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# Beyond Elegance: A Testable Typology of Social Norms in Corporate Environmental Compliance

Michael P. Vandenberg

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# Beyond Elegance: A Testable Typology of Social Norms in Corporate Environmental Compliance

Michael P. Vandenberg\*

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## I. INTRODUCTION

Social norms scholarship faces the challenge of becoming a mature discipline. Norms theorists have proposed several elegant, widely applicable theories of the origin, evolution and function of norms.<sup>1</sup> For the most part, these theories have suggested that social norms can be viewed as a refinement to the behavioral assumptions of rational choice theory.<sup>2</sup> Although this approach at least implicitly suggests that accounting for norms will improve the predictive capacity of rational choice models, the work must overcome substantial hurdles if it is to do so. The wide range of norms and mechanisms of norm influence on behavior complicate the formal modeling process, and the divergent terms and theoretical constructs used by the academic disciplines that seek to understand norms present additional challenges. For norms scholarship to flourish, norms theories must be applied to real-world problems in ways that do not just complicate the analysis but advance our ability to predict the effects of laws on behavior and, ultimately, to assist policymakers.<sup>3</sup>

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1. See, e.g., ROBERT C. ELLICKSON, *ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES* (1991); ERIC A. POSNER, *LAW AND SOCIAL NORMS* (2000); Robert D. Cooter, *Structural Adjudication and the New Law Merchant: A Model of Decentralized Law*, 14 INT'L REV. L. & ECON. 215 (1994); Richard H. McAdams, *The Origin, Development and Regulation of Norms*, 96 MICH. L. REV. 338 (1997).

2. Robert Ellickson has framed the core issue surrounding social norms to be whether the norms scholarship represents a Kuhnian paradigm shift, or simply the refinement or filling in of lacunae in law and economics. Ellickson has suggested that the norms scholarship represents the latter. See Robert C. Ellickson, *Law and Economics Discovers Social Norms*, 27 J. LEGAL STUD. 537 (1998); see also Richard McAdams, Comment, *Accounting for Norms*, 1997 WIS. L. REV. 625, 626-30 (1997). Not all norms theorists take the narrower view. See, e.g., Lawrence Lessig, *Social Meaning and Social Norms*, 144 U. PA. L. REV. 2181, 2181 (1996).

3. See, e.g., Richard A. Posner, *The Future of Law and Economics: A Comment on Ellickson*,

This article takes the next step in the evolution of norms scholarship. The article does not purport to offer an elegant or universal theory of norms, but rather to improve the predictive capacity of rational choice theory in a specific setting: the environmental compliance decision-making of corporate managers. In particular, the article draws on existing empirical literature to propose a conceptual framework that accounts for the influence of norms on environmental decision-making.<sup>4</sup> The proposed framework not only serves as a research agenda for scholars applying norms theory to corporate environmental compliance, but it also has implications for research on compliance with a number of other regulatory regimes, including tax, worker health and safety, securities and health care.<sup>5</sup>

The stakes are high. The overall effects of corporate environmental noncompliance on human health and environmental quality are poorly understood, but anecdotal evidence suggests that the effects are substantial.<sup>6</sup> For example, the Environmental Protection Agency (EPA) has reported that more than 6.8 billion pounds of pollutants were reduced as a result of enforcement actions concluded in fiscal year 1999.<sup>7</sup> The effects of noncompliance range from ecosystem damage in the rivers of the Pacific Northwest to human health problems from poor air quality in the Northeast. The financial implications of corporate environmental compliance

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65 CHI.-KENT L. REV. 57, 62 (1989); Robert E. Scott, *The Limits of Behavioral Theories of Law and Social Norms*, 86 VA. L. REV. 1603 (2000).

4. The approach taken in this article is that suggested by advocates of a new paradigm, "law and behavioral science." These advocates assert that if behavioral factors that complicate rational choice theory are to improve the predictive capacity of existing models and provide policy-relevant recommendations, researchers will need to refine broad theories and test the refinements in particularized settings. See, e.g., Russell B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 88 CAL. L. REV. 1051 (2000). For a recent example of empirical work in a particularized area of legal scholarship, see Oona A. Hathaway, *Do Human Rights Treaties Make a Difference?*, 111 YALE L.J. 1935 (2002).

5. Enforcement strategies are often similar across many regulatory agencies. For example, early in the current Bush Administration both the Environmental Protection Agency and the Securities and Exchange Commission (SEC) announced a more cooperative enforcement approach. Compare *Whitman Aims to Boost Upfront Compliance, Avoid Enforcement*, INSIDE EPA, June 15, 2001, at 3, with Floyd Norris, *Harvey Pitt's S.E.C.: From Guard Dog to Friendly Puppy?*, N.Y. TIMES, Oct. 26, 2001, at C1 (noting that the SEC "used a minor enforcement action to herald a policy of not cracking down on companies that come forward to report their own errors").

6. U.S. ENVTL. PROT. AGENCY, ANNUAL REPORT ON ENFORCEMENT AND COMPLIANCE ASSURANCE ACCOMPLISHMENTS IN 1999 3 (2000).

7. *Id.* at 4. Of course, it is likely that many additional pounds of pollutants went undetected. *Id.*

also are substantial. The cost of EPA's enforcement program exceeds \$400 million per year, and the states spend comparable amounts.<sup>8</sup> Similarly, estimates of the total annual cost of corporate environmental compliance exceed \$100 billion.<sup>9</sup> Small changes in compliance rates, therefore, may have large effects on human health, environmental quality and the costs of compliance.

The stakes are also high for norms theory. If norms scholars do not demonstrate that norms theory adds to the predictive capacity of rational choice models, the impact on policymakers will be negligible and the importance of norms theory will fade over time. The conceptual framework presented in this article suggests reason for optimism: norms can be added to a rational choice approach to corporate environmental decision-making in ways that will assist policymakers and that will allow norms theories to be tested and refined.

If a norms theory is to add to the predictive capacity of rational choice models and contribute meaningfully to policy debates, it must identify the norms that have the greatest influence on the relevant behavior and explain their influence. Hence, at the heart of the proposed conceptual framework is a typology of eight norms that are likely to influence the environmental compliance decision-making of corporate managers. A review of the legal norms literature and empirical studies on environmental and other types of regulatory compliance suggests that the eight norms of law compliance, human health protection, environmental protection, autonomy, fair process, good faith, reciprocity and conformity are the most likely to influence corporate environmental managers.<sup>10</sup> The existence of each of these norms is supported by empirical studies, even though several have not yet been discussed by legal norms scholars.

Empirical research suggests that law and law enforcement can

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8. See, e.g., H.R. REP. NO. 107-159, at 57 (2001); H.R. REP. NO. 107-272, at 131 (2001) (indicating the initial House appropriation approval and increases in conference committee); see also Lucia Ann Silecchia, *Ounces of Prevention and Pounds of Cure: Developing Sound Policies for Environmental Compliance Programs*, 7 *FORDHAM ENVTL. L.J.* 583, 622 n.124 (1996) (discussing the funding of EPA enforcement). States conduct roughly 80% of all civil environmental enforcement. See Clifford Rechtschaffen, *Competing Visions: EPA and the States Battle for the Future of Environmental Enforcement*, 30 *Envtl. L. Rep. (Envtl. L. Inst.)* 10,803, 10,805 (2000) [hereinafter *EPA and the States*].

9. See Paul R. Portney, *Introduction*, in *PUBLIC POLICIES FOR ENVIRONMENTAL PROTECTION 2* (Paul R. Portney ed., 1990); *GLOBAL ENVIRONMENTAL MANAGEMENT INITIATIVE, ENVIRONMENTAL IMPROVEMENT THROUGH BUSINESS INCENTIVES 26* (1999).

10. See *infra* text accompanying notes 68-218.

affect many norms simultaneously and that subtle shifts in government actions can have substantial effects on managers' intentions to comply in regulated firms. As a result, the focus here is not on an extended evaluation of any one norm, but on setting forth a typology of the most influential norms and examining how their interactions may influence compliance decision-making. Identifying a set of norms will inevitably raise concerns about the precise definition of the norms and why any one norm is included or excluded from the typology. Some will note that influential norms are excluded. Others will argue that one or more of the norms included is not influential or is not an independent variable. Although these are genuine concerns, examining one norm in isolation may also skew the analysis. An approach that focuses on one norm or one effect of law on norms may ignore other, countervailing, influences. An approach that does not offer a comprehensive account of the most influential norms or the complex interactions of law and norms will have limited predictive capacity and will leave policymakers with little more insight than they already possess by virtue of common intuition.

When viewed together, the eight norms included in the proposed conceptual framework suggest a number of important implications for environmental law and enforcement. Opportunities to increase compliance at low cost are being missed, and a number of policies that are designed to deter, persuade or build capacity may have counterproductive effects on compliance rates. For example, an opportunity to enhance compliance may be missed when agencies only report the size of the penalty and the amount of pollutants prevented by an enforcement action. The norms analysis suggests that greater increases in compliance rates may result from describing the harms to human health and the environment that were likely avoided through the enforcement action, rather than just reporting the size of the sanction or the amount of pollution prevented.

In addition, counterproductive norm effects may arise from the common federal environmental enforcement strategy of bundling enforcement actions of a particular type into a widely publicized national initiative. The objective is plausible: to create national media attention that will deter other potential violators. Yet the norm of conformity suggests that unless the message conveyed in these national initiatives is carefully crafted, the initiatives may instead

create a perception of widespread noncompliance in regulated firms, which could lead to less compliance.

In addition to setting forth a testable framework, this article contributes to the norms literature on the mechanisms of action by which law and law enforcement trigger norms. Most notably, the theory of norm activation, which has been studied extensively by social psychologists,<sup>11</sup> provides an important additional mechanism, yet it has been overlooked in the legal literature. The article includes norm activation in the proposed framework and suggests that it may be valuable in other areas of interest to norms scholars. In addition, the article concludes that several of the other triggering mechanisms proposed in the legal norms literature are sufficiently supported by empirical studies to be included in the proposed framework of environmental compliance decision-making.

Parts II and III of the article draw upon the empirical literature to outline a conceptual framework of the role that norms play in the environmental decision-making of corporate managers. Part II identifies the mechanisms by which the norms included in the typology may influence compliance decision-making. Part III proposes a typology of specific norms that are most likely to influence corporate environmental compliance. For each norm, the article discusses the scope of the norm, the ways in which the norm may influence behavior, and potential implications for environmental law and enforcement policy.

Part IV then examines the extent to which the proposed framework may improve the predictive capacity of the standard deterrence model. The deterrence model applies rational choice theory to corporate environmental compliance and concludes that increasing the certainty and severity of penalties will deter noncompliance.<sup>12</sup> In the academic literature and policy debates, an alternative "cooperation model" has been proposed, in large part as a reaction to the adversarial enforcement methods suggested by the deterrence model.<sup>13</sup> Legal analysts on both sides of the envi-

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11. See *infra* notes 49-53 and accompanying text.

12. See, e.g., Clifford Rechtschaffen, *Deterrence vs. Cooperation and the Evolving Theory of Environmental Enforcement*, 71 S. CAL. L. REV. 1181, 1215 (1998).

13. See, e.g., David B. Spence, *The Shadow of the Rational Polluter: Rethinking the Role of Rational Actor Models in Environmental Law*, 89 CAL. L. REV. 917 (2001) (pointing out that for corporations that choose to cooperate, but are unable to do so due to the complexity of environmental requirements, aggressive enforcement actions may undermine compliance rates); see also IAN AYRES & JOHN BRAITHWAITE, *RESPONSIVE REGULATION: TRANSCENDING THE*



ronmental enforcement debate have called for consideration of a broader set of factors in the standard deterrence model, yet no one has proposed a construct for doing so.<sup>14</sup> Accordingly, Part IV reviews the empirical literature on corporate environmental compliance. It concludes that including norms in a rational choice theory of environmental compliance will provide such a construct and will improve the ability of the deterrence model to predict several aspects of observed compliance. For example, the standard deterrence model does not explain why increases in monitoring appear to lead to increases in compliance, but increases in the severity of the sanction often do not.<sup>15</sup> Norms that enhance or subvert the deterrent effect of enforcement actions may be at work in that case. Norms also may explain the existence of a tipping point apparent when formal legal deterrence falls below a certain level.

Part V concludes that the proposed framework will advance the debate concerning the appropriate mix of environmental enforcement actions by allowing normal science to be conducted on the influence of norms on environmental compliance.<sup>16</sup> The results of this research may help resolve many of the positive questions concerning the effects of environmental enforcement on compliance.

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DEREGULATION DEBATE (1992); John T. Scholz, *Voluntary Compliance and Regulatory Enforcement*, 6 LAW & POL'Y 385 (1984).

14. See, e.g., Mark A. Cohen, *Empirical Research on the Deterrent Effect of Environmental Monitoring and Enforcement*, 30 ENVTL. L. REP. (Envtl. L. Inst.) 10,245, 10,245 (2000) (discussing the importance of incorporating norms into the standard deterrence model); Daniel A. Farber, *Taking Slippage Seriously: Noncompliance and Creative Compliance in Environmental Law*, 23 HARV. ENVTL. L. REV. 297, 320-21 (1999) (explaining the importance of including the insights from social norms research into policies designed to increase environmental compliance); Douglas C. Michael, *Cooperative Implementation of Federal Regulations*, 13 YALE J. ON REG. 535, 545 (1996) (noting the need for developing cooperative strategies); Rechtschaffen, *supra* note 12, at 1186 (suggesting regulators "should move to a system of environmental enforcement that is grounded in deterrence theory but integrates the most constructive features of a cooperative model"); Spence, *supra* note 13, at 978 (suggesting that the effects of complexity should be taken into account in environmental enforcement).

15. See Cohen, *supra* note 14, at 10,245; see also Harold G. Grasmick & Donald E. Green, *Legal Punishment, Social Disapproval and Internalization as Inhibitors of Illegal Behavior*, 71 J. CRIM. L. & CRIMINOLOGY 325, 328-29 (1980).

16. See THOMAS S. KUHN, *THE STRUCTURE OF SCIENTIFIC REVOLUTIONS* 5 (3d ed. 1996) (describing the conditions under which "normal science" can be conducted). Kuhn proposed that standard research activity is effective in part because it is narrowly focused on the "conceptual boxes" provided by the scientists' training. This "normal science" is conducted within the prevailing conceptual boxes or paradigms until anomalies in research results lead to the development of new paradigms. Kuhn described these paradigm shifts as scientific revolutions and suggested that scientific revolutions end with the acceptance of a new paradigm and the commencement of a new period of normal science. See *id.* at 5-6.

The approach also may ferret out a number of responses to enforcement that are counterintuitive when viewed in light of the standard deterrence model, yet that suggest needed changes to current enforcement policy and statutory tools. In the long run, the research is likely to conclude that compliance will be furthered not simply by a shift toward greater use of formal deterrence or alternative techniques, but by carefully tailoring enforcement to enhance the compliance generated through both formal and informal sanctions. Such research also may help resolve more general disagreements in the legal literature about the nature and function of norms.

## II. LAW, NORMS AND ENVIRONMENTAL COMPLIANCE

It is possible to develop a broad conceptual framework that reflects insights from the ostensibly divergent literatures of law and economics, sociology and social psychology.<sup>17</sup> This Part draws upon those literatures to identify the means by which environmental law and law enforcement influence norms, and the means by which norms influence the environmental compliance decision-making of corporate managers. Wherever possible, I use terms that bridge the concepts used in the legal and social science literatures. Part III then proposes a typology of the specific norms that influence this decision-making. Together, Parts II and III present a conceptual framework for including norms in a rational choice theory of environmental compliance.

