

Institutionalizing Self-Regulation: The Effect of Commitment, Threat and Surveillance

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This article theorizes and tests empirically the conditions under which organizations' internal compliance structures are particularly likely to shape their compliance practices and outcomes. We argue that the institutionalization of these structures depends on the extent to which the legal environment can foster organizations' normative motivations to self-regulate without compromising deterrence. We find that facilities with a demonstrated commitment to compliance are more likely to institutionalize self-regulation. We also find that self-regulation is more likely to be institutionalized by organizations that adopt it within a highly scrutinized regulatory environment, but absent a direct regulatory threat.

The organizational literature has long discussed how the law shapes and is shaped by organizations (e.g., Edelman, 1990; Edelman, 1992; Sutton, et al., 1994; Dobbin and Sutton, 1998; Edelman, Uggen, and Erlanger, 1999) and how organizational behavior can be influenced by non-legal interventions like social movement activism (Bartley, 2007; King and Soule, 2007; King, 2008; Reid and Toffel, Forthcoming) or ranking systems (Sauder, 2008; Sauder and Espeland, 2009; Chatterji and Toffel, Forthcoming). One common organizational response to these kinds of institutional pressures has been to adopt internal compliance structures such as grievance procedures (Sutton et al., 1994), corporate compliance offices (Edelman, 1992), and codes of conduct (Bartley, 2007) to demonstrate a commitment to comply with legal mandates or to bring corporate conduct into line with widely shared normative ideals like workplace fairness or environmental sustainability. While the existing literature provides a rich empirical and theoretical account of how and why these kinds of "self-regulatory" structures emerge and diffuse broadly across organizational fields, it leaves unanswered the key question of whether they actually change organizational behavior to conform to legal or normative ideals.

This question has become especially pressing as corporate internal compliance structures are increasingly integrated into twenty-first century regulatory design (Schneiberg and Bartley, 2008). In an era of mounting regulatory demands and shrinking regulatory budgets, government agencies have encouraged companies to adopt self-regulatory structures in the hope that they will increase compliance and achieve regulatory goals. For instance, the U.S. Department of Agriculture's Hazard Analysis and Critical Control Point program reduces inspections of industrial food processors that build systematic safety checks into their production routines. The U.S. Occupational Health and Safety Agency offers similar benefits, through its Voluntary Protection Program, to companies that institute internal mechanisms to monitor compliance with worker health and safety regulations. And the Sarbanes-Oxley Act (2002), adopted in the wake of major accounting scandals at Enron and WorldCom, relies on public companies to establish systematic "internal controls" and periodically certify their efficacy in order to ensure the accuracy of corporate financial records. Social movement activists have similarly encouraged corporations to adopt self-regulatory structures in areas like international labor and environmental standards, where formal legal remedies are weak or nonexistent (Bartley, 2003; Bartley, 2007; Davis, et al., 2008; Reid and Toffel, Forthcoming). For instance, in response to pressure by anti-sweatshop activists, several major apparel makers adopted voluntary codes of conduct and internal compliance monitoring programs (Bartley, 2007).

The institutional literature has produced two competing theories about the effect of these kinds of internal compliance structures on organizational practices. One suggests that these structures are a key mechanism for institutionalizing legal norms within the corporation (Selznick, 1969;

Stone, 1975; Rees, 1994; Dobbin and Sutton, 1998). The other suggests that they are a way of circumventing, and even undermining, the core values animating law (Edelman, Erlanger, and Lande, 1993; Edelman and Suchman, 1999; Edelman, Fuller, and Mara-Drita, 2001). In this article, we attempt to move beyond the “either/or” framework that has characterized this debate and begin to theorize and empirically test the conditions under which internal compliance structures are more or less likely to beneficially shape corporate compliance practices.

THEORETICAL CONSIDERATIONS: LAW, ORGANIZATIONS AND SELF-REGULATION

In his classic book on corporate responsibility and compliance, Stone (1975) argued that the deterrent effect of legal sanctions is insufficient to prevent harmful corporate behavior, and suggested that law could most effectively shape organizational behavior by generating normative commitments through the instrument of systemic internal controls. A number of more recent studies have documented the rise of internal controls within corporations as they sought to comply with the mandates of civil rights laws governing the workplace (Edelman, 1990; Edelman, 1992; Edelman, Erlanger, and Lande, 1993; Sutton et al., 1994). These studies demonstrated that internal compliance mechanisms became broadly institutionalized as a strategy for signaling conformity with workplace fairness norms (Edelman, 1990; Sutton et al., 1994) and compliance with antidiscrimination law (Edelman, 1992; Edelman, Erlanger, and Lande, 1993). But while it is clear that law fostered the widespread adoption of self-regulatory structures within organizations, it is not at all clear whether these structures have brought about the kind of “systemic changes within the organization” (Stone, 1975: 32) that would lead to improved compliance with legal norms.

Institutional theory supports two conflicting intuitions about the efficacy of internal compliance structures for preventing harmful behavior and achieving regulatory goals. One line of scholarship suggests that self-regulatory structures become institutionalized within organizations that adopt them, generating both a real commitment to regulatory compliance and a set of practices to support this commitment. The core contention of this view is that legal norms and forms reshape the meaning of efficiency in the organizations that adopt them, thus providing alternative scripts for motivating and justifying organizational action. Selznick's pioneering work in this area illustrated how the adoption of legalistic structures and routines by an organization can "infuse its mode of governance with the aspirations and constraints of a legal order" (Selznick, 1969: 8). Dobbin and Sutton (1998) extended this insight, suggesting that it is precisely the voluntary nature of legal compliance that gives U.S. regulation its normative bite. Because regulated organizations in the U.S. must invest substantial resources to devise structures and strategies to comply with vaguely articulated and weakly enforced regulations, they come to identify with the solutions they adopt and to understand and justify them as integral to the organization's efficient operation. This, Dobbin and Sutton (1998) argued, generates an intrinsic organizational commitment to compliance.

A number of studies have demonstrated how internal organizational compliance policies can come to establish a kind of morality within organizations as members of the organization develop commitments to their existence and begin to justify them on grounds compatible with the organization's task-related imperatives (Edelman, Erlanger, and Lande, 1993; Dobbin and Sutton, 1998; Short, 2006). And the theoretical literature on self-regulation is deeply informed

by this institutional account of internal compliance structures. Gunningham and Rees (1997: 364), for instance, have argued that internal compliance structures can “bring the behavior of industry members within a normative ordering responsive to broader social values.” Other influential theories of self-regulation have similarly conceptualized these structures as a means of remaking the regulated corporation into a more “reflexive” (Teubner, 1983; Orts, 1995), “responsive” (Ayres and Braithwaite, 1992), and even “democratic” (Parker, 2002) institution.

By contrast, another line of institutional scholarship suggests that the self-regulatory structures adopted by regulated corporations circumvent, and sometimes undermine, legal values. In this view, the efficiency imperatives of organizations overwhelm and distort the normative ideals underlying law. So, for instance, while Edelman (1990; 1992) documented the widespread adoption of Equal Employment Opportunity and Affirmative Action policies and offices, she stressed that these formal structures “do not commit organizations to a particular type or degree of compliance,” and noted that many corporate adopters create these structures “as substitutes for compliance, as shams” (Edelman, 1992: 1544).

Qualitative studies of internal compliance structures went further, suggesting that internal compliance structures are not merely harmless window-dressing, decoupled from actual practices (Meyer and Rowan, 1977), but that they undercut the values animating the law. For example, Edelman, Erlanger and Lande (1993) demonstrated that the corporate employees who staff internal compliance programs designed to remedy workplace discrimination “tend to subsume legal rights under managerial interests” (Edelman, Erlanger, and Lande, 1993: 497). While

acknowledging that these organizational structures have expanded the reach of antidiscrimination law, Edelman, Erlanger, and Lande (1993) argued that, ultimately, the effect of these structures was to erode the values embodied in legal rights. Edelman, Fuller and Mara-Drita (2001: 1632) similarly documented how internal compliance structures “undermine law’s moral commitment to redressing historical wrongs” as they get interpreted through the lens of managerial interests and imperatives. Reflecting on the findings of such research, Edelman and Suchman (1999: 941), characterized internal compliance structures and a whole complex of other self-regulatory mechanisms as the “organizational annexation of law” and argued that this melding of legal and efficiency values “subtly skews the balance between democratic and bureaucratic tendencies in society as a whole, potentially adding to the power and control of dominant elites.”

