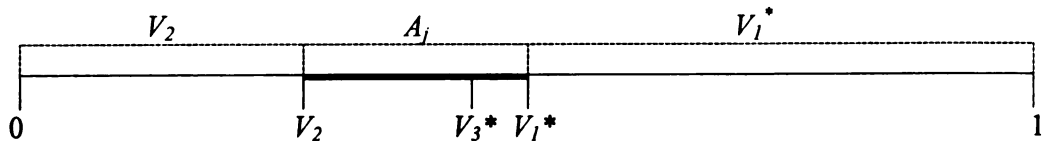
(a) Policy Equilibrium Interval: $[V_1, V_3]$



(b) Policy Equilibrium Interval: $[V_2, V_1^*]$



(c) Policy Equilibrium Interval: $[V_2, V_1^*]$



Hence, we can examine the effect of the policy equilibrium interval on agency actions in two aspects: (1) the effects of the horizontal *location* of the policy equilibrium interval and its movement on the overall *level* of regulatory policy outputs produced by the agency, and (2) the effects of the *size* of the policy equilibrium interval and its change on the *variability* of agency choices. First, the location of the policy equilibrium interval has an impact on how much regulatory policy output the agency produces. In Figure 2(a) and (b), the policy equilibrium interval moves in the pro-regulation direction with the replacement of V_l by V_l^* after the election. Since both the lower and upper limits of the policy equilibrium interval shift toward the pro-regulation direction, agency officials will have to choose from a set of stronger regulatory options. Given an assumption that agency officials' ideal points are spread evenly in the policy space, the total policy outputs produced by the agency as a whole ($= \sum_{j=1}^n C_j$) is expected to increase. In formal terms, the overall level of policy outputs can be expressed by the *conditional mean* of agency officials' policy choices given veto players' ideal points (V_i), agency officials' ideal points (A_j) and the shape parameters (a and b) of the aggregate distribution of A_j such that $E(C_j | V_i, A_j, a=1, b=1)$. If the policy equilibrium interval moves in the pro-regulation direction, the conditional mean of agency officials' policy choices will increase. This observation is consistent with the 'political control' perspective: changes in the preference configuration of the political principals will lead to corresponding changes in agency actions in a systematic manner. Thus, we can present the first hypothesis as follows.

H1: As the policy equilibrium interval moves in a pro-regulation (anti-regulation) direction, the level of an agency's regulatory policy outputs will increase (decrease).

However, it is noteworthy that not all veto players' electoral fates have such an impact on the agency's policy choices. In Figure 2(b) and (c), veto player V_3 is replaced by V_3^* , where $V_3 < V_3^* < V_I^*$. Although V_3^* prefers a stronger regulatory policy than V_3 , this political change does not result in any change in the location and size of the policy equilibrium interval. This observation suggests that only the political institutions that constitute the outer limits of the policy equilibrium interval and their policy preferences matter for agency officials' policy decisions. Thus, the conventional view that bureaucratic actions are a product of the sum of all individual principals' independent influences ignores the importance of the inter-principal interactions. Although each veto player possesses formidable weapons of control (appointment, budget appropriations, oversight hearings, and so forth), they can use these only when there is a multilateral agreement on punishing agency officials' undesirable behavior. Furthermore, since the political institutions' relative positions on a policy can change as a result of an election, the political institution that constitutes one of the limits of the policy equilibrium interval also can be different at different points of time. Therefore, it seems fallacious to assert that a particular political institution (i.e., the president, the Senate, or the House) is always superior to others in regard to its influence on bureaucratic decision-making and actions.⁵

Second, the *size* of the policy equilibrium interval can determine the *variability* of policy options from which agency officials can choose. In Figure 2(a) and (b), after the replacement of V_I by V_I^* , the size of the policy equilibrium decreases, and the range of options given to the agency officials gets narrower. Under the condition that the agency

⁵ Hammond (1998) provides a discussion of why the conventional empirical research design based on the additive model—including all individual political institutions in one regression equation—may not be consistent with the analytical results of this kind of spatial model.

officials' ideal points are distributed evenly in the policy space, a smaller policy equilibrium interval indicates lower variability. That is, as the size of the policy equilibrium decreases, so does the potential variability of autonomous bureaucratic choices. The variability can be expressed in technical terms as the *conditional variance* of agency policy choices given the veto players' preference configuration, the agency officials' preferences, and distributional parameters such that $Var(C_j | V_i, A_j, a=1, b=1)$. Thus, we can expect that as the size of the policy equilibrium interval increases, the conditional variance of the agency's regulatory actions will increase. In other words, consistent with the 'bureaucratic autonomy' perspective, bureaucrats can maintain a degree of political autonomy to the extent that political principals disagree on replacing the status quo policy.

H2: As the policy equilibrium interval gets larger (smaller), the variability of an agency's regulatory choices will increase (decrease).

These hypotheses (H1 and H2) together depict an image of bureaucracy that continuously adjusts its behavior in response to the political institutions' preferential changes and at the same time tries to find some room within these political constraints so that its bureaucrats can develop and adopt a preferred policy. A similar depiction, in fact, can be found in many instances from existing body of literature. For instance, Scholz and Wei (1986: 1264) remark that:

The role of federal agencies in the American policy process is not simply one of translating central political decisions into organizationally efficient routines....Instead, the creative role of the bureaucracy requires the development of organizationally feasible tasks that will gain and maintain sufficient support from critical actors in multiple operational arenas without undermining central support needed for formal budgets and statutory adjustments. Thus, bureaucracy plays the important and seldom-recognized role of integrating political demands made at various levels of the American federalist system by incrementally adapting central policies to fit into varied and changing local conditions.

The spatial model and propositions derived from it clarify the latent process underlying the interactions among democratic institutions and agencies. Bureaucratic responsiveness to institutional preferences and autonomous bureaucratic operations can take place simultaneously. These two processes together comprise the bureaucrats' behavioral repertoire.

3.1.3. Heteroscedastic Distribution of Bureaucratic Policy Preferences

What roles do agency officials' policy preferences play in the policy process? Even Woodrow Wilson (1887) recognized the importance of policy preferences of individual policy implementers when he claimed that "the administrator should have and does have a will of his own in the choice of means for accomplishing his work. He is not and ought not to be a mere passive instrument" (212). In fact, students of contemporary bureaucracy echo this assertion. James Q. Wilson (1989) contends that the performance of a regulatory agency can be affected by agency officials' personal motivations such as organizational maintenance, professional norms, and political concerns. Rothenberg (1994) shows us that the Interstate Commerce Commission's regulatory decisions reflect its members' ideology. Brehm and Gates (1997) also propose that the attitudes of front-line workers on their tasks in public service organizations are one of the most important determinants of organizational performance.

How can we characterize agency officials' policy preferences? Some researchers consider agency officials as biased toward more stringent regulation when it comes to environmental quality and job safety (Meier 1993; Rourke 1984; Kelman 1980, 1981). But others have assumed that bureaucrats seek to maximize budget (Niskanen 1971),

discretionary resources (Miqué and Bélanger 1974; Niskanen 1975), or leisure-time (Brehm and Gates 1997). In other words, researchers' depiction of bureaucratic preference depends on their own views in particular ways. Each of these accounts of bureaucratic preferences, however, is not consistent with more general perspectives that stress motivational and preferential diversity inside the bureaucracy (Downs 1967). At the individual level, bureaucrats may have a huge array of different personal tastes and preferences. This individual-level preferential diversity leads to the difficulty characterizing the bureaucracy based simply on either purely purposive (i.e., good public policy) or purely materialistic (i.e., money and resources) motivations.

In order to take into account the possibility of diverse bureaucratic preferences, I assume that the aggregate distribution of bureaucratic preferences on regulatory tasks be heteroscedastic. This equation of agency preference with different shapes of distributions of the agency's officials reflects the fact that the overall level of regulatory performance of an agency is actually the sum of policy outputs that those front-line workers have produced. Individual agency workers can be classified according to their preferences on regulation as follows (Miqué and Bélanger 1974; Niskanen 1975). First, agency officials who prefer lenient regulation to strong regulation may stop producing additional regulatory policy outputs at the point where the difference between politicians' total payments and the agency's total production costs reach the maximum. This maximization of slack resources leads to *under*-production of regulatory policy outputs lower than the optimal level. Second, agency officials whose preferences are skewed toward stringent regulation may continue to produce regulatory outputs as long as politicians pay for a unit of additional production. Since policy production continues

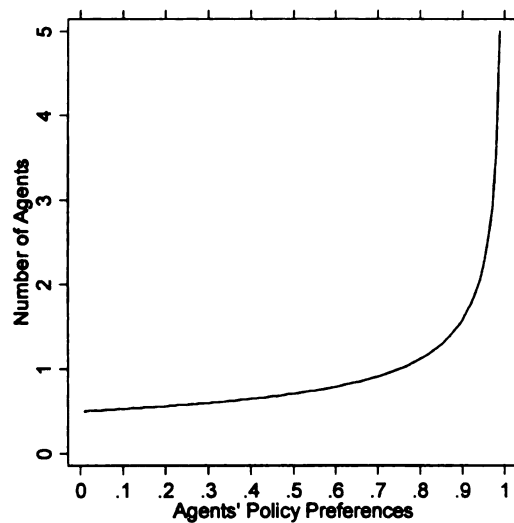
until the marginal payment reaches zero, *over*-production takes place higher than the optimal level. Lastly, neutral officials are those who produce policy outputs under the condition that politicians' total payments covers total production costs, which leads the agency to maintain the optimal level of regulatory policy outputs.

The aggregate distribution of bureaucratic preferences can vary in time and space. The distribution of agency officials' preference can change in a single agency as the membership composition changes for a long period of time. The distribution of bureaucratic preferences can also vary across different agencies, depending on agency-to-agency idiosyncrasy. To illustrate these variations of the aggregate distribution of bureaucratic preferences, I focus on the skewness of the distribution of agency officials' preferences. Figure 3 portrays three aggregate distributions of policy preferences of randomly sampled agency officials ($n = 100$). The upper-left panel of Figure 3 presents negatively-skewed agency preferences in favor of the maximal regulation. In this agency, a disproportionately large portion of agency workers prefer stronger regulation to less regulation. The right-upper panel presents unskewed agency preferences. This agency consists of workers whose ideal points are distributed evenly in the entire range of the policy space. The bottom panel of the figure portrays positively-skewed distribution of agency preferences in favor of the minimal regulation.

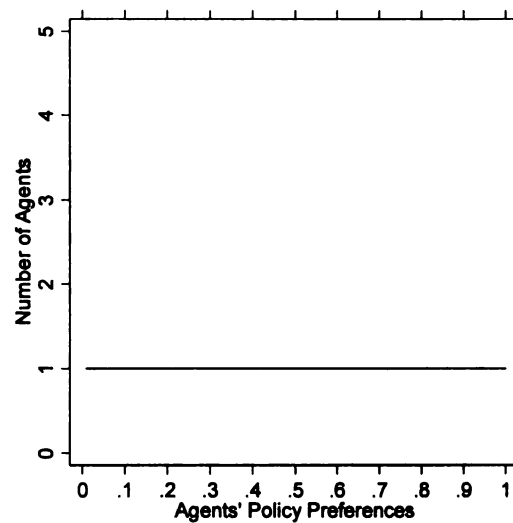
These different shapes of the aggregate preference distribution of the agency can affect how an agency takes actions in two ways: the *level* of regulatory policy production, $E(C_j | V_i, A_j, a, b)$, and the *variability* of the agency's policy choices, $Var(C_j | V_i, A_j, a, b)$. Intuitively, the effect of the *location* of the policy equilibrium interval on

Figure 3. Heteroscedastic Distribution of Bureaucratic Preferences

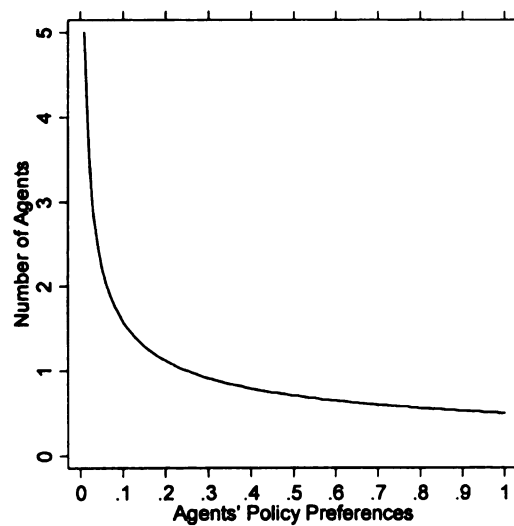
(a) Skewed to the Maximal Regulation



(b) Unskewed



(c) Skewed to the Minimal Regulation



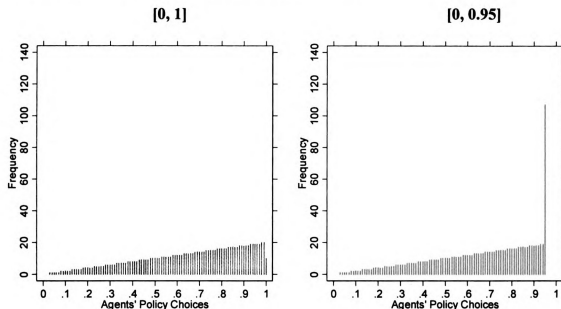
the overall level of the agency's output production will be larger when the agency's preferences are skewed than when they are unskewed. Figure 4 portrays two agencies' actions when the same change of the policy equilibrium interval occurs, from $[0, 1]$ to $[0, 0.95]$. Take an example of an agency skewed in the pro-regulation direction in Figure 4(a). If the upper limit moves in the deregulation direction, a crowd of agency workers should adjust their choices and the agency's overall level of regulatory output productions will decrease substantially. By contrast, in an agency with unskewed preference distribution as portrayed in Figure 4(b), the same change in the policy equilibrium interval will trigger only some marginal adjustment in agency choices. The amount of change in the policy output level caused by an identical change in the location of the policy equilibrium interval is greater in the former case than the latter. We can derive the following hypothesis about the conditioning effect of agency preferences on the location of the policy equilibrium interval and the production level of a regulatory agency:

H3: The effect of the location of the policy equilibrium interval on the production level of a regulatory agency will increase (decrease) as the skewness of agency preference distribution increases (decreases).

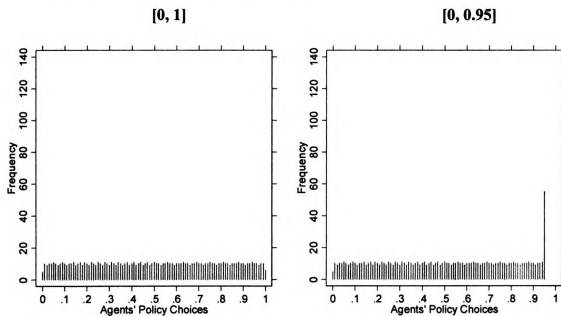
On the other hand, the effect of a change in the *size* of the policy equilibrium interval on the variability of the agency's regulatory choices will be smaller when the agency's preferences are skewed than when they are unskewed. As seen in Figure 4(a), if agency officials' preferences are skewed, their choices are limited to a smaller range of stronger regulatory policy options and the variance of agency choices is less sensitive to change in the size of the policy equilibrium interval. If agency officials' preferences are distributed evenly as portrayed by Figure 4(b), change in the size of the policy

Figure 4. Change of Policy Equilibrium Interval and Agency's Policy Choices

(a) Skewed Agency Preference Distribution ($n = 1000$)



(b) Unskewed Agency Preference Distribution ($n = 1000$)



equilibrium interval may lead to more substantial changes in the variance of agency choices. Thus, we can predict the following relationship:

H4: The effect of the size of the policy equilibrium interval on the variability of a regulatory agency's policy choices will decrease (increase) as the skewness of agency preference distribution increases (decreases).

These mediating effects of diverse agency preference distributions between the policy equilibrium and agency actions (H3 and H4) are worth further discussion. First, the influence of institutional preferences on agency actions should be considered as conditional on how agency officials' preferences are distributed. If the analyst ignores various shapes of agency preference distributions, he or she may erroneously expect that the effect of the location of the policy equilibrium interval on the level of regulatory outputs and that of the size on the variability of regulatory actions remain constant. However, when the mediating role of agency preference distributions is taken into account, the policy equilibrium interval's effects should be expected to vary to the extent that the agency preference distribution is skewed.

Second, consistent with the general assumption of the principal-agent theory that that a principal and an agent may have heterogeneous preferences, the agency's preferential skewness or policy bias can make a subtle difference in institutional effects on agency actions. When the agency is extremely biased toward either deregulation or regulation, the location of the policy equilibrium interval has the hypothesized effects on the agency's actions *if* the change in the location of the policy equilibrium interval has been brought about by a movement of the interval's limit in the agency's favored side. For instance, with an agency having an extremely pro-regulation bias, a movement of the upper limit of the policy equilibrium interval will result in a substantial increase in the

amount of policy outputs while the lower limit's movement will lead to only marginal change in policy outputs. Therefore, the impact of political influence on agency actions can be explained more accurately when we take into account not only how much the agency is biased but also in what direction the agency is biased.

3.1.4. Simulation

In order to examine the effects of the policy equilibrium interval and the agency preference distribution on agency actions, I conduct Monte Carlo simulations in a one-dimensional policy space wherein a complete absence of regulation is 0 and the maximal production of regulation is 1. First, I assume that the base policy equilibrium interval is $[0, 1]$, which is the entire policy space, and then I make the upper limit of the policy equilibrium interval move leftward from 1 toward 0 while holding the lower limit constant at 0 in each trial. Accordingly, the location of the policy equilibrium shifts leftward toward deregulation and the size of the policy equilibrium decreases corresponding to the upper limit's movement. Second, I assume that the base distribution of agency preferences of 1000 officials is $A_j = \text{Beta}(1, 1)$ in the domain of $[0, 1]$, which is an unskewed-uniform distribution, and then I increase the negative skewness (pro-regulation bias) of the agency preference distribution by manipulating Beta-distribution parameters.

3.1.4.1. The Effect of the Policy Equilibrium Interval on Agency Actions

To examine the effect of policy equilibrium interval on agency actions, I change the upper limit of the policy equilibrium interval by an increment of 0.001 for each of 1000

trials while holding the agency preference distribution unskewed by fixing parameters a and b at 1. In each trial, agency officials' policy choices (C_j) are truncated into the policy equilibrium interval of $[0, 1 - (t/1000)]$, where $t = 1, 2, \dots, 1000$. More specifically,

$$C_j = \begin{cases} A_j & \text{if } A_j \leq 1 - (t/1000) \\ 1 - (t/1000) & \text{if } A_j > 1 - (t/1000) \end{cases}$$

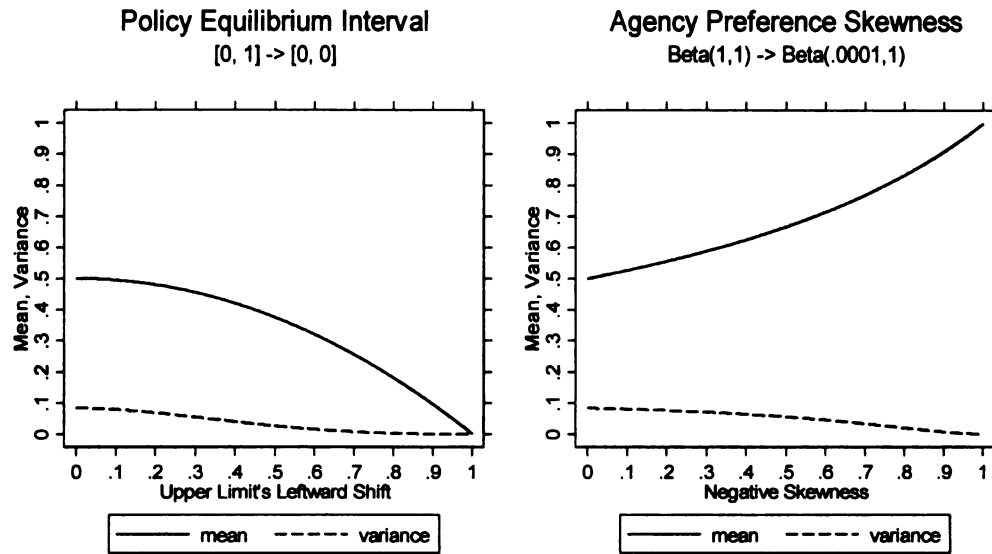
And then, the conditional mean, $E(C_j | V_i, A_j, a = 1, b = 1)$, and the conditional variance, $Var(C_j | V_i, A_j, a = 1, b = 1)$, of the agency officials' policy choices in each trial are calculated and plotted.

The left panel of Figure 5(a) portrays the effect of the policy equilibrium interval on the mean and variance in this simulation. As proposed by hypothesis 1, the leftward shift of the policy equilibrium interval tends to decrease the conditional mean of the agency's regulatory production level. At the same time, consistent with hypothesis 2, a decrease of the size of the policy equilibrium interval also tends to decrease the conditional variance of agency choices (regulatory variability).

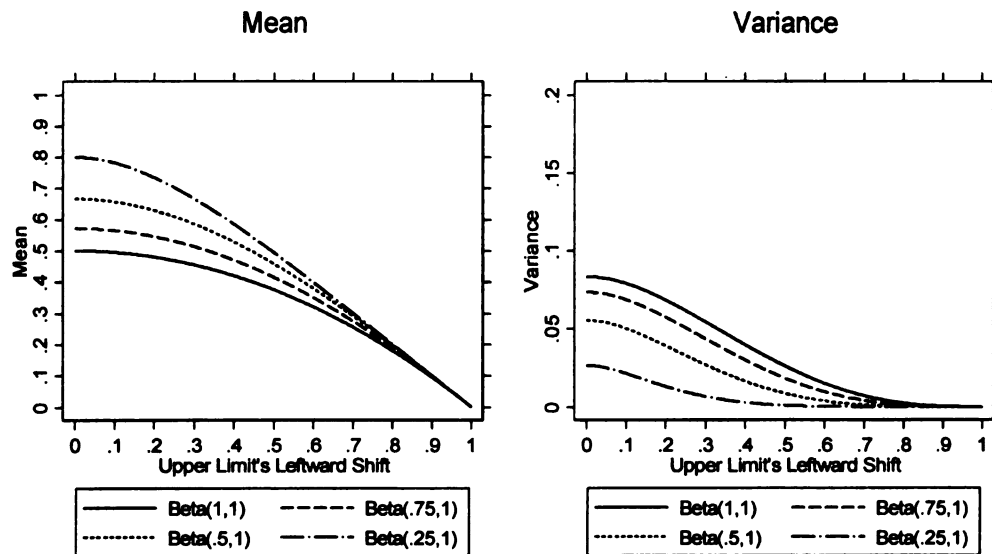
Now consider the right panel of Figure 5(a). Here the policy equilibrium interval is held constant at $[0, 1]$ and the negative skewness of agency preference distribution gets increased by 0.001 for each trial such that $A_j = Beta(1 - (t/1000), 1)$. As the agency preference distribution gets increasingly skewed in the stronger regulation direction, the conditional mean of regulatory production, $E(C_j | V_i, A_j, a = 1 - (t/1000), b = 1)$, tends to increase with the fixed policy equilibrium interval. At the same time, however, the agency's policy bias tends to decrease the conditional variance of agency choices, $Var(C_j | V_i, A_j, a = 1 - (t/1000), b = 1)$, suggesting that agency choices are

Figure 5. Monte Carlo Simulation

(a) Policy Equilibrium Interval “or” Agency Preference Distribution



(b) Policy Equilibrium Interval “and” Agency Preference Distribution



constrained into pro-regulation policy measures as the agency preference distribution becomes skewed with the fixed policy equilibrium interval.

Several observations can be made about these results. First, changes in the political environment of a regulatory agency can bring about substantial changes in policy outcomes. The horizontal movement of the policy equilibrium interval, which represents a change in the composition of elected policymakers from those who advocate stronger regulation toward those who support deregulation, tends to lead the regulatory agency to decrease its policy outputs. Second, these changes in the policy preferences of political institutions affect the amount of bureaucratic autonomy by increasing or decreasing the range of politically-feasible policy options from which agency officials can unilaterally make their choices. Third, the agency can make autonomous choices to the extent that there is a disagreement on an ideal level of regulatory policy outputs between the veto players. Unless all veto players have identical views on regulatory policy, agency officials always have some options from which they can choose while reflecting their own policy preferences without fearing a potential political threat. Last, the agency's regulatory policy outputs can change in response to changes in the agency's policy preference distribution, holding constant other factors including the politicians' preference profile. With the location and size of the policy equilibrium interval fixed, an increase in the agency's pro-regulatory bias can increase regulatory policy outputs.

3.1.4.2. The Conditional Effect of the Policy Equilibrium Interval on Agency

Actions

Next, I examine how the agency's preference distribution can mediate the impact of the policy equilibrium interval on the agency's policy choices. I create four different agency preference distributions: $Beta(0.25, 1)$, $Beta(0.5, 1)$, $Beta(0.75, 1)$, and $Beta(1, 1)$. The first represents the greatest pro-regulation bias among the four, while the last represents complete neutrality. With these heteroscedastic distributions of agency preferences, I make the upper limit of the policy equilibrium move leftward toward deregulation by an increment of 0.001 for each of 1000 trials. Conditional means and variances of those four different agencies are plotted for comparison in Figure 5(b).

The left panel of Figure 5(b) presents the conditional effect of the location of the policy equilibrium interval on the level of regulatory policy outputs. Consistent with H3, the effect of the policy equilibrium interval on the conditional mean of policy outputs tends to increase as the agency's preference distribution becomes skewed. The rate of change in the conditional mean of agency choices in response to the upper limit's shift is greatest when the agency preference distribution is skewed to the greatest degree ($Beta(0.25, 1)$). In contrast, the conditional mean of agency policy choices is the least sensitive to changes in the location of the policy equilibrium interval when the agency preference distribution is unskewed ($Beta(1, 1)$). In other words, there is a positive relationship between the skewness of the agency preference distribution and the effects of the policy equilibrium interval's location on the conditional mean of regulatory policy outputs.

The right panel of Figure 5(b) presents the conditional effect of the size of the policy equilibrium interval on the variance of the agency officials' policy choices. The size of the policy equilibrium interval has the greatest effect when the agency preference distribution is unskewed ($Beta(1, 1)$). Its effect is smallest when the agency preference distribution is most skewed ($Beta(0.25, 1)$). That is, there is a negative relationship between the skewness of the agency preference distribution and the effects of the policy equilibrium interval's size on the conditional variance of agency policy choices.

These theoretical experiments reveal subtler relations between preferences of political institutions and a regulatory agency's actions. First, even a given amount of change in the politicians' preference profile does not always bring about the same change in the agency's regulatory policy outputs. It is likely that political institutions' effects on agency actions are greater when the agency is skewed toward one of the limits of the policy equilibrium interval *and* when the political institution establishing the limit moves. By contrast, a change in the politicians' preference profile may not substantially change the agency's policy outputs if the agency preference distribution is unskewed or if the agency preference distribution is extremely skewed to one limit but the political institution constituting the other limit moves.

Second, when there is a substantial disagreement on policy between the agency and the political institutions, any change in the politicians' preference profile may not have a significant effect on the degree of bureaucratic autonomy. For instance, there is a possibility that the agency preference distribution is extremely skewed so that agency officials' ideal points lie outside the policy equilibrium interval. In this case, even if the policy equilibrium interval is large so that there are many feasible policy options for the

agency, the agency officials will end up having to choose from a very limited range of options. That is, the conflicts among the principals and agents tend to deprive the agents of the potential opportunity to capitalize on an inter-principal disagreement even if there is a substantial preference divergence among the principals.

Third, the second observation suggests that as the preference divergence among a set of veto players and agency officials increases as a result of the agency's policy bias, we should predict agency officials' *behavioral compliance* with changes in the preferences of the veto players. This can be logically concluded from the fact that an increase in the agency preference skewness (policy bias) leads to a greater effect of the PEI's location on the conditional mean of the agency's policy outputs. When cheating is not assumed to be an available option for bureaucratic agents, the policy disagreement among principals and agents will reinforce the latter's sensitivity to the former and at the same time make inter-principal conflict increasingly irrelevant to the degree of bureaucratic autonomy.

3.2. Veto Players

Having demonstrated the importance of joint actions of veto players to agency actions, we need to determine which of those institutional actors should be included in the set of veto players. In order to clarify the membership of the veto-player set, we should discuss why a particular institutional actor should be considered along with other particular institutional actors. Surprisingly, previous empirical research has not yet raised this question. Researchers have considered numerous possible sources of political influence, not only the institution-level actors such as the president, the House, and the Senate, but

also other intra-institutional actors such as congressional committees, legislative parties, and congressional leadership. So which of these actors should be considered pivotal in policymaking process? Which of these actors has a greater chance of being perceived as crucial by agency officials?

The president can be considered as a permanent member of the veto-player set as most work in the multiple-principal framework includes an independent executive veto player (Hammond and Miller 1987; Calvert, McCubbins, and Weingast 1989; Hammond and Knott 1996, 1999). The president possesses various powers such as the executive veto over congressional bills, appointment and removal of top positions in the civil service system, and budget requests. In addition to these formal powers, the president has ample discretion and resources to take initiative actions to influence the make-up of policies (Moe 1982; Moe and Howell 1999; Howell 2003; Lewis 2003). Presidential influence on individual legislators also is considered substantial (Kernell 1997; Bond and Fleisher 1990). It is almost impossible to ignore the pivotal role that the president may play in important policymaking. It may be legitimate, then, to treat the president as a political institution and a veto player rather than treating him as a part of the executive agency (i.e., Shipan 2004).

However, Congress is different due to its complicated intra-institutional structure. Congress consists of two separate chambers, each of which is based on different sets of rules. And the operation of the chambers is decentralized to the system of congressional committees. Thus, as Hall (1996: 2) put it:

Participation in Congress is *seldom universal*. It is never equal. Although most (sometimes all) members vote when specific decisions come to a formal roll call on the chamber floor, floor voting is only one and probably not the most important form of participation in the legislative process. Building a coalition for

a legislative package, drafting particular amendments, planning and executing parliamentary strategy, bargaining with or persuading colleagues to adopt one's point of view---all these activities weight more heavily than voting in the decision-making calculus of most bills.

However, there is no clear agreement among researchers regarding which of these various congressional actors should be highlighted in the legislative policymaking process. We can examine a few major perspectives on the composition of important congressional actors in the congressional literature, from which alternative sets of veto players can be constructed.

3.2.1. The Majoritarian Perspective

The majoritarian perspective emphasizes the importance of majoritarian rules and the median members in the chamber (Maass 1983; Krehbiel 1991, 1998). According to this view, congressional decisions are determined for the most part by politics on the floor rather than other intra-congressional organizations such as the congressional committee system. Even if congressional committees retain policy expertise and information in their jurisdiction, they are organized in the manner that can efficiently serve their parent-chamber's needs. In other words, it is the chamber as a whole that creates and maintains organizational structure of Congress according to its interests.

The key strategy that can be employed by the chamber to maintain a degree of discipline inside Congress is to manipulate the distribution of preferences in each congressional organization (i.e., committee) through a variety of procedural tools. The chamber can appoint members of the committees in order to minimize the possibility that committees can challenge their parent chambers in two ways (Maass 1983; Krehbiel 1991). First, the chamber may assign members of committees whose median member

has preferences that are the same as the chamber's median member. Then, committees' decisions are likely to reflect the wishes of the chamber as a whole. Second, closely related to the first, the chamber may appoint members of committees that are representative of the full chamber. Decisions of these heterogeneous committees, thus, are unlikely to deviate from what one can observe on the floor.