The article's assumptions should be clarified at the outset. Economists, environmentalists and others differ on whether government should seek to achieve optimal compliance, full compliance or excess compliance by firms. Rationales can be advanced for each of these positions. The approach utilized here does not presume that agencies should seek to achieve any particular level of compliance and does not seek to identify a desired level of compliance. Instead, it recognizes that environmental agencies have limited enforcement resources and asks how agencies can best manage those resources to achieve the desired levels of compliance.

In addition, many scholars examine corporate compliance from the perspective of corporate governance. According to the agency

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17. For a discussion of the limited impact of sociological research on the development of policy in the criminal law field, see Dan M. Kahan, *Between Economics and Sociology: The New Path of Deterrence*, 95 MICH. L. REV. 2477 (1997).

theory of the firm, a firm complies with legal requirements because the individuals in the firm respond to incentives created by the firm and outside actors. From this perspective, the issues include: (1) what compliance levels are optimal for the firm; (2) how the firm distributes decision-making authority to achieve those compliance levels; (3) how it fills the positions that have such authority; and (4) how it creates incentives to ensure that the decisions made by corporate managers serve the interests of the firm. This perspective leads to the view that decisions to comply with the law that are optimal for the individual but suboptimal for the firm represent a problem in firm governance. Although these are fascinating and important issues, this article takes a different approach. The article assumes that individual managers have been given management decision-making authority and examines how they exercise that authority. Ultimately, this work will inform efforts to identify how firms can more efficiently align the interests of principals and agents. But, before we can fully address the corporate governance issues, we should better understand how managers respond to a wide range of incentives, whether created directly by laws and enforcement policies or by the responses of firms to those laws and policies.<sup>18</sup>

#### A. *Adding Norms to the Standard Deterrence Model*

##### 1. *The standard deterrence model.*

Rational choice theories dominate models of environmental enforcement and compliance. In particular, the standard economic deterrence model has applied a rational choice analysis to environmental compliance decision-making.<sup>19</sup> Common formula-

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18. The framework set forth in this article seeks to explain individuals' intentions to comply, rather than the behavior of firms. Yet the distinction may not be significant for many firms: in many small firms, for example, principal-agent issues do not arise. Studies of individuals in larger firms where the distinction is significant suggest that the costs and benefits that are most salient to decision-makers are those that affect them personally, rather than those that affect the firm as a whole. See Raymond Paternoster & Sally Simpson, *A Rational Choice Theory of Corporate Crime*, in *CRIMES OF PRIVILEGE: READINGS IN WHITE COLLAR CRIME* 194, 197 (Neal Shover & John P. Wright eds., 2001). Interestingly, research suggests that when individual environmental managers are afforded higher levels of discretion, the firm as a whole is more likely to interpret environmental issues as opportunities rather than threats. Firms that have adopted such an opportunity-oriented view have reported higher levels of regulatory compliance and improved environmental performance. See Sanjay Sharma, *Managerial Interpretations and Organizational Context as Predictors of Corporate Choice of Environmental Strategy*, 43 *ACAD. MGMT. J.* 681, 691 (2000).

19. The standard deterrence model has its origins in economic theory. Gary Becker's 1968 article has been particularly influential. See Gary S. Becker, *Crime and Punishment: An*

tions of the standard deterrence model assume that an individual will seek to maximize expected utility and thus will comply with an environmental law when the costs of noncompliance exceed the benefits. The costs of noncompliance are assumed to be the product of the certainty and severity of formal legal sanctions. Following this approach, individuals are not motivated to comply absent the threat of formal legal sanctions.

Thus, it is not surprising that deterrence has been the principal rationale for federal environmental enforcement for over two decades. Indeed, examples of deterrence model prescriptions abound in federal environmental laws, enforcement policies and strategies.<sup>20</sup> The deterrence model suggests that the government can improve corporate compliance by increasing monitoring, decreasing the standards necessary for imposing legal sanctions, or increasing the magnitude of the sanctions. Increased monitoring is commonly believed to be the most expensive of the three options to the government.<sup>21</sup> Nevertheless, monitoring frequency and rigor are commonly used as indicators of the success of deterrence-based environmental enforcement programs, and deterrence advocates point to the need to increase inspections and other monitoring activities.<sup>22</sup> Following the deterrence model, inspections are ori-

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*Economic Approach*, 76 J. POL. ECON. 169 (1968). Becker developed a model of optimal criminal penalties that has been applied to both criminal and civil regulatory enforcement. For an overview of the economic literature regarding environmental enforcement and compliance, see Mark A. Cohen, *Monitoring and Enforcement of Environmental Policy*, in 3 INTERNATIONAL YEARBOOK OF ENVIRONMENTAL AND RESOURCE ECONOMICS 44 (Henk Folmer & Tom Tietenberg eds., 1999); Cohen, *supra* note 14, at 10,245-50.

20. See, e.g., Rechtschaffen, *supra* note 12, at 1186; *EPA and the States*, *supra* note 8, at 10,803; Rena I. Steinzor, *Reinventing Environmental Regulation: The Dangerous Journey from Command to Self-Control*, 22 HARV. ENVTL. L. REV. 103, 196 (1998) (urging EPA to "reconsider the utility of enforcement as a negative incentive that could attract industry participants more effectively and quickly than any other"); see also JOEL A. MINTZ, ENFORCEMENT AT THE EPA: HIGH STAKES AND HARD CHOICES 102-03 (1995); James A. Lofton, *Environmental Enforcement: The Impact of Cultural Values and Attitudes on Social Regulation*, 31 ENVTL. L. REP. (ENVTL. L. INST.) 10,906, 10,911 (2001) (suggesting that differences between environmental values in the United States and the United Kingdom indicate American businesses will not comply in the absence of a strong deterrence-based enforcement program); Joel A. Mintz, *Rebuttal: EPA Enforcement and the Challenge of Change*, 26 ENVTL. L. REP. (ENVTL. L. INST.) 10,538, 10,540 (1996).

21. See, e.g., Cohen, *supra* note 14, at 10,251 (concluding that the costs of increased environmental monitoring may outweigh the increased deterrent effect); Dan M. Kahan, *Social Influence, Social Meaning, and Deterrence*, 83 VA. L. REV. 349, 377-78 (1997) (noting the high cost of criminal law monitoring).

22. See, e.g., ENVIRONMENTAL WORKING GROUP, PRIME SUSPECTS: THE LAW-BREAKING POLLUTERS AMERICA FAILS TO INSPECT 3 (2000) (calling inspection "the core of any good enforcement program" and criticizing states for failing to inspect regulated entities), *avail-*

ented toward detecting violations and collecting evidence for enforcement actions, rather than providing compliance advice. Given the expense of increasing government monitoring, deterrence advocates often focus on changes in environmental laws that increase the likelihood of conviction or the severity of the sanction.<sup>23</sup>

The formal enforcement policies and informal enforcement strategies of EPA and the Department of Justice also reflect the influence of the deterrence model. EPA's civil penalty policies identify specific and general deterrence as central goals and emphasize the importance of legal sanctions in achieving both.<sup>24</sup> Several common enforcement strategies also reflect the influence of the deterrence model. For example, top officials often seek to convey a deterrence message by making public pronouncements at industry conferences, in the trade press and in the national media. As stated by a former EPA Assistant Administrator, the federal enforcement philosophy is that polluters must know that if they fall off the path of compliance, "the bear is hungry."<sup>25</sup> Similarly, EPA and the Department of Justice seek to achieve specific and general deterrence through the strategies they use to conduct and publicize specific enforcement actions. One common strategy attempts

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able at <http://www.ewg.org/pub/home/reports/primesuspects/index.html> (last visited Oct. 26, 2002).

23. In keeping with that approach, Congress increased the federal criminal sanctions for many environmental violations between 1980 and 1990. See generally Richard J. Lazarus, *Meeting the Demands of Integration in the Evolution of Environmental Law: Reforming Environmental Criminal Law*, 83 GEO. L.J. 2407 (1995). The intent to deter noncompliance through increased criminal and civil penalties is discussed in the legislative history of the 1987 amendments to the Clean Water Act. See H.R. REP. NO. 99-1004, at 138 (1986); S. REP. NO. 99-50, at 29 (1985).

24. The policies require the recovery of the economic benefit of noncompliance, plus an additional "gravity" component based on the harm caused by the violation and the challenge presented by the violation to the regulatory framework. (For example, failing to apply for a permit may not cause harm but may threaten the regulatory system.) The inclusion of a gravity component is designed to ensure that "the violator is economically worse off than if it had obeyed the law." U.S. Env'tl. Prot. Agency, *Policy on Civil Penalties*, 17 Env'tl. L. Rep. (Env'tl. L. Inst.) 35,083, 35,083 (1984). EPA defines "economic benefit" to include benefits from delays in pollution control expenditures, from avoiding them altogether, and from the competitive advantage gained from the noncompliance. See *id.* The policy states that "the penalty's size will tend to deter other potential violators." *Id.* EPA's policy on referral of criminal matters to the Department of Justice for prosecution and the Department of Justice policy on criminal environmental prosecutions also reflect a deterrence-based approach. For a review of EPA enforcement initiatives, see David L. Markell, *The Role of Deterrence-Based Enforcement in a "Reinvented" State/Federal Relationship: The Divide Between Theory and Reality*, 24 HARV. ENVTL. L. REV. 1, 14-27 (2000).

25. See Rechtschaffen, *supra* note 12, at 1185 n.12 (quoting James M. Strock, *EPA's Environmental Enforcement in the 1990s*, 20 Env'tl. L. Rep. (Env'tl. L. Inst.) 10,327, 10,332 (1990)).

to enhance the general deterrent effect of enforcement actions by consolidating individual enforcement cases into major national actions against polluters with common patterns of violations.<sup>26</sup> The EPA Administrator and the Attorney General have used joint announcements of these major national actions to generate widespread media attention.<sup>27</sup>

As noted above, the deterrence model also influences evaluations of agency performance.<sup>28</sup> If increased deterrence-based enforcement activity leads to increased compliance rates, as predicted by the deterrence model, then counting the activity levels of enforcement agencies (e.g., inspections conducted, administrative orders issued, cases filed and penalties assessed) is an obvious way to measure their success.<sup>29</sup> Activity counts are often referred to as "beans" in the enforcement community, and they are the historical yardsticks for measuring environmental enforcement effectiveness.<sup>30</sup> Although bean counting is not a necessary prescription of the deterrence-based approach, that approach's prediction that increasing enforcement monitoring and sanctioning will increase compliance buttresses the focus on activity counts.

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26. For example, in the fall of 1999 EPA announced the simultaneous filing of eight lawsuits alleging violations of the Clean Air Act's New Source Review provisions. See Kevin A. Gaynor & Benjamin S. Lippard, *Environmental Enforcement: Industry Should Not Be Complacent*, 32 *Envtl. L. Rep. (Envtl. L. Inst.)* 10,488, 10,489 (2002). See also OFFICE OF INSPECTOR GENERAL, U.S. ENVTL. PROT. AGENCY, WATER ENFORCEMENT: STATE ENFORCEMENT OF CLEAN WATER ACT DISCHARGES CAN BE MORE EFFECTIVE 50 (2001) (noting that "[s]tates can gain an additional deterrent effect by publicizing their enforcement responses widely, using vehicles such as state websites and press releases"). This is not a new phenomenon, but rather has been a strategic choice since the 1970s. See PETER C. YEAGER, *THE LIMITS OF LAW: THE PUBLIC REGULATION OF PRIVATE POLLUTION* 146 (1991) (noting EPA's use of press conferences to announce enforcement actions in the early 1970s).

27. See, e.g., Press Release, U.S. Env'tl. Prot. Agency, Attorney General Reno, EPA Administrator Browner to Announce Unprecedented Enforcement Action (Nov. 3, 1999) (on file with author).

28. See, e.g., KEITH HAWKINS, *ENVIRONMENT AND ENFORCEMENT: REGULATION AND THE SOCIAL DEFINITION OF POLLUTION* 5-6 (1984) (noting that sanctioning systems lead to "statistics of process" whereas compliance systems lead to "statistics of impact"); Milo Mason, *Snapshot Interview: Steven A. Herman*, 12 *NAT. RESOURCES & ENV'T* 286, 286-87 (1998) (attributing to Herman, EPA Assistant Administrator for Enforcement, the view that the extent of the deterrent effect does vary with the number of inspections and enforcement actions and the magnitude of penalties).

29. See Michael M. Stahl, *Enforcement in Transition*, 12 *ENVTL. F.* 19, 19-20 (1995). Stahl was EPA Deputy Assistant Administrator for Enforcement and Compliance Assurance when he wrote this article.

30. See Rechtschaffen, *supra* note 12, at 1219.

## 2. *The alternative conceptual framework.*

The alternative conceptual framework presented here departs from the standard deterrence model in two important respects. First, it accounts for social norm sanctions in addition to formal legal sanctions. Second, although it proposes a structure for evaluating the impacts of formal legal sanctions and informal social norms, it does not suggest that environmental compliance decision-making involves simply adding or multiplying the relevant factors. Studies of environmental compliance decision-making have not yet established precisely how these factors influence compliance decisions. That does not suggest, however, that norm effects should be ignored or relegated to a more peripheral consideration after determining the economic costs and benefits of formal legal sanctions. After a discussion of the types of social norms included in the framework, Parts II.B and II.C address how norms may influence the environmental compliance decision-making process of corporate managers.

In the framework presented here, individuals are presumed to be rational actors seeking to maximize their subjective expected utility. Perceived costs and benefits influence the behavioral intentions of the individual. Formal legal sanctions are one such perceived cost. In these respects, the framework is consistent with the standard deterrence model. Yet the framework presented here departs from the standard deterrence model by including perceived costs of external and internal norms in the environmental compliance decision-making process.<sup>31</sup> The perceived costs of *external* norms arise from the individual's expectations that external social sanctions will be imposed if others learn of the violation of the norm.<sup>32</sup> The perceived costs of *internal* norms arise from the indi-

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31. For a critique of methodologically thin rational choice theories, see W. Bradley Wendel, *Mixed Signals: Rational-Choice Theories of Social Norms and the Pragmatics of Explanation*, 77 *IND. L.J.* 1, 39-40 (2002). For a model of individual and firm criminal compliance that explicitly incorporates norm effects into the standard deterrence model, see Mark A. Cohen & Sally S. Simpson, *The Origins of Corporate Criminality: Rational Individual and Organizational Actors*, in *DEBATING CORPORATE CRIME* 33 (William S. Lofquist et al. eds., 1997). Cohen and Simpson's model incorporates variables to account for the self-respect and reputation of the individual, but it does not suggest the mechanisms by which law enforcement will affect these variables. *Id.*

32. I define a norm to be an informal obligation that can be internally or externally enforced. Patterns of behavior do not constitute norms in and of themselves, but individuals may ascribe norms to observed patterns. See Cooter, *supra* note 1, at 218 (explaining that many sociologists refer to a norm as a regularity or pattern of behavior, whereas many economists, philosophers and lawyers refer to a norm as a perception about what people

vidual's expectations regarding the guilt or shame that will be felt upon violation of the norm.