A substantial body of empirical literature evaluating voluntary regulation initiatives suggests that the skepticism of Edelman and her colleagues about corporate self-regulation is not unwarranted. Recent meta-analyses of self-regulation programs have concluded that participating companies perform no better (and sometimes perform worse) than their non-self-regulating counterparts (Lyon and Maxwell, 2007; Darnall and Sides, 2008). This has led many to deride self-regulation as “a charade – a cynical attempt by self-interested parties to give the appearance of regulation (thereby warding off more direct and effective government intervention) while serving private interests at the expense of the public” (Gunningham and Rees, 1997: 366, 370). In one recent example, the U.S. Environmental Protection Agency (EPA) shut down *Performance Track*, its flagship voluntary program, after investigative reports charged that it was nothing more than a “public relations charade” (Shiffman, Sullivan, and Avril, 2009).

Both of these accounts provide important insights into the complex mechanisms by which self-regulatory structures shape and are shaped by adopting organizations. But, to date, the debate has taken place at a high level of abstraction, often ignoring significant variation in the conditions under which these structures are adopted. Internal compliance structures are established across a range of different organizations operating in very different environmental contexts, yet we know little about how such variation might affect their ability to shape organizational behavior. As a recent review of this literature noted, “[j]ust as law and society research critiqued legal scholarship for focusing on law on the books more than law in action, scholarship on new regulatory forms has produced far more empirical research on their rise and character than on their translation into practice” (Schneiberg and Bartley, 2008: 50).

Our aim in this article is to move beyond the stylized framework that has characterized this debate and begin to theorize the conditions that will either promote or undermine the institutionalization of self-regulatory structures. We take as our starting point the insight that lies at the convergence of the two prevailing views: self-regulatory structures will become institutionalized only when the normative motivations they embody meaningfully inform the calculative, efficiency-based motivations of regulated organizations. In this article, we focus on how the enforcement activities of regulators construct the legal environment motivating organizational action, and specifically, how those enforcement activities engage the calculative and normative motivations of organizations. We argue that the institutionalization of self-regulatory structures will depend on the extent to which a regulatory scheme can identify and

foster organizations' normative motivations to self-regulate while, at the same time, maintaining deterrence levels.

To develop our hypotheses, we look to organizational scholarship on social control and cooperative behavior (e.g., Howell and Higgins, 1990; Enzle and Anderson, 1993; Deci, Koestner, and Ryan, 1999; Tenbrunsel and Messick, 1999; Malhotra and Murnighan, 2002). While the bulk of this literature addresses the internal dynamics of organizations, it provides a rich theoretical framework for analyzing voluntary regulatory strategies that seek to secure the cooperation of regulated entities within the context of a coercive regulatory regime. The key insight that emerges from this literature is that, while enforcement tools like sanctions and surveillance can be effective means of social control (Sewell, 1998), they can also undermine intrinsic motivations to cooperate with others (Tenbrunsel and Messick, 1999; Malhotra and Murnighan, 2002) or to execute certain tasks (Deci, Koestner, and Ryan, 1999). We suggest, similarly, that regulatory enforcement that relies too heavily on coercive enforcement tools might dampen the normative motivations of organizations to self-regulate. In particular, while a coercive enforcement regime might achieve narrow compliance with specific directives or symbolic conformity to their underlying norms, it is unlikely to institutionalize a normative commitment to meaningful self-regulation. At the same time, we do not wish to suggest that organizations will institutionalize self-regulation in the absence of any enforcement deterrence. Below, we investigate how different kinds of enforcement tools can be deployed to engage both the normative and calculative motivations of organizations in ways that might promote the institutionalization of self-regulation.

THE AUDIT POLICY: MOBILIZING INTERNAL COMPLIANCE STRUCTURES

The mobilization of internal compliance structures emerged as a regulatory strategy in the 1990s in response to a variety of institutional factors. A 1991 revision to the Federal Sentencing Guidelines for Organizations (Section 8B2.1) that granted leniency to firms with effective internal compliance programs spurred the broad adoption of such programs (Goldsmith and King, 1997). In the years that followed, regulators found ways to expand and make use of these structures. First, the regulatory “reinvention” initiatives of the Clinton administration encouraged regulators and regulated entities to experiment with self-regulation as a way to move “beyond compliance” to achieve regulatory goals over and above what the law required (Murray, 1999; Gardner, 2003). In addition, an increasing antipathy toward “command-and-control” regulation prompted a search for more cooperative ways of regulating that relied on the voluntary efforts of regulated firms (Short, 2009). Taken together, these conditions increased the pressure on regulated companies to adopt, or at least to represent that they had adopted, systematic internal compliance structures.

In 1995, the US EPA launched one of the first government programs specifically designed to instantiate practices of systematic, internal auditing into the compliance routines of regulated entities: “Incentives for Self-Policing: Discovery, Correction and Prevention of Violations,” more commonly referred to as the Audit Policy. On its face, the Audit Policy is a penalty mitigation program that reduces or waives certain penalties for violations that are voluntarily reported to the government by regulated entities. But, as its title suggests, the program has much broader ambitions. The Audit Policy is designed not merely to identify undiscovered violations

by getting facilities to report on themselves; its main objective is to encourage facilities to establish and maintain “systematic, objective, and periodic” (Federal Register, 1995: 66708) procedures for policing themselves. In fact, US EPA has expressed the hope that such procedures would become institutionalized within regulated organizations, rendering “formal EPA investigation and enforcement action unnecessary” (US Environmental Protection Agency, 2005).

The Audit Policy seeks to encourage the adoption of internal compliance structures by conditioning the program’s penalty mitigation benefits on a number of criteria including, most critically, the discloser’s representation of past and future internal compliance auditing practices. Like more traditional amnesty/disclosure programs,¹ the Audit Policy requires prompt and voluntary disclosure and remediation of the violation.² What distinguishes the Audit Policy is its insistence that voluntary disclosures arise from the “[s]ystematic discovery of the violation through an environmental audit or a compliance management system” (US Environmental Protection Agency, 2000: 19618). Thus, it is not simply an amnesty program for one-off discoveries of regulatory violations. Complementing the systematic discovery condition, the

¹ Examples of such programs include the U.S. Department of Health and Human Services’ *Provider Self-Disclosure Protocol*, which offers leniency to health care providers who voluntarily report violations of their Medicare and Medicaid obligations; a U.S. Department of Defense program that mitigates penalties for disclosures of fraud by government contractors; and the U.S. Department of Justice’s *Corporate Leniency Program*, which mitigates penalties for firms that voluntarily disclose antitrust violations.

² The Audit Policy provides the following conditions for full penalty mitigation and an EPA recommendation for no criminal prosecution: “Systematic discovery of the violation through an environmental audit or the implementation of a compliance management system; Voluntary discovery of the violation was not detected as a result of a legally required monitoring, sampling or auditing procedure; Prompt disclosure in writing to EPA within 21 days of discovery...; Independent discovery and disclosure before EPA or another regulator would likely have identified the violation through its own investigation or based on information provided by a third-party; Correction and remediation within 60 calendar days, in most cases, from the date of discovery; Prevent recurrence of the violation; [Violations of] specific terms of an administrative or judicial order or consent agreement [are ineligible]; Cooperation by the disclosing entity is required” US EPA, EPA’s Auditing Policy <http://www.epa.gov/compliance/incentives/auditing/auditpolicy.html> (updated October 15, 2007; accessed December 31, 2007).

Audit Policy requires the would-be voluntary discloser to make assurances that it will “prevent a recurrence of the violation” (US Environmental Protection Agency, 2000: 19622). Accordingly, a voluntary disclosure under the Audit Policy is meant to be taken as a representation both that the discloser has adopted formal compliance auditing procedures and that it has committed to maintaining them in the future to prevent subsequent violations.