In addition to the chamber's ex ante manipulation of committee membership, the chamber possesses formal authority to reverse committees' decisions if the former finds the latter inconsistent with its interests. Even if committees make legislative decisions that may serve their own particularistic interests and send them to the floor, the chamber as a whole can protect its policy goals simply by amending and defeating the committee's proposals on the floor. That is, the chamber can use floor votes as safeguards against committees' decisions that contradict the chamber's preferences.

According to this perspective, policymaking in Congress is governed by the principles of majoritarian decisions---the will of majorities of the chambers determines policymaking in Congress.⁶ While leaving out the subtle difference of procedural rules between the House and the Senate (see Binder 2003 for the evolution of the Senate to a majoritarian institution), the median member of each chamber can be thought to best represent institutional preferences. Then, we can consider the majoritarian veto-player set as consisting of policymakers whose preferences represent their respective institutions, such as the president, the House floor median, and the Senate floor median.

⁶ In fact, the extensive literature focuses on the supermajoritarian rules especially in the Senate such as 3/5 vote rule to invoke cloture for filibuster (Krehbiel 1991; Brady and Volden 1998). However, we cannot underestimate the importance of simple majority rules in the congressional process. Both the House and the Senate were originally created as majoritarian institutions in face of the fear that under the supermajoritarian rules that had been used in the Continental Congress, "it would be no longer the majority that would rule; the power would be transferred to the minority" (*Federalist* 58). In fact, individual Senators' exercise of their right to filibuster can be discouraged by various factors including Senate leaders' efforts, and most bills are processed under the simple majority rules in Congress (Binder 2003).

After all, this perspective may best portray the most fundamental feature of the separation of powers and bicameralism: political influences are exerted on bureaucratic actions as a result of a multilateral agreement among the majorities of veto institutions (Hammond and Miller 1987).

3.2.2. The Distributive Politics Perspective

The distributive politics perspective highlights the role of congressional committees in addition to the majoritarian median members (Fenno 1973; Weingast 1984; Shepsle and Weingast 1987; Weingast and Marshall 1988; Miller and Moe 1983; Aberbach 1990; Hall 1993). This perspective contends that each committee has strong interests and autonomy in policy decisions under its jurisdiction. As Fenno (1973: *xiii*) put it:

[C]ommittees are autonomous units, which operate quite independently of such external influences as legislative party leaders, chamber majorities, and the President of the United States....[E]ach committee is the repository of legislative expertise within its jurisdiction; ...committee decisions are usually accepted and ratified by the other members of the chamber;...committee chairmen can (and usually do) wield a great deal of influence over their committees.

Congressional committees are said to be characterized by homogeneous preferences among their members on issues under their respective jurisdiction and to have outlying preferences (e.g., high demander) compared to the rest of the chamber. That is, congressional committees are non-representative of the chamber as a whole. The independent and non-representative committees can be seen as a result of a few factors. First, the self-selected assignment process may reinforce the preferential bias of the committees. The assignment of members to committees is thought to be determined primarily by individual legislators' reelection motivation and their constituents' particular interests. Second, the committees' insulation from the rest of the chamber can

stem from the committees' symbiotic relationship developed with external actors such as interest groups and agencies over a long period of time. Congressional committees may make decisions in accordance with interests of these external principals rather than those of the chamber and party caucuses.

Since the chamber defers to the committees' monopoly over issues in their jurisdictions and since the norm of mutual forbearance among different committees tend to develop, committees can wield a strong gatekeeping power. Although the committee proposal can be amended on the floor under an open rule, a *risk-averse* committee median will vote not to send a bill to the floor if the expected floor amendment to the committee bill will be worse than a status quo policy (Hammond and Knott 1996: 135-6); that is, without consent of the committee median, no new policy can be passed. Furthermore, the conference committees can be used by committee members to prevent noncommittee members from amending their legislation, which may be called "ex post veto" (Shepsle and Weingast 1987).

In sum, we can think of the set of veto players consisting of five key institutional actors: the president, the two floor medians, the House committee median, and the Senate committee median. The interactions among these actors may influence the agency's behavior in a way that can be distinct from how the majoritarian set of actors influences the agency's behavior.

3.2.3. The Party Government Perspective

The party government perspective emphasizes the importance of partisan goals and party leadership in legislative decisions (Rohde 1991; Cox and McCubbins 1993). This

perspective contends that agents of party caucuses, including the party leadership, the speaker, committee chairs, and party whips, can mobilize various parliamentary powers to enhance their partisan interests. Cox and McCubbins (1993: 2) succinctly summarize this perspective as follows:

[P]arties in the House---especially the majority party---are species of “legislative cartel.” These cartels usurp the power, theoretically reside in the House, to make rules governing the structure and process of legislation. Possession of this rule-making power leads to two main consequences. First, the legislative process in general---and the committee system in particular---is stacked in favor of majority party interests. Second, because members of the majority party have all the structural advantages, the key players in most legislative deals are members of the majority party, and the majority party’s central agreements are facilitated by cartel rules and policed by the cartel’s leadership.

In general, the influence of the parties on legislative policymaking can be identified in two ways. First, party caucuses may assign their loyal contingent to committees so that committee medians reflect the caucuses’ median. Through this partisan selection process parties can ensure that committee decisions are in accordance with partisan preferences (Cox and McCubbins 1993). Second, party caucuses may try to discipline pivotal legislators such as committee and floor medians. Especially when an issue is highly salient to party members and policy preferences become homogenized within each party and polarized between parties, the majority party leadership can force the committee medians and the majoritarian medians to be closely aligned with the majority party median (Aldrich and Rohde 1999).

From this perspective, it is partisan politics that exerts the most decisive influence on legislative processes. The behavior of the majoritarian and distributive politics set of veto players in Congress may actually be governed by the concerted partisan efforts to pursue partisan goals. One can expect the legislative majority party to force policy

outcomes to be in its own interest when inter-party conflict is intense. Thus, the set of veto players can be thought to consist of five pivotal actors: the president, the House and Senate majority party medians in the floor, and the House and Senate majority party medians in the committee.

3.3. Issue Characteristics

Policy researchers have argued that the regular participants in policymaking can be predicted by issue characteristics such as salience, complexity, and partisan interests (Gormley 1986; Eisner, Worsham, and Rinquist 2000). These factors can influence the motivation and interests of important policy actors to participate in the policy process. Therefore, participants in policymaking can differ across policy areas and over time depending on issue characteristics. In this section, I discuss the salience of the issue and the degree of partisan polarization that may affect the motivation of elected officials to attempt redirection of agency behavior. The influence of the three sets of veto players---majoritarian, distributive, and party government sets---may be contingent upon changes in salience and partisan interest of a policy issue.

3.3.1. Salience

The salience of an issue can change. Public attention and attitudes toward policy issues may change at an almost imperceptible pace over a long period of time (Stimson 1991). It may take generations to observe the shift of public attention from one issue to another one. However, some monumental events may break the long-term equilibrium and bring new issues to public attention. Disastrous accidents, scandals, or some great

achievements can suddenly attract intense public attention in a very short period of time (Kingdon 1995; Baumgartner and Jones 1993; Wood and Waterman 1994). These changes in issue salience have predictable policy effects. Heightened public attention to particular policy issues can provide incentives for politicians to take actions about the issue and collect information about the government's previous policies and possible policy changes (Gormley 1986; Kingdon 1995). Especially when an issue receives national media attention and emerges on the national agenda, political leaders will eagerly follow the sequence of issue development and seize the crucial moment to take clear position. Politicians' opportunity costs of engaging in such highly salient policy issue will decrease because the issue can increase the politicians' visibility and political stakes, which compensates for the politicians' time and resources spent on this issue.

3.3.2. Partisan Polarization

Policy issues that polarize partisan interests and increase partisan unity will motivate political party leaders to step in to make some voices. Traditionally, some policy areas such as welfare, education, environment, and labor have been considered as battlegrounds between the competing partisan interests. These issues tend to mobilize partisan interests to induce policy outcomes that increase partisan benefits. Partisan interests can be mobilized at various levels from the local to the national. Local partisan networks consist of core party activities, local officials, trade groups, and local offices of the federal officials (Fenno 1978). These extensive partisan networks may compete with each other to insert their interests into the policy implementation process (Scholz et al. 1991). When those partisan policy issues reach the national agenda, a vertical

integration of grass-root party networks may take place. Under these conditions, party leaders at the national level will stand up to mobilize the national-level bases of partisan supports.

In recent years, the role of the national party committees in aggregating local partisan interests has grown. The national party committees control campaign money, possess modern campaign expertise, and expand their role in local candidate selections. The nationalization of the U.S. party system provides the opportunity for party leaders not only to represent core party members' ideology but also to put pressure on individual legislators to modify their behavior (Fiorina 1989; Jacobs 2001). With enhanced intra-party powers, the leaders of the majority party in Congress can use their superior parliamentary powers to accomplish partisan goals (Rohde 1991).

These characteristics of policy issues thus can be expected to have considerable effects on which of the competing sets of veto players will actively participate in policymaking processes. In other words, the relative importance of the three sets of veto players may be contingent on the saliency of the issue at hand and to the extent the issue polarizes partisan interests (Maltzman 1997; Epstein and O'Halloran 1999, chapters 7 and 8; Aldrich and Rohde 1999; Hurwitz, Moiles, and Rohde 2001). These issue characteristics may affect the motivations of elected officials to participate in the policy process. Figure 6 presents my expectations about the effects of issue characteristics on the type of regulatory politics. When the issue is highly salient, the chamber or the majority party will be likely to force the committee median to be closely aligned with either the floor median or the majority party median. When the issue divides interests between parties, the majority party will be likely to make the majority party contingent in the committee

Figure 6. Issue Characteristics and Types of Regulatory Politics

		Partisan Polarization	
		Weak	Strong
Issue Saliency	Low	Distributive	
	High	Majoritarian	Party Government

and the chamber median more closely aligned to the majority party median.

Thus, when the issue is highly salient and divides the parties, it is likely that the PEI resulting from interactions between the president and majority party medians in the chambers and the committees will be most influential in affecting agency actions. When the issue is highly salient but does not divide the parties, the president and two chamber medians will make up the PEI. When the issue is neither salient nor party-dividing, the PEI resulting from the interactions among the president, the chamber medians, and outlying committee medians will be most influential.

H5: The effects of the majoritarian, distributive, or partisan PEI's on an agency's regulatory actions vary according to the salience and the partisan polarization of the policy issue.

H5-1: As issue salience increases and polarization decreases, the majoritarian set of veto players will be more likely to affect the level and variability of an agency's regulatory actions.

H5-2: As issue salience and polarization decrease, the distributive set of veto players will be more likely to affect the level and variability of an agency's regulatory actions.

H5-3: As issue salience and polarization increase, the partisan set of veto players will be more likely to affect the level and variability of an agency's regulatory actions.

3.4. Statistical Model: Bridging the Formal/Empirical Gap

My spatial model of multiple principals and bureaucratic autonomy has proposed that joint actions of political institutions affect bureaucratic actions in two ways: while the location of the policy equilibrium interval (due to political institutions' policy preference) affects the level of regulatory policy outputs, the size of the policy equilibrium interval (policy disagreement among political institutions) affects the

variability of bureaucratic choices. Therefore, empirical testing should focus on the effect of the policy equilibrium interval on agency officials' actions in two aspects: the conditional mean of policy outputs and the conditional variance of policy choices.

The Maximum Likelihood Heteroscedastic Normal Regression Model (Franklin 1991; King 1998) is chosen to accomplish the goal of an appropriate empirical testing of the spatial model. The Heteroscedastic Normal Regression Model is a good match to the nature of propositions since it enables us to estimate determinants of not only the conditional mean (like OLS) but also the conditional variance.⁷ If the dependent variable Y_{it} is regulatory policy actions of an agency i at year t , we can use the following likelihood function:⁸

$$L = \prod_{i=1}^n \prod_{t=1}^T \frac{1}{\sqrt{2\pi\sigma_{it}^2}} \exp\left[-\frac{1}{2}\left(\frac{(Y_{it} - \mu_{it})^2}{\sigma_{it}^2}\right)\right] \quad (1)$$

Unlike the likelihood function for the OLS, this function includes the non-constant variance (σ_{it}^2) in addition to the mean (μ_{it}). Since our purpose is to estimate the institutional factors' effects on both the mean and variance, we can reparameterize the likelihood function as follows:

$$L = \prod_{i=1}^n \prod_{t=1}^T \frac{1}{\sqrt{2\pi \exp(W_{it}\beta)}} \exp\left[-\frac{1}{2}\left(\frac{(Y_{it} - X_{it}\alpha)^2}{\exp(W_{it}\beta)}\right)\right] \quad (2)$$

⁷ For the statistical approach that focuses on the stochastic components in the political science literature, see Franklin (1991), Jacoby (1988), Tsebelis (1999), Alvarez and Brehm (1995), and Paolino (2001).

⁸ This likelihood function depends on the Normal distribution. With the Normal distribution, we should assume that the agency officials' preferences are distributed symmetrically and centered on its mean. However, in the previous discussion of spatial model, the agency officials' preferences were assumed to be spread with the Beta distribution. Despite this difference, simulations show that the predictions regarding the conditional mean and variance remain the same with these two different distributions.

Now, we have one equation for the conditional mean $\mu_{it} = X_{it}\alpha$ and the other equation for the conditional variance $\sigma_{it}^2 = \exp(W_{it}\beta)$. In other words, the conditional mean (the level of regulatory policy outputs) and the conditional variance (the variability of agency's regulatory choices) are assumed to be determined by two different sets of variables X_{it} and W_{it} , respectively. Then we can estimate parameter vectors β and α by maximizing the following log-likelihood function:

$$\ln L = \sum_{i=1}^n \sum_{t=1}^T \ln \left(\frac{1}{\sqrt{2\pi \exp(W_{it}\beta)}} \exp \left[-\frac{1}{2} \left(\frac{(Y_{it} - X_{it}\alpha)^2}{\exp(W_{it}\beta)} \right) \right] \right) \quad (3)$$

$$= -\frac{N}{2} \ln(2\pi) - \frac{1}{2} \sum_{i=1}^n \sum_{t=1}^T W_{it}\beta - \frac{1}{2} \sum_{i=1}^n \sum_{t=1}^T \left(\frac{(Y_{it} - X_{it}\alpha)^2}{\exp(W_{it}\beta)} \right) \quad (4)$$

Model specifications for these two equations can be straightforward. First, the conditional mean equation can be specified in a partitioned form as follows to test the hypotheses about the effect of the location of the policy equilibrium interval on the level of regulatory policy outputs or bureaucratic responsiveness:

$$\text{Policy Output Level } (\mu_{it}) = \alpha_0 + \alpha_1 X_{it1} + \alpha_2 X_{it2} \quad (5)$$

where X_{it1} includes a set of measures on the location of the policy equilibrium interval in the policy space (i.e., lower and upper limits) and issue salience and X_{it2} is a set of other control variables. More specifically,

$$\begin{aligned} X_{it1} &= \text{Location of the PEI, Issue characteristics,} \\ &\quad \text{Location of the PEI*Issue characteristics} \\ X_{it2} &= \text{Control variables} \end{aligned}$$

Second, the specification for the conditional variance equation can be done in a partitioned form as follows to test the effect of the size of the policy equilibrium interval on the variability of regulatory policy choice or the degree of bureaucratic autonomy:

$$\text{Variability of Policy Choices } (\sigma_{it}^2) = \exp(\beta_0 + \beta_1 W_{it1} + \beta_2 W_{it2}) \quad (6)$$

where W_{it1} is a set of measures on the size of the policy equilibrium interval and issue salience and W_{it2} includes a set of other control variables.

W_{it1} = Size of the PEI, Issue characteristics, Size*Issue characteristics
 W_{it2} = Control variables

In order to examine the non-constant institutional effects that are theoretically predicted to vary with the skewness of the agency preference distribution, I use Quantile Regression (Koenker and Bassett 1978; Buchinsky 1994). Quantile Regression, via the Minimum Distance (MD) algorithm, enables us to estimate institutional effects at different quantiles of the entire distribution of the dependent variable (Y_{it}) or regulatory policy actions of agencies.⁹

Following Koenker and Bassett (1978), the θ th conditional quantile of the dependent variable Y_i given a vector of X is given by:

$$Q_\theta(Y_i|X_i) = X_i b_\theta, \text{ where } i = 1, \dots, n \text{ and } 0 < \theta < 1 \quad (7)$$

And, it is known that the θ th population quantile can be defined as a solution to the following minimizing problem:

⁹ Koenker and Bassett (1978) contend that the MD estimators are useful especially when the Gaussian assumption of constant variance of the disturbances (homoscedasticity) is not maintained. However, the merit of Quantile Regression has been found in regard primarily to its flexible applicability rather than its robustness itself. For instance, Buchinsky (1994) uses Quantile Regression to examine different (wage) returns to workers' education and experience at different quantiles of the distribution of wages. Koenker and Hallock (2001) review applications of this model in various contexts.

$$\underset{\rho}{Min} \left[\sum_{Y_i \geq \rho} \theta |Y_i - \rho| + \sum_{Y_i < \rho} (1 - \theta) |Y_i - \rho| \right] \quad (8)$$

From this, we can consider the θ th conditional quantile, $Q_\theta(Y_i|X_i)$, as a solution to the following minimizing problem:¹⁰

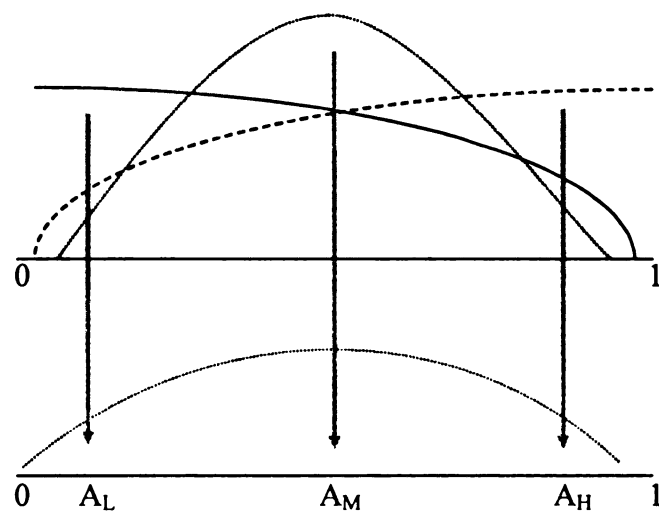
$$\underset{\rho}{Min} \left[\sum_{Y_i \geq \rho} \theta |Y_i - \rho| + \sum_{Y_i < \rho} (1 - \theta) |Y_i - \rho| \mid X_i \right] \quad (9)$$

Since $Q_\theta(Y_i|X_i) = X_i b_\theta$, the solution to the problem is $X_i b_\theta$. We can estimate b_θ for a given X at any θ th quantile, and unsurprisingly b_θ can differ at different θ 's.

Figure 7 graphically illustrates how we can examine the non-constant institutional effects by employing Quantile Regression. A_L represents a regulatory agency that is skewed to the minimal regulation, A_M represents a regulatory agency that is unskewed, and A_H represents a regulatory agency that is skewed to stronger regulation. Since these agencies' regulatory actions approximate their officials' preference distribution, these agencies can be mapped onto the anti- and pro-regulation space as $A_L < A_M < A_H$. We can construct the distribution of agencies based on the heteroscedastic agency preference distribution in this way. Then, we can assume that the lower tail of the distribution of agencies consists of agencies that are biased to deregulation, the middle consists of agencies that are unskewed, and the upper tail consists of agencies that are biased to regulation. Therefore we can expect that the effects of the institutional preferences (location) on a regulatory agency's policy outputs (level) will be greater at the lower and upper tails than at the middle.

¹⁰ Median Regression is a special case where θ is set to 0.5, which yields the Least Absolute Deviation (LAD) estimator.

Figure 7. Mapping Agencies onto Policy Continuum



Note: A_L : Skewed to the minimal regulation
 A_M : Unskewed
 A_H : Skewed to the maximal regulation

In sum, these statistical approaches provide the opportunity to examine the concurrence of bureaucratic responsiveness and bureaucratic autonomy and the mediating role of the agency preference distribution. By using the ML Heteroscedastic Normal Regression Model, we can test fundamental dynamics that underlie the two processes (responsiveness and autonomy) as identified by the spatial model in one integrative framework. By using Quantile Regression, we can account more accurately for the mediating impact of bureaucratic preferences on those institutional effects.

CHAPTER 4

POLITICAL INSTITUTIONS AND OCCUPATIONAL SAFETY AND HEALTH REGULATION

The substantive focus of this dissertation is on federal and state occupational safety and health regulation. The Occupational Safety and Health Act (OSH Act) was enacted in 1970. The statutory goal of the OSHA Act was “to ensure safe and healthful working conditions for working men and women.” The Occupational Safety and Health Administration (OSHA) was created in the Department of Labor to enforce the law. The agency was given the authority to promulgate and enforce national standards for workplace conditions. State governments could avoid the promulgation of federal workplace rules by obtaining OSHA’s approval for their own program on the condition that the state programs be “as effective as” federal programs in protecting workers from industrial risks and hazards. In the fiscal year 2004, OSHA has an authorized staff of 2,220, including 1,123 inspectors and appropriations of \$457.5 million.

In this chapter I describe the regulatory structure in which state and federal OSHA agencies operate and institutional environments in which political institutions---the president and congressional actors---interact with each other to influence the agency. In the previous chapter, I argued that OSHA inspectors’ regulatory policy choices would be influenced by the interactions among political institutions. I also proposed that those political institutions could be intertwined with each other in three different ways. According to the majoritarian perspective, the important features of the inter-institutional interactions are the executive veto and bicameralism. Due to these constitutional rules, the set of the president, the House median, and the Senate median may collectively

influence OSHA. Second, the distributive politics perspective emphasizes the role of the congressional committee in addition to the majoritarian actors. In the case of OSHA, the role of House and Senate Labor Committees and the House and Senate Appropriations Subcommittees can be closely examined. Third, according to the party government perspective, the House and Senate median members and Committee median members will behave in a close alignment to the majority party median. Since OSHA has been a controversial issue that has divided among labor and business interests from the beginning, we can examine whether the actual interactions among these political institutions in fact reflect the partisan conflicts in the legislative policymaking process.

In the first part I describe the Occupational Safety and Health Act of 1970 and the functions of OSHA as defined by the law. This overview will provide information about OSHA officials' authority and tasks in enforcing the occupational safety and health rules. In the second part I describe how the political institutions interacted with each other to influence agency policy and behavior throughout the legislative history of bills and provisions that were related to occupational safety and health policy between 1968 and 2000.

4.1. The Occupational Safety and Health Act of 1970

The Occupational Safety and Health Act (OSH Act) of 1970 was the first federal law that established comprehensive national standards for job safety and health in all industries. The OSH Act authorized the creation of three agencies to set and enforce mandatory health and safety standards, to conduct research on occupational hazards and their control, and to review contested enforcement actions. The three agencies were the

Occupational Safety and Health Administration (OSHA), the National Institute of Occupational Safety and Health (NIOSH), and the Occupational Safety and Health Review Commission (OSHRC).

OSHA is a regulatory agency that sets and enforces regulations concerning the control of health and safety hazards in workplaces. It began its operation as a part of the Department of Labor on April 28, 1971. The agency is headed by the Assistant Secretary of Labor for Occupational Safety and Health, who is appointed by the president with the Senate's consent. The Secretary of Labor has delegated authority to the Assistant Secretary to administer the OSH Act. OSHA sets mandatory health and safety standards, inspects workplaces to ensure compliance, and proposes penalties and prescribes abatement plans for employers who are found violating the standards. OSHA also provides for public, worker, and employer education and consultation, mostly through grant activities. OSHA partially supports the operations of state agencies operating state plans up to 50 percent and monitors their performance.

NIOSH is a research agency within the Center for Disease Control (CDC) of the U.S. Public Health Service in the Department of Health and Human Services (HHS). NIOSH is headed by a director appointed by the Secretary of HHS for a term of six years. It was created from what had been the Bureau of Occupational Safety and Health and started operations as NIOSH on June 30, 1971. It conducts research and related activities on developing criteria or recommendations to be used by OSHA in setting standards, on identifying and evaluating workplace hazards, and on measurement techniques and control technologies, as well as providing professional education and disseminating health and safety information.

The OSHRC has three members appointed by the president, with the advice and consent of the Senate, for staggered terms of six years. Its duties are limited to reviewing and resolving disputes concerning OSHA citations and penalties. In doing so, the Commission can interpret the meaning of OSHA standards and thus determine the nature and scope of many employers' obligations concerning employee health and safety.

4.2. Functions of the Occupational Safety and Health Administration

Major functions of OSHA include standard-setting rulemaking, enforcement of the standards, and assistance to employers' compliance with the standards.

4.2.1. Standard-Setting Rulemaking

The OSH Act has provided OSHA with three different methods to establish health and safety standards. First, OSHA could issue startup (interim) standards. Section 6(a) of the Act provided the ground for interim standards: "the Secretary shall, as soon as practicable during the period beginning with the effective date of this Act and ending two years after such date, by rule promulgate as an occupational safety or health standard any national consensus standard, and any established Federal standard, unless he determines that the promulgation of such a standard would not result in improved safety or health for specifically designed employees." Second, OSHA could issue permanent standards. Section 6(b) authorized the Secretary to issue new standards and to modify or revoke existing ones through informal rulemaking through a multi-step process: the receipt of a criteria document from NIOSHA, with reports from employers, labor unions, or academic concerning a hazard, or with a petition for a standard from an interested

group. Lastly, OSHA was authorized to issue Emergency Temporary Standards (ETS) under section 6(c) of the Act. An ETS could be issued if OSHA determined that employees were exposed to a “grave danger” (6(c)(1)(A)) and that an emergency standard was “necessary to protect employees from such danger”(6(c)(1)(B)).

OSHA currently has health standards for about 410 chemical substances. In most cases, OSHA specifies the maximum levels for employee exposure, which is called the Permissible Exposure Limits (PELs). Most of these standards were adopted in 1971 by OSHA under section 6(a) as consensus standards or “startup standards.” These consensus standards had been developed by industrial safety engineers and hygienists as models of the best practice.

In addition to the initial lump-sum adoption of private standards, OSHA has issued 34 health standards between 1971 and 2001 (Table 1). The number of new standards remained almost constant over periods of 10 years: 10 in the 1970s, 11 in the 1980s, and 13 in the 1990s. In addition to standards for hazardous chemicals, OSHA has also set standards for other issues such as electrical, mechanical, fire protection, construction, and maritime safety in workplaces. Between 1971 and 2001, OSHA issued 52 final safety standards (Table 2).

4.2.2. Enforcement

Inspections and enforcement are the heart of the regulatory scheme in the OSH Act. The goals of enforcement are to correct identified hazardous conditions in inspected plants and to provide an incentive for other plants to take appropriate actions to control hazards. Procedures of OSHA inspections are outlined in several manuals. During inspections,

Table 1. OSHA Health Standards (1972- 2001)

Toxic and Hazardous Substance	Final Standard
Asbestos	06/1972
13 Carcinogens	01/1974
Vinyl chloride	10/1974
Coke oven emissions	10/1976
Benzene	02/1978
DBCP	03/1978
Inorganic arsenic	05/1978
Cotton dust	06/1978
Acrylonitrile	10/1978
Lead	11/1978
Cancer policy	01/1980
Access to employee exposure/medical records	05/1980
Occupational noise exposure	01/1981
Hazard communication	01/1983
Ethylene oxide	06/1984
Asbestos – revision	06/1986
Field Sanitation	05/1987
Benzene – revision	09/1987
Formaldehyde	12/1987
Access to employee exposure/medical records – revision	09/1988
Air contaminants PELs update	01/1989
Hazardous chemicals in laboratories	01/1990
Bloodborne pathogens	12/1991
4,4-Methylenedianiline	08/1992
Cadmium	06/1993
Asbestos – court remand	06/1992
Formaldehyde – court remand	05/1992
Lead – construction	05/1993
Asbestos	08/1994
1,3-Butadiene	11/1996
Methylene Chloride	01/1997
Respiratory protection	01/1998
Ergonomics	11/2000
Bloodborne pathogens – revision	01/2001
Ergonomics – revoked	06/2001

Source: U.S. Congress, Office of Technology Assessment. 1985. *Preventing Illness and Injury in the Workplace*. p. 228; Subcommittee on Workforce Protections of the Committee on Education and the Workforce, House of Representatives. The 107th Congress. “The OSHA Rulemaking Process.” pp.106-128.

Table 2. OSHA Safety Standards (1972-2001)

Safety Standards	Final Standard
Cranes/derricks (load indicators)	07/1972
Roll-over protective structures (construction)	04/1972
Power transmission and distribution	11/1972
Scaffolding, pump jack, and roof catch platform	12/1972
Lavatories for industrial employment	05/1973
Trucks, cranes, derricks, and indoor storage	06/1973
Temporary flooring—skeleton steel construction	07/1974
Mechanical power presses	12/1974
Telecommunications	03/1975
Roll-over protective structures for agricultural tractors.	04/1975
Industrial slings	06/1975
Guarding of farm field equipment	03/1975
Ground-fault protection	12/1976
Commercial diving operations	07/1977
Servicing multi-piece rim wheels	01/1980
Fire protection	09/1980
Guarding of low-pitched roof perimeters	11/1980
Design safety standards for electrical standards	01/1981
Latch-open devices (on gasoline pumps)	09/1982
Marine terminals	07/1983
Servicing of single/multi-piece rim wheels	02/1984
Electrical safety in construction	07/1986
General environmental controls	09/1986
Marine terminals servicing single piece rim wheels	09/1987
Grain handling facilities	12/1987
Safety testing of certification of equipment	08/1988
Crane or derrick suspended personnel platforms	08/1988
Concrete and masonry construction	06/1988
Mechanical power presses – modified	03/1988
Powered platforms	07/1989
Underground construction	06/1989
Hazardous waste operations	03/1989
Excavations	10/1989
Control of hazardous energy sources	09/1989
Stairways and ladders	11/1990
Concrete and masonry lift-slab operations	10/1990
Electrical safety work practices	08/1990
Welding, cutting, and brazing	04/1990
Chemical process safety	02/1992
Confined spaces	01/1993
Fall protection	08/1994
Electrical power generation	01/1994
Retention of DOT markings, placards, and labels	07/1994

Table 2 (Cont'd)

Safety Standards	Final Standard
Personal protective equipment	04/1994
Logging operations	10/1994
Scaffolds	08/1996
PPE for shipyards	05/1996
Longshoring and marine terminals	07/1997
Powered industrial truck operator training	12/1998
Confined spaces – amended	12/1998
Dipping and coating – rewrite	07/1999
Steel erection	01/2001

Source: U.S. Congress, Office of Technology Assessment. 1985. *Preventing Illness and Injury in the Workplace*. p. 229; Subcommittee on Workforce Protections of the Committee on Education and the Workforce, House of Representatives. The 107th Congress. Hearing on “The OSHA Rulemaking Process.” June 2001. pp.106-128.

OSHA inspectors look for any violations, following the procedures and interpretations issued by OSHA in its *Field Inspection Reference Manual* (FIRM), *Field Operations Manual* (FOM), *Industrial Hygiene Manual*, and program guidelines.

OSHA conducts several different kinds of inspections. The most basic distinction is between inspections for safety hazards and those for health hazards. OSHA Compliance Safety and Health Officers (CSHO) consist of safety inspectors and health inspectors. Safety officers are specialists at industrial safety engineering and enforce OSHA safety rules; health officers are certificated industrial hygienists and enforce health rules concerning toxic and hazardous chemical substances.