This inclusion of internal and external norm sanctions as additional costs is consistent with a leading, early sociological theory on the ways in which law may affect behavior. The theory, outlined in a 1961 article by Dennis Wrong, led sociologists to examine three factors that may inhibit noncompliance: (1) fear of formal legal sanctions; (2) fear of informal social sanctions; and (3) internalization of legal norms or moral commitment to comply with the law.<sup>33</sup> A leading study of law compliance concluded that these three represent "a concise and probably exhaustive set" of the factors that inhibit noncompliance.<sup>34</sup> The first factor, fear of formal legal sanctions, refers to the costs commonly included in the standard deterrence model. The second factor, the fear of informal sanctions, is simply the fear of external norm sanctions. The third factor, moral commitment to comply with the law, is an internal norm.

Although experts in various fields often use differing terminologies, the distinctions between internal and external norms are found in the legal, sociological and social psychological literatures.<sup>35</sup> In the legal literature, Robert Cooter has maintained that

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"ought" to do). Social norms are enforced through informal sanctions, as opposed to other patterns of behavior, which are not enforced through informal sanctions. In the norm typology presented in this article, the norm of conformity provides an example of the relationship between a pattern of behavior and a norm. The non-norm patterns of behavior discussed in the legal literature include coordination and epistemic customs. Steven Hetcher has explained that coordination customs are utility maximizing for the individual in the absence of enforcement and thus are self-enforcing. See Steven Hetcher, *Creating Safe Social Norms in a Dangerous World*, 73 S. CAL. L. REV. 1 (1999). For a discussion of epistemic customs, see *infra* note 198.

33. See, e.g., Grasmick & Green, *supra* note 15, at 334 (citing Dennis Wrong, *The Over-socialized View of Man in Sociology*, 26 AM. SOC. REV. 183, 186-88 (1961)).

34. See *id.*

35. The terms that other researchers have used to refer to external norms include "social norms" and "subjective norms." See, e.g., Paul C. Stern et al., *A Value-Belief-Norm Theory of Support for Social Movements: The Case of Environmentalism*, 6 HUM. ECOLOGY REV. 81, 85 (1999). Terms that have been used for internal norms include "moral commitment," "moral norms" and "personal norms." See, e.g., McAdams, *supra* note 2, at 626-30. Other important terms used in the social psychology and sociology literature that relate to norms are "values," "beliefs" and "attitudes." In this article, I treat beliefs as views about the empirical state of the world, such as "that factory emits ten tons of carbon monoxide a year." Beliefs do not constitute norms, but they may affect individuals' interpretation or implementation of norms. I treat values as roughly synonymous with abstract norms. An example might be "protection of the environment is good." Finally, I view general attitudes as being roughly synonymous with abstract norms; and I treat specific attitudes as concrete norms where there is a normative judgment involved and as beliefs where there is not. Attitudes can vary in their level of specificity; thus one could regard as attitudes both "factories that



an internal norm may arise when an individual internalizes a strategy or pattern of behavior as an obligation.<sup>36</sup> Internal norms also may be inculcated through contacts with family, friends, educational and religious groups, or other organizations.<sup>37</sup> Internal norms are enforced through feelings of guilt, anxiety, loss of self-esteem and other related emotions.<sup>38</sup> A number of legal scholars have noted that internal norms may be valuable in explaining activities such as some forms of charity, tipping at roadside restaurants, and litter control that may otherwise be inexplicable from a narrow view of a rational individual attempting to maximize utility.<sup>39</sup>

The distinction between the effects of internal and external norms may be difficult to discern. External norms are widely held beliefs about social obligations with respect to which noncompliance may trigger external social sanctions. An individual may internalize a norm that is widely shared and enforced by others, however, and in that case the norm may function both through internal and external sanctions. But the individual need not hold the belief personally. Compliance with an external norm may occur because of a fear of external social sanctions even if the individual disagrees with the norm and has not internalized it.<sup>40</sup> The role

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violate environmental laws are bad" and "the carbon monoxide emissions of that factory are bad." Some social psychological studies have found the influence of an attitude on behavior increases as the attitude becomes more specific. For example, specific attitudes about how individuals benefit from energy conservation, such as "an energy efficient home will save money and be worth more" were better predictors of conservation behavior than more generalized concerns about the effects of a national energy crisis. See, e.g., J. Stanley Black et al., *Personal and Contextual Influences on Household Energy Adaptations*, 70 J. APPLIED PSYCHOL. 3, 17 (1985). My treatment of these terms may not reflect a consensus view. Yet positing such common terminology allows theories and study results to be compared across disciplines; and, at least at this juncture in the development of social norms theory, the benefits of making such comparisons possible arguably outweigh the cost of losing nuances along the way.

36. See Cooter, *supra* note 1, at 218; see also Robert D. Cooter, *Decentralized Law for a Complex Economy: The Structural Approach to Adjudicating the New Law Merchant*, 144 U. PA. L. REV. 1643 (1996) [hereinafter *Decentralized Law*]; Robert D. Cooter, *Do Good Laws Make Good Citizens? An Economic Analysis of Internalized Norms*, 86 VA. L. REV. 1577 (2000).

37. See, e.g., James S. Coleman, *Norms as Social Capital*, in *ECONOMIC IMPERIALISM: THE ECONOMIC APPROACH APPLIED OUTSIDE THE FIELD OF ECONOMICS* 133 (Gerald Radnetsky & Peter Bernholz eds., 1987) (discussing types of "behavioral conditioning" of internal norms). In sociology literature, studies of internal norms often draw on the work of Parsons and Durkheim. See generally TALCOTT PARSONS, *THE SOCIAL SYSTEM* (1951); EMILE DURKHEIM, *THE ELEMENTARY FORMS OF THE RELIGIOUS LIFE* (1915).

38. See, e.g., McAdams, *supra* note 1, at 377-81.

39. See Ellickson, *supra* note 2, at 538; Cass R. Sunstein, *Social Norms and Social Roles*, 96 COLUM. L. REV. 903, 909 (1996).

40. See, e.g., Robert Cooter, *Expressive Law and Economics*, 27 J. LEGAL STUD. 585 (1998) (distinguishing between first party and third party enforcement of norms); *Decentralized*

of external social norms in closely knit groups and in society at large has been explored by legal and social science scholars.<sup>41</sup> Once created, external social norms may be enforced through a variety of informal negative and positive mechanisms. Informal negative sanctions include a variety of censuring activities, such as gossip, stigma, shaming or ostracism. External norms are relatively easily enforced since the transaction costs of inflicting negative gossip or expressions of esteem may be very low.<sup>42</sup>

Although norms theorists often emphasize the inhibitory or negative function of norms, norms also may provide positive social control or encouragement. The positive rewards of internal norms include pride and increased self-esteem. Similarly, the positive rewards of external norms include enhanced reputation or the esteem of others.<sup>43</sup> This article occasionally addresses positive rewards, but it does not purport to give a full account of the role of positive rewards in corporate environmental decision-making. The literature suggests that the effects of positive rewards may be fertile ground for future research and could provide new insights to the framework outlined here.<sup>44</sup>

Richard McAdams has developed a theory that ties together internal and external norms by arguing that both can be explained through the influence of esteem competition. In this view, individuals hold stable, abstract norms that are internalized through pa-

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*Law*, *supra* note 36, at 1667 (distinguishing between "principled conformity" with internal norms and "adventitious conformity" with external norms).

41. Many studies have examined the role of norms in the behavior of individuals in small groups. See, e.g., ELINOR OSTROM, *GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION* (1990) (examining the role of norms in relationships among rice farmers in Sri Lanka); Lisa Bernstein, *Opting Out of the Legal System: Extralegal Contractual Relations in the Diamond Industry*, 21 J. LEGAL STUD. 115 (1992) (diamond merchants in New York); Janet T. Landa & Robert Cooter, *Personal Versus Impersonal Trade: The Size of Trading Groups and Contract Law*, 4 INT'L REV. L. & ECON. 15 (1984) (Asian merchants); Stuart Macaulay, *Non-Contractual Relations in Business: A Preliminary Study*, 28 AM. SOC. REV. 55 (1963) (Minnesota businessmen). For analyses of the role of norms outside a group setting, see Kahan, *supra* note 21, at 349-50; McAdams, *supra* note 1, at 407.

42. McAdams, *supra* note 1, at 407 (asserting that external norm sanctioning may be costless).

43. See Ellickson, *supra* note 2, at 540.

44. For example, Grasmick and Green have concluded that moral commitment, social disapproval and the threat of legal punishment all *inhibit* illegal behavior but that these factors explain only about forty percent of the variance in behavior. Grasmick & Green, *supra* note 15, at 334. They suggest that *motivational* factors explain the remainder of the variance. See also James Alm et al., *Deterrence and Beyond: Toward a Kinder, Gentler IRS*, in *WHY PEOPLE PAY TAXES: TAX COMPLIANCE AND ENFORCEMENT* 311 (Joel Slemrod ed., 1992) (suggesting that "rewards may be more effective than punishments" for eliminating some types of tax noncompliance).

rental and other influences.<sup>45</sup> Individuals value the esteem of others, and norms espoused by others are enforced through granting or withholding esteem.<sup>46</sup> McAdams has suggested that external norms tend to be newer and more ephemeral concrete norms, as opposed to the older and more stable abstract norms.

The conceptual framework proposed here assumes that all individuals share a set of abstract, internal norms. The relative weighting of these norms may differ from person to person and from group to group.<sup>47</sup> These norms and their relative weighting may evolve over time through various experiences, including interactions with law and law enforcement. The notion that the individual's internal norms may change presents a substantial challenge to any attempt to predict behavior.<sup>48</sup> The proposed framework as-

45. According to McAdams, the old and stable abstract norms, such as "be a good neighbor," are more likely to be taught to children or otherwise internalized and therefore to survive from generation to generation. McAdams, *supra* note 1, at 395. More recently, McAdams has noted that individuals may internalize norms by observing patterns of behavior and intuiting normative propositions from the patterns. E-mail from Richard McAdams to Michael P. Vandenberg (Feb. 14, 2002) (on file with author).

46. McAdams, *supra* note 1, at 383-84. The key difference between internal and external norms, according to McAdams, is whether the norm is abstract (and therefore likely internalized) or concrete (and therefore less likely to be internalized). *Id.*

47. Several studies provide empirical support for the notion that a number of values or abstract norms are widely, if not universally, held. See, e.g., Shalom Schwartz, *Universals in the Content and Structure of Values: Theoretical Advances and Empirical Tests in 20 Countries*, in 25 *ADVANCES IN EXPERIMENTAL PSYCHOLOGY* 1 (Mark P. Zanna ed., 1992). The typology proposed in this article does not require that the norms be held with equal intensity, nor that they be defined in precisely the same way by each individual or group. For example, in some cases survey data demonstrate differences between business managers and other subpopulations. See, e.g., Paul C. Stern, *Toward A Coherent Theory of Environmentally Significant Behavior*, 56 *J. SOC. ISSUES* 407, 415 (2000) (noting the existence of value orientations that correlate to environmentally significant behaviors). To the extent empirical studies suggest that individuals fall into coherent groups based on the types of norms they hold, regulators can accommodate the variations among these groups by tailoring prescriptions to each group or by evaluating which prescriptions have the greatest intended overall effect without such tailoring. Ultimately, the norms of each of several subpopulations may need to be subject to a different typology and analyzed separately, but that next level of tailoring of the framework can be done after the initial typology of environmental compliance norms is tested and refined. See Korobkin & Ulen, *supra* note 4, at 1058 (noting the need to tailor theories to subpopulations).

48. The norms literature includes debates about the relative influence of internal and external norms, and about the ability of rational choice theories to account for heterogeneity in internal norms among different individuals or changes in norms over time within the same individual. See, e.g., Scott, *supra* note 3, at 1603 n.39 (asserting that if preferences or "values change and if those changes influence behavior, then the rational choice analyst must treat those values and preferences as endogenous or else abandon any pretense of having a fully predictive model"). Eric Posner has asserted that external norms are valuable additions to the analysis of regulatory compliance, and tax compliance in particular, but that internal norms are dependent variables and thus not valuable in ex-

sumes that the set of norms is both widely held and relatively stable. Although this assumption reduces the ability of the proposed approach to account for short-term changes in norms, long-term changes in the types or relative weightings of norms among individuals relevant to corporate environmental decision-making can be detected with rigorous empirical testing, and the norm typology can be adjusted periodically to account for these changes. Part III discusses eight norms that appear to influence environmental compliance the most based on currently available research. Before discussing those specific norms, however, the remainder of this Part sets forth the means by which law and law enforcement may influence norms, and the means by which norms may influence behavior.

### B. *The Influence of Law and Law Enforcement on Norms*

The legal literature has provided several important insights into the mechanisms by which law and law enforcement may influence norms. Norms theorists have asserted that law and law enforcement may both trigger existing norms and shape norms. Although the triggering and shaping of norms may be hard to distinguish, for the purposes of this analysis they will be discussed separately.

The "triggering" of internal norms within the conceptual framework refers to the way that law and law enforcement may induce existing norms to influence compliance decision-making. In some cases, law and law enforcement will only influence the internal norms of the environmental decision-maker. In other cases, third parties also will be induced to exert external norm influences on the decision-maker or the decision-maker will perceive those influences to be likely.

#### 1. *Norm activation.*

The conceptual framework proposed in this article includes a triggering mechanism that has been widely employed in empirical

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plaining or predicting behavior. See Eric A. Posner, *Law and Social Norms: The Case of Tax Compliance*, 86 VA. L. REV. 1781, 1788 (2000). A review of the regulatory compliance literature suggests that internal norms are likely to have a substantial influence on environmental compliance decision-making. In fact, the leading environmental compliance studies suggest that when internal norms are strongly held or are triggered by a particular event, other factors have little influence on compliance decision-making. See *infra* text accompanying notes 265-72. Consequently, excluding internal norms from an analysis of environmental compliance may undermine the predictive capacity of the analysis. For this reason, I have included internal norms in the conceptual framework presented in this article.

studies by social psychologists but has not been discussed in the legal norms literature: the Schwartz norm activation theory.<sup>49</sup> The theory suggests that a norm's influence on behavior is affected by the intensity of the obligation felt by the individual. Two factors are necessary to "activate" the existing norms of individuals: (1) an awareness of the consequences of the individual's act regarding the welfare of others (awareness of consequences is commonly referred to in the literature as "AC"); and (2) an ascription of personal responsibility for causing or preventing those consequences (ascription of responsibility is commonly referred to as "AR"). These two factors lead to the activation of a norm, generating a feeling of obligation to comply with the norm and guilt if the norm is violated. As initially proposed, the theory suggested that AC and AR can activate "moral norms"<sup>50</sup> that affect human welfare, leading to a behavioral intention to act altruistically.<sup>51</sup> More recently, study results have supported the theory in a wide range of areas, including situations involving norms related to the environment.<sup>52</sup> For example, in a study of yard brush burning, researchers found that individuals who were aware of the human health impacts of burning and accepted responsibility for it were less likely to burn yard waste than others.<sup>53</sup>

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49. See Shalom H. Schwartz, *A Normative Decision-Making Model of Altruism*, in ALTRUISM AND HELPING BEHAVIOR 189, 193-202 (Jacqueline Macauley & Leonard Berkowitz eds., 1970) [hereinafter *Moral Decision Making*]. See also Shalom H. Schwartz, *Normative Influences on Altruism*, in 10 ADVANCES IN EXPERIMENTAL SOCIAL PSYCHOLOGY 222 (Leonard Berkowitz ed., 1977) [hereinafter *Normative Influences*]. Although the term "ascription of responsibility" is commonly used in the literature, Schwartz indicated that "responsibility denial" is a preferable term for the concept, since the latter term emphasizes the defensive nature of the concept. In other words, the concept refers to the tendency to deny responsibility for an act after the fact, rather than to "a spontaneous tendency to see the self as responsible for events initially." *Id.* at 230 n.4. His work has been widely viewed as including AC and AR as the two factors that activate norms. See sources cited *infra* notes 50-53.