The Audit Policy provides an ideal empirical context to investigate the connection between symbolic adoption of self-regulatory structures and their institutionalization in organizational practices. First, the program has generated an extensive dataset on companies’ representations that they had adopted internal compliance auditing procedures. Second, the Audit Policy is embedded in an inspection-based regulatory regime that generates data on outcomes for both those organizations that identify themselves as self-regulators and those that do not, allowing us to compare their compliance outcomes. This kind of data would be impossible to replicate in a claims-based regulatory scheme like that governing employment discrimination, where violations depend on plaintiffs’ highly contingent ability to mobilize (Bumiller, 1992) and vindicate (Edelman and Suchman, 1999; Albiston and Nielsen, 2007) their legal rights, and where the claims that do arise are often settled confidentially, rendering significant aspects of the enforcement scheme invisible to researchers. Accordingly, our research setting enables us to overcome the “difficulty of observing decoupling of organizational practices across large samples of organizations” (Westphal and Zajac, 2001: 202) and add to a still-nascent literature of “large-sample quantitative stud[ies] that examine[] the determinants of institutional decoupling” (Westphal and Zajac, 2001:223). In this way, our findings help to develop a more general

framework to understand the possibilities and limitations of institutionalizing self-regulatory structures within organizations.

PREDICTING THE INSTITUTIONALIZATION OF INTERNAL COMPLIANCE STRUCTURE

In this section, we develop hypotheses about the enforcement conditions that will moderate the effect of internal compliance structures on corporate compliance outcomes. We focus on how normative and deterrence elements of regulatory enforcement construct the regulatory environment within which self-regulatory structures are adopted. Specifically, we examine how institutionalization is affected by organizations' historical commitment to compliance as well as by the nature and amount of regulatory pressure applied to regulated organizations. We argue that commitment to compliance, regulatory threats, and regulatory surveillance are each significant moderators of institutionalization.

The Effect of Compliance Commitment on Institutionalization

As discussed above, organizations have both calculative and normative motivations for complying with legal directives. Some organizations might comply because failure to do so would be too costly (Becker, 1968; Kagan and Scholz, 1984), but they might also comply to demonstrate their legitimacy (Meyer and Rowan, 1977; DiMaggio and Powell, 1983; Edelman and Suchman, 1997), because they have come to see compliance as integral to their corporate culture or identity (Selznick, 1969; Howard-Grenville, Nash, and Coglianese, 2008), or simply because they believe it is the right thing to do (Morrison, 1991; Coglianese and Nash, 2001; Gunningham, Thornton, and Kagan, 2005). An organization's compliance history provides clues

about the nature of its motivations for compliance. Some organizations are exemplary compliers, while others either routinely fail to comply or come into compliance only after regulators have marshaled enforcement resources against them. We argue that organizations with a demonstrated commitment to compliance will be more likely to have strong normative motivations for compliance, and thus will be more likely to successfully implement their pledges to self-regulate.

The institutional literature strongly supports this contention. A number of studies have suggested that organizations with poor past compliance records will have difficulty institutionalizing compliance monitoring commitments in a way that changes or improves compliance outcomes. As Kalev, Kelly, and Dobbin (2006: 591-592) noted, it can be difficult to change deeply embedded routines through the adoption of formalized procedures:

Organizational sociologists and psychologists find that workers ignore newly announced organizational goals and continue to pursue old goals with old routines. The decoupling of formal goals and daily practice may occur because individuals face information overload, and thus stick to the familiar, or because the old ways of doing things have been imbued with meaning and value over time.

In addition, organizations that lack an historical commitment to compliance might lack the supportive routines necessary to institutionalize newly adopted self-regulatory structures. Westphal and Zajac (1994) have suggested poor past performance is a predictor of decoupling because it creates outside pressure to adopt formal structures on companies that lack the capacity or the will to execute them. Like other management techniques, it is easier to “talk about” compliance auditing techniques “than to implement them” (Staw and Epstein, 2000: 528).

By contrast, in addition to their normative commitment to compliance, historically good compliers have a well of organizational experience and organizational routines to draw upon to help them implement compliance auditing practices. Westphal and Zajac (2001) have demonstrated that an organization's experience with decoupling in one context may increase the probability that it will deploy a decoupling strategy in another context. We posit the converse: past experience with superior compliance practices will provide organizations with the resources to successfully institutionalize their self-regulatory commitments. As Haveman (1992) found, organizational change is both more likely and more successful when it "builds on established routines and competences."

Hypothesis 1 (H1): Among facilities with superior compliance histories, those that adopt a commitment to internal compliance auditing will institutionalize these practices and thus will be more likely than non-adopting facilities to preserve their superior regulatory compliance outcomes.

The Effect of Regulatory Sanctions on Institutionalization

A substantial body of research has demonstrated that regulatory sanctions can promote both compliance with law (Gray and Scholz, 1991; Aoki and Coiffi, 2000; Gray and Shadbegian, 2005; Gunningham, Thornton, and Kagan, 2005; Mendelhoff and Gray, 2005; Shimshack and Ward, 2005) and the adoption of self-regulatory structures (Edelman, 1992; Sutton et al., 1994; Short and Toffel, 2008). We investigate here whether this kind of deterrence-based enforcement tool, aimed at the calculative motivations of regulated organizations, can also promote the institutionalization of these structures.

Research strongly suggests that formal structures are unlikely to be institutionalized when organizations adopt them in response to coercive pressure. For instance, numerous studies have argued that structures adopted in response to legal mandates are likely to be decoupled (Sutton and Dobbin, 1996; Kalev, Kelly, and Dobbin, 2006). Similarly, Dobbin and Sutton's (1998) classic argument about the "strength of a weak state" depends on a certain amount of voluntariness to instantiate internal compliance practices within an organization. And Bartley (2007) has argued that voluntary forest certification programs have gained more credibility and legitimacy than voluntary labor standards certification programs, in part, because the impetus for developing the forest certification system was lobbying by an internal constituency of eco-conscious woodworkers, whereas labor standards were adopted under the external threat of boycotts.

These arguments are supported by an extensive literature on regulatory design, which contends that in many circumstances, durable legal compliance is more effectively motivated by cooperative regulatory strategies than by punitive regulatory strategies (Bardach and Kagan, 1982; Ayres and Braithwaite, 1992; Dorf and Sabel, 1998; Lobel, 2004; Tyler, Callahan, and Frost, 2007). While punitive regulatory enforcement measures have been widely shown to effectively induce compliance with regulatory requirements in highly regulated settings (Magat and Viscusi, 1990; Braithwaite and Makkai, 1991; Gray and Scholz, 1993; Kuperan and Sutinen, 1998; Gray and Shadbegian, 2005; Shimshack and Ward, 2005), penalties have proven less effective in settings where the regulated individuals or entities are not closely monitored and thus have greater latitude to decide how they will behave (Deci and Ryan, 1985; Tyler, Callahan, and

Frost, 2007). In these settings, an emerging body of evidence suggests that compliance is best achieved through cooperative strategies that seek to activate the intrinsic moral motivations of regulated entities (Makkai and Braithwaite, 1993; Tyler, Callahan, and Frost, 2007), or by aligning the interests and values of regulators and regulated entities (Tyler, Callahan, and Frost, 2007). Resorting to regulatory threats risks falling into what Braithwaite (2002) and Parker (2006) have called the “deterrence trap,” in which regulators fail to engage regulated entities’ moral or intrinsic motivations for compliance because they incorrectly assume that “people make decisions about compliance on the basis of cost-benefit calculations” alone (Parker, 2006: 602).

This insight is echoed in the organizational literature on intrinsic and extrinsic motivations. For instance, Tenbrunsel and Messick (1999: 688) demonstrated that punitive sanctions blunt ethical or commitment-based motivations for cooperation and render the decision to cooperate as one “mainly about averting penalties or achieving rewards.” Similarly, Malhotra and Murnighan (2002: 538) showed that binding contracts can undermine trust between transacting parties because each party attributes the other’s cooperative behavior to legal coercion “rather than to each other’s fair or noble motives.” In sum, this literature suggests that “the greater the external pressure or inducement for individuals performing acts consistent with their beliefs, the less committed they are to the act” (Howell and Higgins, 1990: 338). Taken together, these studies suggest the difficulty of securing cooperation with coercive enforcement tools.

