

COERCED CONFESSIONS: HOW REGULATORY DETERRENCE DRIVES SELF-POLICING

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ABSTRACT

The recent trend toward a more cooperative approach between regulators and industry has yielded novel government initiatives encouraging firms to “self-police” their regulatory compliance. We find that facilities under greater scrutiny by regulators are significantly more likely to self-police, suggesting that self-policing supplements—but does not substitute for—government oversight.

INTRODUCTION

Over the past two decades, administrative agencies have partnered with industry to create a wave of new voluntary self-regulation programs. These cooperative arrangements enjoy wide support, both from industry proponents who see self-regulation as the most efficient and effective way to achieve regulatory goals (Orts, 1995; Murray, 1999) and a substantial body of academic literature touting the virtues of a more cooperative regulatory system (Bardach & Kagan, 1982; Scholz, 1984; Ayres & Braithwaite, 1992; Gunningham & Grabowsky, 1998). While most voluntary programs supplement existing regulatory requirements by encouraging companies to achieve results that go “beyond compliance,” some have pushed the self-regulation paradigm further, creating “self-policing” programs that seek to outsource the agency’s enforcement responsibilities for monitoring and reporting non-compliance to the regulated entities themselves. These programs often provide incentives such as penalty waivers and prosecutorial immunity to encourage firms to monitor and self-disclose their own compliance violations.

Government self-policing programs carry promise as well as pitfalls. On the one hand, the incentives of self-policing programs have encouraged many companies to report and correct problems that regulators never would have discovered, suggesting the possibility for real improvements in compliance. On the other hand, without any evidence that they improve compliance, such programs may give industry an unprecedented and unwarranted level of control over its own regulation (Cox, 2004) and risk undermining compliance by rewarding participants who may be hiding egregious violations behind their self-disclosure of relatively minor infractions (Pfaff & Sanchirico, 2004). Among the first empirical studies to examine self-policing behavior, we seek to move beyond such dichotomies in order to understand the factors that influence organizations to police their own operations and “turn themselves in” and what role regulators play in encouraging them to do so.

LITERATURE REVIEW

There is a small but growing literature on corporate self-regulation, consisting primarily of studies that either evaluate “beyond compliance” initiatives or model self-policing behavior. In the arena of environmental protection, for example, both government and industry have established programs that recognize and reward firms for environmental performance and management practices that go above and beyond what the law requires. Evaluations of these “beyond compliance” programs, however, have found little to support the political enthusiasm for them (King & Lenox, 2000; Welch, Mazur & Bretschneider, 2000; Lenox & Nash, 2003; Rivera & de Leon, 2004), prompting some to charge that they are nothing more than industry “greenwashing” (Eden, 1996).

Much less is known about self-policing programs, largely due to the difficulty of observing firms’ internal monitoring and policing decisions. The extant literature focuses on economic models of self-policing behavior, touting it as a way to reduce government monitoring and enforcement costs (Kaplow & Shavell, 1994), optimize levels of self-auditing by firms (Pfaff & Sanchirico, 2000), and reduce firms’ costs of avoiding detection (Innes, 2001). The central premise of this literature is that firms will self-disclose only when it is in their economic self-interest to do so, based on a strict cost-benefit model of firm decision-making that assesses whether the costs of self-reporting are less than the expected costs of attempting to hide a violation. There is a small body of empirical research on the mandatory (as opposed to voluntary) self-reporting of violations. Two studies of water pollution compliance by pulp and paper mills found that on-site inspections by regulators significantly increased the rate of compliance with legal self-reporting obligations, including those that required the firms to disclose information about their violations (Laplante & Rilstone, 1996; Helland, 1998).

WHO TURNS THEMSELVES IN?