50. The term "moral norms" was used by Schwartz. See *Normative Influences*, *supra* note 49, at 277. Note that norm activation may differ depending on whether the consequences relate to human health or the environment. See Riley E. Dunlap & Kent D. Van Liere, *Land Ethic or Golden Rule: A Comment on "Land Ethic Realized" by Thomas A. Heberlein*, 33 J. SOC. ISSUES 200, 204-05 (1977); see also Thomas A. Heberlein, *The Land Ethic Realized: Some Social Psychological Explanations for Changing Environmental Attitudes*, 28 J. SOC. ISSUES 79 (1972).

51. See, e.g., Stern, *supra* note 47, at 412.

52. See, e.g., Stern et al., *supra* note 35, at 85.

53. See Kent D. Van Liere & Riley E. Dunlap, *Moral Norms and Environmental Behavior: An Application of Schwartz's Norm-Activation Model to Yard Burning*, 8 J. APPLIED SOC. PSYCHOL. 174, 187 (1978). Van Liere and Dunlap described the relevant norm as "respect for the health of others." *Id.* They evaluated AC by evaluating responses to the following: "Some people say that the smoke from backyard burning makes it difficult for people with respiratory problems to breathe. Do you agree or disagree?" *Id.* at 179. They evaluated AR by

Following the Schwartz norm activation theory, an enforcement intervention may activate some or all of the norms relevant to environmental compliance if it provides information about the consequences of a noncompliant act and the individual's responsibility for or ability to prevent those consequences. The information could be imparted through a wide range of enforcement interventions, including inspections and administrative or judicial penalty actions. Norms triggered in this way may have a positive or negative effect on the individual's intention to comply, depending on the mix of norms activated. The norms triggered in Schwartz's theory are internal norms, although the triggering information also may lead to changes in an individual's perception of the likelihood of external norm enforcement by co-workers, social acquaintances or the general public.

A related triggering mechanism has been noted only in passing in the legal norms literature, but it also may be quite important for environmental compliance. This triggering mechanism suggests that law and law enforcement can lead an individual to focus attention on the existence of a norm.<sup>54</sup> The information conveyed may not relate to AC or AR, but simply to the existence of a norm. For example, a permit application may not only threaten legal sanctions for false statements but may highlight the widely shared norm of law compliance. Empirical studies suggest that focusing attention on a norm may make the norm more salient during the compliance decision-making process.<sup>55</sup> As with norm activation, the

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asking for agreement or disagreement with two propositions: (1) "Some people say that backyard burning should not be allowed because many people are not able to take wastes to the dump and cannot afford to have them hauled to the dump;" and (2) "Some people say backyard burning should be allowed because the amount of pollution it causes is very small compared to other sources such as automobiles." *Id.* at 179-80.

54. See Robert B. Cialdini et al., *A Focus Theory of Normative Conduct: Recycling the Concept of Norms to Reduce Littering in Public Places*, 58 J. PERSONALITY & SOC. PSYCHOL. 1015, 1015 (1990) (suggesting that the influence of norms at the individual, situational and societal levels will vary by the extent of the individual's focus on the norms or their salience or activation); P. Wesley Schultz, *Changing Behavior with Normative Feedback Interventions: A Field Experiment on Curbside Recycling*, 21 BASIC & APPLIED SOC. PSYCHOL. 25, 26 (1998) (suggesting that "feedback" can focus individuals on internal and external norms and influence recycling behavior).

55. See generally Cialdini et al., *supra* note 54. See also Robert B. Cialdini et al., *A Focus Theory of Normative Conduct: A Theoretical Refinement and Reevaluation of the Role of Norms in Human Behavior*, in 24 ADVANCES IN EXPERIMENTAL SOCIAL PSYCHOLOGY 201, 201-04 (Mark P. Zanna ed., 1991) [hereinafter *Refinement and Reevaluation*]; Robert B. Cialdini, *Social Motivations to Comply: Norms, Values, and Principles*, in 2 TAXPAYER COMPLIANCE 200, 211 (Jeffrey A. Roth & John T. Scholz eds., 1989) [hereinafter *Social Motivations to Comply*]. Cialdini's work has been widely cited in the legal norms literature, but the notion of focusing has not

information that induces the decision-maker to focus on an internal norm also may lead to actual or perceived increases in external norm enforcement by others. For example, individuals were found to litter less when a single piece of litter was placed in a garage than when the garage was clean. The single piece of litter may have made a pre-existing anti-littering norm salient and may have led to the reduction in littering by those who observed it.<sup>56</sup>

## 2. *Additional mechanisms.*

The legal norms literature has identified several additional mechanisms by which law and law enforcement may not only trigger existing norms, but may shape norms that affect environmental compliance. For example, the law can tie internal, abstract norms ("be a good parent") to concrete norms ("good parents use child safety seats"), and thus lead to new behavioral intentions.<sup>57</sup> This tying effect may explain how new information can lead to swift changes in concrete norms, while abstract norms remain more resistant to change.<sup>58</sup> In addition, laws and enforcement actions may increase an individual decision-maker's perceptions of the existence of a consensus regarding a norm. This perception may induce the individual to internalize the norm. The signaling of the consensus also may reduce the perceived risk to norm enforcers and may facilitate the widespread enforcement of a concrete social norm. The perception thus may increase the individual's view of the likelihood and severity of external social sanctions.

The law also can change or obscure social meanings.<sup>59</sup> These changed social meanings, in turn, can lead to changes in the

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been highlighted. See, e.g., Dan M. Kahan, *What Do Alternative Sanctions Mean?*, 63 U. CHI. L. REV. 591, 592 (1996); Sunstein, *supra* note 39, at 903.

56. See Cialdini et al., *supra* note 54, at 1025-26.

57. McAdams, *supra* note 1, at 408.

58. Information learned by the individual during the entire regulatory process can affect norm activation. Hence norm activation may be enhanced by, among other things, the choice of participatory rather than non-participatory processes in regulatory development. Similarly, regulators may affect norm activation in the promulgation phase by providing more or less thorough or clear explanations of a new regulatory requirement. I focus on enforcement here, but careful study is also warranted on how such choices in regulatory processes can affect the activation of norms that in turn shape environmental compliance.

59. See Kahan, *supra* note 55, at 591; Lawrence Lessig, *The Regulation of Social Meaning*, 62 U. CHI. L. REV. 943 (1995); Cass R. Sunstein, *On the Expressive Function of Law*, 144 U. PA. L. REV. 2021, 2046 (1996); Michael P. Vandenberg, *The Social Meaning of Environmental Command and Control*, 20 VA. ENVTL. L.J. 191 (2001) (evaluating the social meaning of the command and control environmental regulatory system).

norms that are triggered by a particular behavior. One widely cited example is that a seat belt law may change a passenger's decision to wear a seat belt in a cab from an affront to the driver's competence to a simple act of law compliance.<sup>60</sup> Such a change in the social meaning of an action also could occur in the environmental compliance arena. For example, the type of criminal charge brought against a polluter may affect the social meaning of the violation. Following a release of a toxic material that caused a death, the use of a civil environmental, criminal environmental, or manslaughter charge may convey very different social meanings and may have different effects on the internal norms of the defendant. In particular, a manslaughter charge may create a perception that the behavior is analogous to a serious street crime in a way that a civil or criminal environmental action may not. These different social meanings also may affect whether the defendant becomes the subject of external social sanctions.<sup>61</sup> Conversely, to the extent enforcement actions are based merely on paperwork violations that do not reflect an intent to hide noncompliance, the social meaning of the label "environmental violator" may become ambiguous.

### C. *The Influence of Norms on Behavior*

A better understanding of how law and law enforcement may trigger or shape norms leads to the next step in the analysis: the effect on behavior. Internal norms and perceptions about the likely external norm sanctions and legal sanctions arising from environmental noncompliance may influence behavioral intentions and resulting courses of action. The empirical literature suggests that this process is complex. Each of the internal norms may have varying levels of influence on the individual's behavioral intentions, depending on the combination and strength of the triggered norms. The norms may function in an additive or multiplicative fashion, or may be lexically ordered, with the norm that is most available to the individual playing a far greater role in the individual's behavioral intentions than the other norms that are held but not activated.<sup>62</sup>

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60. See Lessig, *supra* note 59, at 952.

61. See, e.g., Paul H. Robinson & John M. Darley, *The Utility of Desert*, 91 Nw. U. L. REV. 453, 472 (1997) (discussing how an endangerment or manslaughter prosecution may signal the inclusion of environmental actions within "the norm against endangering others"). See generally Dan M. Kahan, *Social Meaning and the Economic Analysis of Crime*, 27 J. LEGAL STUD. 609 (1998).

62. See, e.g., Grasmick & Green, *supra* note 15, at 329 (discussing the "conditional



The relative weighting of formal sanctions, external sanctions and internal sanctions also may involve complex processes. For example, one empirical study suggests that the existence of a strongly held internal norm of law compliance is very influential in determining the behavioral intent of potential decision-makers regarding corporate environmental compliance, and in some cases may make the other two factors "virtually superfluous."<sup>63</sup>

Although internal norms, external norms and formal legal sanctions often may predict the formation of an intention to comply, external constraints also may affect whether the intention is translated into action.<sup>64</sup> For example, a lack of financial or technological resources may limit the ability to comply, even where there is an intent to do so. Moreover, the complexity of legal requirements may constitute another barrier to actual compliance.<sup>65</sup> When external constraints prevent an individual from acting on a behavioral intention, individuals may employ mechanisms that neutralize guilt.<sup>66</sup> Guilt neutralization mechanisms include redefining the problem in a way that does not trigger the applicable norm, asserting that others are to blame for the harm, or asserting that no alternatives existed to the course of action taken.

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hypothesis" that the threat of legal punishment has a deterrent effect only against individuals who are not morally committed to the law). Similarly, Blake and Davis have suggested that internal norms, external norms, formal legal sanctions and other factors have independent effects on compliance. See Judith Blake & Kingsley Davis, *Norms, Values and Sanctions*, in *HANDBOOK OF MODERN SOCIOLOGY* 456 (Robert E.L. Faris ed., 1964). Alternatively, there could be multiplicative or interactive effects among norms, as suggested in a classic work by Talcott Parsons. See TALCOTT PARSONS, *THE STRUCTURE OF SOCIAL ACTION* 402-03 (1937); see also Paternoster & Simpson, *supra* note 18, at 204-06.

63. See Raymond Paternoster & Sally Simpson, *Sanction Threats and Appeals to Morality: Testing a Rational Choice Model of Corporate Crime*, 30 *L. & SOC'Y REV.* 549, 575 (1996).

64. In the long run, the conceptual framework proposed here may need to be adjusted to reflect the importance of perceived behavioral control. Ajzen has proposed the theory of planned behavior, which posits that behavioral intentions are the product of three independent variables: (1) the "attitude" of the individual; (2) the individual's perception of "subjective norms"; and (3) the individual's perceived behavioral control. Ajzen suggests that increases in these three variables lead to increases in behavioral intention. More specifically, he suggests that an individual's attitude toward a behavior becomes more favorable as the perceived social pressure to perform the behavior increases; and as the perceived ability to perform the behavior increases, the individual's intention to perform the behavior increases. See Isaac Ajzen, *From Intentions to Actions: A Theory of Planned Behavior*, in *ACTION CONTROL: FROM COGNITION TO BEHAVIOR* 11 (Julius Kuhl & Jürgen Beckmann eds., 1987). Survey results suggest that many people believe they cannot control many global and regional environmental problems. See, e.g., GERALD T. GARDNER & PAUL C. STERN, *ENVIRONMENTAL PROBLEMS AND HUMAN BEHAVIOR* 224 (1996).

65. See, e.g., Spence, *supra* note 13, at 932-37.

66. See *Normative Influences*, *supra* note 49, at 255-57.

The actual thought processes corporate managers undergo to make decisions about environmental compliance are not well understood. In the framework proposed here, it is assumed that the decision-maker will make rational choices about compliance based on perceptions of the benefits and costs of noncompliance, including the perceived certainty and severity of the formal legal and informal social sanctions.<sup>67</sup> Empirical testing of the research agenda set forth in this article may suggest modifications to this assumption. The next Part identifies the norms that are the source of the informal social sanctions.

### III. A TYPOLOGY OF ENVIRONMENTAL NORMS

This Part proposes a typology of the norms that influence corporate environmental compliance. The norms discussed here function as abstract, internal norms and, in some cases, also as external norms. The norms exist among corporate managers, government regulators, environmental group members and the general public. The discussion of each norm begins with a hypothesis in the form of a sentence that expresses the norm, followed by an explanation of how the norm is distinguishable from and interacts with other norms. The discussion then reviews the studies that suggest the existence of the norm and evaluates the implications of the norm for environmental compliance.

A few caveats are in order. First, this is not a list of all norms that affect corporate environmental compliance but of those that are likely to have the greatest influence. The norms were selected based on several criteria: (1) the existence of each norm has been identified by or may be inferred from empirical studies; (2) based on my review of the empirical studies, the norms identified in the typology are those most likely to have a substantial influence on environmental compliance; and (3) their influence is plausible based on the types of requirements imposed by environmental laws and the types of interactions managers may have with enforcement

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67. I do not attempt to account for the influence of cognitive biases on the decision-making process in this article, but these issues are worthy of further study. See, e.g., Thomas Dietz & Paul C. Stern, *Toward a Theory of Choice: Socially Embedded Preference Construction*, 24 J. SOCIO-ECON. 261, 266 (1995) (explaining that "human cognitive structure probably developed under selective regimes that favor skilled taxonomists rather than powerful calculating machines," and concluding that "processes based on checks and balances among key interests and values are more likely to approximate normatively ideal social choices than are simple quantitative aggregations of individuals' expressions of preference"). See generally BEHAVIORAL LAW AND ECONOMICS (Cass R. Sunstein ed., 2000).

agencies, co-workers, social acquaintances, environmental group members, and others.