OSHA classifies its inspections by priority (*FIRM* Ch. I. B(3)). The order of priority is a) imminent danger, b) fatality and catastrophe investigations, c) complaints and referrals investigations, and d) programmed inspections. Imminent danger inspections are conducted when OSHA learns of a hazard that can be expected to cause death or serious physical harm before it could be eliminated through normal enforcement activity. Catastrophe and fatality investigations are spurred by reports of fatal occupational injuries or of incidents that result in the hospitalization of five or more employees. The third priority is employee complaints. Under section 8(f) of the OSH Act, employees and their representatives who believe that an employer is violating a health and safety standard may request an inspection. OSHA schedules inspections to respond to what it determines are valid complaints. The lowest priority inspections are programmed ones. These programmed inspections focus on industries with high injury rates or those with known health hazards.

Under the OSH Act, employers are responsible for compliance with OSHA standards. They have two major duties. First, unless they have obtained a variance, employers are required by section 5(a)(2) of the OSH Act to comply with the terms of OSHA standards and regulations (so called "specific duty clause"): "Each employer shall comply with occupational safety and health standards promulgated under this Act." Second, employers must also comply with section 5(a)(1) of the Act (so called "general duty clause"): "Each employer shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees." To prove a violation of the general duty clause, OSHA must demonstrate that the employer failed to render the workplace free of a "recognized" hazard that was causing or was likely to cause death or serious physical harm. OSHA and the courts have held that a hazard is recognized if it is of common knowledge in the industry in question and detectable by the senses or by techniques generally known and accepted by the industry.

When there is a disagreement over OSHA enforcement, any affected parties can take formal actions within first 15 days (OSH Act Sec. 10; *FIRM* Ch. IV). An employer who disagrees with OSHA concerning a citation, a proposed penalty, or the date for abatement of the hazard can file a "notice of contest." Employees also have an independent right to contest the reasonableness of the length of the proposed period of time for abatement of a hazard. When contested, a hearing is held before an Administrative Law Judge (ALJ) who is an employee of the OSHRC. The ALJ examines the evidence and decides whether to affirm, vacate, or modify OSHA's citation and penalties. After this decision, any party can petition the OSHRC to review the

decision of the ALJ. The Commission can grant such review either upon request or by its own choice. Unless it is ordered to be reviewed within 30 days by a member of OSHRC, the ALJ decision becomes a final order of the Commission. Any person adversely affected or aggrieved by an order of the Commission can petition a U.S. Court of Appeals for a judicial review within 60 days (OSH Act Sec. 11).

4.2.3. Compliance Assistance

Section 2(b)(2) of the OSH Act encourages “employers and employees in their efforts to reduce the number of occupational safety and health hazards at their places of employment, and to stimulate employers and employees to institute new and to perfect existing programs for providing safe and healthful working conditions.” Moreover, section 21(c) provides specific authorization for OSHA to conduct “education and training of employers and employees in the recognition, avoidance and prevention of unsafe or unhealthful working conditions” and to “consult with and advise employers and employees, and organizations representing employers and employees as to effective means of preventing occupational injuries and illnesses.”

To meet these statutory goals, OSHA currently operates various educational and cooperative programs. For education and training, OSHA has developed its *Outreach Training Program*, which trains individuals to teach others the basics of occupational safety and health. After taking a one-week course, trainers teach 10-30 hour courses in construction or general industry safety and health standards. OSHA Training Institute (OTI) Education Centers, located throughout the country, offer the public 15 courses and one seminar developed by the OTI staff on the topics of industrial hygiene,

recordkeeping, ergonomics, and construction-related issues. OSHA also presents satellite broadcasts and simultaneous web-casts on new rules and guidance documents. OSHA awards training grants under the Susan Harwood Training Grant Program to nonprofit organizations to train workers and employers to recognize, avoid, and prevent safety and health hazards in their workplaces.

As for cooperative programs, OSHA offers a variety of programs that enable the agency to work cooperatively with trade or professional organizations, businesses, labor organizations, educational institutions, and government agencies. OSHA's *Alliance Program* enables trade or professional organizations, businesses, labor organizations, educational institutions, and government agencies that share an interest in workplace safety and health to collaborate with OSHA to prevent injuries and illnesses in the workplace. OSHA and the organizations sign formal agreement with goals that address training and education, outreach and communication, and promotion of the national dialogue on workplace safety and health. OSHA's *Onsite Consultation Program* helps small businesses---particularly those in high-hazard industries or involved in hazardous operations---to meet their obligations under the OSH Act and federal and state standards by conducting onsite surveys. Consultants also help employers develop and implement safety and health management systems that eliminate or control injuries and illnesses. The program recognizes small employers that operate exemplary safety and health management systems through the *Safety and Health Achievement Recognition Program* (SHARP).

The *OSHA Strategic Partnership Program* (OSPP) tries to bring together employers, employer groups, employees or their unions, and OSHA to address specific

safety and health issues. An agreement between partners may be local, regional, or national in scope. A partnership agreement sets measurable goals and individual responsibilities, specifies an action plan and a measurement system, and provides procedures for verifying results. OSHA also has *Voluntary Protection Programs* (VPPs) that include a rigorous on-site initial evaluation by expert OSHA teams to verify site performance and regular evaluations afterwards. VPPs focus on comprehensive safety and health management systems that go well beyond OSHA standards. In addition, Compliance Assistance Specialists (CASs) in each OSHA area office respond to requests for off-site safety and health assistance. Small businesses, trade associations, union locals, and community and faith-based groups may call on CASs to speak at seminars, workshops, and other events.

4.3. State Occupational Safety and Health Programs

Many who supported passage of the Occupational Safety and Health Act in 1970 believed that a federal program was necessary because the existing ‘patch-work’ system of state programs was inadequate. But during congressional deliberations, a coalition of business leaders, state government officials, a number of members of Congress, and the Nixon administration pushed for the inclusion of ‘state plan’ programs in the OSH Act. The OSH Act established a mechanism that enables states to regulate worker health and safety subject to federal monitoring and approval. Section 18 of the Act declares that a state program must, in general, “provide for the development and enforcement of safety and health standards which ... are or will be at least as effective” as federal standards.

Under the OSH Act, states and territories can develop their own occupational safety and health programs, which must be approved and monitored by the federal OSHA (Sec. 18(c)). OSHA provides up to 50 percent of an approved state program's operating costs. The development of a state program is a stepwise process. After application and initial approval on the development plan from OSHA, the state can begin to enforce health and safety standards. States can adopt the existing federal standards. States also can enforce their own standards, which OSHA has deemed to be "at least as effective" as the corresponding federal ones. The first 3 years of a state program are called the "developmental stage." At the time of initial plan approval, both OSHA and the state agency have concurrent jurisdiction—both have the authority to conduct inspections and cite employers, and employers must therefore comply with both federal and state standards. Any time after initial approval, however, as soon as the state is "operational," OSHA may suspend its concurrent enforcement jurisdiction through an "operational status agreement." After all developmental steps are completed OSHA can issue a certification of the plan. If the state meets all of OSHA's requirements, it becomes eligible for "final approval" one year after certification. After the final approval, the concurrent federal enforcement authority is relinquished under section 18(e) of the Act.

The requirement that states maintain a program "at least as effective" as federal program means that if OSHA issues new or revised regulations, state agencies also must follow the change, issuing an equivalent change, or making the case that there is no need to alter the regulation. In all stages of its operation, OSHA monitors the quality of the state program. Monitoring may involve "spot checks"—inspections by federal personnel

after a state inspection, or “accompanied” monitoring visits in which federal personnel observe a state inspector during an inspection.

As of 2004, 21 states and 2 U.S. territories have “state plan” programs covering both the private and public sectors (Table 3). Of the 23 state programs, 15 states, including South Carolina, Utah, North Carolina, Iowa, Minnesota, Maryland, Tennessee, Kentucky, Alaska, Nevada, Hawaii, Indiana, Wyoming, Arizona, and Virginia, have obtained OSHA’s final approval status. The final approval status for the Virgin Islands was disapproved. Other states and territories, including Oregon, Washington, California, Michigan, Vermont, New Mexico, and Puerto Rico, have obtained OSHA’s certification status. In addition to those comprehensive state programs, 3 states such as Connecticut, New York, and New Jersey have obtained OSHA’s approval on partial programs covering government employees only. Twenty-nine states and territories and the District of Columbia that do not have their own programs are covered only by the federal OSHA program.

Table 3. State Occupational Safety and Health Programs

State	State Legislation	OSHA Initial Approval	OSHA Certification	OSHA Final Approval
S. Carolina	06/12/1973	11/30/1973	08/03/1976	12/15/1987
Oregon	07/01/1973	12/28/1972	09/15/1982	
Utah	07/01/1973	01/04/1973	11/19/1976	07/16/1985
Washington	03/19/1973	01/26/1973	01/26/1980	
N. Carolina	05/01/1973	01/26/1973	10/05/1976	12/10/1996
Iowa	07/01/1972	07/20/1976	09/14/1976	07/02/1985
California	09/1973	04/24/1973	08/12/1977	
Minnesota	01/25/1973	05/29/1973	09/28/1976	07/30/1985
Maryland	07/01/1973	07/05/1973	02/15/1980	07/18/1985
Tennessee	07/01/1972	07/28/1973	05/03/1978	07/22/1985
Kentucky	03/27/1972	07/31/1973	02/08/1980	07/13/1985
Alaska	07/24/1973	07/31/1973	09/09/1977	09/26/1984
Virgin Islands	02/26/1974	09/11/1973	09/22/1981	11/13/1995 Disapproved
Michigan	07/18/1974	09/24/1973	01/13/1981	
Vermont	04/03/1974	10/01/1973	03/04/1977	
Nevada	11/05/1973	12/28/1973	08/13/1981	04/18/2000
Hawaii	05/16/1972	12/28/1973	04/26/1978	04/30/1984
Indiana	05/01/1973	02/25/1974	10/16/1981	09/26/1986
Wyoming	01/01/1974	04/25/1974	12/30/1980	06/27/1985
Arizona	09/1974	10/29/1974	09/18/1981	06/20/1985
New Mexico	09/1975	12/04/1975	12/04/1984	
Virginia	02/1973	09/23/1976	08/15/1984	11/30/1988
Puerto Rico	07/07/1975	09/07/1982		

Source: 29 *The Code of Federal Regulation* (CFR) PART 1952, Approved State Plans for Enforcement of State Standards, pp. 19-123.

4.4. Institutional Environments of OSHA

In this section I describe the history of the legislative decisions on bills and statutory provisions related to OSHA between 1968 and 2000 to show how political institutions interacted with each other to change occupational safety and health policy. I examine the interactions among institutional actors in several legislative events: the enactment of the Occupational Safety and Health Act (1968 -1970), the small business exemption issues in the Labor-HEW Appropriations bills (1972-1980), the issue of workers' right to know in the deliberation of the Risk Notification bill (1986-1988), and the overhaul and reform of OSHA (1992-1996). Narratives of these legislative actions are aimed at substantively revealing messages generated by the political institutions and received by OSHA in regards with what kind of policy options were politically permissible. These descriptions will also portray how the interactions among the president, the congressional committees, and the parties have dynamically evolved surrounding OSHA issues over the long period of time.

4.4.1. Enactment of the Occupational Safety and Health Act (1968-1970)

The enactment of the Occupational Safety and Health Act of 1970 took three years. All institutional actors such as the president, the House, the Senate, and congressional committees played important parts in the legislative process. Presidents Johnson and Nixon provided clear policy agendas to be discussed in Congress, and congressional actors such as the Labor Committees, floor majorities, and the parties engaged each other

to make their own views reflected in the legislative outcome. Unsurprisingly, OSHA was created as a result of the interactions among those institutional actors.

In his message to Congress on January 23, 1968, President Johnson addressed work safety problems. After declaring that “it is to the shame of a modern industrial nation, which prides itself on the productivity of its workers” that each year 14,500 workers were killed and 2.2 million workers were injured, he promised to launch an “attack” against the “source of the evil” (*CQ Almanac* 1968: 35-A). He acknowledged that the federal government had offered no sufficient safeguards for workforces: safety standards were narrow; research lagged behind; enforce programs were weak; safety specialists fell far short of the need. He called government programs for job safety a “patchwork of obsolete and ineffective laws.”

President Johnson’s proposal (HR 14816 and S 2864) was to empower the Secretary of Labor to issue mandatory national standards for employee health and safety and to close down plants if any imminent danger had been found. Federal inspectors would be authorized to enter plants and order the immediate cessation of harmful practices upon the Secretary’s determination. These decisions on the violations of the standards could be reviewed by the U.S. courts. The preexisting state standards could be maintained only if the Secretary approved them as being as effective as the federal rules.

Several hearings were held in the House and Senate Labor Committees in 1968. In the first hearing held by the Senate Labor and Public Welfare Subcommittee on Labor on February 15, 1968, Labor Secretary W. Willard Wirtz contended that “This country faces a safety problem that has been with us for so long that as a nation we have become impervious to its tragedy. The causality list is large and growing, yet the public voice

has been too little raised.” He emotionally continued, “Every minute we talk, 18 to 20 people will be hurt severely enough to have to leave their jobs, some never to work again” (*CQ Almanac* 1968: 675). However, the Johnson bill met strong opposition by powerful business groups including the Chamber of Commerce of the United States, the National Association of Manufacturers (NAM), the American Iron and Steel Institute, the American Medical Association, the Manufacturing Chemists’ Association, and others. Throughout the spring and summer of 1968, business lobbyists made frequent visits to key members of the House and Senate committees. The Chamber of Commerce even assigned William J. Fannin, son of Senator Paul J. Fannin (R-Arizona), who was a member of the Senate Labor Committee, to try to block the bill (*CQ Almanac* 1968: 677). Critics claimed that the Johnson bill would lead to arbitrary decisions by the empowered Secretary and enormous economic costs and would bring the federal government into an area in which state governments had operated their own programs.

Amid intensive business lobbying, the House Education and Labor Committee replaced the original Johnson bill with a more lenient modification (HR 14816). This bill, introduced by William D. Hathaway (D-Maine) and cosponsored by 12 Democratic members of the Committee, reduced the power concentrated in the hands of the Labor Secretary; the Secretary was allowed to promulgate preexisting “consensus” standards developed by industrial standards-setting organizations and to appoint advisory committees for drawing up new standards; penalties for violations became subject to judicial review; a court injunction was required to close down a plant. The House Labor Committee reported the amended bill on July 16. However, the House Rules Committee never cleared the bill for floor consideration and the bill died. The Senate Labor

Committee held a series of hearings on the presidential bill (S 2864), but it did not take further action.

Newly-elected President Nixon could not ignore the growing concerns about workplace conditions which resulted in casualties. In his message to Congress on occupational safety on August 6, 1969, President Nixon urged Congress to take action to improve job safety. He remarked,

The side effects of [technological] progress present special dangers in the workplaces of our country. For the working man and woman, the by-products of change constitute an especially serious threat. Some efforts to protect the safety and health of the American worker have been made in the past both by private industry and by all levels of government. But new technologies have moved even faster to create newer dangers. Today we are asking our workers to perform far different tasks from those they performed five or fifteen or fifty years ago. It is only right that the protection we give them is also up-to-date. (*CQ Almanac* 1969: 68-A)

Although President Nixon acknowledged the urgent need for workplace protection as did his predecessor, he had a different plan. In his message, Nixon proposed the following specific recommendations:

- Safety and health standards would be set by a new National Occupational Safety and Health Board.
- The Secretary of Labor would have the initial role in enforcing the standards which the Board establishes.
- The state governments would be encouraged to submit plans for expanding and improving their own occupational safety and health programs.
- The Secretary of Health, Education and Welfare would be given the specific assignment of developing and carrying out a broad program of study, experiment, demonstration, education, information, and technical assistance.
- A National Advisory Committee on Occupational Safety and Health would be established to advise the Secretary of Labor and the Secretary of Health, Education and Welfare in the administration of the Act.

The Nixon bills (HR 13373 and S 2788) were to establish an independent board to administer the federal regulation. The powers of the Secretary of Labor were limited to enforcing standards set by the independent board. To counter the Republican version,

liberal Democrats inserted their own versions (HR 3809 and S 2193) into the legislative process. Similar to the Johnson proposal, these bills authorized the Secretary of Labor to set up and enforce safety and health standards while leaving the responsibility for research on those standards to the Secretary of Health, Education and Welfare.

In the following hearings, business interests expressed opposition to both versions. For instance, in the House Committee Hearing on October 16, 1969, J. Sharp Queener from the Chamber of Commerce urged Congress to dilute the Nixon proposal by making the federal program apply only where the states failed to act and by granting the power to use injunctions for violations to the courts rather than the Secretary of Labor. He emphasized that the national standards should only be guidelines, not permanent rules. Wayne T. Brooks from the American Iron and Steel Institute contended that the federal regulation “moves into the very essence of industrial and business operation” (*CQ Almanac* 1969: 569). Endorsement of the administration bill came from some industrial health organizations such as the American Academy of Occupational Medicine and the American Industrial Hygiene Association and some insurance company associations such as the American Insurance Association and the American Mutual Insurance Alliance.

In contrast, organized labor interests were united in support of the Democratic bills. In the House Committee Hearing on October 15, 1969, Andrew J. Biemiller, director of legislation for the AFL-CIO, supported the Democratic bills that empowered the Labor Secretary and criticized the Nixon bills on the ground that the proposed independent board would be “another layer of bureaucracy, remote from the problems of workers facing everyday work hazards” (*CQ Almanac* 1969: 569). Representatives of

other labor union organizations also appeared before the Senate Committee to support the Democratic bills. Thomas E. Boyle, president of International Chemical Workers Union, also urged congressional support of S 2193 and HR 3809.

In 1970 the House and Senate Labor Committees reported the Democratic versions to their respective floors. On July 9, 1970, despite the strong opposition from Republican members, the Democratic-dominant House Education and Labor Committee reported a bill (HR 16785) that was similar to the previous year's Democratic version. Twelve Republican members of the Committee signed minority views arguing that the Committee bill was unacceptable to them since it would create a monopoly function in the Department of Labor. However, on November 24, 1970, the House floor adopted, on a 220-173 roll-call vote, a substitute amendment introduced by William A. Steiger (R-Wisconsin) and Robert L. F. Sikes (D-Florida). The coalition of Republicans and conservative Southern Democrats successfully replaced key provisions of the Committee bill with the Steiger-Sikes amendment that established an independent board to promulgate safety and health standards and an appeals commission to enforce regulations. While Northern Democrats overwhelmingly opposed the amendment (6-135), Republicans (154-17) and Southern Democrats (60-21) supported it.

On October 6, 1970, the Senate Labor and Public Welfare Committee also reported the Democratic bill (S 2193), introduced by Harrison A. Williams Jr. (D-New Jersey), which gave the Secretary of Labor responsibility for both setting and enforcing safety standards, while killing the Nixon bill (S 2788). On the Senate floor, Republican Senators tried to revamp the Committee bill. Peter H. Dominick (R-Colorado) introduced a substitute bill that allowed an independent board to set safety standards and

a special commission to enforce regulations and allowed only the courts to order a plant with an imminent danger to be shutdown. William B. Saxbe (R-Ohio) submitted an amendment that deleted the provision allowing the Labor Secretary to close down a plant with an imminent danger to workers. Liberal Democrats managed to defeat these Republican amendments. But the Senate approved, on a 43-38 roll-call vote, a compromise amendment offered by Jacob K. Javits (R-New York) which would create a three-member review commission. Liberal Democrats opposed the amendment by a solid vote (0-33) but could not offset the support of Republicans (32-0) and Southern Democrats (11-5).

Since there was a substantial gap between the House and the Senate bills, bicameral compromise in the conference was critical. Although conferees reached an agreement by mixing both versions, some key provisions of the Senate bill were maintained. Most importantly, the Steiger-Spikes amendment that would create an independent board to administer the program was dropped. Instead, the Secretary of Labor was granted full responsibility to promulgate safety and health standards. Conferees also retained other key provisions in S 2193, such as a rulemaking procedure for setting interim and permanent standards, a three-member Occupational Safety and Health Appeals Commission appointed by the president with the consent of the Senate, an additional Assistant Secretary of Labor for Occupational Safety and Health, a National Institute for Occupational Safety and Health, and pre-enforcement judicial review of a standard by a local circuit court. Some House-passed provisions were also retained in the conference report, including the requirement of a court order to end imminent danger.

Although the conference version drew mixed reactions from labor and business interests, final passage was assured when President Nixon and the Labor Department as well as some business and labor groups endorsed the bill (*Congress and the Nation* Vol. III: 713). President Nixon signed the bill on December 29, 1970, creating the Occupational Safety and Health Act.

4.4.2. Labor-HEW Appropriations Bills (1972-1980)

Opponents of the newly established regulation began to criticize the agency right after the creation of OSHA. The focus of the criticism was on the economic burdens and technological demands that small businesses should bear under the new occupational safety and health rules. The conservative coalition of Republicans and Southern Democrats in Congress tried to amend the OSH Act by granting exemptions for those small firms. However, neither the House Labor Committee nor its counterpart in the Senate took any action to change the enabling law. Since the House and Senate Labor Committees exercised their gatekeeping powers by rejecting every attempt to change provisions of the OSH Act, the hostility of conservative legislators toward OSHA programs was forced into the annual appropriations bill for the Department of Labor and the Department of Health, Education and Welfare in the 1970s.

On May 29, 1971, several months after the OSH Act became effective almost 250 pages of safety and health standards were published in the *Federal Register*. The newly-appointed Assistant Secretary of Labor for Occupational Safety and Health, George Guenther, announced five target industries and five target health hazards for initial concentration due to their high accident rates. The target industries were marine cargo

handling, roofing and sheet metal, meat and meat products, mobile home manufacturing, and lumber and wood products, and the five target hazards were asbestos, lead, silica, cotton dust, and carbon monoxide. Most plants in these industries were relatively small in size and lacked professional safety engineers or industrial hygienists.

Small businesses criticized the OSHA's administration of regulation on the ground that it was unfair to establishments lacking safety engineers and experts specialized in highly technical regulations. In 1972 Congress responded to the growing concerns with committee hearings by the House Select Small Business Subcommittee on Environmental Problems, the Senate Labor and Public Welfare Subcommittee on Labor, and the House Education and Labor Select Subcommittee on Labor. The biggest issue at these hearings was whether small businesses should be exempted from the OSH Act. In the Senate Labor and Public Welfare Subcommittee hearing on July 25, Richard B. Berman, an attorney for the Chamber of Commerce, testified that:

Small employers cannot realistically be expected to be acquainted with existing and continually changing requirements under the Act....Whatever is gained in compliance by the Act's punitive approach is lost many times over by the growing resentment, lack of respect and feelings of disenfranchisement felt by businessmen today. The Act should guarantee that a businessman will not be fined after an inspector's first visits if he did not know he was violating a standard. (*CQ Almanac* 1972: 792)

Republican committee members joined the anti-OSHA protest. Senators Carl T. Curtis (R-Nebraska) and Peter H. Dominick (R-Colorado) submitted a bill (S 3262) to amend the OSH Act of 1970. The bill would exempt small business employers from OSHA regulations and delay the effective date of OSHA coverage for small firms employing between 25 and 100 workers. Senator Dominick criticized the OSH Act of 1970 on the ground that:

The administration of the Act, due to the police-oriented approach which permeates the legislation, has gotten crosswise with Congress' original purpose to improve working conditions....Employers are punished for noncompliance with standards they know little about rather than assisted in complying. (*CQ Almanac* 1972: 793)

Organized labor opposed the Curtis-Dominick bill. In his testimony before the Senate hearing on July 27, Jacob Clayman from AFL-CIO criticized the proposed exemption of small businesses on the ground that "the highest concentration of health hazards, the fewest safeguards and the least awareness on the part of management of the threat to life" could be found in small businesses (*CQ Almanac* 1972: 793). Leonard Woodcock, president of the United Auto Workers (UAW), in the House Education and Labor Subcommittee on Labor hearing on September 28, said that excluding small businesses would "doom millions of workers to the continued presence and the insidious escalation of hazardous materials and hazardous conditions of employment" (*CQ Almanac* 1972: 794).

The House and Senate Labor Committees did not take further action regarding the issues of small business exemption. In order to bypass the Committees' gatekeeping, opponents tried to constrain OSHA's enforcement powers by using legislative riders on the funds for the agency. The first attempt took place in 1972. On June 7, the House Appropriations Committee reported out the Labor-HEW appropriations bill (HR 15417) appropriating \$28,239,346,500 for the two departments, including \$69,207,000 for OSHA. Although the portion for OSHA was less than 1 percent of the total Labor-HEW appropriations package, the serious debates which took place on the House floor were a harbinger for much more intense battles in later years. Representative David W. Dennis (R-Indiana) submitted an amendment deleting \$20 million for OSHA to "send a

message” to the agency that Congress was displeased with its implementation of the Act. Paul Findley (R-Illinois) offered another amendment to prohibit use of funds in the bill for inspecting firms employing 25 or fewer workers, and this amendment was adopted.

The Senate Appropriations Committee amended the House-passed Labor-HEW appropriations bill. It recommended \$12,498,000 more than the House appropriations, including an increase of \$10.8 million for OSHA to help the agency hire 400 additional inspectors, develop safety and health standards, and assist small businesses. Furthermore, the Senate Committee deleted the House amendment that exempted small businesses with 25 or fewer workers. The OSHA exemption provision appeared again on the Senate floor. Senator Curtis, who would later become the champion of the small business exemption in the Senate, offered an amendment to set the exemption ceiling at 25 persons for OSHA coverage. Liberal Democrats managed to defeat this amendment on a 41-44 roll-call vote. After this defeat, Curtis submitted another amendment that lowered the ceiling to 15 persons, which was approved. However, on August 16, 1972, President Nixon vetoed HR 15417, stating that the appropriations bill was an example of “reckless federal spending” (*CQ Almanac* 1972: 873).

After failing to override the veto, the House Appropriations Committee reported a revised Labor-HEW appropriations bill (HR 16654). On the House floor, the provision of 15-person ceiling for small business exemption, introduced by O.C. Fisher (D-Texas), was approved on a 191-182 roll-call vote. On the Senate floor, debates on OSHA provisions turned emotional. Six of seven roll-call votes were on amendments to the OSHA exemption ceiling. The House-passed ceiling of 15 workers was deleted by an amendment offered by Clifford P. Case (R-New Jersey) on a 47-33 roll-call vote. Curtis

countered with an amendment setting the ceiling at 7, which was defeated by a 38-43 roll-call vote. Curtis again lowered the ceiling to 4, which was defeated by a 39-39 tie vote. Curtis's final amendment setting the ceiling at 3 persons was approved by a 50-28 roll-call vote. Eventually, the House-Senate conferees agreed to the Senate ceiling at 3 and both houses approved it. However, on October 27, 1972, President Nixon again pocket vetoed the second Labor-HEW appropriations bill (HR16654).

In 1976 critics of OSHA in Congress finally succeeded in chipping away at the agency's power. On the House floor, nearly 13 hours of debate on the Labor-HEW appropriations bill (HR 14232) on June 23 and 24 were devoted to OSHA issues. Joe Skubitz (R-Kansas) submitted an amendment that would exempt farmers employing fewer than 10 workers from OSHA regulation. He referred to OSHA as a "monster" and read from OSHA regulations which reminded farmers that "manure could be slippery" (*CQ Almanac* 1976: 796). Although Democrats tried to stop the debate on the Skubitz amendment and lower the exemption ceiling to 5 persons, the House floor rejected the modified version and adopted the Skubitz amendment by 273-124. Paul Findley (R-Illinois) rode on the anti-OSHA tide and offered an amendment to exempt small business employing 10 or fewer workers from OSHA's first citations. The House again adopted Findley's amendment by 231-161.

On the Senate floor the situation was more complicated. John A. Durkin (D-New Hampshire) sought to soften the House-passed provision language for the blanket exemption for farms but mistakenly offered an amendment that would broaden the exemption. His proposal would exempt all firms of any size from OSHA's first instance fines for non-serious violations while deleting the House provisions that would exempt

small farms from any OSHA regulation and small businesses from first-time citations. Conservative Republicans and Southern Democrats wanted to save the blanket exemption provision. Strom Thurmond (R-South Carolina) argued that “OSHA has apparently decided that farmers are too dumb to understand the basics of farm safety” (*CQ Almanac* 1976: 800). James Abourezk (D-South Dakota) offered a compromise amendment to the Durkin proposal to exempt from all OSHA regulations farmers employing an average of 5 or fewer workers a day in addition to the exemptions on first-instance citations. But James B. Allen (D-Alabama), a conservative Southern Democrat, wanted to further restrict OSHA enforcement and offered amendments that would prohibit OSHA from issuing first-time citations to small businesses even for serious violations. Liberal Senators opposed the Allen proposals and successfully killed them. Fearing Allen’s parliamentary mastery and his promised filibuster, Senate Majority Whip Robert C. Byrd (D-West Virginia) stepped in and filed a petition to invoke cloture. In the end, Allen agreed to a modified version of Durkin amendment.

The conference report on HR 14232 included the House provision that would exempt farms with 10 or fewer employers from all OSHA regulation and the Senate provision that prohibited OSHA from issuing first-time citations to employers unless more than 10 serious violations were found in the first inspection. Although President Ford vetoed the \$56.6 billion appropriation bill, including the OSHA-related provisions, Congress overrode Ford’s veto.

From 1978 to 1980 conservative members of Congress tried to broaden the eligibility for exemption from OSHA regulation based not only the size but also the past safety records of establishments. In 1978 the House Small Business Committee tried to

amend the Small Business Administration (SBA) Act. An OSHA issue emerged during the Senate floor consideration on the bill. Senator Dewey F. Bartlett (R-Oklahoma) offered an amendment that would exempt small businesses with 10 or fewer employees from OSHA regulations. On August 2 the exemption was approved by voice vote. In the House-Senate conference, the SBA bill included the exemption from OSHA citations on firms with 10 or fewer employees unless 10 or more violations were found in the first inspection. And also the amendment would exempt small businesses with 10 or fewer employees from OSHA requirements for record-keeping and report. On October 11, 1978, Congress cleared the bill. However, President Carter pocket vetoed the bill on the ground that the bill included authorizations in excess of his requested budget. Accordingly the OSHA exemption provisions also died.

The House Appropriations Committee had already attached provisions that limited OSHA regulation to the 1978 Labor-HEW appropriations bill (HR 12929). The House floor approved three committee recommendations related to OSHA. The Labor-HEW appropriations bill prohibited OSHA from issuing fines for first-time non-serious violations unless the establishment was cited for more than 10 violations in first inspection. It also exempted farms with 10 or fewer workers from OSHA regulations. OSHA was also prohibited from restricting work in an area because of potential dangers posed by nearby recreational or hunting activities. On the Senate floor, Senator Bartlett resubmitted his SBA proposal as an amendment to HR 12929. This time the Bartlett amendment prohibited safety inspections of firms with 10 or fewer employees in industries with occupational injury rates of seven or less per one hundred workers. Under the amendment, most of the 10.5 million workers employed by the 3.9 million

small businesses would no longer be covered by OSHA regulations. In order to avoid the possibly substantial damage to OSHA programs, Majority Leader Robert C. Byrd (D-West Virginia) moved to table the Bartlett amendment and the Senate agreed to the motion by 47-46.

4.4.3. The Risk Notification Bill (1986-1988)

Since 1968, more than 19 million workers were estimated by the Center for Disease Control to have been exposed to toxic substances on the job, increasing their risk of contracting cancer, respiratory disease, or other serious health problems (*CQ Almanac* 1988: 264). Under the OSH Act of 1970, the National Institute on Occupational Safety and Health (NIOSH) was authorized to study occupational diseases. However, the OSH Act did not establish any mechanism for notifying workers about the potential risk of the hazardous substances. NIOSH had proposed a pilot program designed to notify workers of potential job-related hazards in 1981. Although NIOSH had requested funding for notifying workers of their potential risks on the job, the Reagan administration rejected those requests in fiscal years 1983-1987. OSHA also was aware of the need for risk-notification and began enforcing the Hazard Communication Standards in 1983 (29 *CFR* 1910.1200). The rule required that warning labels be put on chemical containers, work sheets on hazardous chemicals be made available to all employees who work with those chemicals, and workers be trained to understand and handle hazardous materials.