While the disclosures made under the Audit Policy are all voluntary in the sense that they are not legally required, US EPA has applied the policy with varying degrees of coercive pressure,

creating an opportunity to examine whether coercive enforcement promotes or thwarts the institutionalization of self-regulation practices. In particular, US EPA sponsors Compliance Incentive Programs that target particular industries or regulated activities for heightened enforcement scrutiny. As a part of these programs, US EPA notifies a group of facilities of its concern about possible non-compliance with a specific set of regulatory requirements. The agency specifies the relevant requirements, describes what must be done to come into compliance, and gives these targeted companies a specified time period during which they may disclose compliance violations to the Audit Policy and remedy them. Companies that disclose violations and commit to conducting ongoing internal compliance auditing receive a waived or greatly reduced penalty. On the other hand, most Compliance Incentive Program letters and announcements make explicit the threat that “companies that do not take advantage of this limited time offer face a greater risk of future inspections” (US Environmental Protection Agency, 2009).

While this kind of regulatory pressure might achieve formal legal compliance on these particular targeted concerns and symbolic adoption of self-regulatory structures and policies, we believe that it will be less effective in activating the normative motivations of organizations to institutionalize these structures and policies in ways that improve compliance practices and outcomes in broader terms. Consequently, although US EPA might be able to achieve greater *adoption* of self-regulatory procedures through more coercive tactics (Short and Toffel, 2008), we believe that companies issuing such “coerced confessions” will be unlikely to institutionalize the accompanying internal compliance auditing practices. Instead, facilities that self-disclose a

violation and commit to ongoing self-policing absent a direct regulatory threat are particularly likely to institutionalize this commitment, which will improve their compliance records.

Hypothesis 2 (H2): Among facilities that are not facing a direct regulatory threat, those that adopt a commitment to internal compliance auditing will institutionalize these practices and thus will improve regulatory compliance outcomes more than non-adopting facilities.

The Effect of Regulatory Surveillance on Institutionalization

Like sanctions, surveillance is an effective tool of social control (Sewell, 1998). Numerous studies have shown that more heavily scrutinized facilities are better compliers than their less scrutinized peers (Magat and Viscusi, 1990; Braithwaite and Makkai, 1991; Kuperan and Sutinen, 1998; Gray and Shadbegian, 2005; Gunningham, Thornton, and Kagan, 2005). We investigate whether scrutiny similarly motivates regulated organizations to make good on their pledges to self-regulate or, by contrast, whether scrutiny is tantamount to threatening or coercive regulatory behavior that might instead dampen normative motivations to implement internal compliance structures.

While the organizational literature on sanctions and surveillance sees the two as largely synonymous (Zald, 1978: 91), we argue that there is a key difference between the two that will affect their ability to moderate institutionalization. Specifically, routine inspections lack the “cuing” or “framing” effect of sanctions or direct regulatory threats (Tenbrunsel and Messick, 1999). Tenbrunsel and Messick (1999) have demonstrated that framing an enforcement measure in a way that highlights rewards and punishments undermines the intrinsic motivation to cooperate. Compliance Incentive Programs have a strong framing effect. As we discuss in H2,

the enforcement threats contained in Compliance Incentive Programs, which are typically narrowly tailored and delivered directly to individual facilities, are specifically designed to focus the organization's attention on the penalties associated with uncooperative behavior. By calling attention to sanctions in this way, regulatory threats “not only alter[] payoffs but also alter[] the perception of the situation” (Tenbrunsel and Messick, 1999: 687-88), reframing it from one “infused with ethical and moral considerations, at least for some people, to one in which the choice is mainly about averting penalties or achieving rewards” (Tenbrunsel and Messick, 1999: 688). In other words, it creates an environment in which calculative considerations tend to dominate normative considerations.

By contrast, we argue that routine regulatory inspections have no such framing effect. Indeed, there is broad consensus in the literature that regulatory surveillance is necessary to prevent decoupling and to promote socially responsible behavior by organizations. Studies have shown that decoupling is more likely when scrutiny is low, for instance, in situations where there is no enforcement (Edelman, 1992), “when there is no office or expert to monitor progress” (Kalev, Kelly, and Dobbin, 2006: 592), or when adopters can hide their internal operations from external constituents (Westphal, Gulati, and Shortell, 1997). And a recent review of the literature on corporate social responsibility found that “monitoring of corporate performance by stakeholders is an important factor that increases the likelihood corporations will behave in socially responsible ways” (Campbell, 2007: 956). In this view, surveillance is more about increasing transparency and demonstrating commitment than it is about punishment or coercion. Consistent with this view, the only setting in which self-regulatory structures consistently have been shown

to produce improved regulatory compliance and performance outcomes is when they are supported by third-party monitoring (e.g., Potoski and Prakash, 2005; Weil, 2005). We expect that organizations operating within institutional fields characterized by high levels of surveillance will be particularly likely to institutionalize self-regulation, because they will receive strong normative messages about regulatory expectations in the field, without the cuing effect described above (Hirsh 2009).

Hypothesis 3 (H3): Within highly scrutinized industries, facilities that adopt a commitment to internal compliance auditing will institutionalize these practices and thus will improve regulatory compliance outcomes more than non-adopting facilities.

Prior research has found that organizations sometimes respond differently to enforcement pressures within their institutional field (which affects them and others in the field) versus enforcement pressures aimed directly at them (e.g., Hirsch, 2009). We expect organizational-level surveillance to have more mixed effects, depending on whether or not regulated facilities experience inspections as coercive or merely routine. From the economic perspective of deterrence theory,³ threatening to inspect (and possibly punish) a facility, as the agency does in a Compliance Incentive Program, is no different than conducting routine inspections that might or might not result in punishment. Both enforcement tools are merely ways to influence the regulated organization's expected costs.⁴ Both are "coercive," in the sense that they seek to induce particular behaviors by the regulated organization by making undesirable behavior more

³ Deterrence theory is "an economic model that assumes firms are rational actors that will comply with legal directives only to the extent that the costs of expected penalties exceed the benefits of noncompliance" (Short and Toffel, 2008: 51).

⁴ While the magnitude of their impact on an organization's costs might differ, it is not clear which would be perceived to be more costly. For instance, while a Compliance Incentive Program increases the probability that an inspection will occur, it is also narrowly focused on a specifically identified problem, providing the regulated organization notice and an opportunity to correct any violations it may have within that narrow domain. On the other hand, routine inspections can address any combination of a facility's regulated activities, potentially exposing a whole range of problems that the facility had no notice or opportunity to fix.

costly. Accordingly, most of the organizational literature refers to sanctions and surveillance interchangeably. For instance, organizational theorists have argued that “[s]urveillance can also be thought of as a form of sanction” (Zald, 1978: 91) and that, like sanctions, surveillance “tends to convey negative images of suspicion, distrust, and disobedience” (Sewell, 1998: 397).

On the one hand, if frequent inspections are perceived as coercive in this way, being tantamount to sanctions, they should impede normative motivations to voluntarily develop robust internal compliance auditing just as we hypothesized that Compliance Incentive Programs will (H2). In this case, facilities subjected to less organization-level surveillance will be particularly likely to activate their normative motivations to institutionalize these structures.

Hypothesis 4 (H4): Among less scrutinized facilities, those that adopt a commitment to internal compliance auditing will institutionalize these practices and thus will improve regulatory compliance outcomes more than non-adopting facilities.

On the other hand, routine inspections, and the probability that they might uncover violations, could simply be background information already assimilated into the organization’s compliance practices. If this is the case, the expectation of ongoing inspections at a similar rate should not dampen whatever intrinsic motivation a facility has to institutionalize compliance auditing practices. In this scenario, routine inspections are not considered coercive sanctions but are instead perceived as background surveillance that lacks the cuing or framing effect of sanctions or direct regulatory threats, and we would expect them to promote institutionalization as predicted in H3.

Hypothesis 5 (H5): Among highly scrutinized facilities, those that adopt a commitment to internal compliance auditing will institutionalize these practices and thus will improve regulatory compliance outcomes more than non-adopting facilities.

METHOD

Sample

We tested our hypotheses on a matched set of industrial facilities located across the United States that are subject to the US Clean Air Act (CAA), which applies to a wide range of industries and activities that emit air pollutants beyond regulatory thresholds. Our sample period included 1993 (two years before the Audit Policy was launched) through 2003.