Second, these are only proposed norms. The research on norms and regulatory compliance is limited, its conclusions are often mixed, and it is difficult to compare conclusions across disciplinary lines. In some cases, empirical studies have elicited data regarding the existence of a specific norm through survey research. In other cases, the research has identified only patterns of behavior from which a norm can be inferred. In yet other cases, the phenomenon I describe as a norm may have been given a different label by others, but it appears to function as a norm, and I have chosen to include it as a norm in the typology to maintain a consistent approach to the framework. The norms therefore will need to be tested to verify their existence and influence. Actual identification of any norm has a somewhat wooden feel, but until the norms can be framed precisely they cannot be tested. This typology is a first effort to do so. Very few studies have attempted to link norms to actual environmental compliance decisions, and I have supplemented the environmental literature with studies on compliance with criminal laws, as well as tax, health care, worker safety and other regulatory regimes. The tax compliance studies are particularly valuable given the extensive quantitative research that has been conducted on the relationship between norms and tax compliance, and the similarities between the tax and environmental regulatory regimes.<sup>68</sup>

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68. The many similarities between the tax and environmental regulatory schemes suggest that the lessons of the tax compliance research will be relevant to environmental compliance. For example, tax and environmental law both include large components that many view as *malum prohibitum*, rather than *malum in se*. Both fields grapple with tensions between maximizing compliance and maximizing social welfare. See, e.g., James Andreoni, Brian Erard & Jonathan Feinstein, *Tax Compliance*, 36 J. ECON. LIT. 818, 826-27 (1998) (discussing the potential goals of tax enforcement). In addition, each field consists of a complex scheme of statutory and regulatory requirements, along with an extensive "gray law" of policy statements, memoranda, guidances and other non-binding agency pronouncements. In many cases, it is difficult and expensive for the regulated community to gain a full understanding of the legal requirements from these numerous and sometimes vague or conflicting sources. Another point of similarity is that tax and environmental law both affect diverse regulated communities that include individuals as well as large and small businesses. With respect to both fields, perceptions about the legitimacy of different types of requirements can vary greatly among various members of the regulated community. Finally, both tax and environmental law rely on enforcement resources that are very scarce relative to the size of the regulated community, making it impossible to inspect and sanction a significant percentage of non-compliers. As a result of that and other factors, regulators in both fields increasingly rely on self-reported information as a principal means of detecting violations. See *id.* at 821 (noting "the dramatic increase in information report-

The norms of environmental compliance are grouped below into substantive norms and procedural norms, followed by discussion of a "norm of conformity" to account for interdependence among individuals. Although distinctions between substance and procedure are often not illuminating, the work of Tom Tyler and others suggests that many norms relevant to law compliance may follow this dichotomy. In particular, studies of street crime and several regulatory compliance areas have found that compliance rates are affected by two distinct components: (1) consistency of the law with the individual's moral beliefs; and (2) procedural fairness.<sup>69</sup>

#### A. *Substantive Norms*

Several norms may influence the consistency of the law with one's moral beliefs, or "substantive consistency" regarding environmental compliance. These norms are substantive in that they are triggered by the outcome of the compliance behavior (e.g., the effect on the environment), rather than by the individual's interactions with a government agency (e.g., the enforcement penalty negotiations with a government attorney). The substantive norms include norms of law compliance, human health protection, environmental protection and autonomy. The norm of law compliance is perhaps the most commonly identified norm associated with regulatory compliance, and many studies conflate this norm with the other substantive norms. For example, sociologists commonly refer simply to "moral commitment" to comply with the law.<sup>70</sup> As the discussion below indicates, however, studies of norms and regulatory compliance suggest that moral commitment to law compliance

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ing in the U.S. since the 1960s"). Also as a result of the scarcity of enforcement resources, both fields have made increasing use of compliance assistance methods to supplement deterrence-based enforcement in the last two decades. See, e.g., Kent W. Smith, *Reciprocity and Fairness: Positive Incentives for Tax Compliance*, in *WHY PEOPLE PAY TAXES*, *supra* note 44, at 223; *EPA and the States*, *supra* note 8, at 10,806-12 (examining the expansion of compliance assistance programs in state and federal environmental enforcement programs). The tax compliance literature has been examined by a number of legal theorists. See, e.g., Kahan, *supra* note 21, at 349; Posner, *supra* note 48; Sunstein, *supra* note 39, at 903.

69. See TOM R. TYLER, *WHY PEOPLE OBEY THE LAW* 4-5, 62, 161 (1990) (concluding that compliance rates are associated with internalized norms of justice and obligation, based on a longitudinal study involving initial interviews of 1575 randomly selected citizens, and 804 follow-up interviews after one year). Tyler's conclusions are consistent with other studies in the criminal and tax compliance literature. See, e.g., Panel on Taxpayer Compliance Research, *Understanding Taxpayer Compliance: Self-Interest, Social Commitment, and Other Influences*, in 1 *TAXPAYER COMPLIANCE* 92 (Jeffrey A. Roth et al. eds., 1989).

70. See, e.g., Grasmick & Green, *supra* note 15, at 325.

alone is unlikely to account for the range of norm influences on environmental compliance.

1. *The norm of law compliance.*

*Hypothesis.* The norm of law compliance may take strong, intermediate and weak forms. The strong form can be expressed as follows: "An individual should comply with laws even when they are inconsistent with moral obligations." The intermediate form can be expressed as follows: "An individual should comply with laws so long as they are not inconsistent with moral obligations." The weak form can be expressed as follows: "An individual should comply with laws that are consistent with moral obligations."

In one sense, all of the other substantive norms can be thought of as independent variables that lead to increases or decreases in the intensity of the norm of law compliance, and the norm of law compliance can be seen as a dependent variable. But the norm of law compliance is a distinct norm that creates a sense of obligation in some situations without regard to the influence of the other substantive or procedural norms. The intermediate and strong forms are perhaps the best case for this phenomenon. Some individuals appear to hold the intermediate form of the norm: they form intentions to comply with laws that do not raise issues of consistency with other norms. For example, one may form an intent to comply simply because the law requires it, without any perceived risk of enforcement or concern about harm to human health or the environment.<sup>71</sup> Simply put, some people will form an intention to act simply because doing so complies with the law. In addition, some individuals appear to hold the strong form of the norm: they form intentions to comply with a law even though the law is inconsistent with their own moral beliefs.<sup>72</sup>

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71. As Tyler has noted, "[p]eople clearly have a strong predisposition toward following the law. If authorities can tap into such feelings, their decisions will be more widely followed." TYLER, *supra* note 69, at 65. The norm of law compliance thus is closely related to the notion of legitimacy. To the extent an individual views an authority as legitimate, studies suggest that an individual is more likely to comply with the law. This proposition holds true for some individuals even though the required action conflicts with their self-interest. *See id.* at 26, 28 (noting that legitimate authority "rests on a conception of obligation to obey any commands an authority issues so long as that authority is acting within appropriate limits" and noting the importance of studying legitimacy by examining "the perceived obligation to obey the law").

72. Tyler notes that 82% of respondents in one study agreed that "a person should obey the law even if it goes against what they think is right." *See id.* at 45. In one study cited by Tyler, 70% of all adults answered that a law "must always be obeyed." *See id.* at 31; *see also*

Empirical tests may not be able to distinguish the weak form of the law compliance norm from the norms of human health and environmental protection discussed below. If an individual believes that harming human health or the environment is wrong, human health or environmental norms may be triggered and it may not be possible to identify a distinct influence arising from the norm of law compliance. On the other hand, empirical testing may reveal that the weak form of the norm of law compliance has synergistic effects with the human health and environmental norms. For example, law or law enforcement may tie an act of noncompliance with law to a human health norm and trigger a stronger sense of obligation than if either norm were activated independently. An enforcement action that identifies how an act damaged a sensitive ecosystem in addition to violating a specific statutory provision may trigger environmental protection and law compliance norms in an individual with even the weak form of the law compliance norm.

Conversely, studies may find that if certain other substantive or procedural norms are triggered, the norms may counteract one another. For example, if an individual perceives a rule to be unnecessarily restrictive or perceives that she has been treated unfairly in an enforcement proceeding, the norms of autonomy or fair process may counteract the effects of the norm of law compliance. One may hold a norm of law compliance, yet not feel obligated to comply or feel guilty in the absence of compliance because of the effect of these other norms.

*Empirical Studies.* The norm of law compliance has been studied directly through survey research. Studies suggest, for example, that many individuals comply with some criminal laws because of a norm of law compliance, even though noncompliance creates little or no risk of enforcement and does not implicate other norms.<sup>73</sup> At least one study suggests that this effect occurs with regard to environmental compliance.<sup>74</sup> Other studies have detected patterns of behavior from which the norm may be inferred. For example, the commitment to obey tax laws appears to follow the commit-

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Austin Sarat, *Support for the Legal System*, 3 AM. POL. Q. 3 (1975). In another study, 93% of respondents gave a similar answer. See Bob K. Boynton, Samuel C. Patterson & Robert C. Hedlund, *The Structure of Public Support for Legislative Institutions*, 12 MIDWEST J. POL. SCI. 163, 166 (1968). Likewise, in a study of high school students, more than 70% gave a similar answer. Harrell Rodgers & Edward Lewis, *Political Support and Compliance Attitudes: A Study Of Adolescents*, 2 AM. POL. Q. 61, 66-67 (1974).

73. See TYLER, *supra* note 69, at 31-32.

74. See Paternoster & Simpson, *supra* note 63, at 549.

ment to obey laws in general.<sup>75</sup> Similarly, studies suggest that focusing an individual's attention on the moral obligation to comply with the law is associated with increases in law compliance.<sup>76</sup>

The norm of law compliance may be enforced internally or externally. Empirical studies suggest that guilt is the principal internal enforcement mechanism that sanctions violations of the norm of law compliance.<sup>77</sup> As discussed above, the empirical literature suggests a number of ways in which guilt can be neutralized, including the lack of an identifiable victim, complexity of the law, the defense of necessity, condemnation of the system, denial of responsibility and appeal to higher loyalties.<sup>78</sup> Although each of these guilt neutralization factors is worthy of further study, complexity and the lack of an identifiable victim are perhaps most important for environmental compliance. The complexity factor is discussed here, and the lack of an identifiable victim is discussed below in connection with the human health and environmental protection norms.

Cooperation model advocates assert that deterrence-based enforcement measures can undermine motivations to comply when directed at regulated entities that were motivated to comply but lacked the capacity to understand their obligations because of the complexity of the regulatory scheme.<sup>79</sup> The argument is plausible on its face. Environmental regulations have been described as "stupefyingly"<sup>80</sup> and "breathtakingly"<sup>81</sup> complex. A leading textbook describes the pathway through the Resource Conservation and Recovery Act, which regulates the hazardous waste handling activities of hundreds of thousands of large and small businesses, as

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75. See Panel on Taxpayer Compliance Research, *supra* note 69, at 120 (citing studies).

76. See Cialdini et al., *supra* note 54, at 1015.

77. See Richard A. Posner & Eric B. Rasmusen, *Creating and Enforcing Norms, with Special Reference to Sanctions*, 19 INT'L REV. L. & ECON. 369 (1999).

78. See *Normative Influences*, *supra* note 49, at 255-57. Thurman has identified "guilt neutralization attitudes" that are related to self-reported tax compliance in addition to social and legal sanctions, and commitment. Panel on Taxpayer Compliance Research, *supra* note 69, at 125 (citing Q.C. Thurman, *Neutralization and Tax Evasion: How Effective Would a Moral Appeal Be in Improving Compliance to Tax Laws?*, 6 LAW & POL'Y 309 (1984)).

79. See Bruce M. Diamond, *Confessions of an Environmental Enforcer*, 26 ENVTL. L. REP. (Envtl. L. Inst.) 10,252, 10,253-54 (1996); Spence, *supra* note 13, at 973.

80. Jerry L. Anderson, *The Environmental Revolution at Twenty-Five*, 26 RUTGERS L.J. 395, 411 (1995).

81. ROBERT PERCIVAL ET AL., *ENVIRONMENTAL REGULATION: LAW, SCIENCE AND POLICY* 2 (3d ed. 2000).

a "mind-numbing journey."<sup>82</sup> On occasion, courts have ruled against EPA in civil enforcement actions because the complexity of the regulatory scheme failed to provide a regulated firm with fair notice of its legal obligations.<sup>83</sup> In addition, several studies have noted that a substantial amount of noncompliance in heavily regulated industries arises from an inability to understand complex regulatory requirements.<sup>84</sup> The same phenomenon appears to exist in tax compliance: the complexity of the tax system appears to generate uncertainty among taxpayers about the actual amounts of tax liability.<sup>85</sup>

In the environmental area, however, the study results are anecdotal, and neither the extent of this complexity-based incapacity nor its role in causing noncompliance has been studied systematically. Several qualitative studies support the conclusion that one may hold a norm of law compliance yet not feel obliged to comply or feel guilty in the absence of compliance. In a well-known study in the early 1980s, Bardach and Kagan concluded that the vast majority of business managers were "arrayed over a spectrum of borderline to moderate to really good apples" and share many of the regulators' concerns about social problems.<sup>86</sup> The authors noted that enforcement actions against well-intentioned business managers can affect compliance by contributing to a "culture of resistance" in the regulated community. They concluded that rather than increasing compliance, aggressive enforcement often contributes to a perception of regulatory unreasonableness, which reduces the managers' commitment to law compliance and undermines

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82. *Id.* at 212 (quoting *American Mining Congress v. EPA*, 824 F.2d 1177, 1189 (D.C. Cir. 1987)).

83. *See, e.g.*, *General Electric Corp. v. EPA*, 53 F.3d 1324, 1328-33 (D.C. Cir. 1995) (concluding that General Electric lacked "fair warning" of EPA's regulatory interpretation); *Massachusetts v. Blackstone Valley Elec. Co.*, 67 F.3d 981, 987 (1st Cir. 1995) (vacating a grant of summary judgment because the term "cyanides" was ambiguous, and did not provide the defendant with fair notice). Complexity concerns are also reflected in the Supreme Court's criminal law jurisprudence. Cases have concluded that mens rea standards for willful conduct require that a defendant know of his duty and voluntarily and intentionally violate that duty. *See, e.g.*, *Ratzlaf v. United States*, 501 U.S. 135 (1994) (structuring transactions to avoid cash reporting requirements); *Cheek v. United States*, 498 U.S. 192 (1991) (tax crimes).

84. *See, e.g.*, Spence, *supra* note 13, at 972-73.

85. Andreoni et al., *supra* note 68, at 834.

86. EUGENE BARDACH & ROBERT A. KAGAN, *GOING BY THE BOOK: THE PROBLEM OF REGULATORY UNREASONABLENESS* 65 (1982). This book presents the leading qualitative study of the impact of regulatory unreasonableness on "cultures of resistance" to environmental laws and other laws, and the impact of these cultures on the legitimacy of the law.



general norms of social responsibility.<sup>87</sup> Quantitative studies of nursing home and mine safety regulatory compliance suggest that a culture of resistance is associated with lower levels of compliance.<sup>88</sup> No quantitative empirical studies, however, have examined the relationship among complexity, the culture of resistance and environmental compliance rates.<sup>89</sup>

The concept of guilt neutralization suggests that the complexity of environmental laws could have an important effect beyond contributing to a culture of resistance. Complexity may create ambiguity regarding law compliance, which in turn may reduce the guilt arising from a violation. The empirical studies suggest that the complexity concern identified by the cooperation model advocates should focus not just on the effects of complexity on creating a culture of resistance, but also on ambiguity and the ambiguity caused by complexity. For example, tax compliance studies have demonstrated that although complexity is not often identified as a problem, the "moral latitude arising from gray areas and ambiguity in the tax laws emerged as a major motivation for noncompliance."<sup>90</sup> As demonstrated by the tax studies, legal ambiguities can lead individuals in the regulated community to create guilt neutralization mechanisms.<sup>91</sup> Even in the absence of enforcement interventions, therefore, the complexity of environmental laws may lead to ambiguity regarding the scope of the requirements, less influence from the norm of law compliance, and less compliance.

*Implications.* If studies confirm the influence of the norm of law compliance on environmental behavior, a number of changes to environmental laws and enforcement policies may be appropriate. For individuals who demonstrate the strong or intermediate forms

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87. *Id.* at 113.

88. Braithwaite and Makkai conducted a quantitative examination of the culture of resistance hypothesis on nursing home compliance and concluded that those who self-reported views identified with a culture of resistance were less likely to comply with nursing home regulations. See John Braithwaite & Toni Makkai, *Criminological Theories and Regulatory Compliance*, 29 *CRIMINOLOGY* 191, 206 (1991); see also AYRES & BRAITHWAITE, *supra* note 13, at 101-32 (discussing mine safety studies).