Empirical Context

The US EPA’s “Incentives for Self-Policing: Discovery, Correction and Prevention of Violations” (Audit Policy), launched in 1995, provides the empirical setting for our research. The main objective of the Audit Policy is to encourage facilities to implement “systematic, objective, and periodic” environmental auditing and to develop a “documented, systematic procedure or practice which reflects the regulated entity’s due diligence in preventing, detecting, and correcting violations” (Federal Register, 1995: 66708). Under this program, when a facility promptly discloses a violation to US EPA, corrects the violation, and takes steps to prevent future violations, US EPA reduces or waives the penalties that would have accrued and provides a loose assurance that it will not refer voluntarily reported cases to the US Department of Justice for criminal prosecution. The Audit Policy cannot be applied to violations that are similar to others the facility experienced within the past several years, or to violations that “resulted in serious actual harm or which may have presented an imminent and substantial endangerment to public health or the environment” (Federal Register, 1995: 66709). Overall, nearly 3500 facilities have self-disclosed violations under the Audit Policy during 1997-2003.

Hypotheses

Our hypotheses test how different regulatory pressures and legal incentives affect self-reporting behavior. We hypothesize that pressure by regulators, in the form of inspections, enforcement actions and targeting activities, will encourage self-reporting; and that facilities will be more likely to self-report if they are legally protected from having their disclosures used against them.

Facility-specific deterrence strategies. US EPA has characterized regulatory inspections as “the backbone of agency compliance monitoring programs” (Wasserman, 1990), and a significant body of research has shown that they are effective in improving compliance at targeted firms (Gunningham, Thornton & Kagan, 2005; Helland, 1998; Magat & Viscusi, 1990; Laplante & Rilstone, 1996). Regulators often target inspections toward facilities they believe are more likely to have violations (Harrington 1988), and more frequent inspections increase the likelihood that regulators will discover and penalize violations (Dimento, 1989). To avoid the expense of inspections and the risk that they will uncover more violations, heavily-inspected facilities may seek to bolster their own reputation with the regulator and deflect the agency’s scrutiny toward other facilities. Self-disclosing regulatory violations might be seen as a way to generate goodwill with regulators by signaling a facility’s commitment to ongoing self-policing (Helland 1998).

H 1: Facilities subjected to more frequent regulatory inspections are more likely to self-disclose compliance violations.

Because regulatory agencies are known to target worse violators with their limited inspection resources (US EPA, 1992), facilities with more inspector-detected violations and those subjected to penalties or enforcement actions can expect to be targeted for more frequent inspections in the near future. Research has shown that sanctions can improve facilities’ compliance (Gunningham, Thornton & Kagan, 2005; Gray & Shadbegian, 2005; Mendelhoff & Gray, 2005; Gray & Scholz, 1991; Aoki & Coiffi, 2000), and that firms cited by inspectors for past violations were more likely than “clean” firms to self-report future violations under mandatory disclosure regulations (Helland, 1998). Facilities that have been singled out as “bad apples” by the regulator may participate in a self-policing program to demonstrate a renewed commitment to compliance and mitigate the heightened scrutiny triggered by their past violations.

H 2: Facilities with recent compliance problems are more likely to self-disclose compliance violations.

General deterrence strategies. Beyond facility-specific deterrence measures, facilities are also influenced by more generic regulatory enforcement activities that target their industry or regulated activities. For example, US EPA has launched enforcement initiatives to encourage compliance and self-auditing within sectors such as steel mini-mills and chemical manufacturers. In addition, US EPA releases lists of “National Priority” sectors upon which the agency plans to target enforcement resources. By warning targeted groups of facilities that they are under increased scrutiny, such campaigns seek to encourage compliance by increasing the perceived likelihood that hidden violations will be detected.

H 3: Facilities targeted by regulators’ general deterrence initiatives are more likely to self-disclose compliance violations.

Statutory protections. In addition to regulatory agencies’ deterrence strategies, some states provide statutory privilege and/or immunity protections to encourage facilities to conduct internal auditing and to self-disclose violations to regulators. Audit privilege laws prevent state

regulatory agencies and private parties from obtaining any documents produced in connection with an internal environmental audit or using them in court against a voluntary discloser. Scholars strongly endorse audit privilege laws, arguing that firms will not conduct meaningful audits unless they are protected from the risks of disclosure, including criminal or state civil liability as well as bad publicity and exposure to citizen suits (Kesan, 2000; Murray, 1999; Geltman & Mathews, 1997; Goldsmith & King, 1997; Grayson & Landgraf, 1997; Hunt & Wilkins, 1992). Immunity statutes shield self-reporters from prosecution for violations they voluntarily report, but they do not protect the underlying information or audit materials upon which such disclosures are based. Both approaches seek to encourage self-policing by reducing the legal risks associated with it.