Dependent Variable

When they disclosed regulatory violations to the Audit Policy, organizations formally committed to implement policies to monitor their regulatory compliance. By examining compliance outcomes, our empirical analysis assessed the extent to which these organizations institutionalized these policies. We focused on the primary outcome that should be affected by compliance auditing: regulatory compliance records created by regulatory inspectors. We created *clean inspection* as a dichotomous variable based on a facility's regulatory inspection on a given date, coded "1" when the inspection resulted in no compliance violations (i.e., it was "clean") and coded "0" when the inspector cited the facility for one or more violations. This distinction between whether or not inspections resulted in violations has been used in other empirical analyses of regulatory compliance (e.g., Gray and Scholz, 1993; US General Accounting Office,

2001). We obtained data on CAA regulatory inspections and violations from the US EPA's Aerometric Information Retrieval System (AIRS)/AIRS Facility Subsystem database.⁵

Independent Variables

Our primary independent variable is *adopted*, a dichotomous variable coded “1” in the years after a facility disclosed one or more regulatory violations to the US EPA Audit Policy, revealing both its claim to have adopted systematic internal compliance auditing and its pledge to self-police, and “0” otherwise. We obtained disclosure data from three sources: (1) the US EPA Integrated Compliance Information System (ICIS) database, (2) the US EPA Audit Policy Docket, and (3) lists of participants in various EPA Compliance Incentive Programs. US EPA provided these datasets in response to Freedom of Information Act requests.

Moderator Variables

To capture the effects of compliance commitment described in H1, we identified facilities as possessing superior compliance histories when they (or the facility to which they were matched) disclosed to the Audit Policy. To do so, we created *superior compliance history* as a dichotomous variable coded “1” to denote facilities that had no compliance citations (violations or enforcement actions) during the adoption (or match) year and the previous two years, and “0” otherwise. We created another dichotomous variable, *inferior compliance history*, oppositely coded “1” to denote all facilities with less stellar compliance histories, and “0” otherwise. We obtained facilities' compliance data from the US EPA's AIRS and ICIS databases.

⁵ To avoid our results being driven by outliers, we recoded annual inspection tallies beyond 23, the 99.99th percentile, to 23. This affected only 98 of the 560,128 facility-year observations in our entire database of CAA inspections.

To capture the contingency described in H2, we split the sample based on the presence or absence of a direct regulatory threat. We considered facilities to have adopted *under regulatory threat* and coded this dichotomous variable “1” if they disclosed a violation to the Audit Policy in a year when they were targeted by a US EPA Compliance Incentive Program, and “0” otherwise. As mentioned above, Compliance Incentive Programs encouraged facilities in particular EPA Regions or industries that conducted particular regulated activities to reexamine their compliance status regarding a particular regulatory issue and self-disclose and correct any violations they discovered. Letters from the regulator informing a facility that they had been targeted by a Compliance Incentive Programs often contained an explicit warning that facilities that failed to conduct the review and disclose a violation risked being prioritized for an inspection. We created disclosed *without regulatory threat* as an oppositely coded dichotomous variable, coded “1” if a facility had disclosed to the Audit Policy in a year when it was not targeted by a Compliance Incentive Program, and “0” otherwise. For these and all other pairs of moderator variables described below, matched control facilities (also described below) were coded based on the adopting facilities to which they were matched. We obtained data on the facilities targeted by US EPA Compliance Incentive Programs from the US EPA via Freedom of Information Act requests.

We identified regulatory fields that were subjected to above-average levels of regulatory scrutiny to examine the effects of heightened surveillance proposed in H3. We calculated inspection intensities as the average number of inspections facilities faced within each industry (2-digit SIC code) within each state, each year. We created *more scrutinized industry* as a dichotomous

variable coded “1” for those industries with an inspection intensity that exceeded the median industry inspection intensity level for that state-year, and “0” otherwise. Facilities were classified as being a member of a more scrutinized industry if their industry was so designated the year prior to their adoption (or match) year. We created an oppositely coded variable, *less scrutinized industry* as a dichotomous variable coded “1” for those industries with inspection rates that were lower than the median of all industries within its state-year, and “0” otherwise.

Finally, to capture the contingencies described in H4 and H5, we identified individual facilities as being subjected to above-average and below-average levels of regulatory scrutiny. We created *more scrutinized facility* as a dichotomous variable coded “1” for those facilities that were inspected at least twice the year prior to their adoption (or match) year, and “0” otherwise. We created an oppositely coded dichotomous variable, *more scrutinized facility*, coded “1” for those facilities that were inspected at most once in the year prior to their adoption (or match) year, and “0” otherwise. We created these four dichotomous variables, which correspond to general and specific deterrence, based on CAA regulatory inspection data from the US EPA’s AIRS database. We obtained facilities’ industry identifiers from the US EPA’s Facility Registry System (FRS) system.

Control Variables

We gathered data to control for several other factors that have been shown to influence compliance. Prior research has indicated that a facility’s current compliance behavior can be affected by its recent regulatory experience (Magat and Viscusi, 1990; Gray and Jones, 1991;

Gray and Deily, 1996; Weil, 1996; Helland, 1998; Olson, 1999; Gunningham, Thornton, and Kagan, 2005; Shimshack and Ward, 2005). In addition, when considering which facilities to target for its inspections, US EPA takes into account facilities' compliance and enforcement histories (US Environmental Protection Agency, 1999), and facility managers' perceived likelihood of being inspected can influence their compliance behavior (Laplante and Rilstone, 1996; Shimshack and Ward, 2005). Thus, we calculated each facility's *annual number of CAA violations* in each of the prior two years, which we top coded at 99th percentile (3 violations) to reduce the impact of outliers. Because regulators may attempt to ensure that they return to inspect a facility before a certain time lag occurs (and in some cases face legal minimum requirements regarding how often they must return to particular facilities), we controlled for the number of *years since the facility received a CAA inspection*, which we top coded at 4 to reduce the impact of outliers.

Facilities' compliance behaviors can also be affected by changes in state-level enforcement capacity, which can affect facility managers' perceptions about deterrence strength. We therefore controlled for variation in enforcement capacity within states over time by calculating the *total Clean Air Act penalties* that environmental regulators assessed in each state-year and the total number of *facilities regulated by the Clean Air Act* in each state-year. We obtained data on both these from the US EPA's AIRS database.

Model Specification and Estimation

Our analysis estimated whether regulatory inspections were more likely to yield no violations (i.e., “clean inspections”) once facilities had indicated, through voluntary disclosure, that they were self-policing. We employed a conditional fixed effects logistic regression model to estimate the probability of a *clean inspection* (that an inspection would yield no violations). In our model, the individual inspection was the unit of analysis. Conditional fixed-effects logistic models are identified only for facilities that exhibit a change in the dependent variable during our sample. In our case, this included only those facilities that experienced at least one inspection that elicited a violation *and* at least one inspection that did not. Because most facilities in our sample maintained uniform (clean) compliance records during our sample period, our estimates were based on a subset of our sample.

To test our hypotheses, we fully interacted all of our independent and control variables with the variable that identifies the subset of interest. Our model that tests H1 interacts the independent and control variables with the *superior compliance history* and *inferior compliance history* dummy variables. To test H2, we interact all variables with the *under regulatory threat* and *without regulatory threat* dummy variables. Our model that tests H3 includes interactions between the independent and control variables and the *more scrutinized industry* and *less scrutinized industry* dummy variables. To test H4 and H5, we fully interact all variables with the *more scrutinized facility* and *less scrutinized facility* dummy variables. These fully-interacted specifications enable us to compare adopters to their matched set of non-adopters *within* each subsample (e.g., facilities that adopted without regulatory threat are compared to their matched

controls, and facilities that adopted under regulatory threat are compared to their controls). Our results are equivalent to those yielded by estimating two separate models for each subsample. Thus, for example, the coefficient on *adopted* \times *not under regulatory threat* estimates the extent to which facilities that disclosed a violation to the Audit Policy and committed to self-police while not under the threat of a Compliance Incentive Program improved their regulatory compliance, compared to their matched non-adopters. Specifically, this coefficient estimates, for the facilities that disclosed absent this regulatory threat, the difference in the probability of a clean inspection before versus after facilities adopted compared to the difference among the matched non-disclosers over the same period.