89. Exacerbating the gap in quantitative studies are alleged shortcomings in the qualitative empirical work. For example, a review of the Bardach and Kagan study suggested that "[e]valuating this book poses serious difficulties, chiefly because the empirical status of the authors' arguments is unclear" and concluded that "Bardach and Kagan make no effort to obtain a representative sample." Richard L. Abel, *Book Review: Risk as an Area of Struggle*, 83 *MICH. L. REV.* 772, 773 (1985) (reviewing EUGENE BARDACH & ROBERT A. KAGAN, *GOING BY THE BOOK: THE PROBLEM OF REGULATORY UNREASONABLENESS* (1982)).

90. Panel on Taxpayer Compliance Research, *supra* note 69, at 129.

91. *Id.*

of the norm of law compliance, enforcement agencies may be able to use focusing mechanisms to increase compliance, including reminders of moral obligations to comply with the law in environmental permit applications, data reports and other similar documents. Reminders about the existence of a moral obligation to comply with the law may enhance compliance,<sup>92</sup> and a statement in a permit application or other document regarding not just the sanction for noncompliance, but the moral obligation to comply with the law may influence individuals who hold the strong form of the norm of law compliance. Thus, the law compliance norm may become more salient and may influence behavior.

Guilt neutralization studies also have potentially important implications. Calls to simplify environmental regulations have been standard fare for many years. EPA has made strides in this area, yet the command and control environmental statutes dictate remarkably prescriptive, hence complex, requirements. To address this complexity, EPA recently has allocated additional resources to compliance assistance and has participated in the federal government's "Plain English" initiatives to make environmental requirements more understandable.<sup>93</sup> The empirical research indicates that compliance assistance and simplification efforts may have greater importance than previously recognized. The research suggests that efforts directed at explaining and simplifying complex or ambiguous requirements may not only increase the capacity of the regulated community to comply and avoid widespread development of a culture of resistance, but also may affect motivations to comply by supporting the norm of law compliance and increasing the strength of the guilt that arises from noncompliance.<sup>94</sup>

The norm of law compliance also has implications arising from external norm effects. The public disclosure of information about environmental law compliance and the human health and environmental effects of noncompliance is far less restricted than is disclosure of tax compliance information. As a result, noncompliance information may be more frequently available for external social sanctioning in the environmental field.<sup>95</sup> For example, EPA identi-

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92. See Cialdini et al., *supra* note 54, at 1015.

93. See, e.g., Executive Order No. 12,866, 58 Fed. Reg. 51,735 (1993) (imposing plain language requirements on federal agencies); U.S. ENVTL. PROT. AGENCY, A PLAIN ENGLISH GUIDE TO THE CLEAN AIR ACT (1993).

94. See U.S. ENVTL. PROT. AGENCY, EPA-305-R-99-01, EPA/CMA ROOT CAUSE ANALYSIS PILOT PROJECT: AN INDUSTRY SURVEY 27 (1999).

95. Information also should be more available in the environmental area than in the

fies "significant noncompliers" under many of its programs, and the Integrated Data for Enforcement Analysis (IDEA) database provides public access to compliance data on more than ten EPA enforcement programs. The Sector Facility Indexing Project provides compliance data on approximately 650 facilities in five industrial sectors.<sup>96</sup> In addition, EPA and environmental groups have made facility-specific and area-specific data available on the Internet.<sup>97</sup>

Nevertheless, additional steps could be taken to enhance the influence of compliance data on norms. For example, although government compliance databases are publicly available, they often are difficult to access and the data are difficult to evaluate. This effectively limits the availability of the information to the subpopulation of environmental or community health activists who are sufficiently committed to invest the necessary time and effort to access, review and understand the data. If those with knowledge of environmental violations are isolated from others within the regulated firm, or if company employees, officers or principals are isolated from those in the community who know and care about environmental compliance, then the opportunity for informal social control may be limited.<sup>98</sup> At least two studies suggest that the widespread publication, as opposed to availability, of environmental information may lead to improved performance.<sup>99</sup> Although

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worker health and safety areas. See Sidney A. Shapiro & Randy Rabinowitz, *Voluntary Regulatory Compliance in Theory and Practice: The Case of OSHA*, 52 ADMIN. L. REV. 97, 144-46 (2000).

96. U.S. ENVTL. PROT. AGENCY, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE, EPA 300-K-99-01, PROTECTING YOUR HEALTH AND THE ENVIRONMENT THROUGH INNOVATIVE APPROACHES TO COMPLIANCE: HIGHLIGHTS FROM THE PAST 5 YEARS 27 (1999).

97. See, e.g., ENVIRONMENTAL DEFENSE, SCORECARD, at <http://www.scorecard.org> (last visited Oct. 27, 2002).

98. Studies of individual environmental behavior suggest that simple barriers (such as inconvenience) may have a strong negative influence on the effect of social norms. See Ann E. Carlson, *Recycling Norms*, 89 CAL. L. REV. 1231, 1281-85 (2001). If the inconvenience of gathering information serves as a barrier, it may have a surprisingly large impact on the effect of external norm sanctioning. See JOHN BRAITHWAITE, RESTORATIVE JUSTICE AND RESPONSIVE REGULATION 63 (2002) (concluding that "conversational regulation" is often more effective than formal enforcement or deterrence actions).

99. See, e.g., Jérôme Foulon et al., *Incentives for Pollution Control: Regulation and(?) or(?) Information* [sic] 31 (World Bank Policy Research Department Working Paper, Oct. 1999) (concluding that "the public disclosure of environmental performance does create additional and strong incentives for pollution control" based on a study of pulp mills in British Columbia) (emphasis in original), available at [http://www.worldbank.org/nipr/work\\_paper/and/or/index.htm](http://www.worldbank.org/nipr/work_paper/and/or/index.htm) (last visited Dec. 11, 2002); Shakeb Afsah et al., *Regulation in the Information Age: Indonesian Public Information Program for Environmental Management* 5-8 (World Bank Policy Research Department Working Paper, March 1997) (describing the effect on environmental performance of public rankings of industrial facilities in Indone-

some types of environmental enforcement actions capitalize on various forms of public disclosure, such as publication of Clean Water Act violations in local newspapers, there are a number of unexplored avenues to pursue.<sup>100</sup> For example, although several scholars have evaluated the potential effects of product labeling requirements,<sup>101</sup> new statutory provisions or settlement agreements could require facilities to post information about compliance and levels of pollutants emitted at the facility boundary. Information identified at the plant entrance or boundary may have an impact on the internal norms of company employees and officers and on external norm enforcement by members of the local community.

To address the influence of the norm of law compliance on those who intend to comply but lack the capacity, enforcement agencies may need to develop new screening mechanisms to identify and target different enforcement interventions toward categories of individuals or regulated firms with strong or weak norms of law compliance. This effort should enable the agencies to better calibrate the use of deterrence-based and other enforcement interventions.

## 2. *The norm of human health protection.*

*Hypothesis.* This norm can be expressed simply: "An individual should not cause harm to human health." In this formulation, the norm is a version of the Golden Rule: "Do unto others as you would have them do unto you."<sup>102</sup> Examples of this norm include the guilt felt by a plant manager who acts in a way that is legal but that nevertheless harms human health, or the additional guilt felt by a plant manager if violating an environmental law also leads to

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sia), available at [http://www.worldbank.org/nipr/work\\_paper/govern/index.htm](http://www.worldbank.org/nipr/work_paper/govern/index.htm) (last visited Dec. 11, 2002).

100. See, e.g., General Pretreatment Regulations for Existing and New Sources of Pollution, 40 C.F.R. § 403.8(f)(2)(vii) (2002) (requiring public water treatment facilities to publicize acts of "significant noncompliance" by reporting such incidents annually in the largest newspaper in the city where the non-compliant facilities are located); see also David A. Skeel, Jr., *Shaming in Corporate Law*, 149 U. PA. L. REV. 1811 (2001).

101. See, e.g., Peter S. Menell, *Structuring a Market-Oriented Federal Eco-Information Policy*, 54 MD. L. REV. 1435, 1468-69 (1995).

102. See Dunlap & Van Liere, *supra* note 50, at 205 (noting the relevance of the Golden Rule to environmental behavior); see also Robinson & Darley, *supra* note 61, at 471-73 (describing the norm against endangering others). The human health and environmental protection norms also closely resemble the norm of "neighborliness" that Ellickson identified among ranchers and farmers in Shasta County, California. See Robert C. Ellickson, *Of Coase and Cattle: Dispute Resolution Among Neighbors in Shasta County*, 38 STAN. L. REV. 623, 672-73 (1986).

harm to human health. In the alternative, if the law requires performance of an act that is inconsistent with the norm, resistance to the law and legal authorities may result.

The conceptual framework suggests that law enforcement interventions may influence behavior by signaling which types of conduct fall within the scope of the norm. As discussed earlier, a prosecution of an environmental violation on a manslaughter count may signal that the act also has violated the norm of human health protection.<sup>103</sup> Alternatively, if one complies with the norm of human health protection, yet violates an environmental law and is the subject of an enforcement action, the inconsistency of the enforcement action with the human health norm may trigger conflicting procedural norms and undermine attachment to the norm of law compliance. In addition, if no law requires a particular act, yet the act is needed to prevent harm to human health, then the norm of human health protection may lead one to act even though the norm of law compliance is not implicated.<sup>104</sup> A potential pattern of behavior that may reflect this phenomenon is the reduction in toxic, but legal, emissions by corporations following the publication of total annual emissions data in the Toxics Release Inventory. The development of minimum worldwide environmental standards by companies that do business in countries with little or no effective environmental regulation also may reflect the influence of the norm.<sup>105</sup>

*Empirical Studies.* The human health and environmental protection norms are treated separately in the typology, although the norm of human health protection easily can be conflated with the norm of environmental protection.<sup>106</sup> The existence of the human health protection norm is supported by several types of studies. Although studies have not been conducted on the influence of the human health norm on firm- or facility-level environmental compliance, the impact of the norm on individual behavior has been

103. See Robinson & Darley, *supra* note 61, at 472 (noting that "an endangerment or manslaughter prosecution of a polluter points out that some instances of polluting can violate the norm against endangering others").

104. As a result, the norm of human health could be expressed instead as a variant of the norm of law compliance as follows: "An individual should exceed legal standards in a regulated area if they are not strong enough as written to protect human health."

105. See *infra* text accompanying notes 265-72.

106. See, e.g., Thomas A. Heberlein, *A Rejoinder to R.E. Dunlap and K.D. Van Liere*, 33 J. Soc. Issues 207, 208 (1977) (noting the importance of the distinction between norms regarding human and environmental well-being and noting that the Schwartz norm activation theory only explicitly refers to the activation of norms related to humans).

examined. For example, a study of the environmental decision-making of managers in the metal-finishing industry concluded that the magnitude of the human health consequences of environmental decisions is strongly correlated with intentions to comply, and that when the magnitude of the consequences was high, financial cost did not affect the intended decision.<sup>107</sup> Other research in the environmental area appears to confirm these findings, suggesting that individuals tend to give greater weight to risks that have identifiable human health effects than to those that do not.<sup>108</sup> Although they do not address human health effects directly, studies of tax compliance suggest that a broad human welfare norm is influential.<sup>109</sup> As one study concluded, for some tax law violations the social norms that might otherwise encourage law-abidance in the absence of fear of detection may not be operative because "each particular offense inflicts no direct or immediate harm on any identifiable person."<sup>110</sup> For example, the failure to report barter income is not widely seen as unacceptable.<sup>111</sup> Yet studies suggest that when taxpayers believe that violations will harm others, they report increased compliance.<sup>112</sup> Studies of other types of compliance also suggest that victimless crimes may generate less guilt than

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107. Brenda L. Flannery & Douglas R. May, *Environmental Ethical Decision Making in the U.S. Metal-Finishing Industry*, 43 ACAD. OF MGMT. J. 642 (2000). The study presented vignettes to managers of metal finishing firms and concluded that the intensity of the consequences influenced managers' behavioral intentions. *Id.* at 657. Managers reported they were more likely to reduce emissions when the magnitude of harmful consequences was high. *Id.* at 654.

108. See, e.g., Paul C. Stern, Thomas Dietz & J. Stanley Black, *Support for Environmental Protection: The Role of Moral Norms*, 8 POPULATION & ENV'T 204, 220 (1995) (concluding that awareness of consequences regarding human health effects of toxics can activate norms against harming innocent people). Another study concluded that information regarding the human health effects of air pollutants emitted by the burning of yard refuse yielded increased self-reported compliance with regulatory restrictions. The researchers found that individuals who were aware of the human health impacts of burning and accepted responsibility for it were less likely to burn yard waste than others. See Van Liere & Dunlap, *supra* note 53, at 187 (describing the relevant norm as "respect for the health of others"). Other studies of the effect of human health on norm activation have been conducted by Heberlein. See, e.g., Thomas A. Heberlein, *The Land Ethic Realized: Some Social Psychological Explanations for Changing Environmental Attitudes*, 28 J. SOC. ISSUES 79 (1972).

109. See Smith, *supra* note 68, at 223.

110. Robert A. Kagan, *On the Visibility of Income Tax Law Violations*, in 2 TAXPAYER COMPLIANCE, *supra* note 55, at 76-77. For a study supporting the notion that "victimless" offenses seem morally insignificant, see Nathan Glazer, *On Subway Graffiti in New York*, 53 PUB. INT. 3 (1979).

111. Panel on Taxpayer Compliance Research, *supra* note 69, at 125.

112. See *Refinement and Reevaluation*, *supra* note 55, at 209; see also Panel on Taxpayer Compliance Research, *supra* note 69, at 91-92, 175.

crimes with identifiable victims.<sup>113</sup>

*Implications.* The human health norm has a number of implications for environmental laws and enforcement strategies. In particular, if enforcing agencies convey information about the human health harms of a violation rather than simply announcing the proposed penalty or amount of pollutants reduced by an enforcement action, the information may trigger internal and external norm effects. As discussed in Part II, the Schwartz norm activation theory suggests that providing information that links an individual's actions to human health consequences and demonstrates that the individual is responsible for those consequences will activate norms. For example, in cases where the data can be collected and analyzed, rather than announcing that a \$10,000 penalty has been imposed and that the enforcement action prevented a ton of a particular air pollutant from being emitted in violation of the Clean Air Act, enforcement officials could publish information describing the type of harm that is likely to have occurred to individuals in the community or to the environment and how that harm could have been avoided. Although difficult to do, communicating that a violation of the Clean Air Act creates these harms may generate guilt on the part of the corporate employees and managers involved. If the information about health effects also appears in press accounts of the violation, external social sanctioning, including public shaming or ostracism, may occur. In short, by collecting, analyzing and reporting data that link particular violations to particular human health harms, enforcement agencies may be able to harness internal and external norm-based sanctions in addition to formal legal sanctions.<sup>114</sup>

EPA recently has attempted to link reports of environmental

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113. For example, the literature on street crime suggests that drug use may not trigger guilt, but larceny may. See TYLER, *supra* note 69, at 4. Studies of nursing home compliance also have detected a human health or welfare norm. See John Braithwaite & Toni Makkai, *Can Resident Centered Inspection of Nursing Homes Work with Very Sick Residents*, 24 HEALTH POL'Y 19, 27 (1997) (noting that some nursing home managers expressed approval for high patient care standards even when they viewed the standards as impractical).