In 1986 Representative Joseph M. Gaydos (D-Pennsylvania) introduced a bill, HR 1309, that would establish a national system for identifying and notifying employees who had been exposed to dangerous substances in the workplace. The bill would

establish a Risk Assessment Board to review medical research and identify group of workers at risk of occupational diseases. Once the board identified the group, the Secretary of Health and Human Services was required to notify individual workers and former workers. The notification would include the identification of the hazardous substance and potential diseases, latency periods, and necessary medical testing and monitoring. Employers were required to pay for the medical diagnoses. The bill set procedures for transfer of workers to other jobs without loss of earnings or benefits. On June 25 the House Education and Labor Committee approved the bill on a party-line vote of 20-8, but the bill could not reach the floor that year.

The House Education and Labor Committee introduced a very similar version of the Risk Notification Bill (HR 162) again in 1987. Business groups and the Reagan administration were against the bill on the grounds that an OSHA rule (Hazard Communication Standard) for warning workers about toxic hazards already existed and that the proposed regulation would impose a heavy burden of legal fees on companies to deal with legal challenges under the law. The National Federation of Independent Business (NFIB) predicted that the bill would drive many small businesses into bankruptcy and would duplicate the work of existing federal agencies (*Congress and the Nation*, Vol. VII: 708). More than 250 trade associations and businesses formed the "Coalition on Occupational Disease Notification" and joined the lobbying effort against the measure (*CQ Almanac* 1988: 265). However, Democrats in the House Education and Labor Subcommittee on Health and Safety used their large majority to defeat Republican opposition; they approved the measure without change on April 23, 1987. The full House Committee also approved HR 162 on May 19. On the House floor Republican

legislators, including the Republican ranking committee member James M. Jeffords (R-Vermont) and Paul B. Henry (R-Michigan), offered several amendments that would restrict coverage of the proposed law on small businesses, give the primary responsibility to OSHA, and require a two-year study of the need for such risk-notification program. Democrats defeated the Jeffords-Henry amendment by 191-234. However, the House approved an amendment that would exempt small businesses with fewer than 50 employees and farms with fewer than 15 workers from the job-transfer requirements. On October 15, 1987 the House passed HR 162 by 225-186.

In the Subcommittee on Labor of the Senate Labor and Human Resources Committee, subcommittee chairman Howard M. Metzenbaum (D-Ohio) introduced a companion bill (S 79). Metzenbaum tried to reach a compromise on the bill with his chief Republican opponent, Dan Quayle (R-Indiana). This proposed compromise would exempt companies with fewer than 10 employees from the requirements for the bill. However, the changes were not enough to satisfy Quayle, and he offered several other amendments, including one that would give the Secretary of Health and Human Service more authority over the Risk-Assessment Board's decisions. All these proposals were defeated, and on September 23, 1987, the Senate Committee filed its report on this measure, which was backed by the Democratic majority.

In March, 1988, S 79 was brought to the Senate floor. The first move on the bill came when the Senate Majority Leader Robert C. Byrd (D-West Virginia) filed a cloture motion limiting debates on the measure even before any discussion whatsoever began. This motion was defeated by 33-59, far short of the 60 votes needed to invoke cloture. Vexed by the Byrd motion and aided by strong lobbying efforts of business groups,

Republican Senators were able to wage a filibuster. In the weeks prior to the Senate consideration, nearly 10,000 members of the National Federation of Independent Business (NFIB) had contacted Senators to urge them to participate in a filibuster (*CQ Almanac* 1988: 265). They argued that the bill could cost employers \$6 billion a year in lawyer's fees, medical testing and monitoring, and other employee benefits. But chief sponsor Metzenbaum countered that occupational diseases cost nearly \$10 billion in medical expenses and government expenses without the proposed measure. Furthermore, he defended S 79 on the ground that the bill would complement current efforts to control occupational diseases, and he noted that the bill included provisions that prohibited employees from using the risk notification provision for lawsuits.

Two Republican Senators, Quayle and Orrin G. Hatch (R-Utah), led the legislative opposition and criticized various provisions of the bill. They pointed out the insufficient scientific data to warrant a conclusion about health risks, the existence of more than a dozen other federal agencies to deal with worker health and safety, and the cost of businesses' increased liability. In order to attract broader support, Republicans refused to vote on the modified versions offered by Democrats, such as one that would exempt farms and small businesses from the bill. Quayle threatened that "We have at least 40 votes we can hold" and admitted that the Republican strategy was "dragging feet and killing time" (*CQ Almanac* 1988: 265). On March 24, one day after the Bird motion, another motion to invoke cloture failed by 2-93 due to a bipartisan agreement. Two more motions to invoke cloture on March 28 and 29 were also defeated by 41-44 and 42-52. Eventually, floor managers pulled the bill and it died upon adjournment.

4.4.4. Reform, Overhaul, and OSHA (1992-1996)

In the 1990s there were several legislative attempts to reform occupational safety and health regulation. The first wave of reform efforts began with the initiatives taken by the House Education and Labor Committee and liberal Democrats who wanted to reinforce OSHA regulation. In 1992 the House Education and Labor Committee approved a bill (HR 3160) that would have made the first big change to the Occupational Safety and Health Act in more than 20 years. HR 3160, drafted by committee chairman William D. Ford (D-Michigan), would change the OSH Act as follows:

- Increase criminal penalties from the six-month maximum to a 10-year maximum for workplace safety violations that resulted in a worker's death
- Apply the penalties to supervisors, while under existing law, only employers could have been held liable.
- Require businesses to establish workplace safety and health programs.
- Require OSHA to issue a standard to control ergonomic and environmental hazards such as repetitive strain injuries that could come from using a computer or video display terminal.
- Require OSHA to write regulations outlining how businesses should respond to the problem.
- Require businesses to establish joint committees for employers and employees to work together to improve job-site conditions in companies with 11 or more full-time workers.

Paul B. Henry (R-Michigan) and ranking Republican member Bill Goodling (R-Pennsylvania) offered a less far-reaching substitute that would require the following:

- Government should consider a rule's cost-effectiveness and its possible effect on employment when setting health and safety standards.
- Employers can consult an employee participation committee on health and safety issues for businesses with 50 or more workers.

After rejecting the Henry-Goodling amendment by a 14-24 party-line vote, the committee agreed by voice vote to two amendments: one would allow OSHA citations issued to employers to be dropped if the violations were caused by employees who

violated company work rules, and the other would require OSHA to target inspections of work sites to those with a high potential for death, serious injury or exposure to toxic materials. On May 28 the committee gave a voice-vote approval to HR 3160 and reported it on July 9. The Bush administration opposed it. Labor Secretary Lynn Martin threatened that she would recommend President Bush to veto the legislation. Eventually, the bill died without further action.

On July 9, 1992 the House Education and Labor Committee reported HR 1063 to protect construction workers by setting stricter safety guidelines for construction companies. The bill, crafted by the House Education and Labor Subcommittee on Health and Safety chairman Joseph M. Gaydos (D-Pennsylvania), required construction firms to develop a written safety and health plan for individual projects. Companies had to hire or designate a project constructor who would be responsible for the site, oversee the plan, and conduct regular inspections. Builders were required to hire a safety coordinator to implement the plan and investigate any serious injuries or deaths at the site. The bill would establish an Office of Construction Safety, Health, and Education within OSHA and the agency would be headed by a Deputy Assistant Secretary for Construction. The office would investigate deaths and injuries and help develop construction rules. Gaydos justified his proposal on the ground that about 2,500 construction workers were killed and more than 200,000 seriously injured in construction accidents each year. The subcommittee approved HR 1063 on July 23, 1991 by a 5-3 party-line vote and the full committee approved the measure by 24-14 on September 24. However, this bill also died without further action.

On October 3, 1994 legislation aimed at substantially overhauling the law governing workplace safety was reported by the House Education and Labor Committee (HR 1280). HR 1280 required that employers with 11 or more workers use recommendations from OSHA to establish a written health and safety plan to reduce hazardous working conditions. The bill also required OSHA to investigate potential safety violations within 24 hours of an accident in which unsafe conditions might have been a cause. In addition, the measure would extend the safety standards under existing laws to the employees of state and local governments. Democratic supporters of the measure maintained that an overhaul of the OSH Act was long overdue. But Republicans countered that the bill would lead to excessive regulation, hampering businesses, and slowing economic growth. On March 10 the House Education and Labor Committee approved HR 1280 by a party-line vote of 26-17, but no further action was taken.

The sweeping GOP victory in 1994 suddenly changed the political landscape. The Democrats were now in the minority on Capital Hill. After the 1994 congressional elections, a reform drive in the opposite direction was launched by the Republican Party. The Republican reform efforts were aimed at diluting OSHA regulations. In general, the new Republican leadership was committed to rolling back regulations it considered overly burdensome to business.

President Clinton took a preemptive action before the beginning of the GOP attack on OSHA. On February 21, 1995 President Clinton announced his administration's plan to reform OSHA. Clinton's three regulatory reform initiatives on OSHA included (Clinton 1995: 5):

- **The New OSHA—Partnership or Strong, Traditional Enforcement:** OSHA will change its fundamental operating paradigm from one of command and control to one that provides employers a real choice between a partnership and a traditional enforcement relationship.
- **Common Sense Regulation:** OSHA will change its approach to regulations by identifying clear and sensible priorities, focusing on key building block rules, eliminating or fixing out of date and confusing standards, and emphasizing interaction with business and labor in the development of rules.
- **Results, Not Red Tape:** OSHA will change the way it works on a day-to-day basis by focusing on the most serious hazards and the most dangerous workplaces and by minimizing red tape.

The “New OSHA” initiatives included various measures to encourage the development of voluntary worksite safety and health programs. Firms with safety and health programs would be given the lowest priority for enforcement inspections, the highest priority for government assistance, and penalty reductions of up to 100 percent. In contrast, for firms that would not implement such effective programs, OSHA would focus its inspections on those firms at the highest level of priority and rigor. The “Common Sense Regulation” initiatives were aimed at streamlining OSHA regulations and standards. OSHA would identify new priorities to set standards for un-regulated hazards, consolidate scattered and duplicative elements of current standards, and review, rewrite, and revoke confusing and out-of-date standards. The “Results, Not Red Tape” initiatives were designed to improve OSHA performance. The initiatives included OSHA field office redesign to install technologies to identify the leading causes of death, injury, and illness, a new partnership with state programs to encourage innovative ways to prevent injuries and illnesses, new incentives such as penalty reductions for expedited abatement of hazards, a new inspection targeting system to identify a target on the basis of individual employers’ safety and health records rather than the industry-based records,

and the development of a comprehensive performance measurement system that would shift the focus from tracking activities to monitoring achieved results.

Despite such a comprehensive plan promised by President Clinton to improve the ways of managing OSHA regulations, the GOP began its legislative reform drive on OSHA in 1996. On June 28 the Senate Labor and Human Resources Committee reported a bill (S 1423) that would revamp the Occupational Safety and Health Act of 1970. S 1423 included the following changes:

- Authorizing employers to create their own safety plans and hire outside inspectors to approve them.
- Exempting companies that opted for this approach from regular OSHA inspections and subjecting them to reduced penalties if a violation occurred.
- Repealing the requirement that OSHA make inspections whenever an employee filed a complaint.
- Eliminating penalties for minor violations, such as incorrect paperwork, in many cases.

Senator Judd Gregg (R-New Hampshire), the chief sponsor of the bill, justified the measure on the ground that it would free OSHA from making unnecessary inspections and enforcing unimportant regulations and would allow the agency to focus on companies that were exposing their workers to physical hazards. Committee Democrats were united against the measure. They argued that the bill would deprive OSHA of needed authority. Paul Simon (D-Illinois) offered an amendment that would apply national safety and health laws to federal, state, and local governments. The Congressional Workplace Compliance Act of 1995 (PL 104-1) had applied labor laws including the OSH Act to Congress but not to the rest of the federal government or its state counterparts. Even though Gregg opposed Simon's amendment, the amendment was approved by 9-7 after two liberal Republicans, James M. Jeffords (R-Vermont) and

Spencer Abraham (R-Michigan), broke the party-line and joined the committee's seven Democrats. However, Democratic Senators on the floor had already threatened a filibuster on S 1423. President Clinton also had promised a veto of it (*Congress and the Nation*, Vol. IX: 671). Eventually, the bill died without further action as the Senate supporters were unable to obtain time for S 1423 on the packed floor calendar.

In the House the Economic and Educational Opportunities Subcommittee on Workforce Protections approved a different set of changes (HR 3234) on April 17, 1996. The House bill included the following requirements:

- Applying cost-benefit analysis to new regulations issued by OSHA.
- Granting the Secretary of Labor the right to waive any fines against businesses of 250 or fewer employees if a minor safety violation was corrected quickly, or if the money for the fine was used to fix the problem.
- Prohibiting OSHA inspectors from issuing citations for paperwork violations unless an employer had "willfully or repeatedly violated" a regulation or if the violation had exposed a worker to a safety hazard.

During the markup, opponents of the bill argued that easing enforcement burdens on businesses with 250 workers or fewer would exempt 99 percent of all workplaces from mandatory safety and health inspections and greatly endanger workers. Such fierce Democratic opposition and President Clinton's veto threat hampered the measure in the legislative track and the bill never even reached to the full committee.

4.5. Institutional Environments of OSHA in Perspective

Occupational safety and health regulation has been on the national-level policy agenda since its inception. During this period of thirty years, the institutional actors in the national policymaking arena never stopped discussing OSHA-related issues, and the president, the House and Senate floor, and the House and Senate Committees closely

interacted with each other. Even though OSHA officials were given broad responsibility to set and enforce standards for workplace safety and health, their choices could have been affected by the contents of legislative discourse. Those institutional actors sent policy messages to OSHA throughout the legislative process. Despite the fact that the OSH Act remained intact and so did OSHA's legal authority, the dynamic change in policy message generated by the elected policymakers may have transmitted strong and clear signals of their policy positions.

In this section I discuss how to interpret these complicated interactions among political institutions from the three perspectives on pivotal policymakers mentioned in chapter 3: the majoritarian, the distributive politics, and the party government perspectives. When viewed from one of these theoretical lenses, we can focus on particular modes of interaction among the institutions, which will shape the institutional environments for OSHA inspectors. The main purpose here is to stress how different aspects of the process can be highlighted from different perspectives. The full assessment regarding which perspective best fits the reality of the politics of workplace safety regulation will be conducted in chapters 5 and 6.

4.5.1. The Majoritarian Perspective

According to the majoritarian perspective, a major policy change can take place when there is an agreement among three institutional actors: the president, the House, and the Senate. Each of these three institutions is assumed to be governed by the majority rule. The Presidency can be thought to be a single-member institution whose policy position reflects the president's preference. Legislative decisions made by the House and the

Senate also can be considered as a reflection of the policy preferences of the median members. Since the preference distribution in the congressional committees is assumed to mirror the overall preference distribution of the rest of the chamber, the role of congressional committees is considered to be absorbed by that of the median members on the floors. In support of this majoritarian view, we observe the following patterns in the narratives presented earlier in this chapter.

First, the history of the policy debates highlights the importance of inter-institutional agreement on the level of OSHA regulation. Presidents and the House and Senate were all active participants in the policymaking process. Between 1968 and 1970, the debates on the initial OSH Act focused on specific provisions of two competing versions. The Nixon bill had proposed an independent board to assume rulemaking authority while the Democratic bill proposed the creation of an executive agency in the Department of Labor. Most of the legislative process was devoted to resolving the differences between the Democratic-controlled Congress and the Republican president (and its contingents in Congress). In the process, inter-chamber disagreements also emerged. While the Senate wanted to maintain key provisions of the Democratic bill, the House adopted a substantive amendment that made its final outcome closer to the president's version. Without the compromise made by the House-Senate conference, the OSH Act of 1970 could not have been enacted.

Legislative actions on the small-business exemption riders to the Labor-HEW Appropriations bills also point to the importance of inter-chamber agreement despite the fact that both houses had been under the Democratic control. During the 1970s and the 1980s, the House and Senate had set the exemption ceiling at different levels. For

instance, in 1972 the House-passed exemption ceiling for small businesses was 25 while the Senate-passed ceiling was 15 workers. In 1974, while the House approved an exemption ceiling of 25 workers, the Senate did not adopt any exemption provisions. Due to the different decisions on the range of exemption, the House-Senate conference had to find reasonable point that would be acceptable to both houses. The case of the Risk Notification Bill in 1986-88 also clearly demonstrates the importance of inter-chamber agreement. While the House took a smooth legislative course and passed the measure (HR 162) in 1987, the Senate, after spending 2 years to get the companion bill (S 79) on the floor, ended up failing to pass it in 1988. Due to the absence of policy agreement between chambers, one of the major legislative changes to the OSH Act failed.

One possible criticism of this application of the majoritarian perspective is whether the institutional decisions were governed by simple majority rule or by super-majority rule (Krehbiel 1998; Brady and Volden 1998). In the entire history of the 82 recorded legislative votes on OSHA-related bills and provisions between 1968 and 2001, the number of cloture on Senate filibuster attempted was only 4, of which 3 were on the Risk Notification Bill in 1988. The Senate debates on OSHA issues were often heated and occasionally lasted more than one day. However, there were few references to the use of the 3/5 cloture-rule, and most of debates were settled under the simple majority rule. There were no presidential vetoes on OSHA-related provisions during the period under consideration. But two presidents, Carter and Clinton, had promised to veto legislative proposals that would change the OSH Act in the very early stage of congressional committee considerations and those measures never reached the floor in either house. Excluding votes on the passage of the House-Senate conference report and

procedural motions, most of the 52 legislative decisions were made in the House and the Senate with a simple-majority margin that was less than 2/3 in the House or 3/5 in the Senate.

4.5.2. The Distributive Politics Perspective

The distributive politics perspective emphasizes the important role of the congressional committees. Congressional committees are considered as having outlying policy preferences that are noticeably distinguishable from the rest of the chamber. Congressional committees thus may try to use their monopoly power over policy issues in their jurisdiction to obtain legislative outcomes that can serve their own interests. In the area of occupational safety and health, we can find the following as to the crucial role played by congressional committees.

First, the House and Senate Labor Committees did clearly exert gatekeeping power against every legislative attempt to change the Occupational Safety Health Act for a long period of time. During the 1970s, the House and Senate Labor Committees effectively blocked numerous legislative attempts to dilute provisions of the OSH Act of 1970. Even though the Labor Committees responded to criticism on the Act concerning its economic burdens placed on businesses by holding hearings, none of legislative proposals to change the Act was sent to the floor. Even during the period of the “Contract with America” in the mid-1990s, the House Labor Committee successfully protected the OSH Act from the aggressive GOP reform drive to weaken occupational safety and health regulation. Due to the committee’s effective gatekeeping, every single provision of the Act remained intact despite the GOP’s anti-regulation campaign. The

GOP's failure to amend the OSH Act was attributable at least in part to the fact that the Labor Committee members consisted of relatively liberal members in both parties so that the GOP majority in the committee could not overcome the pro-labor voices.

Second, the Labor Committees played a crucial role in setting the legislative agenda. Especially in the course of the OSH Act enactment between 1968 and 1970, the House and Senate Committees effectively changed the major points of legislative discourse by providing their own bills for floor debates in the critical moment. When the new Republican President, Richard Nixon, took over the White House and offered a legislative proposal that was considered antithetical to provisions proposed by the Johnson administration, the House and Senate Labor Committees reversed the course by replacing the Nixon bill with their own version in 1969. The House and Senate Committees revived key provisions of the Johnson bill such as the creation of executive agency in the Department of Labor and the concentration of power to set and enforce regulatory rules in the hand of the Labor Secretary. The Committee bill provided the main framework for the Democratic bills, which would become, with some modifications, the Occupational Safety and Health Act in the following year.

Third, note that the role of the House and Senate Appropriations Committees has been overshadowed by legislative actions on the floors. Although the Appropriations Committees decide the initial proposal for annual funding for OSHA, most of the important discussions about the funding levels and about how to use the funds have taken place on the House and the Senate floors. In particular, the Appropriations Committees did not attach legislative provisions that would restrict OSHA regulation, even though the issue of small business exemption was frequently raised by legislators

on the floor. This can be attributable to the fact that the House and Senate Labor Committee maintained their firm position not to amend the OSH Act. Opponents of OSHA regulation simply tried to use legislative riders on the annual Appropriations bill to constrain the agency's regulatory powers. As can be expected, the key participants of the floor debates on OSHA-related provisions in the Labor-HEW were members of the House and Senate Labor Committees. Therefore, the House and Senate Labor Committees rather than the House and Senate Appropriations Committees were the most dominant player from the distributive politics perspective.

4.5.3. The Party Government Perspective

According to the party government perspective, legislative policy outcomes are determined in ways that can serve the legislative parties' interests. The majority party and its leadership tend to capitalize on their advantages in using various parliamentary powers to control the legislative agenda and to manipulate the legislative procedures. As a result, decisions to be made in committees or on the floor are orchestrated by the majority party leadership so as to achieve partisan policy goals.

In the history of occupational safety and health legislations, legislative actions in the congressional committee and the floor were closely connected by party leaders. The majority party in the House and Senate Labor Committees often dominated committee discussions and determined the major provisions of the bill to be sent to the floor. Thus, the crucial role of the congressional committees such as agenda setting and gatekeeping can actually be attributed in many aspects to partisan politics. In the case of the enactment of the Occupational Safety and Health Act in 1970, the Labor Committees

were clearly divided on party-lines in both chambers. Democratic members of the committees tried to retain the key provisions of the Democratic versions, while all Republican members strongly opposed the bill. The Democratic majorities in the committees refused any major change and sent the companion bills (S 2193 and HR 16785) to the floor. All 12 Republican members of the House Labor Committee signed the minority view that the Committee bill was unacceptable to them. In 1972, when Republican committee members of the Senate Labor Committee submitted a bill (S 3262) to amend the OSH Act of 1970, the committee did not take any action beyond its congressional hearing due to the opposition of its Democratic majority.

On the floor, consideration of OSHA-related bills often led to partisan confrontations. In many floor debates on OSHA, the majority party tried to maintain the majority view incorporated in the committee bill, while the minority party tried to amend it. This competition between partisan bills and amendments for enactment has taken place from the very beginning. In 1970, Republican legislators on the House and Senate floors offered numerous amendments that would dilute the strong provisions of the committee bills, and liberal Democrats tried to kill those amendments. Especially on the Senate floor, the battle between the major parties over the key provisions of the OSH Act bill was so fierce that it took 4 floor votes for the Senate to agree to a modified Democratic version. This partisan strife continued in the following years when the House and Senate floors considered the range of exemptions for small businesses and farms as legislative riders to the Labor-HEW annual appropriations. Every year, Republican legislators offered riders that would raise the exemption ceiling, and liberal Democrats tried to defeat them so as to protect the unrestricted coverage of the OSHA

regulation. For instance, in 1972 it took 9 floor votes in the Senate and 4 floor votes in the House for the floors to reach final decisions to set the exemption level at certain levels.

Unlike the Labor Committees in which members' policy positions were divided along the clear party lines, an ideological cleavage was often superimposed on the partisan cleavage on the House and Senate floors. Especially during the period of the 1970s, the conservative coalition of Republicans and the Southern Democrats behaved noticeably differently from the liberal coalition of the Northern Democrats and the Northeastern Republicans. For instance, in 1970 the Steiger-Sikes amendment that would substantially dilute the House Labor Committee's stronger version of HR16785 passed the House by 220-173. However, not all those yeas came from the Republican Party; and not all those nays came from the Democratic Party. Although Republicans were quite united (154-17) on the measure, Democrats were divided. While the Northern Democrats overwhelmingly opposed the amendment by 6-135, the majority of the Southern Democrats joined the Republican Party and supported it by 60-21. During the period, the majority of the Southern Democrats seldom got along with the Democratic Party majority.

These patterns of legislative behavior began to change in the 1980s. For instance, in 1987 the Democratic majorities in both the House Labor Committee and the House floor consistently supported the Risk Notification Bill (HR 162). Despite the strong campaign by more than 250 trade associations and their Republican legislators against the measure, the Democratic majorities in the subcommittee and the full Labor Committee approved the bill. On the House floor, the Democratic majority defeated the

Jeffords-Henry amendments that would restrict coverage of the proposed law on small businesses. For this amendment, Republicans overwhelmingly cast yeas by 158-17 and Democrats cast nays by 33-217. Both a majority of the Northern Democrats (4-166) and a majority of the Southern Democrats (29-51) opposed the restriction to the bill. By the mid-1990s, the partisan cleavage over the OSHA issue became even clearer. Between 1992 and 2001, of a total of 20 recorded legislative votes on OSHA-related matters in the House and Senate, all but 2 Senate votes were decided along clear-cut partisan lines. For example, in 1997 an amendment to the Labor-HHS Appropriations (HR 2264) which would reduce funding levels for OSHA by \$11.25 million was defeated by 160-237. A majority of Republicans supported it by 155-56, and all but 5 Southern Democrats opposed it by 5-180. In 2001, the House passed a Senate resolution (S J Res 6) that would revoke OSHA's controversial Ergonomics standard, by 222-198. Not a single Republican cast a nay vote (216-0) and only 5 Democrats cast a yea vote (5-198).

4.6. Discussion

OSHA was granted full responsibility to set and enforce occupational safety and health standards. The agency had formidable powers to force employers to comply with those rules. In addition to the formal authorities, the agency officials were given tasks that would require considerable professional training and technological knowledge. The nature of these tasks helps the agency officials to maintain a degree of discretion. The agency operates the occupational safety and health programs in a highly decentralized structure. More than 20 states have developed and operated their own programs, and the actual enforcement of OSHA rules is administered by regional administrators.

Although these statutory structures imposed on OSHA may constitute elements of institutional environments as to the legal authorities given to the agency, they are not complete components of institutional forces surrounding the agency. Institutional actors continuously tried to influence OSHA and its regulatory programs. Three alternative sets of veto players played important roles in different ways. From the majoritarian perspective, the policy agenda, the legislative outcomes, and the “message” can be considered to be determined by interactions among three institutions: the president, the House, and the Senate. Especially throughout the 1970s and the mid-1980s, these three institutions defined the scope and the level of possible regulatory enforcement activities. Presidents were active agenda-setters, and the House and Senate floors kept OSHA issues alive in the legislative arena. When viewed from the distributive politics perspective, the most important role played by the House and Senate Labor Committees was their effective gatekeeping. Due to the committees’ blocking of any attempt to amend the OSH Act, it turned out to be almost impossible to permanently dilute key provisions of the regulatory structure. Repeated occurrence of intensified discussions on the OSHA-related riders to the Labor-HEW Appropriations bills on the House and Senate floors ironically illustrates how strong the Labor Committees’ position was for such a long period of time. The party government set of veto players also played a prominent role since the 1980s. The conservative coalition of Republicans and Southern Democrats, which was often an obstacle to the Democratic Party’s legislative successes, was severely weakened by the mid-1980s. Heightened partisan unity might provide a greater chance for the majority party to send a stream of consistent messages through legislative actions to agency officials.

In sum, I draw the following conclusions. First, description of the interactions among institutional actors shows us that the range of feasible administrative decisions has been continuously redefined since OSHA was created. Institutional actors sent quite clear messages to the agency with regards to the level of regulatory stringency, but the content of messages have dynamically changed. Second, institutional actors were all intertwined by the macro-rules such as the president's legislative powers, parliamentary rules in Congress, and political parties. It was apparent that legislative outcomes reflected multi-institutional preferences and agreement. There was no single institution that permanently dominated the legislative discourse to achieve its own policy goals. Instead, all institutional actors must concede to change a current way of enforcing OSHA rules. Third, substantively, these narratives reveal that the most important dimension throughout the entire period from 1969 and 2000 was how to balance business and labor interests in enforcing occupational safety and health rules. Although numerous interest groups actively participated in the policymaking process and the workplace rules were established to regulate such diverse industries, the major point of legislative debates was to what extent workers should be protected and to what extent business interests should be considered. It was quite clear that the relative position of those institutional actors on that particular ideological dimension was the most important determinant of legislative discourse and outcomes.

CHAPTER 5

FEDERAL OCCUPATIONAL SAFETY AND HEALTH REGULATION ENFORCEMENT

Political institutions interact with each other to pursue their policy goals through a regulatory agency's policy implementation. As the narratives in the previous chapter reveal, important policy decisions were made as a result of the interactions among the president, the House and Senate floor majorities, the House and Senate Labor Committees, and the political parties. These pivotal policymakers took clear positions on OSHA issues. Politicians exchanged their views on various matters such as how strong the regulatory agency's authority should be (1968-1970), to what extent exemptions from OSHA regulations should be adopted (1972-1980), to what extent workers' rights to know should be protected (1986-1988), and how to renew occupational safety and health programs (1992-1996). Despite the broad range of issues, legislative debates on these matters were centered on a clear and simple question: to what extent should businesses' economic interests be sacrificed for the protection of workers' safety and health in the workplace?

In this chapter I examine the hypothesized causal mechanisms involving bureaucratic responsiveness and bureaucratic autonomy. OSHA officials were presumably attentive to those policy debates. Agency officials could have developed a "barometer" of politically acceptable levels of enforcement and may have adjusted the stringency of regulatory activities according to the signals transmitted from these national policymakers. Several bodies of past research have already found that policy signals generated by policymakers do indeed affect OSHA officials' behavior (Scholz

and Wei 1986; Scholz, Twombly and Headrick 1991; Headrick et al. 2002). However, the important question to be answered here is not *whether* OSHA officials were affected by political signals but *how* agency behavior was affected by the inter-institutional dynamics. Thus, the focus of this empirical test is on (a) whether the directional change of institutional preferences (i.e., from pro-business to pro-labor), as measured by the location of the policy equilibrium interval, affects the level of OSHA's regulatory activities, and on (b) whether the degree of policy disagreement among institutional actors, as measured by the size of the policy equilibrium interval, affects the variability of OSHA's regulatory actions. Other points of emphasis are (c) which of the three types of regulatory politics---the majoritarian, the distributive politics, and the party government---has the most significant and consistent effects on the OSHA officials' behavior, and (d) how the distribution of preferences of the agency's officials mediates the effects of the policy equilibrium interval.

In sections that follow, I discuss the longitudinal and cross-sectional patterns of federal OSHA enforcement activities, model specification of federal OSHA enforcement and measurement of variables, and empirical results.

5.1. Federal OSHA Enforcement Activities

Federal occupational safety and health regulation is enforced by the Occupational Safety and Health Administration (OSHA). OSHA's headquarters consists of eight functional units directed by Directorates. The functional areas are Administrative Programs; Construction; Cooperative and State Programs; Enforcement Programs; Evaluation and

Analysis; Information Technology; Science, Technology and Medicine; and Standards and Guidance. Each functional unit is divided into smaller functional offices.

OSHA is also organized on a regional basis. OSHA's jurisdiction is divided into 10 regions, each of which covers four or more states and territories. The Regional Administrator is given full responsibility to manage, execute, and evaluate all programs of OSHA in the region and reports to the Assistant Secretary through the Deputy Assistant Secretary (*FIRM* Ch. I. A(1)). Each regional office is further divided into area offices in each state. The Area Director is delegated authority to supervise the Compliance Safety and Health Officers (CSHOs) in the area and to direct the issuing of citations. Although the daily operations of OSHA enforcement programs in the field are mostly supervised by the Area Director or the Assistant Area Director, the Area Director consults with the Regional Administrator on judgments on high-profile cases which involve imminent danger or willful violations that may require regional-level coordination. The Regional Administrator is also responsible for managing personnel and financial resources to ensure effective and efficient operation of OSHA programs in the region.