In all of these models, we not only included all of the controls described above, but also a series of dummy variables for each year before or after the match year (e.g., 1 year before the match year, match year, 1 year after the match year, etc.). This enabled us to control for temporal factors common to each match group, such as changes in presidential administrations, Congress, and EPA leadership that might affect facility managers' expectations of inspection scrutiny. We also included facility-level conditional fixed effects all models to control for all time-invariant factors that might affect a facility's compliance behavior, such as the facility's year of construction, the EPA Region and state regulatory authorities, industry, proximity to the regulatory inspector, and the political power and demographic characteristics of the local community (Gray and Deily, 1996; Helland, 1998; Lynch, Stretesky, and Burns, 2004; Gawande and Bohara, 2005; Shimshack and Ward, 2005; Delmas and Toffel, 2008).

Matched Sample

Our analytical approach relies on an identifying assumption that, if they had not participated in the Audit Policy, the trend in the self-disclosers' outcomes during the post-period would have been indistinguishable from that of non-disclosers. However, prior empirical research has demonstrated that self-disclosure is more likely among facilities that recently experienced greater regulatory scrutiny (Short and Toffel, 2008), which suggests that self-disclosers may differ from the entire population of non-disclosers in important ways.

To bolster the plausibility of the identifying assumption, we compared disclosing facilities to a matched set of non-disclosers who look “similar” to them in the years prior to self-disclosure. We did this based on the logic that a matched group of disclosers and non-disclosers that appear similar before self-disclosure occurs would have continued to appear similar in the ensuing years had self-disclosure not occurred. In developing a matched sample, we sought to replicate a randomized experiment that compares “treated” to “controls” that do not differ systematically from each other at the time the treatment occurs (Shadish, Cook, and Campbell, 2002) or, in our case, when self-disclosure occurs. Relying on matched samples has been shown to significantly reduce bias in program evaluation (Blundell and Dias, 2000; Smith and Todd, 2005).

To develop our matched sample, we implemented case-control matching based on seven criteria. For each self-discloser, we considered its industry (3-digit SIC Code) and annual inspections, violations, and enforcement actions record during each of the two years before it self-disclosed. We included as its matched controls those non-disclosing facilities that match exactly along

these seven dimensions. We designated the former’s self-disclosure year as the “match year” for this “matched group” of facilities. We repeated this process for all self-disclosers. We omitted from the matched sample any self-discloser for which no matches were available, and all non-disclosers that went unmatched. Our analysis included each matched facility’s observations starting two years before its match year through five years after the match year. Because our analyses identified changes in outcomes *within* facilities over time, we restricted our sample in each analysis to only those facilities for which we had data during at least one year before *and* one year after the match year.⁶ Conditional fixed effects logistic models are only identified for facilities in which the dependent variable varies during the sample period. Thus, our models are only identified for those facilities that experienced at least one inspection that yielded a violation and at least one inspection that yielded no violations. These restrictions resulted in a matched sample of 832 facilities (6,150 facility-year observations), including 64 facilities (with 724 facility-year observations) that self-disclosed violations and committed to self-policing.

RESULTS

Table 1 reports summary statistics and correlations, and Tables 2-5 report the results of the logistic regression models.

Insert Table 1 about here

⁶ In cases where this restriction eliminated all the disclosers or all the non-disclosers from a matched group, we excluded the match group. This ensured that our samples always consisted of matched groups that had both disclosers and non-disclosers, and that each of had data during the pre and post-match periods.

The results of the model testing H1 are reported in Table 2. Recall that we categorized facilities as possessing a superior compliance history if they had no compliance violations during the adoption (or match) year and the previous two years. As a result, facilities with superior compliance histories could only maintain or worsen their compliance records; their compliance could not improve beyond their perfectly clean historical records of zero non-compliance events. While effective self-policing cannot improve compliance for such facilities, the positive coefficient on *superior compliance history* \times *adopted* provides evidence that self-policing prevented a decline in compliance compared to the matched non-adopters that also had superior compliance histories. The point estimate suggests that on average, the odds of self-disclosing facilities subsequently having clean inspections increased by a factor of 2.7 compared to the matched facilities that had exhibited the identical perfect compliance record prior to the match year. However, while large in magnitude, this estimate is not precisely estimated and is on the cusp of being statistically significant at conventional levels ($p=0.105$), suggesting wide variation in subsequent compliance performance among self-disclosing facilities with superior compliance history. This result provides suggestive evidence to support our contention in H1 that self-disclosers that had experience successfully navigating regulatory responsibilities were likely to institutionalize these self-policing practices and thus improve their regulatory compliance more than their matched controls histories. However, we note a contrasting finding among facilities with inferior compliance histories, where the odds of inspections being clean subsequently *declined* by a factor of 0.30 ($p<0.01$) at self-disclosing facilities that committed to self-police compared to their matched non-disclosing facilities. This indicates that among the facilities with inferior compliance histories, *non-adopters* significantly improved their compliance records

compared to the matched adopters over the same period. A Wald test indicated that the disparities between each group of adopters and their controls significantly differed (Wald $\chi^2=9.65$; $p<0.01$).

Insert Table 2 about here

Table 3 reports the results of the model that tests H2. The odds ratio on *without regulatory threat x adopted* indicates that facilities that self-disclosed and committed to self-police when they were not facing a direct enforcement threat subsequently improved the likelihood of clean inspections by a factor of 3.2 compared to their matched controls (OR=3.162; $p<0.01$). This result supports the prediction in H2 that self-disclosing absent coercive pressure results in institutionalized self-policing practices and thus improves regulatory compliance. In contrast, the odds ratio on *under regulatory threat x adopted* is close to 1 and is not statistically significant, indicating the facilities facing an enforcement threat when they self-disclosed subsequently exhibited compliance records that were indistinguishable from their matched non-disclosers over the same period.

Insert Table 3 about here

The results of the model testing H3 are reported in Table 4. The large positive and statistically significant coefficient on *more scrutinized industries x adopted* indicates that among facilities in more heavily inspected industries, those that self-disclosed and committed to self-police

substantially improved their compliance records compared to their matched controls (OR=12.0; $p < 0.01$). This finding supports our contention in H3 that facilities within more heavily scrutinized industries would institutionalize their commitment to self-police and therefore realize improved compliance records. While we also observe a small improvement among self-disclosers facilities within less scrutinized industries (OR=1.8; $p < 0.05$), a Wald test indicated that the improvement among adopters in the more scrutinized industries was statistically significantly larger than the improvement among adopters in the less scrutinized industries (Wald $\chi^2 = 5.09$; $p = 0.02$).

Insert Table 4 about here

Table 5 reports the results of the model that tests H4 and H5. The non-significant odds ratio on *less scrutinized facilities* \times *adopted* indicates that among less heavily inspected facilities, we find no evidence that facilities that self-disclosed and committed to self-police institutionalized this commitment. Instead, their compliance records remained statistically indistinguishable from their matched controls. Thus, we find no support for H4.

The positive and significant coefficient on *more scrutinized facilities* \times *adopted* (OR=2.9; $p < 0.01$) in Table 5 indicates that among more heavily inspected facilities, those that self-disclosed and committed to self-police substantially improved their compliance records compared to their matched controls. This finding supports the prediction in H5 that more heavily

scrutinized facilities would institutionalize their commitment to self-police and therefore realize improved compliance records.

Insert Table 5 about here

DISCUSSION AND CONCLUSION

These findings suggest that the prevailing institutional theories of self-regulation both have important insights to offer, but that neither tells the complete story. Our finding that voluntary adoption increases the likelihood of institutionalization, while adoption motivated by threat does not, supports the notion that a weak regulatory state can indeed exert a peculiar normative strength (Dobbin and Sutton, 1998), and that bald shows of coercive power by the state can undermine normative compliance motivations (Deci and Ryan, 1985; Tenbrunsel and Messick, 1999). However, our findings also demonstrate that the state need not, and indeed should not, recede more broadly, as some have suggested (Klein, 1997; US Environmental Protection Agency, 2005). While we show that direct regulatory threats impede institutionalization, we demonstrate that high levels of scrutiny at both the field level and the organizational level promote it. These results suggest that, unlike sanctions and threats, surveillance does not dampen normative motivations and thus can be an effective tool not only for deterring harmful behavior, but for enhancing the self-regulatory performance of regulated organizations.