114. In addition, the framing of the information communicated may be very important. Several studies suggest that the "hot" emotional language that appears to affect environmental and human health norms are ineffective within corporations, where a greater premium is placed on a dry, rational vocabulary. See, e.g., Lynne M. Andersson & Thomas S. Bateman, *Individual Environmental Initiative: Championing Natural Environmental Issues in U.S. Business Organizations*, 43 ACAD. OF MGMT. J. 548, 565 (2000) (noting that "hot" emotional appeals were ineffective in a study of environmental champions within corporations); see also ROBERT JACKALL, *MORAL MAZES* 101-33 (1988) (describing the desiccated moral climate within corporations).

performance to human health and environmental harms and to coordinate this effort with state enforcement agencies through a variety of initiatives. Nevertheless, activity counts (e.g., the number of orders issued or cases filed) still dominate the data collection and reporting efforts.<sup>115</sup> The linkage between enforcement and human health and environmental quality is extremely difficult to make, and in most cases EPA has only been able to identify the amount of pollutants reduced by an enforcement action, not the corresponding effect on human health or the environment.<sup>116</sup> In addition, the tort liability implications of linking a specific release to human health or environmental harms may create strong incentives for firms to dispute government assertions of linkages.<sup>117</sup> Nevertheless, a number of federal, state and local programs have demonstrated the ability of EPA and the states to collect, analyze and report data on human health and environmental outcomes.<sup>118</sup>

To date, data collection efforts have been motivated principally by a desire to better manage enforcement resources by more closely matching the allocation of environmental enforcement resources to human health and environmental risks.<sup>119</sup> The alloca-

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115. See, e.g., NAT'L ACAD. OF PUB. ADMIN., *EVALUATING ENVIRONMENTAL PROGRESS: HOW EPA AND THE STATES CAN IMPROVE THE QUALITY OF ENFORCEMENT AND COMPLIANCE INFORMATION* 24 (2001) (noting "incomplete activities-focused data").

116. The current number of monitoring stations is inadequate in many areas; and the link between particular reductions in noncompliance rates or in pollutants emitted and changes in human health and environmental quality is poorly understood in some cases. See, e.g., U.S. GEN. ACCOUNTING OFFICE, *WATER QUALITY: KEY EPA AND STATE DECISIONS LIMITED BY INCONSISTENT AND INCOMPLETE DATA* 8-9 (2000) (noting that states have assessed water quality for only nineteen percent of rivers and streams, and forty percent of lakes, and that only about half of the assessments included site surveys).

117. This concern could be addressed in several ways. Steps could be taken to make the information less valuable in the tort process. For example, the information regarding the human health or environmental harm could be provided on a generic basis (e.g., "violations such as this one typically cause roughly fifty additional cases of asthma per year"), or evidentiary rules could be modified to prevent its admissibility. Alternatively, policymakers could conclude that the information is sufficiently reliable to argue for including it in the tort process to add to compliance incentives.

118. See, e.g., NAT'L ACAD. OF PUB. ADMIN., *supra* note 115, at 18 (discussing an effort to tie enforcement to environmental conditions on the Charles River in Massachusetts).

119. The General Accounting Office (GAO), the National Academy of Public Administration and others have concluded that changes in human health effects and environmental conditions are the most significant criteria for evaluating the success of environmental enforcement programs. These organizations have focused on the management benefits of targeting enforcement resources to the environmental areas of greatest significance to human health and the environment. See, e.g., NAT'L ACAD. OF PUB. ADMIN., *supra* note 115, at 21 (concluding that "data from EPA and state systems are hard to use in assessing changes of environmental conditions at specific locations and in evaluating the environmental and compliance performance of individual facilities, groups of facilities, or



tion of enforcement resources to those environmental violations that cause the greatest harm to human health or the environment is obviously an important objective, but the added benefit of increasing compliance through the use of the information on the harms caused by noncompliance has received little attention. EPA's effort to collect data on the environmental and human health effects of noncompliance may not only assist with attempts to target enforcement to the greatest risks, but also may trigger human health and environmental protection norms, foster internal and external social sanctioning, and increase compliance. In recent years, EPA has increased its ability to identify the amounts of pollutants emitted, a step that represents progress over traditional activity counts. The insights of the empirical norms literature suggest that, in many cases, it may be wise to invest the resources necessary to take the next step: to identify not only amounts of pollutants emitted, but also to identify and explain the connection between environmental noncompliance and human health and environmental harms.<sup>120</sup> This will be a difficult and expensive task in some situations, but the added benefits of increased compliance arising from efforts to collect, analyze and disclose the human health and environmental consequences of violations may far outweigh the costs of the efforts.

The movement to link corporate environmental behavior to human health harms may confront a paperwork paradox. Empiri-

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responsible government agencies"); NAT'L ACAD. OF PUB. ADMIN., ENVIRONMENT.GOV: TRANSFORMING ENVIRONMENTAL PROTECTION FOR THE 21ST CENTURY (2000); *see also* U.S. GEN. ACCOUNTING OFFICE, MAJOR MANAGEMENT CHALLENGES AND PROGRAM RISKS: ENVIRONMENTAL PROTECTION AGENCY 135-63 (2001) (noting that eighty-one percent of EPA's enforcement performance measures are activity-based, rather than performance-based).

120. If the effort to link environmental violations to human health harms is to influence corporate environmental compliance, it will need to be framed in a way that accounts for both the ways in which individuals react to information about human health harms, and the influences of the firm's organizational climate on internal and external norms. For example, emotionally charged environmental messages have been found to activate the human health norm among individuals in the general public. *See* GARDNER & STERN, *supra* note 64, at 240-42 (explaining that study results suggest that vivid imagery designed to induce fear can make problems more available to individuals). At the same time, if the imagery is too strong it may backfire, leading the recipients to underestimate the probability of the event. *Id.* at 242. Organizational effects also may be important. For example, the vocabulary of an organization and the opportunities for social interactions may play a large role in the influence of the human health norm. Studies suggest that in many settings people desire to put forward their "socially responsible self." AYRES & BRAITHWAITE, *supra* note 13, at 33. Yet the form of discourse may take a very different shape in a firm than it might in the general public. *See* JACKALL, *supra* note 114, at 13-14; *see also* Andersson & Bateman, *supra* note 114, at 565.

cal literature suggests that to the extent the regulated community perceives enforcement to be based on insignificant violations, compliance rates may be negatively affected.<sup>121</sup> At the same time, to increase public disclosure of information about the effects of non-compliance on human health and the environment, EPA may need to increase the paperwork requirements for the regulated community. A principal feature of many environmental statutes is self-disclosure of regulated emissions.<sup>122</sup> Public disclosure of toxic release data through programs such as the Toxics Release Inventory, a publicly available compilation of toxic chemical emissions by large firms, has been hailed as among the most successful environmental policy innovations of the past two decades.<sup>123</sup> A result of this emphasis on compiling and disclosing emissions, however, is that much of environmental compliance involves paperwork, and much of the associated enforcement activity involves paperwork violations.<sup>124</sup> Although the data generated by paperwork requests may increase the disclosures needed to facilitate internal or external social control, paperwork violations are difficult to link to human health or environmental harms, and therefore may generate little guilt or external social sanctions. An enforcement program based largely on paperwork violations also may contribute to a culture of resistance. In short, a reporting requirement that is designed to increase compliance through increased disclosure of environmental emissions or violations may decrease compliance by undermining the norm of law compliance.<sup>125</sup>

A number of steps may be taken to address this paperwork para-

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121. See *supra* text accompanying note 86.

122. See, e.g., Clean Water Act, 33 U.S.C. § 1314 (2002) (discharge monitoring reports); Emergency Planning and Community Right-to-Know Act, 42 U.S.C. § 11023 (2002) (Toxics Release Inventory reports); Resource Conservation and Recovery Act, 42 U.S.C. § 6922 (2002) (hazardous waste manifests); Clean Air Act, 42 U.S.C. § 7651(k) (2002) (continuous emission monitoring reports). Interestingly, approximately 96% of all determinations of air emissions by large and small facilities do not involve site-specific direct measurements. Instead, they involve the use of activity levels and emissions factors to estimate emissions. OFFICE OF THE INSPECTOR GENERAL, U.S. ENVTL. PROT. AGENCY, *supra* note 26, at 14.

123. See, e.g., Bradley R. Karkkainen, *Information as Environmental Regulation: TRI and Performance Benchmarking, Precursor to a New Paradigm?*, 89 GEO. L.J. 257, 316-23 (2001). The toxic release reporting requirements were included in the Emergency Planning and Community Right-to-Know Act, 42 U.S.C. §§ 11001-11050 (2002). The Toxics Release Inventory data may be viewed on the Internet. See U.S. ENVTL. PROT. AGENCY, TOXICS RELEASE INVENTORY, at <http://www.epa.gov/triexplorer/chemical.htm> (last modified July 29, 2002).

124. See Alexander S.P. Pfaff et al., *Big Field, Small Potatoes: An Empirical Assessment of EPA's Self-Audit Policy* (CSR Working Paper, 2001) (on file with author).

125. This also could be framed as a reduction in the legitimacy of the law. See generally

dox. Announcements of environmental enforcement actions that focus on the environmental impacts associated with paperwork violations, and not simply the paperwork violations themselves, may prove beneficial.<sup>126</sup> The literature suggests that investing resources to determine whether a paperwork violation concealed an underlying emissions violation and publicizing that fact may have greater positive effects on compliance rates than a simple deterrence model would suggest.<sup>127</sup> Enforcers can seek to distinguish knowing attempts to withhold information or provide false information from inadvertent or trivial errors. In addition, environmental paperwork forms could be modified to communicate the link between compliance and existing internal norms by demonstrating the relationship between human health and environmental harms and environmental paperwork compliance.

### 3. *The norm of environmental protection.*

*Hypothesis.* This norm can be expressed as follows: "An individual should not harm the environment." The norm may affect plant managers by causing them to feel guilty when an act that is legal nevertheless leads to environmental harm. An individual may feel additional guilt when a violation of an environmental law also leads to environmental harm. Alternatively, if the manager complies with the norm of environmental protection (e.g., by avoiding a legal discharge of a waste chemical to a stream), yet violates an environmental law (e.g., by storing the waste chemical in violation of another statute) and is the subject of an enforcement action, the environmental protection norm may undermine the manager's desire to comply with the law.

The environmental protection norm is distinct from the human health norm. Many violations of environmental laws do not have immediate or calculable human health effects but do have environmental effects.<sup>128</sup> Of course, some environmental violations, such

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Timur Kuran & Cass R. Sunstein, *Availability Cascades and Risk Regulation*, 51 STAN. L. REV. 683 (1999).

126. EPA officials believe that administrative and paperwork violations often conceal emissions-related violations. See U.S. GEN. ACCOUNTING OFFICE, AIR EMISSIONS REPORTING 8 (2001).

127. See Robinson & Darley, *supra* note 61, at 479-80 (discussing the legitimacy effects of criminal prosecution of paperwork violations).

128. Ultimately, many environmental harms also will affect human health and welfare. For the purposes of this analysis of activation of the norm of environmental protection, however, those effects are so attenuated that the harms can be safely treated simply as environmental effects.

as releasing toxic chemicals into a water supply system, may lead to obvious human health effects. In other situations, such as wetlands destruction, the near-term harm may be inflicted only on the environment, and not on human health. In yet other cases, the harm to both human health and the environment may be substantial and immediate, but causation may be difficult to determine.<sup>129</sup>

*Empirical Studies.* Although it is unclear whether information about environmental harms is as likely to provoke internal or external social sanctioning as information about harms to human health,<sup>130</sup> the environmental protection norm appears to influence environmental behavior, at least at the individual level.<sup>131</sup> The study of managers in the metal-finishing industry discussed above concluded that the harmful consequences of emissions to non-human victims (e.g., wildlife) influence managers' environmental decision-making.<sup>132</sup> Similarly, a survey of residential consumers concerning energy conservation demonstrated that a belief that reducing electricity use has environmentally beneficial consequences is one of the factors associated with reduced use at peak hours.<sup>133</sup> At the same time, information about environmental consequences does not have an effect on all types of energy conservation behavior. A later study suggested that although awareness of the social and environmental consequences of energy conservation increases personal curtailment of energy use, it does not influence investments in energy efficient equipment.<sup>134</sup> Overall, however, these

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129. In fact, many actions may be subject to government regulation rather than common law torts in large part because of the difficulty of associating a particular act with a particular victim's injuries. See generally John Goldberg & Benjamin Zipursky, *Unrealized Torts*, 88 VA. L. REV. (forthcoming Dec. 2002) (on file with author).

130. See P. Wesley Schultz & Lynnette Zelezny, *Values as Predictors of Environmental Attitudes: Evidence for Consistency Across 14 Countries*, 19 J. ENVTL. PSYCHOL. 255, 257 (1999) (reviewing studies and concluding that there is "only limited support" for a set of environmental attitudes that are distinct from attitudes about human health or welfare); see also Denis Collins, *Organizational Harm, Legal Condemnation and Stakeholder Retaliation: A Typology, Research Agenda, and Application*, 8 J. BUS. ETHICS 1, 6 (1989) (suggesting that harmful consequences to human victims will be more influential than other harmful consequences). See generally James Weber, *Influences upon Managerial Moral Decision Making: Nature of the Harm and Magnitude of the Consequences*, 49 HUM. REL. 1, 12-13 (1996) (concluding physical harm triggers higher levels of moral reasoning than economic or psychological harm).

131. See Flannery & May, *supra* note 107, at 653-54.

132. See *id.* at 657.

133. See John Stanley Black, *Attitudinal, Normative and Economic Factors in Early Response to an Energy-Use Field Experiment* (1978) (unpublished Ph.D. dissertation, University of Wisconsin) (on file with University of Wisconsin Library).

134. See J. Stanley Black et al., *Personal and Contextual Influences on Household Energy*

studies support the proposition that awareness of environmental harms, as opposed to human health harms, can activate a norm and influence behavior.

*Implications.* A potential implication, as discussed in connection with the human health norm, is simply that additional information should be made available regarding the connection between environmental enforcement and environmental harms. No empirical studies suggest that linking enforcement to environmental harms will produce anything but greater informal social control.

Environmental enforcement interventions also might be able to tie the environmental protection norm to individuals' desire to appear socially responsible in group settings. Studies suggest that one or more individuals in an organization often will adopt a socially responsible position. When that position is expressed in group settings, others will be unwilling to take an adverse position. As one review of the compliance literature suggests, often at least one individual in a firm will desire to put forward such a posture, and "[w]hen even only one player with causative responsibility or with a powerful preventative capability turns, empirical experience shows that many other actors who had hitherto been ruthlessly exploitative suddenly find a public-regarding self that becomes surprisingly engaged with a constructive process of righting the wrong."<sup>135</sup> The difficulty may involve identifying the individual willing to put forward that posture initially, and taking an enforcement action that leads that person to act in a way that induces others to act accordingly. Internal investigations of corporate conduct by an outside law firm at the direction of the board of directors may play this role.<sup>136</sup> Although the investigation process typically takes place after a significant violation has occurred, it also may have an effect

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*Adaptations*, 70 J. APPLIED PSYCHOL. 3, 17-18 (1985). The findings of Black and others were based on a survey of 883 residential electric customers, the results of which were analyzed using a model that postulated different concrete norms for energy efficiency and use curtailment. *Id.* The model distinguished between "personal norms" (e.g., a "sense of personal obligation and pride with respect to insulating the home and getting the same comfort for less energy," and a "sense of obligation to 'cut back' or to use less heat in winter") and "social norms" (e.g., a "belief that neighbors take pride in insulating their homes or feel guilty about using energy inefficiently" or "a belief that neighbors disapprove of overuse of home heating or cooling."). *Id.* at 9. The study also supports the proposition that norms have a greater influence on behaviors that are not economically constrained (e.g., reducing the temperature setting on a thermostat), than on those that are (e.g., investing in a new furnace).