The actual operation of OSHA inspection program rests heavily on the professional judgments of the OSHA compliance officers. The main responsibility of these compliance officers is to determine whether employers are furnishing safe places of employment (general duty) and complying with safety and health standards and regulations (specific duty). In doing so, compliance officers "must use professional judgment to adequately document hazards in the case file" and are responsible for the "technical adequacy of each case file" (*FIRM* Ch. I. A(4)(a)). Since compliance officers

are also required to testify in hearings on OSHA's behalf in contests over their cases, they are advised to keep an accurate record of conditions in the workplaces they have visited.

Table 4 includes OSHA's regional jurisdictions. Regional districts are determined on a geographic and industrial basis. Each regional district governs four or more states and territories as to the implementation of OSHA rules. Some regions cover heavily industrialized states such as New York, New Jersey, Pennsylvania, California, and Texas, while some regions cover only rural states such as Montana, North Dakota, South Dakota, Wyoming, Colorado, and Utah. The federal OSHA and the state's authority have concurrent powers to enforce health and safety rules in a state where its "state plan" for occupational safety and health program has been certified by the federal OSHA. The federal government's concurrent power is relinquished after the state receives the "final approval" from OSHA, but the federal government does retain the authority to the monitor operations of state programs.

The levels of federal OSHA enforcement activities vary across regions. Table 5 shows the total number of inspections by regions in 1992 and 2000. Region 2 which includes two industrialized states, New York and New Jersey, had a large number of inspection visits. OSHA made 3,963 and 3,016 visits in 1992 and 2000 respectively in New York and 2,426 and 1,980 visits in 1992 and 2000 respectively in New Jersey. In contrast, the number of inspection visits is very small in region 8 which includes rural states. In 2000 OSHA made 1,207 visits in Colorado, 425 in Montana, 182 in North Dakota, and 131 in South Dakota. The total number of inspection visits in region 8 is

Table 4. Federal OSHA Regional Jurisdictions

Region	States
1	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, <i>Vermont</i>
2	New Jersey, New York, <i>Puerto Rico, Virgin Islands</i>
3	Delaware, Pennsylvania, West Virginia, <i>Virginia, Maryland</i>
4	Alabama, Florida, Georgia, Mississippi, <i>Kentucky, Tennessee, North Carolina, South Carolina</i>
5	Illinois, Ohio, Wisconsin, <i>Minnesota, Michigan, Indiana</i>
6	Arkansas, Louisiana, Oklahoma, Texas, <i>New Mexico</i>
7	Kansas, Missouri, Nebraska, <i>Iowa</i>
8	Colorado, Montana, North Dakota, South Dakota, <i>Utah, Wyoming</i>
9	<i>Arizona, California, Hawaii, Nevada, Guam, Samoa,</i>
10	<i>Idaho, Alaska, Oregon, Washington</i>

Note: States and U.S. territories that operate their own programs are italicized.

Table 5. Federal OSH Inspections by Region and State (1992, 2000)

Region	State	1992	2000	Note
1	Connecticut	1,201	776	
	Maine	663	746	
	Massachusetts	1,958	1,560	
	New Hampshire	386	315	
	Rhode Island	386	282	
	Vermont	N/A	N/A	State plan
2	New Jersey	2,426	1,980	
	New York	3,963	3,016	
3	Delaware	150	164	
	Pennsylvania	2,867	2,955	
	West Virginia	567	484	
	Virginia	N/A	N/A	State plan
	Maryland	N/A	N/A	State plan
4	Alabama	1,198	821	
	Florida	2,238	1,643	
	Georgia	1,686	1,449	
	Mississippi	568	370	
	Kentucky	N/A	N/A	State plan
	Tennessee	N/A	N/A	State plan
	North Carolina	N/A	N/A	State plan
	South Carolina	N/A	N/A	State plan
5	Illinois	2,732	2,445	
	Ohio	3,168	2,595	
	Wisconsin	1,849	1,258	
	Minnesota	N/A	N/A	
	Michigan	N/A	N/A	
	Indiana	N/A	N/A	
6	Arkansas	703	517	
	Louisiana	862	454	
	Oklahoma	898	449	
	Texas	4,897	3,152	
	New Mexico	N/A	N/A	State plan
7	Kansas	483	585	
	Missouri	1,582	1,386	
	Nebraska	259	290	
	Iowa	N/A	N/A	State plan
8	Colorado	1,205	1,207	
	Montana	308	425	
	North Dakota	238	182	
	South Dakota	181	131	
	Utah	N/A	N/A	State plan
	Wyoming	N/A	N/A	State plan

Table 5 (Cont'd)

Region	State	1992	2000	Note
9	Arizona	N/A	N/A	State plan
	California	N/A	N/A	State plan
	Hawaii	N/A	N/A	State plan
	Nevada	N/A	N/A	State plan
10	Idaho	440	469	
	Alaska	N/A	N/A	State plan
	Oregon	N/A	N/A	State plan
	Washington	N/A	N/A	State plan

Note: U.S. Territories (Puerto Rico, Virgin Islands, Guam, and Samoa) are excluded.

smaller than the total number of inspection visits in New York in 2000. Even within a regional district, OSHA inspections tend to concentrate on certain states. For instance, most of OSHA inspection visits were made to Texas in region 6. In 1992 there were 4,897 inspection visits in Texas, while there were only 703 in Arkansas, 862 in Louisiana, and 898 in Oklahoma.

Federal OSHA enforcement activities vary also across different points in time. Figure 8 portrays the longitudinal trend of enforcement activities by violation types between 1982 and 2000. The number of citations per inspection for non-serious violations slightly increased in the late 1980s and then monotonically decreased thereafter. In contrast, the number of citations for serious violations per inspection substantially increased in the early 1990s and moderately decreased in the mid-1990s. The number of citations for willful and repeated violations remained relatively constant during the period. These two series seem to be stable because the willful and repeated violations are found only rarely, compared to non-serious and serious violations.

The amount of financial penalties imposed on violations also varies substantially. Figure 9 portrays the change in penalties per inspection in 1984 constant dollars by violation types between 1982 and 2000. Penalties on non-serious violations remained stable at the lowest level. Penalties on repeated violations moderately increased in the early 1990s and remained at that level thereafter. Penalties on serious and willful violations fluctuated greatly during the period. The amount of financial penalties on willful violations rapidly increased in the late 1980s, plummeted in the early 1990s, substantially increased in the mid-1990s, and then began to decrease thereafter. Penalties

Figure 8. Citations per Inspection by Violation Types (Federal, 1982-2000)

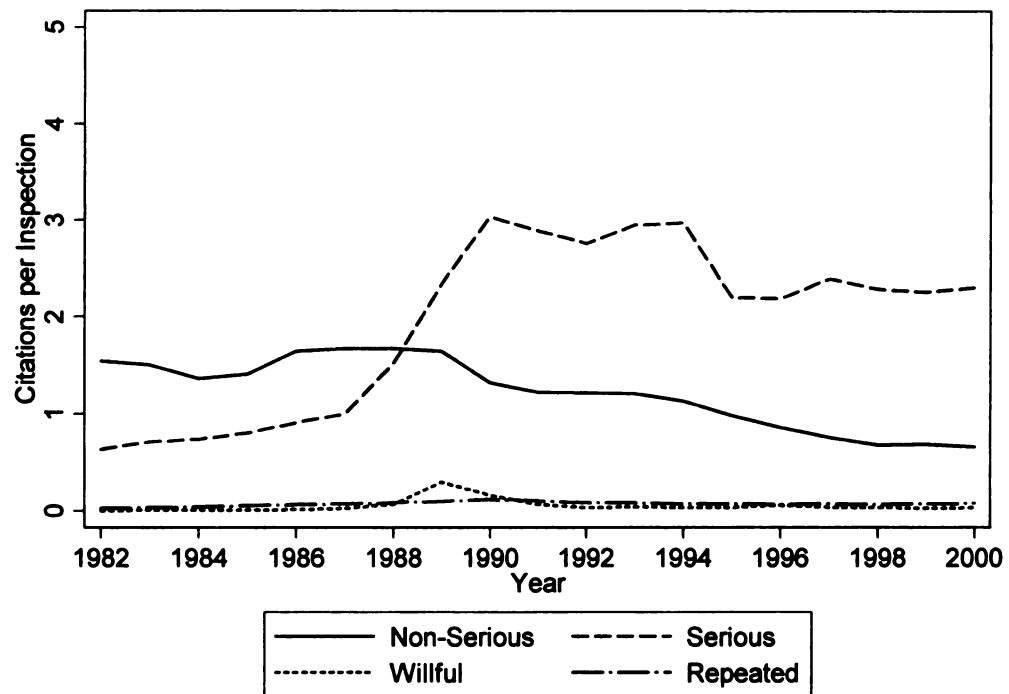
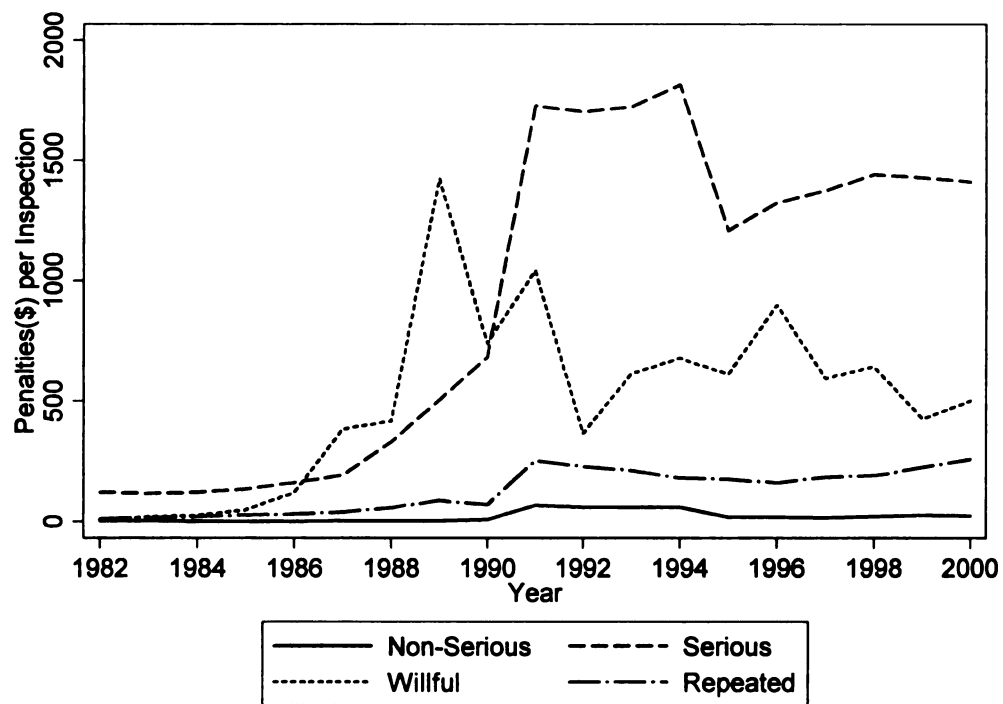


Figure 9. Penalties per Inspection by Violation Types (Federal, 1982-2000)
(1984 constant dollars)



on serious violations skyrocketed in the early 1990s, substantially decreased in the mid-1990s, and then slightly increased from then on.

These longitudinal patterns appear to match the tone and content of the legislative discourse on occupational safety and health regulation during the period. The policy debates on the Risk Notification Bill between 1986 and 1988, which generated strong pro-labor signals, provided the beginning of the upward trend of citations of serious violations, and penalties on serious and willful violations. The Democratic OSHA overhaul drive between 1992 and 1994, which was aimed at stronger enforcement of occupational safety and health rules, helped OSHA sustain the stringency of its enforcement activities at the highest level. The following Republican OSHA reform campaign from 1995 to 1996 under the “Contract with America” ended the upward trends, and citations of serious violations and penalties for them decreased substantially during the period.

These various aspects of enforcement have been examined in previous research (Marvel 1982; Thompson and Sicchitano 1985; Scholz and Wei 1986; Scholz et al. 1991; Scholz and Gray 1997; Headrick et al. 2002). Three measures that have been examined by other researchers are the number of inspections, the number of citations, and the amount of financial penalties. In this study I focus the analysis on the number of inspections since the number of inspection visits to establishments can be considered as the most comprehensive measure of regulatory stringency as well as regulatory performance for several reasons. First, the number of inspections represents the important aspects of decisions made by OSHA regarding the distribution of limited resources. While OSHA has only an inspection staff of only 2,000 or less, the federal

OSHA is supposed to cover workers in all industries. OSHA has taken an approach that aims at providing employers with the incentives for compliance with standards by inspecting a very small portion of the total number of workplaces. The main purpose of OSHA inspection activities is not to detect all violations of rules in all establishments. Instead, the strategy is to provide a sense of reward to those who comply with rules by some visible acts of punishing detected violations. Thus, the activities of visiting firms themselves are expected to help maintain safety in workplaces to some degree (Scholz and Gray 1997). Considering the limited resources that OSHA has and the approach the agency has taken, the counts of inspections can inform us about differing levels of commitment to stronger enforcement of regulatory rules.

Second, the number of inspections is a more transparent measure of the enforcement agency's regulatory decision than other measures. While whether to visit an establishment is determined mostly by the agency's decision, whether to cite violations or whether to impose financial penalties is affected not only by the inspectors' judgment but also by various factors of the establishment. For example, OSHA inspectors can choose to visit an establishment, but they cannot determine the establishment's nature of work and its owner's willingness to provide safe work conditions. That is, the number of inspection reflects OSHA inspectors' intention more accurately than other measures such as the number of citations and the amount of penalties (Mendeloff 1979). The latter two may be highly contaminated by factors that cannot be controlled by OSHA inspectors.

Third, the number of inspections also provides us with information about the level of regulatory stringency in two ways. One incidence of an inspection involves a

variety of activities that may be burdensome to employers. Inspectors should enter firms without prior notice and make employer and managers provide their records of workplace safety and health; the inspectors should walk around the establishment to physically examine workplace conditions; the inspectors then hold a concluding conference with management and workers' representatives; once they return to their office, the inspectors report results of their inspection visits to the centralized information management system and mail citations of violations to the employer. Second, one inspection-visit means several citations of violations and financial fines of some thousand dollars as Figures 7 and 8 clearly present. Since there are some expected numbers of citations and some expected amounts of financial penalties per inspection, a greater number of inspections also represent a greater number of citations and a greater amount of fines.

5.2. Modeling Federal OSHA Enforcement Activities

In chapter 3 I theoretically demonstrated that different aspects of inter-institutional dynamics, such as the location and the size of the policy equilibrium interval, affect bureaucratic actions in two ways: the level of policy production (the conditional mean) and the variability of policy choices (the conditional variance). A change in the conditional mean of the policy outputs, which corresponds to changes in institutional preferences, suggests the presence of bureaucratic responsiveness to political institutions. And the change in the conditional variance of bureaucratic policy choices, which corresponds to the level of policy divergence among institutions, indicates the degree of bureaucratic autonomy.

The Maximum Likelihood Heteroscedastic Normal Regression is used here to examine those underlying processes involving political institutions and bureaucratic actions as discussed in chapter 3. The model can be presented in the simplest form as follows:

$$L = \prod_{i=1}^n \prod_{t=1}^T \frac{1}{\sqrt{2\pi\sigma_{it}^2}} \exp \left[-\frac{1}{2} \left(\frac{(Y_{it} - \mu_{it})^2}{\sigma_{it}^2} \right) \right]$$

$$\text{Policy Output Level } (\mu_{it}) = \alpha_0 + \alpha_1 X_{it1} + \alpha_2 X_{it2}$$

$$\text{Variability of Policy Choices } (\sigma_{it}^2) = \exp(\beta_0 + \beta_1 W_{it1} + \beta_2 W_{it2})$$

Y_{it} is the dependent variable, which is OSHA's regulatory activities in a state i for a year t ; μ_{it} is the conditional mean of the dependent variable, that is, the policy output level; X_{it1} is a set of variables that includes measures for the location of the policy equilibrium interval on a one-dimensional policy space and issue characteristics; X_{it2} is a set of other control variables; σ_{it}^2 is the conditional variance of the dependent variable, that is, the variability of policy choices; W_{it1} is a set of variables that includes measures for the size of the PEI and issue characteristics; and W_{it2} is a set of other control variables. The level of regulatory policy outputs is a function of the location of the PEI on a policy space and other control factors, which offers an empirical test for the bureaucratic responsiveness thesis; the variability of bureaucratic policy choices is a function of the size of the PEI and other control factors, which offers a test of the bureaucratic autonomy thesis.

5.2.1. Dependent Variable (Y_{it})

The dependent variable Y_{it} of this study is the number of inspections by federal OSHA in a state i for a year t . Since there is a considerable gap among different states in terms of the level of industrialization, direct comparison of counts of annual inspections across states entails problems. In order to obtain state-by-state comparability, I normalize the measure by using the size of non-farm industries in a state. Thus, the final measure for the dependent variable is *the number of inspections per 1,000 non-farm employees* conducted by federal OSHA in a state (i) for a year (t). The period of time is between 1982 and 2000 due to the limited availability of OSHA's Intergrated Management Information System (IMIS) data on federal and state inspections prior to 1982.

5.2.2. Model Specification for Bureaucratic Responsiveness (μ_{it})

The Location of the Policy Equilibrium Interval

The responsiveness of OSHA enforcement officers to the policy preferences of national policymakers can be tested by examining the effects of pro- or anti-regulation movement of the location of the policy equilibrium interval. If the policy equilibrium interval moves toward stronger OSHA regulation, politically responsive OSHA officials are predicted to increase their regulatory activities, thereby yielding a greater conditional mean of the dependent variable. I measure the location of the policy equilibrium interval by using the 1st dimension Common Space (CS) Nominate scores for legislators and presidents, which enable use to map policymakers' preferences on the liberal-

conservative ideological space (Poole 1998)¹. Since the 1st dimension CS Nominate scores can capture about 90 percent of the roll call votes (Poole and Rosenthal 1997) and the narratives in chapter 4 suggested that the ideological dimension of pro-labor (left) and pro-business (right) was prominent, we can consider CS Nominate scores as accurate indicators of the policy positions of those policymakers on OSHA issues. In order to avoid confusion in a statistical analysis, the order of original scores was reversed so that a greater value represents more liberal (pro-OSHA regulation) policy preferences, ranging from -1 to 1.

The PEI can be located by measuring the lower and upper limits' position in the policy space. In a one-dimensional space, *Lower Limit of the PEI* is $\min(\bullet)$ and *Upper Limit* is $\max(\bullet)$ where " \bullet " includes the CS Nominate scores of veto players. Three PEI's are constructed from three alternative sets of veto players: the majoritarian set = {the president, House chamber median, Senate chamber median}, the distributive politics set = {the president, House chamber median, House committee median, Senate chamber median, Senate committee median}, and the party government set = {the president, House chamber majority party median, House committee majority party median, Senate chamber majority party median, Senate committee majority party median}. I call these the *Majoritarian PEI*, the *Distributive PEI*, and the *Partisan PEI*, respectively. Both the *Lower Limit* and the *Upper Limit* of these PEI's are expected to have positive effects on the level (conditional mean) of OSHA inspections.

Table 6 includes the *Lower* and *Upper Limits* of the three alternative PEI's in the 91st~106th U.S. Congresses. This table clearly shows that the political institution that

¹ The CS Nominate scores have been updated continuously to include all presidents and members of Congress between 1937 and 2002. Data were accessed at <http://voteview.uh.edu> in December 2003.

Table 6. Policy Equilibrium Intervals (The 91st~106th U.S. Congresses)

Congress	Majoritarian PEI		Distributive PEI		Partisan PEI	
	Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit
91 st	P	SM	P	SCM	P	HCMM
92 nd	P	SM	P	SCM	P	SCMM
93 rd	P	SM	P	SCM	P	SCMM
94 th	P	HM	P	SCM	P	SCMM
95 th	HM	P	HM	P	HMM	P
96 th	SM	P	SM	P	HMM	P
97 th	P	HM	P	HCM	P	HCMM
98 th	P	HM	P	HCM	P	HCMM
99 th	P	HM	P	HCM	P	HCMM
100 th	P	HM	P	SCM	P	SCMM
101 st	P	HM	P	SCM	P	SCMM
102 nd	P	SM	P	SCM	P	SCMM
103 rd	SM	P	SM	P	HMM	P
104 th	HM	P	HCM	P	HCMM	P
105 th	HM	P	HCM	P	HCMM	P
106 th	HM	P	HCM	P	HCMM	P

Note: P: President

HM: House Median

SM: Senate Median

HCM: House Labor Committee Median

SCM: Senate Labor Committee Median

HMM: House Majority Party Median

SMM: Senate Majority Party Median

HCMM: House Labor Committee Majority Party Median

SCMM: Senate Labor Committee Majority Party Median

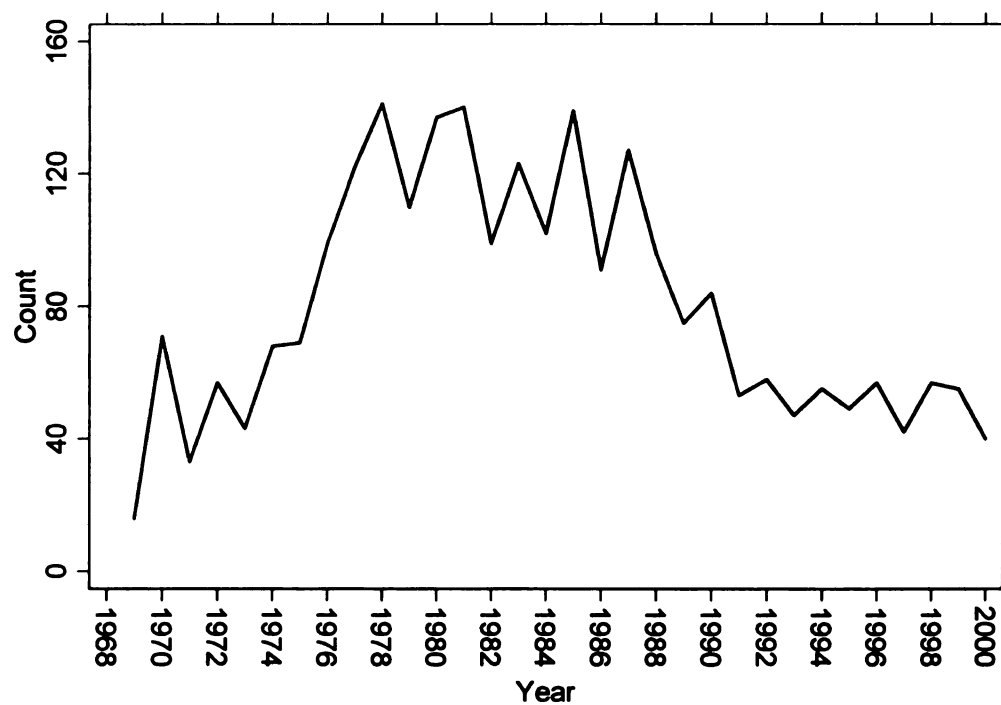
constitutes the limits of the policy equilibrium interval is not fixed not only across different PEI's but also in each PEI. For example, regarding the majoritarian PEI the conservative president (P) and the liberal Senate median (SM) defined the set of policy options in the 91st~93rd Congresses). At later times, however, the majoritarian PEI has been defined by policy positions of the conservative president and the liberal House median (HM) in the 97th~101th Congresses), and by those of the conservative House median and the liberal president in the 104th~106th Congresses. For the distributive PEI, the president and the House and Senate Labor Committee medians played crucial roles. The conservative president and the liberal Senate Labor Committee median (SCM) established the limits of the distributive PEI in the 91st~94th and in the 100th~102nd Congresses. At other times, the distributive PEI was defined by the conservative president and the liberal House Labor Committee median (HCM) in the 97th~99th Congresses, and by the conservative House Labor Committee median and the liberal president in the 104th~106th Congresses. Regarding the partisan PEI, the president and the majority party medians in the House and Senate floors and Labor Committees were key participants. The partisan PEI was defined by the policy positions of the conservative president and the liberal Senate Labor Committee Majority Party median (SCMM) in the 92nd~94th and the 100th~102nd Congresses. The partisan PEI has also been defined by the conservative president and the liberal House Labor Committee Majority Party median (HCMM) in the 97th~99th Congresses, and the conservative House Labor Committee Majority Party median and the liberal president in the 104th~106th Congresses. The House Majority Party median in the floor (HMM) played a pivotal role in the 95th, 96th, and 103rd Congresses.

Issue Characteristics

Issue salience is measured by the number of times that the policy issues were covered by the *New York Times* in the previous year. The point of this focus is on how the character of OSHA issues mediates the effects of the lower and upper limits of the PEI's on bureaucratic actions. I expect that as the occupational safety and health issues become more salient in the national policymaking arena, positive effects of the PEI's on the average level of enforcement activities will be reinforced. Since heightened public attention to OSHA issues is expected to increase chances for the chamber and the partisan leaders to engage in making policies of occupational safety and health problems, the magnitude of the conditional effect will be greater with the majoritarian and partisan PEI's than with the distributive PEI. I include two interaction terms such as *Lower Limit*Issue Salience* and *Upper Limit*Issue Salience* to examine these mediating effects.

Figure 10 presents the level of issue salience measured by the annual counts of *New York Times* coverage of occupational safety and health issues. It is apparent that this policy received increasingly intensive attentions from the mid-1970s to the mid-1980s and lost much of them afterwards. As the narratives of chapter 4 showed, the legislative discourse focused on the question of the economic impact of the OSHA regulation on small businesses and this issue attracted attention from a broader set of interest groups, professional associations, and the general public in the 1970s. The early 1980s were marked by the "Reagan Revolution" and OSHA was cited as an example of regulation that undermined economic growth by President Ronald Reagan during his campaigns. For example, Vice President George Bush (senior) criticized that OSHA's "unrealistic, overzealous regulators" had threatened the very existence of some of small

Figure 10. Issue Salience: *New York Times* Coverage of Occupational Safety and Health Issues (1969-2000)



businesses. OSHA experienced a reduction of its staff by 22 percent and a loss of budget by 14 million dollars between 1981 and 1982. It would not be surprising that the Reagan administration's quick move to direct OSHA toward pro-business interests generated a turmoil in public discourse and drew enormous attention to the agency, which was attacked by both pro-business and pro-labor publics for its regulatory stringency as well as its emphasis on "trivial" standards. Between 1986 and 1988 the Risk Notification Bill, which would inform individual workers about their exposure to toxic substances on the job, drew attentions from prominent policy actors inside and outside the legislative arena.

When the general public pays much attention on OSHA and its regulation, we can expect that the disputes over the relevance of occupational safety and health regulation can easily go beyond the narrowly defined congressional committee jurisdictions and that nationally visible political figures including congressional leaders as well as the president are the ones who actively exert influence on policymaking processes. The longitudinal trend portrayed in Figure 10 shows that when OSHA issues attracted a substantial amount of attention during the 1970s and the 1980s, the chamber and the legislative parties played important roles in dealing with such matters as to what extent exemptions from OSHA regulations should be adopted (1972-1980) and to what extent workers' rights to know should be protected (1986-1988). In contrast, when OSHA issues lost most of attention in the 1990s, the issue of OSHA reform (1992-1996) was discussed only by the House and Senate Labor Committees.

Partisan polarization is considered to be constant at a high level. Legislative voting records on OSHA bills and provisions from the 1980s to the present reveal that

the Democratic and Republican parties' positions on workplace safety problems became clearly divergent. Prior to that point, the two parties' positions were not clearly distinguishable due to the fuzziness of the ideological and partisan cleavages in the legislative arena. Especially in the House and Senate floor, the Democratic Party could not maintain party unity regarding legislative decisions on occupational safety and health regulation. The majority of the conservative Democrats from Southern states generally sided with the Republican Party's efforts to dilute OSHA regulation. Similarly, the liberal Republicans from the Northeastern states tended to break party lines and join the Democratic majority. However, as the legislative discourse on the Risk Notification Bill revealed, the gap between ideological and partisan cleavages disappeared during the Reagan realignment. Southern Democratic seats in Congress were replaced by real Republicans. With this collapse of the Southern-Republican conservative coalition, both parties could maintain a high degree of internal homogeneity, which led a heightened inter-party polarization in the area of OSHA policy. Thus, during the period under consideration, the level of partisan polarization remained constantly high as the ideological cleavage and the party-lines became closely aligned.

Control Variables

Many scholars have speculated that state politicians make every effort to influence implementation of federal programs so as to maximize regional and local benefits (Bardach 1977; Chubb 1985; Peterson 1995). Conservative leaders of state and local governments are reluctant to leave federal officials free to regulate and enforce central standards and rules in their territories. These prominent local actors have no reason to welcome federally established regulatory programs and their regulators. In

their view, these regulatory programs provide no tangible benefits and may increase their constituents' costs of compliance.

However, the empirical evidence is mixed regarding this general expectation about the effectiveness of informal influence of subnational governments on the federal bureaucracy. For instance, Thompson and Sicchitano (1985) report that federal OSHA enforcement activities do not reflect state governments' preferences; in fact, federal regulators even increased enforcement levels in Democratic states. On the other hand, Scholz and Wei (1986) argue that federal OSHA enforcement activities varied systematically with state-level political institutions. For example, federal OSHA officials tended to raise the level of regulatory stringency in the states with liberal and Democratic governments. Wood (1988) also finds similar patterns: federal EPA enforcement activities tended to increase in more liberal state environments.

In order to control for the possible influence of state institutional preferences on federal OSHA activities, I include *State Government Ideology*. This factor is measured by using state government liberalism scores developed by Berry, Ringquist, Fording, and Hanson (1998). I rescaled the original scores by a factor of 0.01 so that they can range from 0 to 1 to minimize statistical confusion concerning the magnitude of coefficients on this measure. I expect that a more liberal state government will increase OSHA's regulatory outputs.

State socio-economic factors also have been thought to affect outcomes of these federal programs. According to previous OSHA studies, labor and business group activities that constitute crucial elements of local policy networks may influence the local operations of federal regulatory programs. Depending on their relative strength in the

regions and localities, policy implementers may face favorable or unfavorable local reactions. Despite these plausible expectations, evidence from quantitative tests is mixed. For example, according to Marvel (1982), because federal agency officials are less susceptible to local group demands and at the same time unionized industries may be safer than non-unionized establishments, the negative relationship between labor group strength and the stringency of OSHA enforcement can be observed. In contrast, Scholz et al. (1991) and Headrick et al. (2002) report a positive relationship between the local labor group strength and the level of federal OSHA inspections. According to them, since local labor organizations can participate in OSHA's enforcement process through filing complaints and by reporting imminent dangers to the agency, even the federal agency officials cannot ignore local interests' demands for stronger enforcement. In order to control for the effects of organized labor, I include *Non-farm Workers* per 100 thousand as a proxy measure of the strength of labor following practices of previous research.

State economic conditions have also been considered to affect OSHA officials' regulatory behavior. Since a state's unfavorable economic conditions may force the government to take measures on behalf of economic development rather than impose regulatory constraints on businesses, OSHA regulation may be opposed in states with bad economic conditions (Chubb 1985; Thompson and Sicchitano 1985; Scholz and Wei 1986; Scholz et al. 1991; Peterson 1995). I include *Per Capita Income* to control for states' economic conditions.

In order to minimize the possibility of spurious relations caused by a linear time trend, I include a *Time* index variable. The lagged dependent variable, *Inspect[t-1]*, is

also included in order to control for the effects of unspecified year-to-year factors that may cause the problem of serial correlation. Especially when the maximum likelihood estimation is used with a panel data set, inclusion of the lagged dependent variable is of great help in obtaining consistent and asymptotically normal test statistics (Wooldridge 2002: 405-413). I control further for unobserved regional fixed-effects by using dummy variables for the regional districts of OSHA. The base category is OSHA regional district 1.