H 4a: Facilities protected by audit privilege are more likely to self-disclose compliance violations.

H 4b: Facilities provided with immunity for self-reported information are more likely to self-disclose compliance violations.

DATA AND MEASURES

Our sample includes 13,591 facilities located across the United States that are subject to regulations under three federal environmental statutes: the Resource Conservation and Recovery Act (RCRA), the Clean Air Act (CAA), and the Emergency Planning and Community Right to Know Act (EPCRA) (which requires companies to disclose their toxic chemical emissions in the Toxic Release Inventory (TRI)). Consequently, our sample includes facilities in manufacturing and other pollution-intensive industries that manufacture, process, or use significant amounts of toxic chemicals; have 10 or more employees; generate, manage, store, or treat hazardous waste; and emit air pollutants beyond regulatory thresholds.

We measured voluntary self-disclosure as a dummy variable, coded 1 for a facility in a year when it disclosed a compliance violation in conjunction with the US EPA Audit Policy. We compiled data on self-disclosures from the US EPA Integrated Compliance Information System (ICIS) database, the US EPA Audit Policy Docket, and lists of facilities that participated in Compliance Incentive Programs (discussed below). Our sample includes 748 instances (facility-years) of self-disclosed violations.

We obtained data on regulatory inspections and violations from the US EPA's Resource Conservation and Recovery Act Information (RCRIS) database and Aerometric Information Retrieval System (AIRS)/AIRS Facility Subsystem database. We determined whether a facility had an enforcement action based on data obtained from US EPA's ICIS database. We measured general deterrence by creating dummy variables indicating whether facilities had been targeted by a US EPA Compliance Incentive Program and/or a US EPA National Priority Sector announcement in a given year. For statutory protections, we created two dummy variables to indicate whether the facility's state provided audit privilege and/or immunity each year, based on data from Morandi (1998), websites of the Auditing Roundtable and the US EPA Audit Policy, and statutory research in the LEXIS database.

We control for facility size using revenues. Because facility-level revenue data are not readily available, we employ as a proxy the nationwide average revenues per establishment for each 4-digit SIC Code using data from the 1997 Economic Census. We control for judicial ideology using the proportion of judges in each US Federal Circuit Court that were appointed by Democrat Presidents during 1990-94 (Zuk, Barrow & Gryski, 1996). We control for the potential

influence of community pressure using three proxies: log population density and log household income in the facility's Census Tract based on the US Census Bureau's 2000 Decennial Census, and voter turnout (Hamilton, 1993) as the proportion of residents aged 18 and over in the facility's county (from the 2000 Decennial Census) who voted for a Presidential candidate in the 2000 general election for all states except Alaska (Lublin & Voss, 2001).

ANALYSIS AND RESULTS

Our dataset is an unbalanced panel that includes 87,242 facility-year observations from 1997 to 2003. We use a pooled probit specification to examine the likelihood that a facility will self-disclose a regulatory violation in a given year, and cluster the standard errors by facility. We lag all the independent variables one year. In addition to controlling for facility size, judiciary ideology, and community pressure, we include dummies for industries (2-digit SIC Code), years, and the 10 EPA Regions. We interpret the magnitude of the probit coefficients by reporting the percent change in the probability of disclosure from the "baseline" probability of disclosure evaluated at the means of all the independent variables. We calculate this by dividing the marginal effects of each coefficient by the baseline probability.

Our results suggest that pressure applied by regulators through specific and general deterrence measures encourages self-disclosure. As we predict in H1, an additional RCRA or CAA inspection increases the probability of self-disclosure the following year by 16% ($p < 0.01$) and by 8% ($p < 0.05$), respectively. Being subject to at least one enforcement action—a much rarer event—triples the likelihood of self-disclosing the next year ($p < 0.05$), supporting H2. However, we found no evidence that the number of RCRA or CAA violations cited had any influence on the decision to self-disclose a violation the subsequent year, as H2 also predicted. Our results conditionally support H3, which predicted that general deterrence measures would encourage self-disclosure. A facility both targeted by a Compliance Incentive Program and identified as a National Priority sector was 4 times ($p < 0.01$) more likely to self-disclose a violation that year than the average facility targeted by neither program. A facility targeted by just a Compliance Incentive Program (and not named a National Priority Sector) was even more likely—20 times ($p < 0.01$)—to self-disclose a violation that year. However, we found no evidence that a facility targeted solely as a National Priority sector was any more likely to self-disclose than facilities that were not targeted by either program. We found no association between audit privilege or immunity and self-disclosure, and thus no support for H4.