Finally, consistent with the concerns of Edelman and her colleagues (Edelman, 1992; Edelman, Erlanger, and Lande, 1993; Edelman and Suchman, 1999; Edelman, Fuller, and Mara-Drita,

2001), our findings on compliance commitment counsel caution in relying too heavily on self-regulation to realize regulatory goals. Our data show that self-regulation gained real traction only among already-committed compliers. For these organizations, self-regulation appears to have helped them maintain their high performance even as others in the sample backslid. On the other hand, we found no evidence that it reformed historically struggling organizations. In fact, consistent with the most dire predictions in the literature (Edelman, Erlanger, and Lande, 1993; Edelman and Suchman, 1997), “bad apple” disclosers performed even worse than their historically inferior, non-disclosing peers, suggesting that their symbolic commitments to self-regulate might have been attempts to circumvent their legal obligations.

In addition to theorizing and testing the conditions that mediate the institutionalization of self-regulation, we make five key contributions to the literature. First, we put the institutional literature into productive dialogue with scholarship on self-regulation. As Vaughan (1990: 230) noted, “[w]hile empirical and theoretical work on the external control of organizations is extensive, we know much less about the organizational dimensions of self-regulation.” We seek to begin building a body of theoretical and empirical knowledge about organizational self-regulation by identifying conditions under which self-regulatory structures are integrated into organizational life in ways that can achieve regulatory goals.

Second, we add momentum to a recent movement to shift scholarship on law and organizations into the realm of outcomes (e.g., Kalev, Kelly, and Dobbin, 2006; Schneiberg and Bartley, 2008; Hirsch, 2009). We believe that research must move in this direction if it wishes ultimately to

address important questions about the extent to which formal organizational responses to regulation are “deeply transformative versus superficially ceremonial” (Edelman and Suchman, 1997: 496). There are a number of reasons why scholarship in this area has not focused on the effects of self-regulatory structures. In part, this blind spot is an artifact of important theoretical concerns with adoption, diffusion and legitimacy of organizational structures that flow from the institutional orientation of the existing scholarship. In part, it springs from a desire to move law and society scholarship beyond simple measurements of the gap between formal law, or “law on the books,” and legal outcomes, or “law in action,” toward a more complicated understanding of the processes by which both law and legal outcomes get constructed. And, in part, it springs from the difficulty of obtaining data on both the existence of internal compliance structures and the outcomes they produce. All of these factors tend to “sideline issues of implementation, effectiveness, and local impact. Yet in the face of financial scandals, global warming, and massive inequalities across nation-states, questions about the impacts and effectiveness of these forms are crucial” (Schneiberg and Bartley, 2008: 49). If internal compliance structures are mediating institutions, as prior research has demonstrated, they have also become full-fledged regulatory institutions (or, at least, they purport to be). This development demands scholarship that addresses how these structures affect the regulatory behavior of the organizations that adopt them.

Third, we expand prevailing conceptions of the legal environment. Despite the centrality of the legal environment to theorizing about law and organizations, the construct is surprisingly under-theorized and under-socialized in the literature. The institutional studies of internal compliance

structures have uniformly posited that organizations adopt them symbolically, in response to external pressures in the legal environment (Meyer and Rowan, 1977; Edelman, 1990). But although law is identified as a key environmental factor prompting the adoption of symbolic structures and procedures (Edelman, 1992; Sutton et al., 1994; Kalev, Kelly, and Dobbin, 2006), it is portrayed in these studies as a disembodied, abstract and undifferentiated force. While this literature attends to the way in which the organizational response to legal mandates mediates the meaning of compliance, it ignores how variation in the implementation of those legal mandates might mediate the nature of the organizational response. Socio-legal scholarship demonstrates that even the most formal of legal mandates are implemented through a complex network of relationships between regulators and regulated entities (Hawkins, 1984; McAllister, 2007). We contend that the nature of these relationships influences the way regulated entities understand and respond to their legal environments and that this will, in turn, influence the extent to which they integrate certain regulatory goals and ideals into their organizational practices.

Fourth, we demonstrate that there are important distinctions between the effects of sanctions and surveillance on organizational behavior that are not fully captured by either deterrence theory or the literature on social control. While coercive regulatory threats dampened intrinsic motivations to self-regulate, as this literature would suggest, surveillance had the opposite effect. Heavily scrutinized industries were more likely to institutionalize self-regulation than their non-scrutinized peers. Furthermore, even the direct surveillance of individual facilities did not dampen their motivations to self-regulate. We theorize here that this distinction is partly due to a cuing effect that accompanies threats of sanctions but not routine surveillance, but further

research is necessary to determine whether and why the distinction we have identified holds more broadly.

Finally, we introduce possibilities for agency into institutional accounts from which agents have been largely lacking (DiMaggio, 1988; Fligstein, 2001). Our findings demonstrate that institutionalization is a product not only of structural conditions in organizations and environments, but of what regulators do. This has important practical and theoretical implications. As a practical matter, our findings provide tools that regulators can use in implementing enforcement schemes that seek to leverage the self-regulating capacities of regulated organizations. As a theoretical matter, this approach allows us to bridge organizational literatures on internal compliance structures, the social control of individuals, and the social control of organizations that have much to inform one another. As regulators increasingly turn to voluntary and cooperative strategies to achieve regulatory goals, these bodies of scholarship can provide key insights into the mix of incentives and normative motivations that will most effectively shape organizational behavior.

While our study suggests a framework for this project, many questions remain for future research. First, while we have identified a number of conditions that contribute to the institutionalization of self-regulation, more work must be done to flesh out other organizational and environmental determinants. Such work should attend not only to the fixed and structural characteristics of organizations and their environments, but to dynamic conditions created by social actors that create the legal environment in which organizations operate. Second, our

finding that surveillance promotes institutionalization suggests the need for a more fine-grained analysis of different regulatory tools to examine their varying impacts on organizations' normative motivations. The regulatory tool kit has been expanding in recent years, and this demands both theoretical and empirical reconsideration of the relationship between different tools of social control and the intrinsic or normative motivations of their objects. Finally, our findings suggest the need for a more explicit dialogue between the literatures on the social control of individuals within organizations and the legal control of organizations by regulators. We demonstrate here that the theoretical insights from the former can predict outcomes in the latter, but a more sustained analysis of the relationship between the two is necessary.

Many have argued that activating the self-regulating capacities of organizations is critical to maintaining legal compliance and achieving social goals in increasingly complex national and international regulatory regimes (Ayres and Braithwaite, 1992; Orts, 1995; Dorf and Sabel, 1998; Murray, 1999; Coglianese and Nash, 2001; Bartley, 2003; Gardner, 2003; Lobel, 2005; Campbell, 2007). Our analysis suggests both the possibilities and the limitations of this approach to regulation. While the internal compliance structures adopted in connection with Audit Policy disclosures appear to have been institutionalized at some adopting facilities, producing improved compliance outcomes, they were decoupled from practices at other facilities. The most significant limitation we identify is the implementation of self-regulation at historically poor performing facilities. Here, the adoption of self-regulatory structures not only failed to improve compliance practices, it appears that it might have been used as a ploy to divert regulators' attention from more serious or numerous violations. However, while self-regulation may not be

a one-size-fits all solution, we demonstrate that it has contributed to compliance gains at a substantial subset of adopting facilities. Moreover, we show that regulatory agents can shape legal environments in ways that help determine whether or not organizations institutionalize self-regulation. Taken together, these findings suggest that self-regulation can be a useful tool for leveraging the normative motivations of regulated organizations, but that it cannot replace traditional deterrence-based enforcement.