5.2.3. Model Specification for Bureaucratic Autonomy (σ_{it}^2)

The Size of the Policy Equilibrium Interval

The main determinant of the variability of bureaucratic actions is the level of preference divergence among the veto players. As policy disagreement among those veto players increases, so does the possibility of autonomous bureaucratic choices. I measure preference divergence by using *Size of the PEI*. In a one-dimensional issue space, the size of the PEI is simply the distance between a veto player whose policy position constitutes the lower limit of the policy equilibrium interval and the other veto player whose position is the upper limit of the policy equilibrium interval. I construct this variable by the absolute magnitude of *Lower Limit* and *Upper Limit (UL)* of the PEI, that is, $|\min(\bullet) - \max(\bullet)|$ where “ \bullet ” includes the CS Nominate scores of the three sets of veto players.

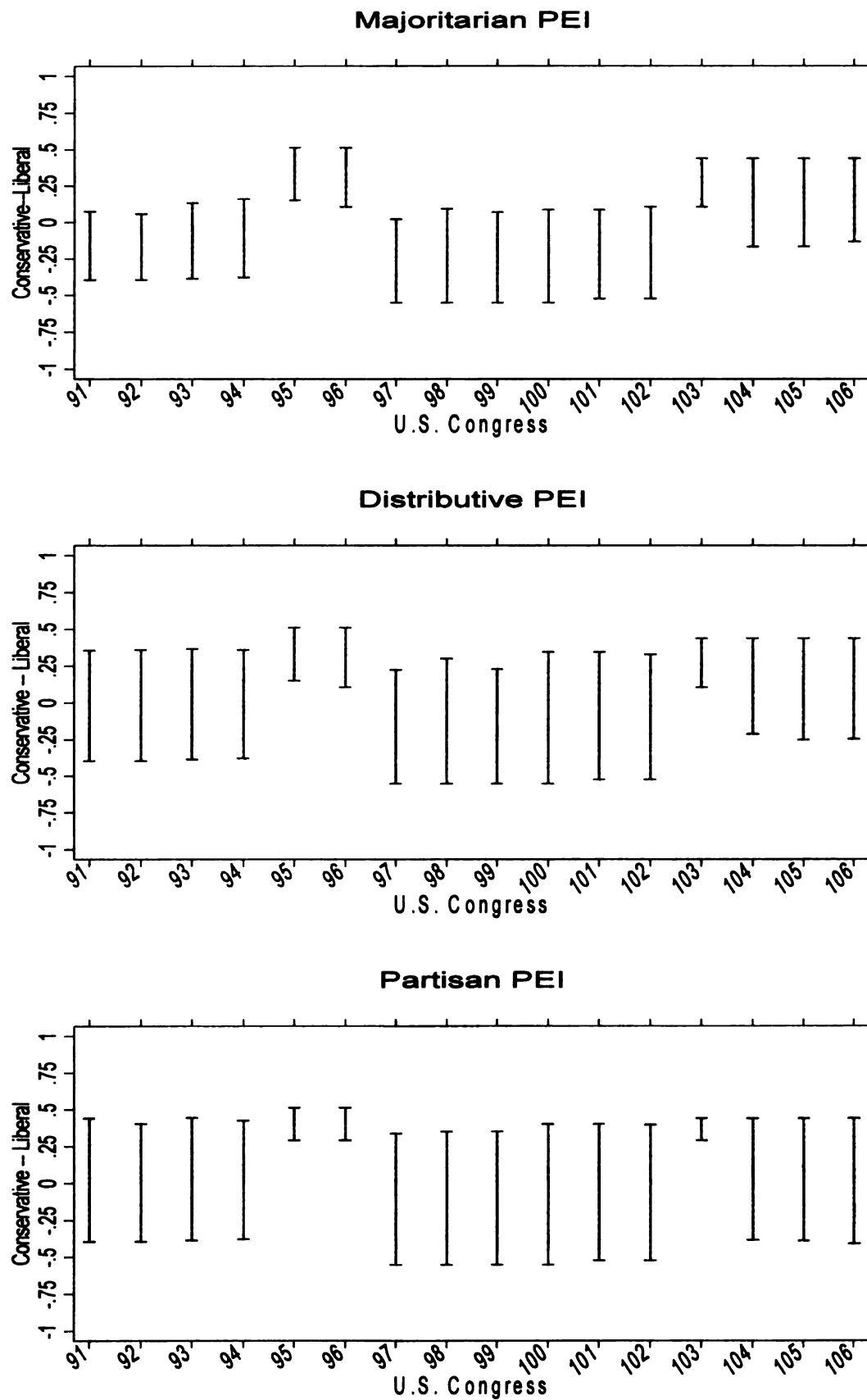
Three alternative measures for *Size* can be created, involving three different sets of veto players: the majoritarian set = {the president, House chamber median, Senate chamber median}, the distributive politics set = {the president, House chamber median,

House committee median, Senate chamber median, Senate committee median}, and the party government set = {the president, House chamber majority party median, House committee majority party median, Senate chamber majority party median, Senate committee majority party median}. Since greater preference divergence among these veto players means a broader range of politically permissible policy options, I expect a positive relationship between the size of the PEI and the conditional variance of agency choices.

Figure 11 portrays changes in the policy equilibrium intervals from the 91st to the 106th U.S. Congresses. The upper panel of Figure 11 shows the majoritarian PEI. The location of the PEI shifted in the liberal direction between the 94th and the 95th and between the 102nd and the 103rd Congresses; it moved in the conservative direction between the 96th and the 97th Congresses. Regarding the size of the majoritarian PEI, discernible changes took place in several occasions. For example, when conservative president Ford was replaced by liberal president Carter between the 94th and the 95th Congress, the size majoritarian PEI substantially decreased as a result of the emergence of an unified Democratic government that led the limits of the PEI to be defined by the liberal House median (HM) and the liberal president (P). The size of the majoritarian PEI increased between the 96th and the 97th Congresses as conservative president Reagan constituted the *Lower Limit* and the liberal House median constituted the *Upper Limit* of the majoritarian PEI. In the 103rd Congress, one could observe a small majoritarian PEI due to the unified Democratic government of a short period of time.

The middle panel of Figure 11 portrays changes in the distributive PEI. Although the change in the location of the distributive PEI is very similar to that of the

Figure 11. Policy Equilibrium Intervals (The 91st~106th U.S. Congresses)



majoritarian PEI, the size of the distributive PEI tends to be larger than that of the majoritarian PEI. Consistent to the distributive politics perspective, the House and Senate Labor Committee medians had noticeably more liberal policy ideology than the rest of the chambers, thereby providing OSHA with a wider range of possible policy alternatives and a greater degree of autonomy. Especially when conservative presidents (Nixon, Ford, Reagan, and Bush) were the *Lower Limit*, the liberal House and Senate Committee medians (HCM and SCM) increased the distributive PEI by moving the *Upper Limit* substantially in the liberal direction in the 91st~94th and the 97th~102nd Congresses.

The lower panel of Figure 11 portrays changes in the partisan PEI. The location and the size of the partisan PEI differ from those of the majoritarian and the distributive PEI's. The partisan PEI changes according to ups and downs of the lower limit that moves dramatically in either liberal or conservative direction. In general, inter-institutional divergences and convergences in policy preferences were emphasized by the partisan PEI more than by the majoritarian and the distributive PEI's: the partisan PEI became smaller than the majoritarian and the distributive PEI's when the government was unified, while the PEI became larger than the other two PEI's when the government was divided. For example, when conservative presidents were the *Lower Limit* of the partisan PEI, the House and Senate Committee Majority Party medians (HCMM and SCMM) were substantially more liberal than floor medians (HM and SM) and committee medians (HCM and SCM). In contrast, when liberal presidents (Carter and Clinton) were the *Upper Limit*, the Lower Limit was also constituted by the liberal Majority Party medians in the floor (HMM) and the committee (HCMM).

Issue Characteristics

To examine the conditional effect of issue characteristics, I include *Issue Salience* and interaction terms of issue salience and the size of the PEI (*Size * Salience*). I hypothesize that heightened public attention will reinforce the effect of the size of the majoritarian and partisan PEI's more than the distributive PEI on the conditional variance. Since I expect the size of those PEI's to have positive effects on the conditional variance, these effects will increase in the same direction with greater issue salience of workplace safety and health. As for partisan polarization, I consider it constant, as discussed previously.

Control Variables

In order to examine the level of preference divergence among state institutions, I include *Divided Control* of branches of state governments. Although state government officials such as governors and legislators do not have formal oversight authority, they may influence operations of the federal bureaucracy through local policy networks (Scholz et al. 1991). Assuming the effectiveness of subnational policy signals in federal program implementation, inconsistent signals from different elected officials may contribute to an increase in the variability of OSHA actions in the field. Thus, despite the crudity of the measure, I expect that the conditional variance of federal OSHA enforcement activities will be greater in a state with a divided government. I also control for regional fixed-effects by using dummy variables for the regional districts of OSHA.

5.3. Empirical Results

The effects of inter-institutional dynamics on bureaucratic responsiveness and bureaucratic autonomy as hypothesized from the majoritarian, the distributive politics, and the party government perspectives are examined in this section. The key questions are whether OSHA field officers responded to changes in veto player's preferences, whether the agency officials could make autonomous choices in the context of inter-institutional policy conflict, whether issue characteristics affected the relative importance of the alternative sets of veto players, and how the preferences of OSHA field officials mediate the effects of institutional preferences on agency actions. The effects of other subnational control variables will be discussed at the end of this chapter.

The main hypotheses (H1, H2, and H5) are tested by using the ML Heteroscedastic Normal Regression as discussed earlier. For each alternative set of veto players, I will discuss empirical results of the ML Heteroscedastic Normal Regression with regards to bureaucratic responsiveness (H1), bureaucratic autonomy (H2), and issue characteristic (H5). In addition, I use Quantile regression analysis for an empirical test of the mediating effects of diverse distributions of the agency officials' preferences (H3 and H4)---non-constant institutional effects along with varying degrees of skewness of the agency preference distribution---as discussed in chapter 3.

5.3.1. Majoritarian Politics

The majoritarian perspective predicts that representative members of the three majoritarian institutions---the president, the House median member, and the Senate median member---will collectively exert the most influence over OSHA enforcement

activities. As shown in chapter 4, policy agreements not only between the executive and legislative branch but also between the upper and lower chambers were as critical for successful legislative policymaking as for OSHA regulation. Since these institutional actors sent out policy signals to OSHA, the prediction is that OSHA field officers will be affected by the policy preferences of these three institutional actors.

Bureaucratic Responsiveness

H1: As the policy equilibrium interval moves in a pro-regulation (anti-regulation) direction, the level of an agency's regulatory policy outputs will increase (decrease).

If the president, the House, and the Senate all favor stronger regulatory measures for workplace safety, OSHA's enforcement activities will increase. This theoretical expectation is consistent with the 'political control' or bureaucratic responsiveness perspective. This preferential change of the majoritarian veto players is represented by the horizontal movement of the majoritarian PEI in a one-dimensional policy space. Pro-regulation shifts of location measures of the PEI are thus expected to have positive effects on the conditional mean of OSHA enforcement activities. If this expectation is correct, coefficients on two measures of the location of the PEI, *Lower Limit* and *Upper Limit*, should be positive in the conditional mean equation.

Results of statistical analysis of the effects of the majoritarian veto-player set on federal OSHA enforcement activities are presented in Table 7. Statistical results, however, do not support this proposition of bureaucratic responsiveness. Coefficients on *Lower Limit* and *Upper Limit* of the majoritarian PEI turn out to be significant but with unexpected signs in the conditional mean equation. All other things being equal, pro-regulation movement of the majoritarian PEI tends to decrease OSHA enforcement

Table 7. ML Heteroscedastic Normal Regression Analysis of the Effects of the Majoritarian Politics on Federal OSH Enforcement

Variable	Model I	Model II
Mean Equation		
Location of the Majoritarian PEI		
Lower Limit	-0.517*** (0.145)	
Upper Limit		-0.619*** (0.153)
Issue Characteristics		
Lower Limit*Issue Salience	0.010*** (0.003)	
Upper Limit*Issue Salience		0.014*** (0.003)
Issue Salience	0.005* (0.002)	-0.002* (0.001)
Controls		
State Government Ideology	-0.004 (0.022)	0.000 (0.022)
Per Capita Income	-0.010*** (0.003)	-0.009** (0.003)
Non-farm Workers	-0.002 (0.002)	-0.002 (0.002)
Time	-0.003 (0.003)	-0.009* (0.004)
Inspect[t-1]	0.695*** (0.031)	0.709*** (0.030)
Constant	6.477 (6.144)	17.546* (6.965)
Variance Equation		
Size of the Majoritarian PEI	1.958 (4.806)	3.796 (4.897)
Size*Issue Salience	-0.131 (0.087)	-0.174* (0.088)
Issue Salience	0.094 (0.057)	0.119* (0.057)
Divided State Government	-0.352* (0.137)	-0.315* (0.137)
Time	-0.047 (0.029)	-0.059* (0.028)
Constant	88.398 (58.573)	110.469 (57.312)
Wald Chi-square	2934.16***	3038.56***
Log-likelihood	897.00	900.47
N	504	504

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests). Standard errors are in parentheses. Fixed-effect dummy variables for regional districts are not reported in this table.

activities. Federal OSHA field officials might not have been closely attuned to policy signals emanating from the majoritarian veto players. Instead, the federal bureaucrats might have focused on policy signals generated by the actors involved in the distributive or partisan politics, including such actors as the congressional committees and the political parties.

Bureaucratic Autonomy

H2: As the policy equilibrium interval gets larger (smaller), the variability of an agency's regulatory choices will increase (decrease).

H2 expects that as policy conflicts among the president, the House floor median, and the Senate floor median increase, the degree of bureaucratic autonomy measured by the variability of OSHA regulation actions will increase. The level of preference divergence among the majoritarian veto players is represented by the size of the majoritarian PEI, which is the distance between two veto players which constitute the lower and upper limits of the PEI. A larger majoritarian PEI should lead to a greater variability of OSHA enforcement actions. That is, the coefficient on *Size* of the PEI should be positive in the conditional variance equation.

Statistical results show that coefficients on the size of the majoritarian PEI in columns 2 and 3 in Table 7 are positive, as expected, but they are not significant at any conventional significance level. The degree of policy disagreement among the majoritarian veto players---the president, the House floor median, and the Senate floor median---does not have the expected influence on the degree of bureaucratic autonomy of OSHA either. This lack of impact of the size of the majoritarian PEI on the conditional variance of OSHA field activities is not surprising. Given that the fact that OSHA field officials did not respond to changes in the majoritarian PEI's location, one

cannot expect the majoritarian PEI's size to have a theoretically consistent effect on bureaucratic autonomy.

Issue Characteristics

H5-1: As issue salience increases and polarization decreases, the majoritarian PEI will be more likely to affect the level and variability of an agency's regulatory actions.

In terms of the conditional effect of issue characteristics, the effects of the majoritarian PEI on the level and variability of OSHA enforcement activities are expected to be greater when OSHA issues are highly salient and do not involve polarized partisan interests. Since the level of partisan polarization was high during the entire period under consideration, one may not predict a consistent mediating effect of issue salience here. Despite this difficulty, I expect that increasing public attention to OSHA issues should increase the effects of the majoritarian PEI on OSHA enforcement activities. Statistically, this means that the coefficients on the interaction terms, *Lower Limit*Issue Salience* and *Upper Limit*Issue Salience* in the conditional mean equation and *Size*Issue Salience* in the conditional variance equation, should be positive in direction and relatively great in magnitude.

Statistical results provide mixed support for these expectations. Although the comparison of the magnitude of the effects across different PEI's cannot be made at this point, we can check if the coefficients have the expected directional sign. The conditional effects of issue salience on the effect of the location of the majoritarian PEI turn out to be positive and consistent with our theoretical expectation in the conditional mean equation: heightened issue salience tends to increase the impact of lower and upper limits on the level of OSHA enforcement activities. In column 2, for example, about 45

or more *New York Times* coverage turns the joint effect of the lower limit of the majoritarian PEI ($-0.619 + 0.014 * \text{Issue Salience}$) to a positive one and this effect is jointly significant ($\chi^2 = 21.28$, $p < 0.001$).

However, the effect of issue salience on the effect of the size of the majoritarian PEI does not support the expectation. In column 2, for example, about 22 or more *New York Times* coverage turns the joint effects of the size of the majoritarian PEI ($3.796 - 0.174 * \text{Issue Salience}$, $\chi^2 = 51.57$, $p < 0.001$). Therefore, issue characteristics do not have conditional effects that are consistent with our expectations.

5.3.2. Distributive Politics

The distributive politics perspective highlights the role of congressional committees in addition to the majoritarian veto players. In the case of OSHA policy, the members of the House and Senate Labor Committees were generally more in favor of the protection of workers from workplace hazards than their parent chambers. As we saw in chapter 4, the House and Senate Labor Committees played crucial roles in protecting OSHA programs by rejecting legislative attempts to dilute the Occupational Safety and Health Act and by proposing reform measures for stronger OSHA enforcement. Therefore, we might expect that the distributive politics veto-player set---the president, the House and Senate floor medians, and the House and Senate Labor Committee medians---would affect the OSHA inspectors' behavior in a way that should be discernible from how the majoritarian veto-player set did.

Bureaucratic Responsiveness

According to the bureaucratic responsiveness (political control) thesis, the movement of the distributive politics PEI in a pro-regulation direction should be expected to increase the level of OSHA enforcement activities (H1). This movement of the PEI on a policy space represents the situation where the president, the House, the Senate, and the House and Senate Labor Committees tend to support OSHA regulation. In fact, the effects of the distributive PEI can be distinguished from the majoritarian PEI only when policy positions taken by the Labor Committees' medians constitute one or both of the limits so that the location (and of course the size) of the PEI can differ from the majoritarian PEI. This can happen only when the Labor Committee members have more pro-regulation preferences than the rest of the chamber. And in fact, CS Nominate scores of the Labor Committee members from the 97th to the 106th Congresses were more liberal than others at the conventional significance level. In the House the mean CS score of the Labor Committee members and the rest of the chamber were 0.053 and 0.003 respectively, whose difference is significant at the 0.01 level ($t=2.59$, $df=4,385$). In the Senate the mean CS score of the Labor Committee members and the rest of the chamber were 0.057 and -0.022 respectively and the difference is also significant at the 0.01 level ($t=2.884$, $df=1,009$). This explains why members of the House and Senate Labor Committees blocked numerous legislative proposals that would weaken occupational safety and health regulation.

Nonetheless, results of statistical analyses included in Table 8 do not support H1. Pro-regulation shifts of the distributive politics PEI did not lead to an increase in OSHA enforcement levels. Coefficients on the *Lower Limit* and the *Upper Limit* of the

Table 8. ML Heteroscedastic Normal Regression Analysis of the Effects of the Distributive Politics on Federal OSH Enforcement

Variable	Model I	Model II
Mean Equation		
Location of the Distributive PEI		
Lower Limit	-0.500** (0.182)	
Upper Limit		-0.165 (0.281)
Issue Characteristics		
Lower Limit*Issue Saliency	0.009* (0.004)	
Upper Limit*Issue Saliency		-0.004 (0.003)
Issue Saliency	0.004* (0.002)	0.001 (0.001)
Controls		
State Government Ideology	-0.011 (0.022)	-0.007 (0.023)
Per Capita Income	-0.009** (0.003)	-0.010*** (0.003)
Non-farm Workers	-0.002 (0.002)	-0.002 (0.002)
Time	-0.002 (0.003)	0.003 (0.003)
Inspect[t-1]	0.689*** (0.031)	0.667*** (0.031)
Constant	3.149 (5.515)	-5.818 (6.668)
Variance Equation		
Size of the Distributive PEI	-4.040 (2.192)	-1.420 (2.197)
Size*Issue Saliency	0.017 (0.037)	-0.024 (0.037)
Issue Saliency	-0.007 (0.032)	0.034 (0.033)
Divided State government	-0.281* (0.137)	-0.304* (0.138)
Time	-0.102** (0.029)	-0.051 (0.030)
Constant	201.041** (59.117)	97.673 (61.671)
Wald Chi-square	2827.58***	2683.48***
Log-likelihood	898.21	898.87
N	504	504

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests). Standard errors are in parentheses. Fixed-effect dummy variables for regional districts are not reported in this table.

distributive politics PEI turn out inconsistent with our expectations. The coefficient on *Lower Limit* in column 2 is significant but negative and the coefficient on *Upper Limit* in column 3 is insignificant at any conventional significance level. It appears that the federal OSHA field officials did not increase their enforcement level when the policy preferences of the distributive politics set of veto players changed in favor of stronger regulatory activities between 1982 and 2000. Despite the pivotal role played by the Labor Committees in maintaining a degree of statutory stability in opposition to anti-OSHA policy change, these Committee members' preferences did not significantly affect the level of enforcement activities of the OSHA field officials.

Bureaucratic Autonomy

The bureaucratic autonomy hypothesis expects that an intense policy conflict among the distributive politics set of veto players will increase the degree of bureaucratic autonomy (H2). With a larger policy equilibrium interval, OSHA field officials can choose policy options from a wider range of possible alternatives. Given that the size of the distributive PEI tends to be larger than the majoritarian PEI, OSHA officials may have had a greater degree of autonomy under influence of the distributive politics model than under influence of the majoritarian politics model.

However, empirical tests of OSHA enforcement do not provide support for this hypothesis. The effects of *Size* of the distributive politics PEI on the variability of OSHA inspectors' actions turn out to be insignificant in the conditional variance equation. The variability of OSHA field officials' policy choices were not systematically affected by the extent of policy disagreement among the House and Senate Labor Committees, the president, and the House and Senate floor medians.

Issue Characteristics

H5-2: As issue salience and polarization decrease, the distributive politics PEI will be more likely to affect the level and variability of an agency's regulatory actions.

When OSHA issues do not draw intense public attention and they do not divide between the Democratic and Republican parties, it is expected that the chamber or leaders of the parties will be less likely to intervene in the legislative activities in congressional committees. These circumstances may create a vacuum which allows the House and Senate Committees to exert their own judgment on OSHA issues. However, since the level of partisan polarization is considered to be constantly high throughout this period, there is no way to test issue salience's impact on the effects of the distributive PEI. Nonetheless I predict that a lower level of salience of OSHA issues will increase the importance of the policy messages produced by the House and Senate Labor Committees. Technically these conditional effects of issue characteristics can be examined by their significance and magnitude. Lower levels of salience are expected to increase the effect of the distributive PEI on OSHA actions in both significance and magnitude. Because the former criterion is difficult to apply with the statistical specification used in this study, I again focus on the magnitude of the conditional effects.

The conditional effects can be estimated by coefficients on those interaction terms such as *Lower Limit*Issue Salience*, *Upper Limit*Issue Salience*, and *Size*Issue Salience*. I expect that estimated coefficients for these terms will be negative in direction with increasing issue salience. In other words, the expected positive effects of the location and size of the distributive PEI on the conditional mean and conditional variance of OSHA actions will be reduced when there is a greater chance that more powerful

policymakers do not allow congressional committees to exert their delegated authority on their own.

The statistical results, however, do not support this expectation. In column 2, for instance, *Lower Limit*Issue Salience*, turns out to have an unexpectedly positive sign. About 56 or more *New York Times* coverage turns the joint effect of the lower limit of the majoritarian PEI ($-0.500+0.009*Issue\ Salience$) to a positive one and this joint effect is significant ($\chi^2=9.64, p<0.01$) in the conditional mean equation. Likewise, in the conditional variance equation, the interaction term *Size*Issue Salience* has a positive coefficient, making the joint effect ($-4.040+0.017*Issue\ Salience, \chi^2=28.27, p<0.001$) positive when the number of *New York Times* coverage is greater than 238. From these results we can conclude that issue characteristics did not have expected conditional effects on the relative importance of the distributive PEI.

5.3.3. Party Government Politics

According to the party government perspective, political parties can mobilize legislative support for their own policy goals. Legislative politics can be characterized by inter-party conflicts and intra-party cohesiveness. Party members are considered to participate in coordinated efforts to achieve partisan goals through the legislative and policymaking processes. Policy conflict between parties can be so intense that the possibility of bipartisan cooperation is very low. From this perspective, the role of party leadership is crucial. In particular, the majority party's leaders can use their legislative powers to reduce the impact of the minority party's opposition. Thus, legislative policy outcomes are, for the most part, in accordance with the majority party's interests.

As shown in the previous chapter, the House and Senate Labor Committees often made decisions following the Democratic majority's goal. Legislative votes on OSHA-related provisions and bills show that the conservative coalition of Republicans and Southern Democrats was weakened and that floor decisions were made along clear party-lines since the 1980s. Thus, this perspective leads us to expect that the party government veto-player set---the president, the majority party medians in the House and Senate Labor Committees, and the majority party medians in the House and Senate floors---will influence OSHA's enforcement activities.

Bureaucratic Responsiveness

Statistical results of the effects of the party government set of veto players on OSHA enforcement activities are presented in Table 9. According to the bureaucratic responsiveness thesis, we expect that the partisan PEI's pro-regulation movement will increase OSHA's regulatory policy outputs. Empirical results provide some support for this proposition. In the conditional mean equation, the coefficient on *Upper Limit* of the party government PEI in column 3 turns out positive and statistically significant at the 0.05 level in a two-tailed test ($\alpha=2.529$, s.e.=1.158). With all else being equal, a one-unit shift of the upper limit of the party government PEI in a pro-regulation direction tends to increase OSHA inspections per 1,000 non-farm workers by 2.529. However, the data do not support our expectation about the effect of *Lower Limit*. The coefficient in column 2 turns out negative. OSHA field officials may have considered the policy preference of the upper limit more seriously so that they increase regulatory stringency with a perceived pro-regulation movement of the upper limit. Whereas movement of the lower limit in the pro-regulation direction may demand some increase in OSHA citations

Table 9. ML Heteroscedastic Normal Regression Analysis of the Effects of the Party Government Politics on Federal OSH Enforcement

Variable	Model I	Model II
Mean Equation		
Location of the Partisan PEI		
Lower Limit	-0.174** (0.066)	
Upper Limit		2.529* (1.158)
Issue Characteristics		
Lower Limit*Issue Salience	0.004*** (0.001)	
Upper Limit*Issue Salience		-0.065** (0.023)
Issue Salience	0.0015* (0.0007)	0.026** (0.009)
Controls		
State Government Ideology	0.012 (0.024)	0.016 (0.024)
Per Capita Income	-0.008** (0.003)	-0.008** (0.003)
Non-farm Workers	-0.003 (0.002)	-0.003 (0.002)
Time	-0.007 (0.003)	0.001 (0.004)
Inspect[t-1]	0.701*** (0.031)	0.680*** (0.031)
Constant	13.377* (6.779)	-2.103 (7.364)
Variance Equation		
Size of the Partisan PEI	2.824* (1.414)	3.254* (1.500)
Size*Issue Salience	-0.093*** (0.026)	-0.094** (0.028)
Issue Salience	0.087*** (0.025)	0.094*** (0.027)
Divided State Government	-0.195 (0.142)	-0.169 (0.142)
Time	-0.210*** (0.039)	-0.133** (0.041)
Constant	410.592*** (77.171)	256.059** (81.069)
Wald Chi-square	2713.70***	2592.67***
Log-likelihood	901.72	902.24
N	504	504

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests). Standard errors are in parentheses. Fixed-effect dummy variables for regional districts are not reported in this table.

involving low-cost punishments, this movement may not cause behavioral compliance of field officials.

Bureaucratic Autonomy

The bureaucratic autonomy hypothesis proposes that the degree of bureaucratic autonomy as measured by the variability of agency officials' actions will increase when policy conflict among the party government veto players such as the president and the majority party medians in the Labor Committees and in the floors. If the behavior of the congressional Labor Committees and if voting behavior on the floors are governed by partisan leaders and their goals, the level of inter-party preference divergence should define the range of political feasible set of policy options for OSHA officials. And this underlying process is likely to be perceived by OSHA officials, given the fact that the partisan PEI has sent the strongest signals to field operations of the rank and file.

There is strong evidence for this expected effect of the size of the partisan PEI on OSHA's bureaucratic autonomy. The coefficient on *Size* of the partisan PEI turns out to be positive and significant at the 0.05 level in two-tailed tests ($\beta=2.824$, s.e.=1.414 and $\beta= 3.254$, s.e.=1.500 in columns 2 and 3, respectively). The variability of OSHA field officials' actions increased as the president and the majority party median members took more divergent policy positions. OSHA field officials could capitalize on the policy conflict between parties in various stages of national policymaking to choose options from a wider set of alternatives, thereby increasing the conditional variance of their regulatory actions.

Issue Characteristics

H5-3: As issue salience and polarization increase, the party government PEI will be more likely to affect the level and variability of an agency's regulatory actions.

Regarding the conditional effect of the issue characteristics, heightened issue salience is expected to increase the effect of the party government PEI on the level and variability of OSHA's regulatory actions. Since inter-party policy conflict has been intense since the early 1980s, growing public attention to OSHA issues may motivate the majority party leadership to take clearer policy position and to make concerted efforts to achieve their policy goals. The data, however, provide some mixed evidence for this expectation with the party government PEI. The coefficient on *Lower Limit*Issue Salience* in column 2 is positive so that the joint effect of the lower limit of the partisan PEI ($-0.174 + 0.004 * \text{Issue Salience}$, $\chi^2 = 7.99$, $p < 0.05$) becomes positive when *New York Times* coverage is greater than 43.5. A heightened level of issue salience tends to reinforce the positive effect of the lower limit of the party government PEI on the level of OSHA enforcement activities. But there is no systematically convincing evidence that the conditional effect of issue salience on the upper limit or the size of the party government PEI is consistent with our expectation. For instance, in the conditional variance equation in column 2, issue salience has a negative conditional effect on the size of the partisan PEI, making the joint effect ($2.824 - 0.093 * \text{Issue Salience}$, $\chi^2 = 51.6$, $p < 0.01$) negative when *New York Times* coverage is greater than 31.

5.3.4. Mediating Effects of the Agency Preference Distribution

In the previous three sections I examined the effects of the location and size of policy equilibrium intervals on bureaucratic responsiveness and bureaucratic autonomy in federal OSHA enforcement. The main finding was that the partisan PEI had more consistent effects than the majoritarian or the distributive PEI's on the level (or

responsiveness) and variability (or autonomy) of federal OSHA actions. However, as discussed in chapter 3, we have a theoretical expectation that these effects of the PEI will vary systematically with the extent to which an agency's policy preferences are skewed toward either deregulation or regulation in a one-dimensional policy space. In terms of these mediating effects of agency preference distribution, I proposed the following two hypotheses.

H3: The effect of the location of the policy equilibrium interval on the production level of a regulatory agency will increase (decrease) as the skewness of agency preference distribution increases (decreases).

H4: The effect of the size of the policy equilibrium interval on the variability of a regulatory agency's policy choices will decrease (increase) as the skewness of agency preference distribution increases (decreases).

The main argument of H3 is that if an agency's preference distribution is asymmetric in favor of either the lower or higher level of regulatory enforcement, that agency will be more responsive than an agency with symmetric preference distribution to changes in the preferences of elected policymakers in national institutions. In other words, we can theoretically predict that an agency's policy bias will reinforce the effects of PEI's location on the agency's enforcement levels. Thus, we may observe a positive correlation between the effects of PEI's location and the skewness of the agency's preference distribution. H4 argues that if an agency's preference distribution is substantially skewed to either side of the policy continuum, the agency's policy choices will be limited to a very narrow range of potentially feasible options. For this agency, even a large policy equilibrium interval that would provide a large number of feasible options might not increase the variability of bureaucratic choices. That is, we can expect

a negative correlation between the effects of PEI's size and the skewness of agency preference distribution.