CONCLUSIONS

Our findings suggest that even as voluntary industry self-regulation programs proliferate, government still has an important role to play. It is clear that the Audit Policy may supplement, but cannot replace, traditional regulatory tools like inspections and enforcement actions. We have shown that violators are more likely to self-report when they are subject to regulatory pressure, including recent inspections, sanctions, and being targeted by focused compliance initiatives. In fact, self-reporting is not deterred even by ostensibly hostile relations with regulators: firms that recently experienced enforcement actions, which involve significant legal costs and often result in penalties and injunctive relief, are much more likely to self-disclose than those with fewer compliance problems.

Prior research suggests that improved compliance depends on the number of violations that inspectors actually discover on site (Gray & Scholz, 1993; Helland, 1998). In the self-

policing context, however, we find no evidence that violation frequency increases the likelihood of self-disclosure. The mere presence of inspectors at a facility, or the threat of their arrival through targeted compliance initiatives, apparently encourages self-reporting regardless what they find once they get there. This discrepancy may result from differences between compliance and self-policing behavior: firms previously cited by inspectors for violations only stand to gain from cleaning up their act and complying with regulations; however, it is less clear whether disclosing additional, undiscovered violations to regulators will engender goodwill.

Our general deterrence results similarly suggest the ongoing importance of regulatory oversight to the success of self-policing. Self-reporting was more likely among facilities targeted by US EPA Compliance Incentive Programs (CIPs), which are often announced directly to target firms through letters or trade associations and typically offer technical compliance assistance along with the incentives of the Audit Policy. On the other hand, we find no evidence that facilities targeted by industry-wide US EPA National Priorities were any more likely to voluntarily self-disclose violations than those in other industries. A number of factors may explain this apparent disparity. For example, facilities in National Priority sectors might not be aware that they are a target, since they are not notified via letters from US EPA or trade associations, as typically occurs with CIPs. Even if they are aware that they are within a National Priority sector, such facilities may believe that scrutiny of a broadly defined industry does not significantly increase the chances of having their violations detected, whereas CIPs often target fewer than 100 facilities--and in some cases as few as 20. In any event, our results suggest an interesting convergence of compliance/deterrence strategies that has yet to be developed in the literature: general deterrence is more effective the more targeted or "specific" it is.

US EPA and environmental groups have long resisted the enactment of audit privilege laws on the grounds that they deprive the public of access to information that is crucial to health and safety and make discovery of and prosecution for unreported violations much more difficult (Bedford, 1996; Woodall, 1997). Our results provide no evidence that they encourage self-policing: facilities in states that provided statutory immunity, audit privilege or both were no more likely to self-disclose violations than facilities in states without such protections. This finding suggests the need for a thoughtful re-examination of the many economic and policy arguments in support of secrecy for audit materials and broader protections for corporate polluters.

Together, these findings support a regulatory policy that recognizes the ongoing importance of state regulation and regulators to the success of public-private regulatory partnerships. Self-regulation and self-policing have been touted as a new paradigm of regulation that trades outmoded "command-and-control" strategies for industry-directed, market-based solutions. While it is hard to deny that there are benefits to fostering more cooperative relationships between the regulators and the regulated, our research counsels caution in the face of arguments that coercive regulatory strategies are ineffective or obsolete and that government should cede to corporations the unfettered authority to regulate themselves. Offered the option of self-policing under the Audit Policy, companies were apparently willing to come clean only under the threat that they might be caught instead. Even as corporations are given an expanding role in their own governance, our study shows that the success of "voluntary" self-policing depends on the continued involvement of regulators with coercive powers.

REFERENCES AVAILABLE FROM THE AUTHORS

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