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TABLE 1**Summary Statistics**

	Mean	SD	Min	Max
(1) Inspection is “clean” (no violations) (dummy)	0.83	0.38	0	1
(2) Adopted (dummy)	0.07	0.26	0	1
(3) Years since last CAA inspection†	1.38	0.83	1	4
(4) Annual number of violations††, lagged 1 year	0.26	0.61	0	3
(5) Log total CAA penalties in the state-year	14.19	1.56	8.16	17.56
(6) Log number of CAA regulated facilities in the state-year	7.35	0.65	4.08	8.29

Correlations

	(1)	(2)	(3)	(4)	(5)	(6)
(1)	1.00					
(2)	0.02	1.00				
(3)	-0.13	-0.06	1.00			
(4)	0.08	0.03	-0.19	1.00		
(5)	0.03	0.11	-0.07	0.16	1.00	
(6)	0.07	0.02	-0.10	0.07	0.47	1.00

N=6,150 inspections.

Observations extend from 2 years prior to 5 years after each facility’s match year during 1993-2003.

† top coded at 4

†† top coded at 99th percentile

TABLE 2
Conditional Fixed Effects Logistic Regression Estimates:
When adopted by facilities with superior compliance histories,
self-policing is associated with improved compliance records

Dependent variable: Clean inspection

	Odds ratios	Marginal effects
Superior compliance history × Adopted	2.706 [1.660]	0.057
Superior compliance history × Number of years since last CAA inspection	1.273** [0.084]	0.009
Superior compliance history × Number of CAA violations 1 year ago	5.477** [0.938]	0.061
Superior compliance history × Number of CAA violations 2 years ago	5.880** [1.067]	0.064
Superior compliance history × Log total CAA penalties (state-year)	0.968 [0.065]	-0.001
Superior compliance history × Log number of CAA regulated facilities (state-year)	0.276* [0.154]	-0.047
Inferior compliance history × Adopted	0.321** [0.099]	-0.027
Inferior compliance history × Number of years since last CAA inspection	1.092 [0.113]	0.003
Inferior compliance history × Number of CAA violations 1 year ago	1.621** [0.219]	0.017
Inferior compliance history × Number of CAA violations 2 years ago	1.674** [0.223]	0.019
Inferior compliance history × Log total CAA penalties (state-year)	0.960 [0.082]	-0.001
Inferior compliance history × Log number of CAA regulated facilities (state-year)	4.991* [3.139]	0.058
Facility-level conditional fixed effects	Included	
Fixed effects for t years before/after match year†	Included	
Observations (Inspections)	6150	
Facilities	832	
Chi-squared	611.3**	

** p<0.01; * p<0.05; two-tailed tests. Standard errors in brackets. Model also includes facility-level conditional fixed effects, and fixed effects for t years before/after match year fully interacted with *Superior compliance history* and *Inferior compliance history* where $t=(-1, 0, 1, 2, 3, 4, 5)$. Marginal effects are calculated at the mean of all other variables.

TABLE 3
Conditional Fixed Effects Logistic Regression Estimates:
When adopted while not under regulatory threat,
self-policing is associated with improved compliance records

Dependent variable: Clean inspection

	Odds ratios	Marginal effects
Not under regulatory threat × Adopted	3.162** [0.883]	0.196
Not under regulatory threat × Number of years since last CAA inspection	1.225** [0.064]	0.025
Not under regulatory threat × Number of CAA violations 1 year ago	3.272** [0.388]	0.146
Not under regulatory threat × Number of CAA violations 2 years ago	3.249** [0.393]	0.145
Not under regulatory threat × Log total CAA penalties (state-year)	1.006 [0.052]	0.001
Not under regulatory threat × Log number of CAA regulated facilities (state-year)	0.846 [0.328]	-0.021
Under regulatory threat × Adopted	1.301 [0.804]	0.035
Under regulatory threat × Number of years since last CAA inspection	1.787* [0.511]	0.072
Under regulatory threat × Number of CAA violations 1 year ago	1.988** [0.485]	0.085
Under regulatory threat × Number of CAA violations 2 years ago	2.897** [0.766]	0.131
Under regulatory threat × Log total CAA penalties (state-year)	0.701 [0.135]	-0.044
Under regulatory threat × Log number of CAA regulated facilities (state-year)	1.229 [1.528]	0.025
Observations (Inspections)	6150	
Facilities	832	
Chi-squared	336.3**	

** p<0.01; * p<0.05; two-tailed tests. Standard errors in brackets. Model also includes facility-level conditional fixed effects, and fixed effects for t years before/after match year fully interacted with *Without regulatory threat* and *Under regulatory threat* where $t=(-1, 0, 1, 2, 3, 4, 5)$. Marginal effects are calculated at the mean of all other variables.

TABLE 4
Conditional Fixed Effects Logistic Regression Estimates:
When adopted by facilities in more heavily scrutinized organizational fields,
self-policing is associated with improved compliance records

Dependent variable: Clean inspection

	Odds ratios	Marginal effects
More scrutinized industries during match year x Adopted	12.041** [9.599]	0.551**
More scrutinized industries during match year x Number of years since last CAA inspection	1.362** [0.141]	0.051
More scrutinized industries during match year x Number of CAA violations 1 year ago	5.516** [1.813]	0.283
More scrutinized industries during match year x Number of CAA violations 2 years ago	4.451** [1.376]	0.247
More scrutinized industries during match year x Log total CAA penalties (state-year)	0.890 [0.099]	-0.019
More scrutinized industries during match year x Log number of CAA regulated industries (state-year)	1.027 [1.007]	0.004
Less scrutinized industries during match year x Adopted	1.811* [0.480]	0.113
Less scrutinized industries during match year x Number of years since last CAA inspection	1.172** [0.070]	0.026
Less scrutinized industries during match year x Number of CAA violations 1 year ago	2.631** [0.292]	0.160
Less scrutinized industries during match year x Number of CAA violations 2 years ago	2.897** [0.334]	0.176
Less scrutinized industries during match year x Log total CAA penalties (state-year)	1.005 [0.055]	0.001
Less scrutinized industries during match year x Log number of CAA regulated industries (state-year)	0.875 [0.343]	-0.022
Observations (Inspections)	6150	
Facilities	832	
Chi-squared	332.6**	

** p<0.01; * p<0.05; two-tailed tests. Standard errors in brackets. Model also includes facility-level conditional fixed effects, and fixed effects for t years before/after match year fully interacted with *More scrutinized industries* and *Less scrutinized industries* where $t=(-1, 0, 1, 2, 3, 4, 5)$. Marginal effects are calculated at the mean of all other variables.

TABLE 5
Conditional Fixed Effects Logistic Regression Estimates:
When adopted by more heavily scrutinized facilities,
self-policing is associated with improved compliance records

Dependent variable: Clean inspection

	Odds ratios	Marginal effects
More scrutinized facilities during match year x Adopted	2.944** [0.876]	0.210
More scrutinized facilities during match year x Number of years since last CAA inspection	1.278 [0.172]	0.057
More scrutinized facilities during match year x Number of CAA violations 1 year ago	2.336** [0.296]	0.198
More scrutinized facilities during match year x Number of CAA violations 2 years ago	2.312** [0.298]	0.196
More scrutinized facilities during match year x Log total CAA penalties (state-year)	0.907 [0.063]	-0.023
More scrutinized facilities during match year x Log number of CAA regulated facilities (state-year)	1.228 [0.650]	0.048
Less scrutinized facilities during match year x Adopted	1.764 [0.824]	0.121
Less scrutinized facilities during match year x Number of years since last CAA inspection	1.323** [0.082]	0.065
Less scrutinized facilities during match year x Number of CAA violations 1 year ago	4.230** [0.764]	0.337
Less scrutinized facilities during match year x Number of CAA violations 2 years ago	4.992** [0.992]	0.376
Less scrutinized facilities during match year x Log total CAA penalties (state-year)	1.082 [0.078]	0.018
Less scrutinized facilities during match year x Log number of CAA regulated facilities (state-year)	1.052 [0.544]	0.012
Observations (Inspections)	6150	
Facilities	832	
Chi-squared	352.0**	

** p<0.01; * p<0.05; two-tailed tests. Standard errors in brackets. Model also includes facility-level conditional fixed effects, and fixed effects for t years before/after match year fully interacted with *More scrutinized facilities* and *Less scrutinized facilities* where $t=(-1, 0, 1, 2, 3, 4, 5)$. Marginal effects are calculated at the mean of all other variables.