In this section, I offer an empirical test for H3. We can consider a population of OSHA field offices that have heteroscedastic preference distributions in the anti- and pro-regulation space (see Kelman 1981: 177-220). Some of OSHA field offices may be skewed toward the anti-regulation direction in a policy space so that they will constitute a cohort of agencies that tend to enforce OSHA rules at a lower level. Some of them may be skewed to the pro-regulation and will be members of a group of agencies that enforce rules at a higher level. Yet others may not be skewed and enforce rules at a medium level. The first group of agencies will constitute the lower tail of the population; the second group of agencies will be around the upper tail of the population; and the third group will be in the middle of the population. Then, we can expect that the effects of PEI's location on the level of OSHA enforcement activities will be greater in the lower and upper tails than in the middle of the population as discussed in chapter 3. I test this expectation by using quantile regression and compare coefficients on the measures of the location of the PEI at 0.25, 0.50, and 0.75 quantiles. The 0.25 quantile represents agencies in the lower tail; the 0.50 quantile represents agencies in the middle; and the 0.75 quantile represents agencies in the upper tail. Coefficients are expected to be greater at the 0.25 and 0.75 quantiles than at the 0.50 quantile.

Table 10 includes results of this analysis. Since the upper limit of the partisan PEI turns out to have the most consistent effect on the level of federal OSHA enforcement activities in states, I focus on its coefficient. All coefficients at the 0.25, 0.5, and 0.75 quantiles turn out significant, thereby suggesting that the upper limit tends

Table 10. Quantile Regression Analysis of the Mediating Effects of the Agency Preference Distribution on Federal OSH Enforcement

Variable	Quantiles		
	$\theta=0.25$	$\theta=0.5$	$\theta=0.75$
Upper Limit	5.350*** (1.634)	2.917† (1.649)	4.135** (1.518)
Upper Limit*Issue Salience	-0.140*** (0.034)	-0.071* (0.035)	-0.086** (0.030)
Issue Salience	0.057*** (0.014)	0.029* (0.014)	0.035** (0.012)
State Government Ideology	0.013 (0.037)	0.022 (0.038)	-0.023 (0.035)
Per Capita Income	-0.003 (0.005)	-0.007 (0.004)	-0.011* (0.005)
Non-farm Workers	-0.001 (0.003)	-0.002 (0.003)	-0.007* (0.003)
Time	0.006 (0.006)	0.002 (0.005)	0.001 (0.005)
Inspect[t-1]	0.679*** (0.041)	0.719*** (0.050)	0.696*** (0.045)
Constant	-14.941 (11.234)	-4.434 (10.872)	-4.073 (10.626)
Pseudo R ²	0.545	0.578	0.614
N	504	504	504

Note: † $p<0.05$ (one-tailed test), * $p<0.05$ (two-tailed test), ** $p<0.01$ (two-tailed test), *** $p<0.001$ (two-tailed test). Standard errors are in parentheses. Fixed-effect dummy variables for regional districts are not reported in this table. Pseudo R-square is for the full model that includes all those fixed-effect dummy variables.

to increase enforcement levels. But a closer examination points to the mediating role of agency's preferential bias. Coefficients estimated at either lower ($\theta=0.25$) or upper tail ($\theta=0.75$) are greater than the coefficient estimated in the middle ($\theta=0.50$). The former (5.350 and 4.135) are significant at the 0.01 and 0.001 levels in two-tailed tests while the latter (2.917) is significant at the 0.05 level in a right-tailed test. This result suggests that agency's policy bias toward either deregulation or regulation tends to reinforce the positive effect of the partisan PEI's location on the agency's enforcement levels.

Although this result provides evidence that the policy equilibrium's effect does not remain constant with different distributions of agency preferences, it still is not a complete analysis. As discussed chapter 3, we should consider not only how much the agency is biased but also in what direction it is biased. The direction of an agency's bias will determine the relative importance of the upper or lower limit of the policy equilibrium interval. Since I focus on the upper limit's effect in this case, one can expect that OSHA officials in the upper tail, which represent skewness toward stronger regulation, will respond to the upper limit's movement more sensitively than officials in the lower tail will do. This expectation, however, is not supported by the empirical results. There is no evidence that the coefficient on the upper limit at the 0.75 quantile is greater or more significant than the coefficient at the 0.25 quantile.

This evidence for the instability of bureaucratic choices in the boundary of the policy equilibrium interval also provides indirect support for H4. The greater responsiveness of OSHA field offices in either the lower or the upper tails suggests the empirical validity of the logic of policy (dis)equilibrium and the importance of the agency preference distribution. The agency's policy bias indicates the potential policy

disagreement among veto players and agency officials, which is predicted to decrease the effects of inter-institutional conflicts on bureaucratic autonomy (H4). Thus, the empirical evidence provided in Table 11 also supports the expected negative relationship between an agency's policy bias and the impact of the size of policy equilibrium interval.

5.4. Discussion

Empirical analyses of federal OSHA field officials' regulatory behavior between 1982 and 2000 show that party government politics prevailed in enforcement of occupational safety and health rules. Although the empirical evidence was not perfect, the location and the size of the partisan PEI had effects on OSHA's responsiveness and autonomy in a more consistent manner than the majoritarian or the distributive PEI. When the president and the majority party median members in Congress took policy positions that were in favor of the protection of workers from industrial hazards (especially the institution constituting the upper limit), OSHA field officials increased their enforcement activities. At the same time, as policy conflict among the party government veto players became intensified, OSHA inspectors could make choices from a wider range of politically-feasible options, thereby reflecting their own preferences to a greater degree. These results provide empirical support for the theoretical propositions regarding bureaucratic responsiveness and bureaucratic autonomy. OSHA field officials responded to institutional preferences by adjusting the level of their enforcement activities and they also capitalized on policy disagreements among the pivotal policymakers to make autonomous bureaucratic choices.

The absence of consistent empirical support for the effects of the majoritarian and the distributive politics implies that OSHA officials were most attuned to policy signals that came from inter-party battles over OSHA regulation. Consistent with the narratives in chapter 4, the policy dimension of “pro-labor” and “pro-business” was reinforced by the increasing importance of the “Democrat” and “Republican” cleavage. These party-related differences on OSHA issues may have been so clear that even field officials could view their daily operations along this dimension of OSHA policy. In the area of OSHA regulation, Democrats were strongly united in support of stronger measures for worker protection in workplaces, and Republicans were united in their efforts to dilute OSHA regulatory rules and protect business interests. Thus, it is unsurprising that OSHA enforcement activities were most systematically affected by the interactions among the party government veto players.

The relative importance of the three alternative sets of veto players was not determined systematically by issue characteristics. Although there was some evidence that heightened salience of OSHA issues reinforced the effects of some measures of the location of the policy equilibrium interval on the level of OSHA enforcement activities, empirical results failed to provide evidence for the conditional effect on the size of the policy equilibrium interval. However, the relative success of the partisan PEI in explaining the level and variability of OSHA enforcement actions is consistent to the fact that OSHA issues divided the competing partisan interests on the topics of small business exemption and regulatory reform.

The explanatory power of other subnational factors turns out to be extremely weak compared to that of time-variant factors in this study. Neither state government

ideology nor divided state government variables had significant and expected effects on OSHA enforcement activities. The states' socio-economic factors such as wealth and industrialization are not significant determinants of OSHA field officials' behavioral patterns. However, it would be erroneous to conclude that all those cross-sectional variations were explained solely by top-down institutional influences that vary only in the time dimension. A chi-square test shows that there were significant regional fixed effects: regional dummy variables in the conditional mean and the conditional variance equations with the party government set of veto players are not jointly insignificant ($\chi^2=63.36$ and $\chi^2=70.08$ in columns 2 and 3 respectively, and $p<0.001$ in Table 9).

The top-down influence of national political institutions on agency actions is conditional on how agency officials' preferences are distributed. OSHA field offices that were skewed toward either deregulation or regulation in the policy space were more sensitive to changes in the preferences of national policymakers than those which were non-skewed. The instability of bureaucratic choices is due to the fact that bureaucratic choices around the limits are more likely to fall outside the region of politically-feasibility when the policy equilibrium interval changes in its location and size. This process reveals the importance of preference congruence among the bureaucratic agents and political principals. A skewed agency preference distribution means that there is a great possibility of preference divergence among veto players and agency officials. As the tension between these two groups is raised, the possibility of veto players' punishment also increases and agency officials are likely to adjust to those institutional forces. Second, a substantial discrepancy in preferences among agency officials and veto players also suggests that there is little room for agency officials to take advantage of to

enhance their autonomy. Thus, the potential policy disagreement among the principals and bureaucratic agents may lead to an increase in the latter's *behavioral* compliance and a decrease in the latter's autonomy.

CHAPTER 6

STATE OCCUPATIONAL SAFETY AND HEALTH REGULATION ENFORCEMENT

In this chapter I examine the effects of inter-institutional dynamics on bureaucratic responsiveness and bureaucratic autonomy involving states' occupational safety and health regulation activities. When examining the state agencies' enforcement activities, the relationships among political institutions and agencies are more complicated. In addition to the general question of how inter-institutional dynamics affect an agency, we must now address the question of whether the preferences of national institutions affect subnational agencies that implement federally-established workplace rules.

Previous research offers three different views of the state agencies' implementation of federal regulatory programs (Marvel 1982; Chubb 1985; Thompson and Scicchitano 1985; Scholz and Wei 1986; Wood 1992; Wood and Waterman 1994). First, a top-down view argues that state regulatory agencies will be affected primarily by the national institutions since the latter use a system of legal and budgetary incentives and sanctions to hold the former responsible for pursuing national policy goals. Second, a bottom-up view contends that state regulatory agencies are more vulnerable to subnational demands than top-down influences since state bureaucracies are under formal control of state political institutions and state bureaucrats tend to share economic and cultural experiences with local policy actors. Third, a mixed view argues that state regulatory agencies are affected by both top-down and bottom-up factors and they tend to consider demands from both the top and the bottom in implementing federal programs.

Regarding OSHA regulation in particular, there have been disagreements over which level factors are most influential. Marvel (1982) argues that state agencies' enforcement of federally-established OSHA rules was likely to be ineffective because state occupational safety and health agencies were out of control of the federal OSHA. Similarly, Thompson and Scicchitano (1985) contend that a state could have decided to operate its own programs in order to limit the federal government's pressure for stronger enforcement. Their results suggest that a state with a conservative state government and which is geographically distant from Washington, D.C. is more likely to exit from the federal OSHA program and create its own programs. Scholz and Wei (1986) offer the most systematic test of state occupational safety and health regulation in an inter-governmental context. They show that state occupational safety and health agencies turn out to respond to both the national political institutions such as the president and Congress and the state political institutions such as governor and state legislatures.

Here I examine state occupational safety and health enforcement by focusing on the following questions. First, is the top-down influence of inter-institutional dynamics on state agencies consistent with the hypothesized processes of bureaucratic responsiveness and bureaucratic autonomy? Second, do the effects of the preference configuration of national institutions on state agencies vary with the agencies' preference distributions in theoretically expected ways? Third, are the national institutional influences on state agencies significant, or do subnational political forces emerge as strong determinants of the state agencies' enforcement activities?

6.1. State Occupational Safety and Health Enforcement Activities

The Occupational Safety and Health Act provided states with opportunities to develop and operate their own programs to protect workers on the job. Section 18 of the OSH Act declares that a state program must, in general, “provide for the development and enforcement of safety and health standards which ... are or will be at least as effective” as federal standards. In all stages of its operation, OSHA monitors the quality of the state program through spot checks and monitoring visits. Currently, 21 states and 2 U.S. territories have comprehensive “state plan” programs covering both the private and public sectors, including Alaska, Arizona, California, Hawaii, Indiana, Iowa, Kentucky, Maryland, Michigan, Minnesota, Nevada, New Mexico, North Carolina, Oregon, Puerto Rico, South Carolina, Tennessee, Utah, Vermont, Virgin Islands, Virginia, Washington, and Wyoming.

The states’ occupational safety and health regulation enforcement activities vary substantially. Table 11 presents the total number of inspections by states in 1992 and 2000. New Mexico Environment Department made 485 inspection visits in 1992 and 367 in 2000. Wyoming Department of Employment conducted 386 inspections in 1992 and 494 in 2000. These numbers can be contrasted with those in some industrialized states. California Department of Industrial Relations conducted 13,355 inspections in 1992 and 9,532 in 2000. The number of inspections in California is 20 times greater than New Mexico and Wyoming.

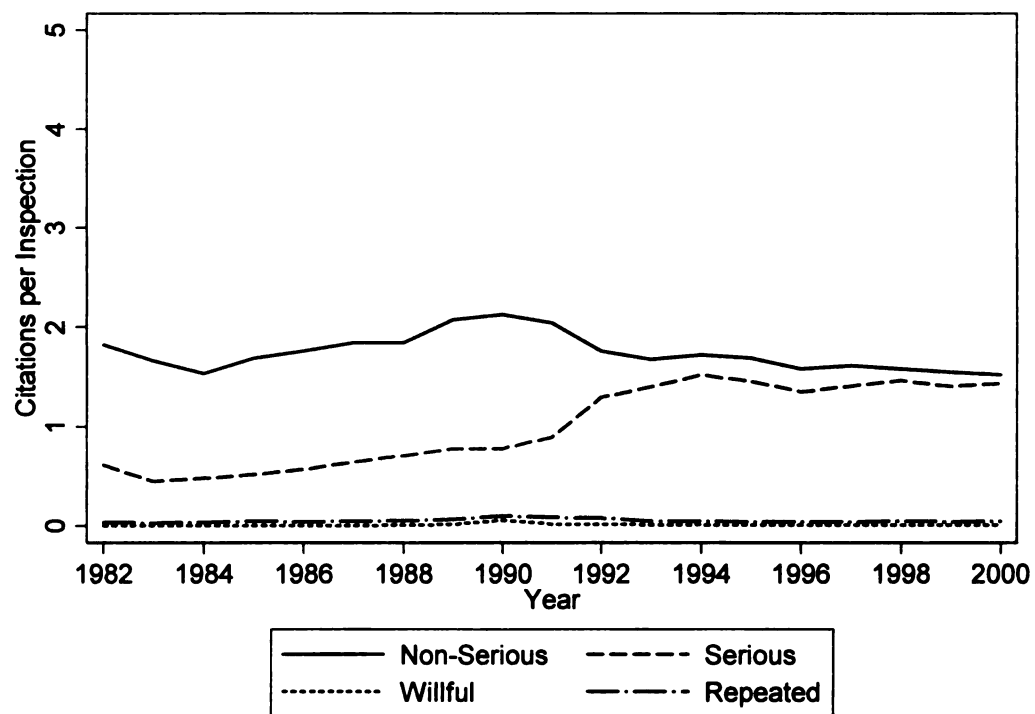
Figure 12 portrays longitudinal patterns of enforcement activities per inspection of state programs between 1982 and 2000. These data provide us with the number of citations of non-serious, serious, willful, and repeated violations per one inspection visit

Table 11. State OSH Inspections (1992, 2000)

State	1992	2000	Status (as of 2000)
Alaska	1,107	487	Final Approval
Arizona	2,246	813	Final Approval
California	13,355	9,532	Certification
Hawaii	1,771	390	Final Approval
Indiana	4,340	2,324	Final Approval
Iowa	802	520	Final Approval
Kentucky	1,126	1,096	Final Approval
Maryland	1,900	1,717	Final Approval
Michigan	8,763	6,757	Certification
Minnesota	2,910	1,955	Final Approval
Nevada	1,838	2,381	Final Approval
New Mexico	485	367	Certification
North Carolina	1,921	3,772	Final Approval
Oregon	5,588	5,171	Certification
South Carolina	2,272	1,900	Certification
Tennessee	2,407	1,793	Final Approval
Utah	705	1,026	Final Approval
Vermont	618	379	Certification
Virginia	2,294	2,716	Final Approval
Washington	7,656	6,855	Certification
Wyoming	386	494	Final Approval

Note: U.S. Territories (Puerto Rico and Virgin Islands) are excluded.

Figure 12. Citations per Inspection by Violation Types (State, 1982-2000)



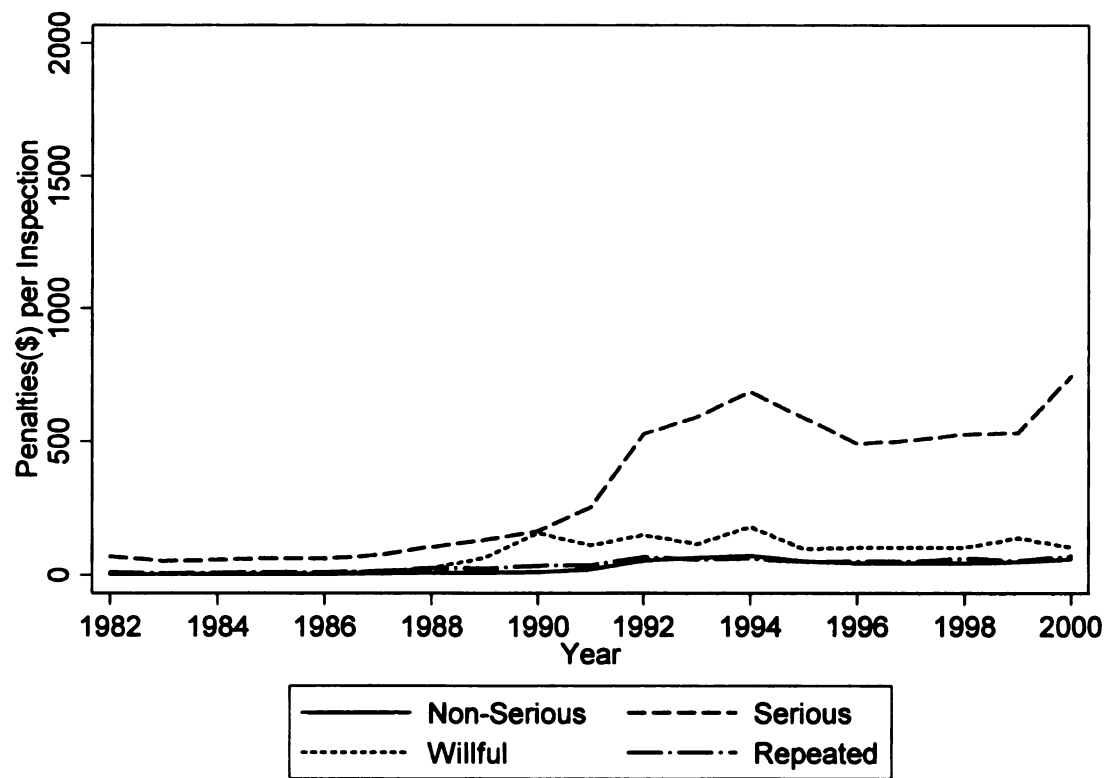
to an establishment. Compared with federal OSHA activities, the state agencies' enforcement activities remained relatively stable during the period. There was some moderate downward trend in the number of non-serious citations between 1982 and 1984, but the level began to monotonically increase until the early 1990s although the magnitude of the change was only moderate. The number of non-serious citations dropped a little in 1992 and remained at that level thereafter. The number of serious citations monotonically increased from 1983 to 1994; between 1994 and 1996 there was a slight decrease in the number but regained the previous level after 1996. The number of citations of willful and repeated violations remained at the lowest level throughout the entire period.

These patterns of state inspections are different from those of federal OSHA inspections in several important respects. First, compared to federal inspections, state inspections tend to be more lenient. While the number of non-serious citations per inspection tends to be greater in state enforcement than in federal enforcement, the number of serious citations per inspection is much smaller in state enforcement than in federal enforcement. Second, while one can expect much a greater number of serious citations than non-serious citations when a federal OSHA inspector visits a firm, one can expect very similar number of serious and non-serious citations when a state inspector visits a firm. Third, while the data series of federal serious citations arose rapidly right after the legislative initiation of Risk Notification bill in 1986, which generated strong pro-OSHA signals, the data series of state serious citations rose when the Democratic reform campaign began under the Clinton administration in the early 1990s. State

inspection agencies seem to take more time than their federal counterparts to respond to national policy signals.

Figure 13 presents the amount of penalties per inspection by violation types between 1982 and 2000. The expected amount of penalties for serious violations per inspection began to increase from the mid-1980s and rapidly increased between 1991 and 1994. There was a substantial decrease between 1994 and 1996. The level remained stable at the level thereafter until 1999 and there was a substantial increase in 2000. Penalties for willful violations increased in the late 1980s and remained at that level with some moderate changes thereafter. Trends in the other two series---penalties on non-serious and repeated violations---remained stable throughout the period under consideration.

Figure 13. Penalties per Inspection by Violation Types (State, 1982-2000)
 (1984 constant dollars)



6.2. Modeling State Occupational Safety and Health Enforcement Activities

In order to examine the effects of institutional preferences and inter-institutional preference divergence on state occupational safety and health regulation enforcement, I use the ML Heteroscedastic Normal Regression Model as specified in the previous chapter. The model of state enforcement activities for the most part resembles that of federal enforcement activities. The dependent variable (Y_{it}) is the number of inspections per 1,000 employees in a state i and for a year t between 1982 and 2000. The level of state enforcement activities is explained by measures of institutional preferences or the location of the PEI, issue characteristics factors, and other control variables. For this model of state agencies' activities, dummy variables for states are included to control for state fixed effects. In sum, the conditional mean equation is specified as follows:

$$\begin{aligned}\mu_{it} = & \alpha_0 + \alpha_1 LL_{t-1} + \alpha_2 UL_{t-1} + \alpha_3 LL_{t-1} * Salience_{t-1} + \alpha_4 UL_{t-1} * Salience_{t-1} \\ & + \alpha_5 Salience_{t-1} + \alpha_6 State Government Ideology_{i,t-1} + \alpha_7 Nonfarm Workers_{i,t-1} \\ & + \alpha_8 Per Capita Income_{i,t-1} + \alpha_9 Time_t + \alpha_{10} Y_{i,t-1} + \sum_{j=2}^{21} d_j State_j\end{aligned}$$

The variability of the state agencies' policy choices is modeled by using measures of inter-institutional preference divergence or the size of the PEI, issue characteristics, and other variables. The conditional variance equation of bureaucratic autonomy is specified as follows:

$$\begin{aligned}\sigma_{it}^2 = & exp(\beta_0 + \beta_1 Size of the PEI_{t-1} + \beta_2 Size * Issue Salience_{t-1} + \beta_3 Issue Salience_{t-1} \\ & + \beta_4 Divided State Government_{i,t-1} + \beta_5 Time_t + \sum_{j=2}^{21} \delta_j State_j)\end{aligned}$$

Using this model, the bureaucratic responsiveness and bureaucratic autonomy of the state occupational safety and health agencies can be examined in the context of the federal system where those state agencies have responsibilities for implementing the federally-established OSHA program.

6.3. Empirical Results

The interactions among the national institutions can be considered to affect state agencies' behavior especially when those state agencies implement federal programs. Although states are allowed to develop their own programs to enforce occupational safety and health standards, these state programs are being continuously monitored by the federal OSHA. OSHA maintains the authority to terminate its approval of a state program if the latter is considered ineffective in achieving statutory goals. For instance, in 1995 the Virgin Islands' application for OSHA's final approval on its program was rejected on the grounds of the agency's insufficient resources and poor regulatory performance. The federal OSHA continuously keeps watch on state occupational safety and health programs through its spot checks and monitoring visits. Furthermore, federal OSHA provides state agencies with their operational costs up to 50%. Due to this hierarchical structure, state agencies might be expected to take into account policy signals generated by the national institutions. State enforcement officers would thus be expected to adjust their enforcement levels according to changes in the policy preferences of the national institutions; at the same time they should be expected to capitalize on inter-institutional policy disagreements to make autonomous policy choices.

6.3.1. Majoritarian Politics

According to the majoritarian politics perspective, the movement of the policy preferences of the president, the House median, and the Senate median in a pro-

regulation direction will increase the level of state occupational safety and health enforcement activities while preferential divergence among those institutional actors will increase the variability of bureaucratic choices.

Bureaucratic Responsiveness

H1: As the policy equilibrium interval moves in a pro-regulation (anti-regulation) direction, the level of an agency's regulatory policy outputs will increase (decrease).

According to H1, we can expect that state agency officials will respond to institutional preferences by adjusting the level of their enforcement activities. The effects of the interactions among the majoritarian veto players on state occupational safety and health enforcement activities are presented in Table 12. Empirical test of this hypothesis reveals strong support for the majoritarian veto players. The effects of two measures of the majoritarian PEI's location, *Lower Limit* and *Upper Limit*, turn out to be significant in the expected direction. The coefficient on the lower limit of the majoritarian PEI in column 2 is 0.875, which is significant at the 0.001 level, and the coefficient on the upper limit of the PEI in column 3 is 1.022, which is significant at the 0.001 level. All other things being equal, a one-unit movement of the majoritarian PEI in favor of stronger regulation tends to increase state agencies' inspections about by 1 per 1,000 state workers. These results provide solid empirical ground for concluding that state occupational safety and health agencies were held responsible by the national institutions. We can thus conclude that the subnational agencies' behavior was constrained by the hierarchical structure imposed on the relations between the national and state layers of the U.S. federal system. The federal OSHA's monitoring efforts on

Table 12. ML Heteroscedastic Normal Regression Analysis of the Effects of the Majoritarian Politics on State OSH Enforcement

Variable	Model I	Model II
Mean Equation		
Location of the Majoritarian PEI		
Lower Limit	0.875*** (0.202)	
Upper Limit		1.022*** (0.241)
Issue Characteristics		
Lower Limit*Issue Saliency	-0.017*** (0.004)	
Upper Limit*Issue Saliency		-0.019*** (0.004)
Issue Saliency	-0.006** (0.002)	0.005*** (0.001)
Controls		
State Government Ideology	0.038 (0.046)	0.053 (0.048)
Per Capita Income	0.006 (0.015)	0.006 (0.016)
Non-farm Workers	-0.011 (0.028)	-0.014 (0.028)
Time	-0.006 (0.012)	-0.008 (0.013)
Inspect[t-1]	0.660*** (0.038)	0.659*** (0.038)
Constant	13.058 (23.891)	16.655 (25.519)
Variance Equation		
Size of the Majoritarian PEI	22.242*** (5.371)	21.198*** (5.427)
Size*Issue Saliency	-0.422*** (0.104)	-0.402*** (0.105)
Issue Saliency	0.260*** (0.067)	0.248*** (0.068)
Divided State Government	0.234 (0.227)	0.254 (0.229)
Time	-0.256*** (0.035)	-0.255*** (0.035)
Constant	494.590*** (71.290)	492.461*** (71.977)
Wald Chi-square	6363.29***	6319.17***
Log-likelihood	361.68	361.56
N	350	350

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests). Standard errors are in parentheses. Fixed-effect dummy variables for states are not reported in this table.

behalf of its political principals to maintain a degree of control over state agencies were effective.

These results also point to the behavioral difference between federal OSHA and state agency officials. In the case of federal OSHA, there was no evidence that federal enforcement officers responded to the majoritarian veto players in the expected way. Unlike their federal counterpart, state agencies consistently responded to the preferential changes of the majoritarian veto players such as the president, the House, and the Senate medians. Although any conclusive remarks on this difference in bureaucratic responsiveness across different layers of the federal system should wait for further analysis of the effects of the distributive and partisan policy equilibrium interval, state officials appear to be responsive to the policy signals generated from the interactions among different branches and chambers.

Bureaucratic Autonomy

H2: As the policy equilibrium interval gets larger (smaller), the variability of an agency's regulatory choices will increase (decrease).

According to this hypothesis, state occupational safety and health agencies will have more room for choices when there is considerable policy disagreement among the majoritarian institutions. Inconsistent policy signals transmitted through the federal OSHA to state agencies will increase the level of bureaucratic autonomy by positively affecting the variability of agency choices.

Statistical results provide consistent empirical support for this hypothesis. Coefficients on *Size* of the majoritarian PEI in columns 2 and 3 turn out positive and significant ($\beta=22.242$, s.e.=5.371 and $\beta=21.198$, s.e.=5.427, respectively). The estimated magnitude of the effect is substantial. A slight change in the size of the majoritarian PEI,

about 3.1% of the mathematical maximum size, will lead to a change of 2 standard deviations in bureaucratic choices.

Although a numerical comparison of coefficients across the federal and state programs is not appropriate, these results suggest that policy conflict among the national policymakers has a stronger effect on the state agencies' autonomy than on the federal OSHA officials' autonomy. In the case of federal enforcement, the effects of the size of the majoritarian PEI on the variability of agency actions were statistically insignificant. Thus, we can conclude that the location and the size of the majoritarian PEI have more consistent effects on state policy implementers than on federal officials.

One possible explanation for this difference is that state occupational safety and health agencies may have limited capacities to collect detailed information about legislative discourse in every stage of the national policymaking process. Unlike the federal OSHA, which can keep track of subtle changes in the policymakers' positions inside the legislative arena, state agencies can be informed of decisions made by institutions only through indirect sources such as the federal OSHA and state delegates to Congress. This kind of explanation, however, cannot be conclusive until we examine the influence of the distributive and party government veto players on state occupational safety and health agencies.

Issue Characteristics

H5-1: As issue salience increases and polarization decreases, the majoritarian PEI will be more likely to affect the level and variability of an agency's regulatory actions.

The effects of issue characteristics in conjunction with majoritarian institutional actors can be examined by looking at the interaction terms. Since an increase in the

salience of occupational safety and health issues is expected to increase the likelihood of the majoritarian veto players' intervention in this policy area and to reinforce these majoritarian institutions' effects on state agencies' responsiveness and autonomy, positive conditional effects are expected. This hypothesis, however, lacks any empirical support. None of the estimates for coefficients on interaction terms, *Lower Limit*Issue Salience*, *Upper Limit*Issue Salience*, and *Size*Issue Salience*, support the expectation that these will be positive and significant. In fact, these coefficients actually have negative signs. For example, in column 3 the joint effect of the upper limit ($1.022 - 0.019 * \text{Issue Salience}$, $\chi^2 = 18.25$, $p < 0.001$) becomes negative when *New York Times* coverage is greater than 54 and that of the size of the PEI ($21.198 - 0.402 * \text{Issue Salience}$, $\chi^2 = 15.26$, $p < 0.001$) becomes negative when *New York Times* coverage is greater than 53. In other words, heightened attention of the national media did not increase the effects of the interactions among the majoritarian veto players on the level and variability of state agency actions.

6.3.2. Distributive Politics

From the distributive politics perspective, one must focus on the role of congressional committees in the policymaking process. Congressional committees may use the parliamentary powers delegated by the chamber to pursue their own policy goals, which are distinct from the rest of the chamber. Rather than acting as a loyal agent of the chamber, the congressional committee plays an important policymaking role as a *de facto* independent actor.

The question here is whether the policy preferences of the House and Senate Labor Committees influence the behavior of state agency officials. A traditional view of the influence of congressional committees in the federal system would argue that the policy triangle or policy subgovernment remains strong at different levels of the federal government (Nice and Fredericksen 1995; Sabatier and Jenkins-Smith 1993). Interest groups make a lobbying effort not only at the national level but also at state and local levels. These groups provide political support and resources for committee members and agency officials in Washington and states and localities. Agencies in a certain policy area can develop a shared framework of policy problems through professional training programs and inter-governmental cooperation to implement federal programs. Members of committees in Congress and state legislatures thus may have similar concerns and seek benefits from the same interest groups and the same bureaucratic professions in exchange for their legislative decisions. This system of subgovernment in “picket fence” federalism may create channels through which the House and Senate Labor Committees can send signals to state occupational and health agencies (Nice and Fredericksen 1995: 11-15).

Bureaucratic Responsiveness

The bureaucratic responsiveness hypothesis (H1) predicts that state occupational safety and health agencies will respond to the distributive set of veto players’ policy preferences by adjusting their enforcement levels. As the distributive PEI moves in a pro-regulation direction, state enforcement levels will increase accordingly.

Results of the empirical tests of this hypothesis are included in the conditional mean equation in Table 13. There is strong evidence for the hypothesis. Coefficients on

Table 13. ML Heteroscedastic Normal Regression Analysis of the Effects of the Distributive Politics on State OSH Enforcement

Variable	Model I	Model II
Mean Equation		
Location of the Distributive PEI		
Lower Limit	0.968*** (0.253)	
Upper Limit		1.392* (0.588)
Issue Characteristics		
Lower Limit*Issue Salience	-0.019*** (0.005)	
Upper Limit*Issue Salience		-0.025** (0.008)
Issue salience	-0.007** (0.002)	0.010*** (0.003)
Controls		
State Government Ideology	0.034 (0.048)	0.068 (0.054)
Per Capita Income	0.010 (0.015)	0.006 (0.016)
Non-farm workers	-0.015 (0.028)	-0.013 (0.030)
Time	-0.010 (0.012)	-0.012 (0.013)
Inspect[t-1]	0.648*** (0.040)	0.653*** (0.040)
Constant	21.218 (23.936)	22.803 (26.004)
Variance Equation		
Size of the Distributive PEI	2.783 (2.332)	2.926 (2.362)
Size*Issue Salience	-0.033 (0.041)	-0.038 (0.041)
Issue Salience	0.016 (0.035)	0.022 (0.036)
Divided State Government	0.305 (0.226)	0.257 (0.226)
Time	-0.293*** (0.032)	-0.280*** (0.033)
Constant	581.467*** (64.209)	553.748*** (66.182)
Wald Chi-square	6074.41***	5539.94***
Log-likelihood	354.15	353.65
N	350	350

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests). Standard errors are in parentheses. Fixed-effect dummy variables for states are not reported in this table.

Lower Limit and *Upper Limit* of the distributive PEI turn out to be positive and significant ($\alpha=0.968$, s.e.=0.253 and $\alpha=1.392$, s.e.=0.588 in columns 2 and 3, respectively). A pro-regulation movement of the lower and upper limits of the distributive PEI significantly increased state agencies' level of enforcement of occupational safety and health rules.

These results are different from what we found with federal OSHA enforcement activities: while there was no evidence that federal OSHA officials responded to the distributive PEI, the state agency officials did. The effectiveness of the location of the PEI in defining politically-feasible agency choices means that the size of the PEI should be expected to determine the amount of variation of bureaucratic choices. Therefore, this estimated difference between federal and state agencies in their responsiveness to the national politicians could be confirmed more convincingly if the variability of state agencies' policy choices is also affected by preference divergence among the president, the House and Senate medians, and the House and Senate Labor Committee medians. We now examine the evidence for this hypothesis.

Bureaucratic Autonomy

Results of the effects of the size of the distributive PEI on the variability of state agency actions are shown in the conditional variance equation in Table 13. Surprisingly there is no evidence that a higher degree of policy disagreement among the distributive veto-players significantly affects the variability of policy choices by state agencies. Coefficients on *Size* of the distributive PEI in columns 2 and 3 are positive but insignificant at any conventional significance levels. This result disconfirms the bureaucratic autonomy hypothesis. The variability of regulatory policy choices made by

state agencies was not determined by the level of preference divergence among the president, the House, the Senate, and the House and Senate Labor Committees.

This also raises a question about the validity of our inference about the bureaucratic responsiveness hypothesis. If the preferences of distributive veto players effectively induce bureaucratic compliance by state occupational safety and health agencies, they also should be able to define the extent to which state agency officials can make autonomous policy decisions, thereby significantly affecting the variability of state agency actions. This lack of empirical support for the effects of the size of the distributive PEI thus suggests that we cannot conclude that distributive politics at the national level consistently affected state officials' behavior in regard to both aspects of the level and variability of regulatory actions. Accordingly, from the perspective of the distributive politics theory, state agency officials' behavioral patterns appear to be similar to federal OSHA implementers' behavior: there is only partial evidence that field officials in these two layers of the federal system behave differently when assessed from the distributive politics perspective.

Issue Characteristics

H5-2: As issue salience and polarization decrease, the distributive PEI will be more likely to affect the level and variability of an agency's regulatory actions.

Regarding the mediating effects of issue characteristics, I expect that the distributive PEI's effects on the level and variability of bureaucratic choices will be stronger when both salience and polarization of OSHA issues are low. In this situation, the chamber or partisan leaders are less likely to intervene into policymaking in this policy area. Empirical results for this conditional effect of issue salience on the location of the distributive PEI support the hypothesis. Coefficients on the interaction terms in

the conditional mean equation, *Lower Limit*Issue Salience* and *Upper Limit*Issue Salience*, are statistically significant and have the expected signs. For example, in column 3, the joint effect of the upper limit is $1.392 - 0.025 * \text{Issue Salience}$ that is significant ($\chi^2 = 11.77, p < 0.01$). As issue salience of workplace safety and health issues increases, the positive effect of the distributive PEI on the level of state enforcement activities tends to decrease. However, there is no evidence that the effect of the size of the distributive PEI on the variability of state agency actions systematically varies with different levels of issue salience. For example, in column 3 the joint effect ($2.926 - 0.038 * \text{Issue Salience}$) turns out insignificant at any conventional levels ($\chi^2 = 2.51$). Overall, these results provide only partial evidence that issue salience determines the relative impact of the distributive veto players on state agencies' regulatory behavior.

6.3.3. Party Government Politics

The party government perspective argues that bureaucratic actions are affected by the interactions among the partisan veto players such as the president, and the majority party medians in the House and Senate floors and Labor Committees. The narratives of legislative discourse described in chapter 4 and statistical analysis of the federal OSHA's regulatory behavior presented in chapter 5 showed that the primary ideological cleavage--that is "pro-worker" vs. "pro-business"---was closely aligned with party lines during the period under consideration and that federal OSHA field officers responded most consistently to the partisan veto players.

How does this partisan politics affect subnational agencies? Four decades ago, Grodzins predicted that "Any tightening of the party apparatus would have the effect of

strengthening the central government [in the federal system]" (1960). Vertical integration of political parties has taken place in both the Democratic Party and the Republican Party (Gray, Hansen, and Jacob 1999). The national party organizations such as the DNC and the RNC provide their state and local parties with resources and services for maintenance and victory in elections. Subnational party platforms have been increasingly nationalized under these influences of the national party organizations. That is, political parties became "disciplined." Thus, partisan initiatives pursued at the national policymaking arena can flow down to lower levels of the federal system. Considering this recent development of party system, it may not be surprising if we see policy signals generated by inter-party interactions spread down to subnational agents via party channels in the states.

Bureaucratic Responsiveness

If state occupational safety and health agencies complied with the preferences of the party government set of veto players in the national institutions, they must have adjusted their enforcement levels according to changes of the partisan PEI in its location in a policy space. When these pivotal policymakers favor stronger regulatory activities, state agencies would respond to those preferences by increasing enforcement activities.

Results of empirical tests for these expected effects of the partisan veto players on state occupational safety and health agencies are presented in Table 14. There is strong empirical evidence for the impact of the location of the partisan PEI on the level of state enforcement activities: coefficients on *Lower Limit* and *Upper Limit* are positive and significant as expected in columns 2 and 3 ($\alpha=0.411$, s.e.=0.101 and $\alpha=10.975$, s.e.=2.095, respectively). State agencies showed bureaucratic compliance with the policy

Table 14. ML Heteroscedastic Normal Regression Analysis of the Effects of the Party Government Politics on State OSH Enforcement

Variable	Model I	Model II
Mean Equation		
Location of the Partisan PEI		
Lower Limit	0.411*** (0.101)	
Upper Limit		10.975*** (2.095)
Issue Characteristics		
Lower Limit*Issue Salience	-0.007*** (0.002)	
Upper Limit*Issue Salience		-0.209*** (0.038)
Issue Salience	-0.001 (0.001)	0.088*** (0.016)
Controls		
State Government Ideology	0.053 (0.051)	0.046 (0.048)
Per Capita Income	0.013 (0.016)	0.009 (0.016)
Non-farm workers	-0.014 (0.029)	-0.018 (0.028)
Time	-0.015 (0.014)	-0.008 (0.013)
Inspect[t-1]	0.647*** (0.040)	0.647*** (0.039)
Constant	29.473 (26.711)	10.820 (26.467)
Variance Equation		
Size of the Partisan PEI	2.672 (2.196)	2.187 (2.156)
Size*Issue Salience	-0.049 (0.043)	-0.036 (0.042)
Issue Salience	0.036 (0.040)	0.026 (0.039)
Divided State Government	0.379 (0.225)	0.434 (0.229)
Time	-0.300*** (0.041)	-0.269*** (0.041)
Constant	593.472*** (81.502)	532.662*** 82.590
Wald Chi-square	6040.32***	6319.14***
Log-likelihood	353.00	357.78
N	350	350

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests). Standard errors are in parentheses. Fixed-effect dummy variables for states are not reported in this table.

preferences of the party government veto players. In particular, a one-unit movement of the lower and upper limits of the partisan PEI toward stronger regulation in a policy space tends to increase state enforcement levels by 0.4 and 10 per 1,000 workers, respectively.

In fact, the partisan PEI's effects on state agencies' enforcement levels are even more consistent than the effects of the partisan PEI on federal OSHA's enforcement levels. In the previous chapter, I found that the partisan PEI (especially its upper limit) is the only one, among the three alternative PEI's, that performed as a predictor of the level of federal OSHA enforcement activities. In the case of state occupational safety and health regulation, the two measures of the location of the partisan PEI have the expected positive effects. However, again, any conclusive interpretation should wait until we find that the variability of the state enforcement actions is also determined by the partisan PEI.

Bureaucratic Autonomy

The bureaucratic autonomy hypothesis predicts that disagreement among the party government veto players will increase the variability of state agencies' actions. If policy preference among the president and the majority party medians in Labor Committees and the floors increases, state agencies are expected to choose more variable policy options. However, results of the empirical tests presented in Table 14 do not support this expectation. Although I expect positive coefficients on *Size* of the partisan PEI in the conditional variance equation, those coefficients are positive but do not achieve statistical significance at the 0.05 level.

This result suggests that the effect of partisan PEI on state agencies' behavior is at best partial. Although the partisan PEI successfully explains the level of the states' workplace regulation activities, it does not determine the variability of the state agencies' activities. Thus, as with the case of the distributive PEI, I conclude that the interactions among the party government veto players have partial effects on state occupational safety and health enforcement only for responsiveness but not for autonomy.

These results clearly show that there is difference between federal and state occupational safety and health agencies. While federal OSHA was affected most by the partisan PEI but not by the majoritarian PEI, state agencies were affected not by the PEI but by the majoritarian PEI. These different behavioral patterns in the different layers of the federal system may be attributable to the fact that the state agencies are under the influence of dual-agent relations. That is, while federal OSHA can be seen as an agent of the national principals, state agencies can be considered as agents of the agent (federal OSHA) of the national principals. This structural difference may cause a disparity in regard to the quality of policy signals that generated by different sets of veto players. Federal OSHA may have an informational advantage compared with its counterparts in the states and it may have access to more accurate information about current policy messages exchanged between partisan leaders who play a pivotal role inside the legislative arena through undercover contacts. State agencies may not have such a direct access to legislative processes and some may depend more heavily on institution-level decisions such as what are the policy positions taken by the president, the House, and the Senate. State agencies may thus receive policy signals contained in outcomes in an

intermittent way; federal OSHA, in contrast, may be able to capture subtle changes in the legislative arena in a continuous manner.

Issue Characteristics

H5-3: As issue salience and polarization increase, the partisan PEI will be more likely to affect the level and variability of an agency's regulatory actions.

Since partisan polarization is considered to be constant during the period under consideration, heightened public attention to occupational safety issues will motivate partisan leaders to take more active roles and make more visible efforts to accomplish partisan goals in the area of workplace safety. An increased level of activities by those party government veto players is then expected to reinforce the partisan PEI's positive effects on the level and variability of state enforcement activities. However, state enforcement data do not provide any support for this hypothesis. Coefficients on interaction terms of the lower and upper limits of the partisan PEI and issue salience do not have the expected positive signs. For example, in column 2 the joint effect of the lower limit is $0.411 - 0.007 * \text{Issue Salience}$, which is significant ($\chi^2 = 17.71, p < 0.001$). And coefficients on the interaction term of the size of the PEI have unexpected negative sign and the joint effect ($2.672 - 0.049 * \text{Issue Salience}$) is not significant at any conventional level ($\chi^2 = 1.54$).

6.3.4. Mediating Effects of the Agency Preference Distribution

In chapter 3 I proposed that the effects of the policy equilibrium interval---the PEI---on agency actions can vary systematically with diverse bureaucratic preference distribution. While the effects of the PEI's location on bureaucratic responsiveness will be larger when the agency's preferences are skewed to either side of a policy space, the effects of

the PEI's size on bureaucratic autonomy will be smaller when the agency's preferences are skewed. More specifically, I deduced the following hypotheses:

H3: The effect of the location of the policy equilibrium interval on the production level of a regulatory agency will increase (decrease) as the skewness of agency preference distribution increases (decreases).

H4: The effect of the size of the policy equilibrium interval on the variability of a regulatory agency's policy choices will decrease (increase) as the skewness of agency preference distribution increases (decreases).

In chapter 5 we found that the bureaucratic responsiveness of federal OSHA was greater when it was biased to either lenient or strong enforcement of workplace rules (H3), which led to the logical conclusion that the agency's policy bias would lead to a lower level of bureaucratic autonomy (H4). In this section I offer a similar empirical test for the mediating effects of agency preference distribution with state inspection data. I again expect that the effects of the PEI's location on the level of state enforcement activities will be greater at lower or upper tails than at a middle portion of a distribution of agencies. The former group of agencies near the boundary of the PEI has a greater probability that it should adjust to new institutional forces as the PEI moves.

Table 15 includes quantile regression estimation of the mediating effects of agency preference distribution. Since earlier analysis suggests that the majoritarian PEI has the most consistent effects on the actions of state occupational safety and health agencies, I focus on the particular PEI's effects at 0.25, 0.50, and 0.75 quantiles. First, the responsiveness of state agencies to the preferences of the majoritarian veto players was greater in the lower ($\theta=0.25$) and upper ($\theta=0.75$) tails. Coefficients on *Upper Limit* are greater in magnitude in the tails (1.485 and 1.433, respectively) than in the middle (0.689). Furthermore, only the former turn out significant at the 0.05 level in two-tailed

Table 15. Quantile Regression Analysis of the Mediating Effects of Agency Preference Distribution on State OSH Enforcement

Variable	Quantiles					
	$\theta=0.25$	$\theta=0.25$	$\theta=0.5$	$\theta=0.5$	$\theta=0.75$	$\theta=0.75$
Lower Limit	0.888† (0.538)		0.332 (0.505)		0.929† (0.563)	
Upper Limit		1.485* (0.579)		0.689 (0.545)		1.433* (0.631)
Lower Limit*Issue Saliency	-0.015 (0.011)		-0.005 (0.010)		-0.016 (0.011)	
Upper Limit*Issue Saliency		-0.023* (0.011)		-0.011 (0.010)		-0.023 (0.012)
Issue Saliency	-0.006 (0.005)	0.004* (0.002)	-0.001 (0.005)	0.002 (0.002)	-0.005 (0.005)	0.006** (0.002)
State Government Ideology	-0.050 (0.174)	0.016 (0.177)	-0.158 (0.133)	-0.161 (0.137)	-0.192 (0.151)	-0.177 (0.153)
Per Capita Income	-0.003 (0.043)	0.000 (0.045)	-0.033 (0.040)	-0.027 (0.042)	0.005 (0.060)	0.004 (0.062)
Non-farm Workers	0.074 (0.157)	0.076 (0.172)	0.222 (0.173)	0.222 (0.185)	0.432 (0.230)	0.396 (0.242)
Time	-0.014 (0.028)	-0.022 (0.029)	-0.012 (0.028)	-0.016 (0.029)	-0.055 (0.047)	-0.057 (0.051)
Inspect[t-1]	0.651*** (0.065)	0.661*** (0.061)	0.710*** (0.061)	0.726*** (0.063)	0.624*** (0.086)	0.623*** (0.089)
Constant	27.892 (55.301)	43.845 (57.174)	24.470 (54.732)	33.611 (57.049)	111.210 (93.667)	113.668 (100.082)
Pseudo R ²	0.648	0.650	0.707	0.708	0.748	0.750
N	350	350	350	350	350	350

Note: † $p < 0.05$ (one-tailed test), * $p < 0.05$ (two-tailed test), ** $p < 0.01$ (two-tailed test), *** $p < 0.001$ (two-tailed test). Standard errors are in parentheses. Fixed-effect dummy variables for states are not reported in this table. Pseudo R-square is for the full model that includes all those fixed-effect dummy variables.

tests while the latter fails to achieve statistical significance at the 0.05 level even in a right-tailed test. Coefficients on *Lower Limit* also are greater and significant at the 0.05 level in right-tailed tests when estimated in the lower and upper tails, while the coefficient is not significant when estimated in the middle. These results support the hypothesis that agency's policy bias will increase the effects of the PEI's location (H3).

From this evidence, we can expect that heightened preference divergence between veto players and state agencies will decrease the variability of bureaucratic choices (autonomy) (H4). If a state agency consists of officials whose preferences are very different from the preferences of majoritarian veto players, the agency cannot take advantage of its own autonomy since policy conflict between the veto players does not offer an opportunity to choose options in its own interest.

6.4. Discussion

The regulatory behavior of state occupational safety and health agencies was affected by the interactions among the national political actors. Statistical analysis provides evidence that state agencies responded to the policy preferences of the national policymakers and at the same time they maintained autonomy as long as those policymakers were in conflict. Surprisingly, state agencies responded significantly to all three modes of inter-institutional dynamics examined in this study----the majoritarian, the distributive, and the partisan politics. Measures of each of these PEI locations had significant effects on the state agencies' enforcement levels. On the other hand, only the majoritarian PEI had effects on the variability of state agency actions: the state agencies'

autonomy increased as preference divergence among the majoritarian veto players increased.

These results suggest that the interactions among the national policymakers played important roles in defining feasible policy options for state enforcement agencies. Especially since state occupational safety and health agencies implement a federally established OSHA program in a hierarchical arrangement, policy preferences of the national policymakers are likely to be considered seriously by state implementers. Federal OSHA's monitoring activities such as spot checks and monitoring visits seem to play crucial roles in maintaining state occupational safety and health programs in the way that national politicians think desirable. Policy messages generated by national institutions may have been transmitted to state implementers.

Analysis of state enforcement also reveals differences between federal OSHA and state agencies. While the partisan set of veto players and their preferences had the most significant effects on the regulatory behavior of federal OSHA officials, the majoritarian set of veto players had the most influence on the state implementers' behavior. This difference may be attributable to the structure of the federal system. The two layers of the federal system situate federal agencies and state agencies in different environment. Federal agencies can be considered as agents of national principals, and they may maintain intimate and continuous interactions with their national masters. On the other hand, state agencies can be viewed as agents of the agents of national principals (Chubb 1985; Wood 1992). Federal agencies, which serve the national principals, control state agencies. This structural difference may cause informational disparity between federal and state agencies. Federal OSHA officials may be informed more than state agency

officials about the happenings inside the national policymaking arena. Presumably federal OSHA officials may have access to information about the legislative debates and subtle political changes. For instance, partisan politics in the legislative arena may be well known to federal OSHA officials, but the federal bureaucrats may not transmit detailed information about subtle political changes to state agencies. Unlike such well-informed federal officials, state agencies' officials will be most sensitive to inter-branch or inter-chamber processes rather than to other intra-institutional processes such as the congressional committees and the majority party medians.

These influences of the national policymakers on state agencies were contingent on the state agencies' preference distribution in a way that was similar to how institutional effects on OSHA were conditional on OSHA's preference distribution. Even in a complicated situation in which state agencies are monitored by the federal OSHA which is monitored by the national political institutions, the fundamental features of principals-agent relations remain basically the same. The effects of the preference configuration of national veto players on state agencies rested in part on how state agencies' policy preferences on workplace safety were distributed and to what extent the agency preferences were different from the national veto players.

Empirical support for the effectiveness of the top-down influences can be clearly contrasted with the lack of empirical support for the states' institutional effects on state occupational safety and health enforcement. Throughout analyses in this chapter, state government ideology, a measure of the states' institutional preferences, and divided state government, a proxy for preference divergence among state institutions, did not have significant effects. Furthermore, other socio-economic factors at the state level did not

have significant effects either. Although these results provide evidence for the top-down perspective, one should note that measures of state institutional preferences were underdeveloped in comparison with measures of national institutional preferences. Thus, it appears to be difficult to conclude that the interactions among state-level institutional actors did not matter in the state agencies' enforcement.

CHAPTER 7

CONCLUSION

The proper role of bureaucracy and its unelected officials in democratic governance has been controversial. Underneath these disputes lies the dichotomous way of thinking that can be succinctly expressed as “democratic control vs. bureaucratic autonomy.” Many scholars take positions regarding this question in support of either the idea that representative institutions should maintain a degree of political control over the unelected officials in administrative apparatus or the opposite idea that bureaucratic organizations should be empowered and granted greater autonomy to better serve societal interests. The thrust of this dichotomous thinking is that bureaucratic autonomy is incompatible with the principles of democracy.

The validity of this dichotomous thinking has been challenged in this study. This study shows that government agencies are subject to political controls to some extent but also that the agencies can strategically maneuver among competing and divided political institutions to make autonomous policy choices. Political influence on agency actions could be identified since it provides agency officials with a set of feasible agency choices. Agency officials have to adjust their actions in response to changes in the political institutions’ policy preferences. However, bureaucratic autonomy is not completely eliminated in any case. Even when the agency should change its actions in conformance to substantial movement of the key institutions’ positions on a policy issue, the agency officials still can autonomously choose from a wide range of diverse policy options. In other words, the presence of political responsiveness by the agency does not necessarily deny the existence of some degree of bureaucratic autonomy. Furthermore,

even when the agency is able to maintain its current way of doing its work due to political stability, the agency may suffer from a narrowly defined set of feasible policy options. That is, the lack of political responsiveness is not necessarily a testimony to great bureaucratic autonomy. In sum, when viewed from the logic of the policy equilibrium interval, political influence and bureaucratic autonomy are simply different aspects of the same relationship between the political institutions and the bureaucracy.

An extensive analysis of behavior of federal and state occupational safety and health agencies provides some empirical evidence that supports the conceptualization developed in this study. First, the bureaucratic responsiveness hypothesis (H1) predicts that the location of the policy equilibrium intervals---*Lower* and *Upper Limits*---will have effects on the level of OSHA enforcement activities. In chapter 5 empirical analyses of federal OSHA activities showed that a pro-regulation movement of the *Upper Limit* of the partisan PEI tended to increase the federal agency's regulatory outputs. In chapter 6 pro-regulation movements of the *Lower* and *Upper Limits* of the majoritarian, distributive, and partisan PEI's tended to increase state OSHA agencies' regulatory outputs. Second, the bureaucratic autonomy hypothesis (H2) predicts that the size of the policy equilibrium interval will systematically affects the amount of bureaucratic autonomy or the variability of agency policy choices. In chapter 5 empirical analyses showed that an increase of the size of the partisan PEI tended to increase the conditional variance of the federal OSHA's actions. In chapter 6 an increase of the size of the majoritarian PEI tended to increase the conditional variance of the state agencies' actions.

These institutional effects on bureaucratic behavior are expected to be mediated by the agency's preference distribution. In general, when bureaucrats' preferences are skewed in either the anti- or pro-regulation direction, there is a greater possibility that the agency's officials have to adjust their policy choices in response to changes in political principals' preferences (or a horizontal shift of the policy equilibrium interval in the policy space). Closely related, when bureaucrats' preferences are skewed in either the anti- or pro-regulation direction, the officials do not have great room for choice even under the condition that a set of politically-feasible options is widely defined by the political principals. Thus, the shape of the bureaucratic preference distribution---the agency's policy bias---can mediate the institutional effects on bureaucratic behavior in predictable ways: the skewness of the agency's preference distribution will reinforce the institutional effects on bureaucratic responsiveness (H3) while the skewness of the agency preference distribution will have a negative impact on the institutional effects on bureaucratic autonomy (H4). In other words, the effects of institutional dynamics on bureaucratic responsiveness and autonomy vary systematically with different distributional shapes of the agency's preferences.

Regarding empirical tests for these expectations about the mediating effects of the agency preference distribution, analyses of OSHA enforcement activities provide some evidence. In chapter 5 empirical analyses showed that the effects of the location of the policy equilibrium interval (the *Upper Limit* of the partisan PEI) on federal OSHA's responsiveness were greater and more significant in states where federal OSHA tended to under- or over-produce regulatory outputs, which was considered to reflect the agency's policy bias, than in other states. In chapter 6 the effects of the policy equilibrium

interval's location (the *Lower* and *Upper Limits* of the majoritarian PEI) on state OSHA's responsiveness were greater and more significant in states where their agencies under- or over-produced outputs than other states. These results clearly suggested that the institutional effects on bureaucratic responsiveness varied with different degrees of agency policy bias, supporting H3. From this conclusion, we also may predict that the effects of the inter-principal disagreement (the size of the policy equilibrium interval) on bureaucratic autonomy will be non-constant due to the mediating effects of the agency preference distribution as hypothesized by H4.

What factors can account for the relative importance of different sets of veto players in affecting bureaucratic behavior? This question remains unanswered in this study. Building mainly on the congressional literature that has suggested that different sets of veto players would play a pivotal role depending on situations, this study predicted that the characteristics of the issue at hand, such as salience and partisan polarization, would motivate different sets of veto players to take a part in directing agency behavior (H5). However, this expectation about the conditional impact of issue characteristics was not supported by any systematic evidence. In chapter 5, issue salience tended to reinforce the effects of the *Lower* and *Upper Limits* of the majoritarian PEI and the *Lower Limit* of the partisan PEI on federal OSHA's enforcement levels. But the issue factor's effects on other measures of the location and the size of the policy equilibrium intervals in chapters 5 and 6 were not consistent with the theoretical expectations.

This study provides several agendas for the future research. First, the effect of institutional preferences on bureaucratic responsiveness and bureaucratic autonomy can

be further investigated in the context of the federal system. Results of current research highlight the impact of the interactions among the national institutions on subnational agencies. However, the relationship between the national and subnational layers of the federal government has not been taken into account in rigorous ways. In the future, one could examine the effects of national and subnational institutional actors on bureaucratic actions in conjunction with the distribution of authority between the two layers of the government. The influence of subnational actors may vary in different federal regimes. For instance, the subnational institutions may play a more critical role in defining feasible bureaucratic actions and affecting the variability of bureaucratic choices in a “devolution” regime where the most part of the national authority is delegated to the subnational institutions. On the other hand, the subnational institutions’ influence will be only marginal in “centralized” regime where the national government maintains strict hierarchical controls over subnational institutions. The bounds of feasible bureaucratic actions are likely to be defined by the national institutions but not by the subnational institutions.

Second, also involving the interactions among the institutional actors in the subnational layer, the research reported here attempted to include some measures of subnational institutions’ preferences such as state government liberalism and divided state government. However, these measures need to be elaborated. In the first place, these state-level measures are not comparable with the national-level measures of institutional preferences. This lack of comparability between the federal and state-level measures makes it difficult to examine the effect of subnational institutions in a systematic way. This underdevelopment of state-level preference measures keeps state-

focused research on inter-institutional interactions from advancing. More elaborated measures of state institutional actors' preferences can help us examine the nature of inter-institutional interactions and their effects on bureaucratic actions in the same way that the national institutions are examined.

Third, the conditional effect of policy characteristics can be better understood by cross-policy-area study. Current research has limitations in examining various generic characteristics of policy such as issue salience and partisan polarization. The effects of these policy characteristics on the relative importance of different modes of political interactions (i.e., majoritarian, distributive, and partisan politics) and their influences on bureaucratic actions can be tested more clearly by a comparative policy study across areas where salience and polarization differ. This kind of research may be able to show that the logic of the policy equilibrium interval can be generalized under various contextual conditions where interactions among different sets of actors are pivotal in influencing bureaucratic actions.

What theoretical implications does this study have? When political controls (or bureaucratic responsiveness) and bureaucratic autonomy are viewed as products of the joint actions of multiple principals, many conceptual and empirical ambiguities in past research can be resolved. First, bureaucracies seem not to respond to all discrete signals generated by individual political institutions. Instead, they may respond to changes in the overall preference configuration, which can be determined by interactions of multiple political principals. Thus, bureaucrats do not always take the wishes of a certain political institution (i.e., the president or Congress) into account when they implement policy, but they may consider the preferences of *any* political institution that plays a pivotal role

(i.e., establishes the limits of the policy equilibrium interval) in the course of inter-principal interactions. In other words, the relative importance of an individual institution is not determined statically by how formidable each institution's weapons are. Rather, it is determined dynamically by the nature of the interactions among the multiple institutions.

Second, bureaucratic autonomy can be conceived as a matter of degree. The question should be to what extent bureaucratic agencies are autonomous rather than whether or not bureaucratic agencies are autonomous. As long as the set of equilibrium policies consists of a large number of potential policy options and as long as agency officials can choose the options that are closest to their ideal points, the policy equilibrium interval can be seen as the area of bureaucratic autonomy. From the properties of the policy equilibrium interval, we should expect that the degree of bureaucratic autonomy should change as the extent of disagreement among the political principals changes.

Third, bureaucratic responsiveness and bureaucratic autonomy are distinct but integrated processes. Since bureaucratic autonomy has bounds and these bounds are determined by the interactions among the political principals, bureaucratic responsiveness is, in fact, a foundation for the concept of bureaucratic autonomy. If one denies the impact of institutional preferences on bureaucratic choices, we cannot expect the area of bureaucratic autonomy to be defined. The variability of politically-feasible bureaucratic choices can be examined only when feasible options for the agency are constrained by the principals to a certain range. For this reason, the concept of a 'run-away-bureaucracy' is misleading and may be an exaggeration resulting from the myopia

of past research. An autonomous bureaucracy can still be held accountable to representative institutions in a democracy.

Fourth, this study makes it clear that bureaucratic autonomy can be conceptualized *without* assuming that bureaucrats can pursue their policy goals by “cheating.” Previous theoretical models tend to overemphasize the “agent problems” to depict autonomous bureaucratic actions. From this viewpoint, one should conclude that bureaucrats can make autonomous decisions because bureaucrats’ hidden actions and hidden information may nullify the effects of hierarchical controls by the political principals. In contrast, this study shows that bureaucrats can make autonomous decisions due to the lack of agreement among the political principals even under the condition of complete information in which the political overseers can monitor bureaucrats’ behavior. Although bureaucrats are not assumed to be “cheaters,” and hierarchical relations between the principals and the agents are considered to be present, the bureaucratic agents still can pursue policy goals that are in accordance with their own interests to some degree due to the macro rules that require multilateral agreement among the principals in directing bureaucratic agents.

Finally, bureaucratic preferences of a regulatory agency play an important role as a factor that mediates political influence on bureaucratic outcomes. Political influence on bureaucratic responsiveness and bureaucratic autonomy can vary with different distributions of bureaucratic preferences. When the agency officials’ preferences are skewed so that there is a greater possibility of goal-conflict between the principals and the bureaucratic agents, the bureaucrats’ behavioral responsiveness will increase and their autonomy will be less affected by inter-principal preference divergence. That is, the

relationship between political institutions and bureaucratic outcomes is not constant and can be accurately predicted only when bureaucratic preferences are taken into account.

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