135. BRAITHWAITE, *supra* note 98, at 113.

136. See BRAITHWAITE, *supra* note 98, at 110; BRENT FISSE & JOHN BRAITHWAITE, THE IMPACT OF PUBLICITY ON CORPORATE OFFENDERS (1983).

on norms that influence prospective compliance. The investigation and the reports generated may force individuals to confront information in settings in which the socially responsible decision is unambiguous and must be made with the knowledge of others in the group.

Another potential implication is that inspectors should conduct conferences with a group of decision-makers at the conclusion of an inspection.<sup>137</sup> For example, inspectors can be trained to take a "reintegrative shaming" approach to noncompliers.<sup>138</sup> Rather than simply stigmatizing noncompliers (as suggested by a pure deterrence model focus) or overlooking violations to generate goodwill (as suggested by a pure cooperation model focus), studies suggest that the most effective inspectors use a combination of shame and trust. These inspectors shame by openly disapproving of poor performance, but remain respectful in their criticism and even praise evidence of improvement. The result is that the approach shames but does not stigmatize or ostracize the noncomplier. In one study, inspectors that followed this approach were found to generate higher rates of compliance than those who simply stigmatized or excused violations.<sup>139</sup> This reintegrative shaming could be conducted among relevant managers or owners within the regulated firm, or through "community accountability conferences" that include community members outside of the firm. If such conferences include both recognition of positive steps taken by the regulated firm and unequivocal, but not stigmatizing, indication of the violations and the need to come into compliance, long-term compli-

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137. Studies of these issues may not only lead to more successful enforcement strategies, but also may explore whether the Schwartz norm activation theory applies only to norms based on human welfare, or whether it also applies to norms that in some cases are only indirectly linked to human welfare, such as the norm of environmental protection. See Riley E. Dunlap & Kent D. Van Liere, *Response to Heberlein's Rejoinder*, 33 J. SOC. ISSUES 211, 212 (1977) (suggesting "constructing two AC scales—awareness of interpersonal consequences and awareness of environmental consequences—and examining their relative impact over time").

138. See Toni Makkai & John Braithwaite, *Reintegrative Shaming and Compliance with Regulatory Standards*, 32 CRIMINOLOGY 361, 379-80 (1994). Makkai & Braithwaite note that "[t]he effective inspectors are those who believe in strong expressions of disapproval combined with strong commitments to burying the hatchet once things are fixed, to tempering disapproval for poor performance on one standard with approval for good performance on other standards, to avoiding humiliation by communicating disapproval of poor performance within a framework of respect for the performer." *Id.* at 379. They suggest that effective nursing home inspectors "catalyze dialogue among highly interdependent people—proprietors and managers, managers and staff, staff and residents' committee representatives." *Id.* at 380.

139. *Id.* at 379.

ance rates may increase.<sup>140</sup> Whether such an approach will work for environmental compliance remains to be seen.

Finally, environmental management systems that require periodic auditing and dissemination of auditing reports, even if only within a firm, may serve the same function. These systems may trigger internal norms among those who have little to benefit from noncompliance by making them aware of noncompliance. The periodic internal reporting also may enable these individuals to exert social influence during individual and group interactions with others in the firm. At least one recent study suggests that these programs may lead to increased environmental compliance.<sup>141</sup> Of course, systems that require public disclosure of emissions or compliance status also may harness external community norms.

#### 4. *The norm of autonomy.*

*Hypothesis.* This norm can be expressed simply as follows: "An individual should be left alone unless events suggest that the individual has done or will do something morally blameworthy."<sup>142</sup> Examples of the norm in the environmental compliance area include the common expectation in the business world that in the absence of blameworthy activity an individual or firm should be free from government intervention. Violation of the norm of autonomy may diminish one's attachment to the norm of law compliance. The autonomy norm also interacts with the norms of procedural fairness, good faith and reciprocity described below, but it is distinct from them. For example, the autonomy norm is different from the norm of good faith in that the good faith of a company could be presumed in an inspection, yet the inspection could be so invasive that it triggers the autonomy norm.

*Empirical Studies.* The existence of this norm is supported by sev-

140. *Id.*

141. See Robert A. Kagan et al., *Explaining Corporate Environmental Performance: How Does Regulation Matter?* (U.C. Berkeley Public Law and Legal Theory Research Paper Series No. 78) (working paper on file with author). Pressure by large, sophisticated suppliers or customers also may influence behavior. See Neil Gunningham, *Environment, Self-Regulation, and the Chemical Industry: Assessing Responsible Care*, 17 LAW & POL'Y 57, 84-86 (1995). Gunningham also has asserted that large chemical manufacturers can influence the behavior of small, less sophisticated manufacturers. See also BRAITHWAITE, *supra* note 98, at 115.

142. The norm has been characterized in many ways and has been discussed in a wide range of contexts, but this article only addresses it as it relates to corporate environmental compliance. See, e.g., Marco Verweij, *Why is the River Rhine Cleaner than the Great Lakes (Despite Looser Regulation)?*, 34 LAW & SOC'Y REV. 1007, 1029-30 (2000) (discussing studies of American values relating to individual freedom or autonomy).

eral studies of environmental and other behavior. In a review of pollution control efforts in the United States, Davies and Mazurek concluded that non-intrusiveness has had a significant and often overlooked influence on the development and implementation of environmental requirements.<sup>143</sup> Similarly, a review of changing attitudes toward the environment in the 1970s noted that declines in support for environmental protection efforts from the early to mid-1970s were associated with a new awareness of the adverse consequences of environmental protection for personal freedom or autonomy. The study concluded that increases in public recognition that polluting activities may enhance personal freedom were associated with decreases in negative views of the human consequences of pollution.<sup>144</sup>

The autonomy norm also can be inferred from a wide range of studies that have noted negative reactions to invasive regulatory inspections outside of the environmental arena.<sup>145</sup> For example, the tax literature has identified patterns of behavior that are consistent with the norm. A study of European enforcement programs concluded that more intrusive programs generated higher compliance rates than less intrusive programs, but they also generated more ill will. Yet the optimal balance between intrusiveness and reduced deterrent effect may be difficult to assess. The same study concluded that systems with weak coercive mechanisms generated a sense of arbitrariness and insecurity, and of discrepancy between law and reality.<sup>146</sup> The principal risk posed by more cooperative, less sanctioning approaches to environmental enforcement is that this sense of arbitrariness will become widespread and will negatively affect compliance rates.

Studies also have evaluated whether focusing individuals on their personal commitments to the autonomy norm affects compliance behavior. For example, studies suggest that when television programs focus individuals' attention on the existence of the autonomy norm, the individuals demonstrated enhanced commitment to the concept.<sup>147</sup> The studies also demonstrated that

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143. J. CLARENCE DAVIES & JAN MAZUREK, *POLLUTION CONTROL IN THE UNITED STATES: EVALUATING THE SYSTEM* 169 (1998).

144. See Heberlein, *supra* note 106, at 210.

145. See, e.g., AYRES & BRAITHWAITE, *supra* note 13, at 25.

146. Panel on Taxpayer Compliance Research, *supra* note 69, at 130.

147. See generally SANDRA J. BALL-ROKEACH ET AL., *THE GREAT AMERICAN VALUES TEST: INFLUENCING BEHAVIOR AND BELIEF THROUGH TELEVISION* (1984); MILTON ROKEACH, *THE NATURE OF HUMAN VALUES* (1973); Milton Rokeach, *Long-range Experimental Modification of*



individuals have a greater willingness to donate money to groups that advocate for the concept.<sup>148</sup> Individuals also may view others' intentions to control their behavior as attempts to limit freedom of action, and they may react by resisting the controls. Inducements that are perceived as controlling the action of the individual thus may lead to "reactance" against the threat, reducing internalization of norms that promote compliance and reducing compliance rates.<sup>149</sup> One study suggests that deterrent threats can be viewed as the sum of a reactance effect and a deterrent effect.<sup>150</sup> According to this approach, the greater the perceived importance of autonomy, the less likely the individual will respond to threats of formal legal sanctions by increasing compliance. Instead, when the freedom to conduct an activity is very important, individuals may react to increased threats to restrict that freedom by simply increasing their commitment to the illegal activity.<sup>151</sup>

*Implications.* The standard response to concerns about autonomy and intrusiveness is to recommend that Congress and EPA craft legal requirements and enforcement policies in ways that minimize the intrusiveness of monitoring and sanctioning programs. The identification of the autonomy norm suggests a number of approaches along these lines. For example, if market-based environmental prescriptions lead to increased perceptions of autonomy, they also may lead to higher compliance levels than other comparable regulations.<sup>152</sup> The norm also suggests that government agen-

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*Values, Attitudes and Behavior*, 26 *AM. PSYCHOLOGIST* 453 (1971); Milton Rokeach, *Long-term Value Change Initiated By Computer Feedback*, 32 *J. PERSONALITY & SOC. PSYCHOL.* 467 (1975). For an overview of this literature, see *Social Motivations to Comply*, *supra* note 55.

148. See *Social Motivations to Comply*, *supra* note 55, at 208.

149. See Ann K. Boggiano et al., *Use of the Maximal Operant Principle to Motivate Children's Intrinsic Interest*, 53 *J. PERSONALITY & SOC. PSYCHOL.* 866, 866-67 (1987).

150. See SHARON S. BREHM & JACK W. BREHM, *PSYCHOLOGICAL REACTANCE: A THEORY OF FREEDOM AND CONTROL* 38-54 (1981).

151. John Braithwaite suggests that the appropriate response is to identify those who do not place great importance on the particular freedom being regulated, and to include them in restorative justice efforts to change the behavior of the noncomplier. See BRAITHWAITE, *supra* note 98, at 107.

152. One interesting test of the norm of autonomy and the psychological phenomenon of reactance that could be conducted in the environmental compliance area would be to examine variations in compliance rates with regulations that vary in the degree of autonomy provided to the regulated party. For example, the 1990 Clean Air Act Amendments include a novel emissions trading program for acid rain precursors. See 42 U.S.C. §§ 7651-7651(o) (2002). In theory, the program provides regulated firms with far more freedom to select compliance methods than do many other Clean Air Act programs. Firms are required to hold emissions allowances for all relevant emissions, but they can (with some limits) control many variables in the compliance calculus, including the number of emis-

cies may want to characterize efforts to achieve environmental and human health gains without government restrictions on emissions (such as the Toxic Release Inventory disclosure requirements) as attempts to achieve environmental protection with a minimum impact on autonomy.

In addition to defending against the negative effects of the autonomy norm, regulators also may be able to use the norm offensively. One example is an effort by the State of Texas to harness the norm in support of a campaign against litter.<sup>153</sup> By turning "Don't Mess with Texas" into an anti-littering slogan, the state has emphasized the aspect of litter prevention that involves individual control over the quality of the environment, rather than government control over the individual.<sup>154</sup> It is unclear whether similar tactics will influence corporate environmental compliance, but the empirical research discussed above suggests that the notion should not easily be dismissed.

## B. *Procedural Norms*

Studies also have identified the influence of procedural justice or fairness norms on compliance. These norms are procedural in the sense that they are associated with the character of the interactions between the enforcing agency and the regulated individual or

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sions allowances purchased and the means of achieving emissions equal to those allowances. The means of achieving emissions totals may include end-of-pipe controls, switching to cleaner-burning fuels and reducing plant operations. Historically, EPA annual inspections have found violations in 61% of fossil fuel electric plants under the major environmental statutes. See U.S. ENVTL. PROT. AGENCY, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE, EPA/310-R-97-007, PROFILE OF THE FOSSIL FUEL ELECTRIC POWER GENERATION INDUSTRY 125 (1997), available at <http://www.epa.gov/compliance/resources/publications/assistance/sectors/notebooks/fossil.html> (last visited Nov. 26, 2002). In contrast, data from continuous emissions monitoring systems (CEMS) indicate that compliance with the acid rain emissions program is greater than 99.9%. See U.S. ENVTL. PROT. AGENCY, EPA/430-R-00-007, ACID RAIN PROGRAM: 1999 COMPLIANCE REPORT 2 (2000), available at <http://www.epa.gov/airmarkets/arp> (last visited Nov. 26, 2002). Although these results are intriguing, without further data it will not be possible to determine whether this is a norm effect. The effect could be the result of other aspects of the relevant statutory schemes. The effect also could be the result of the use of CEMS in the acid rain emissions program, which raises the visibility of emissions and the likelihood of detection. A comparison with compliance rates of other CEMS-measured air emissions would be an important first study.

153. See Texas Department of Transportation, *Don't Mess With Texas*, at <http://www.dontmesswithtexas.org/aboutus.php> (last visited Nov. 26, 2002).

154. A series of "Litter Attitudes and Behavior" surveys were conducted as a part of the "Don't Mess with Texas" campaign. The studies identified factors that induce individuals to litter and factors that are most persuasive in discouraging littering. See *id.*

firm, rather than the underlying compliance obligations or outcomes.<sup>155</sup> Studies suggest that the perceived fairness of interactions with enforcement agencies affects views about the legitimacy of the agencies and compliance rates.<sup>156</sup> In addition, widespread consistency appears to exist in individuals' norms related to procedural fairness.<sup>157</sup> The procedural norms discussed below are the norms of fair process, good faith and reciprocity. As with the substantive norms, it is important to resist the tendency to conflate these three procedural norms with a generalized norm of fair process. The three norms appear to exert related, but distinct, influences on intentions to comply. They also lead to different prescriptions for environmental law and enforcement policies.

1. *The norm of fair process.*

*Hypothesis.* This norm can be expressed as follows: "An individual should not be treated arbitrarily or be denied an opportunity to defend her behavior." Examples of the effect of this norm include the negative reaction of a plant manager if there are no appeal rights from a government order or if an order requires remediation of other firms' wastes. Alternatively, a positive effect may occur if the agency provides an appeal process. This norm interacts with the norm of law compliance in that violation of the norm of fair process may decrease the strength of one's adherence to the norm of law compliance and the intensity of the guilt felt if the law compliance norm is violated. In addition, acts that deny fair process also may be perceived as assaults on autonomy. The norm of fair process relates to the procedures that govern the interactions between the agencies and the regulated party rather than the implementation of those procedures, which is the subject of the good faith and reciprocity norms.<sup>158</sup>

*Empirical Studies.* A number of studies have demonstrated that many individuals act as though they hold a generalized norm of

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155. TYLER, *supra* note 69, at 6-7. Tyler identifies aspects of "procedural justice" as including "neutrality, lack of bias, honesty, efforts to be fair, politeness, and respect for citizens' rights." He concludes that "[a]ll of these potential features of a procedure are conceptually distinct from its outcome and therefore represent values that may be used to define procedural fairness in terms not related to outcome." *Id.* at 7.

156. *See infra* notes 158-67.

157. TYLER, *supra* note 69, at 7.

158. The norm of fair process concerns issues such as the avenues for disputing an initial agency enforcement decision, the perceived fairness of the formal legal sanction, and the ability to seek resolution of contested issues from a disinterested party.

fairness.<sup>159</sup> In his survey research, Tom Tyler has noted the association between perceptions of fair procedures and increased criminal law compliance.<sup>160</sup> He also has demonstrated that people who perceive that they are treated fairly feel respected and more readily adhere to other group norms.<sup>161</sup> Other studies suggest that fair process is important not only to individual compliance, but also to corporate compliance.<sup>162</sup>

As discussed above, qualitative studies of corporate managers have suggested that environmental enforcement actions taken against those who were motivated to comply but failed to do so because of the complexity of the regulatory regime may trigger a norm of fair process. No quantitative studies have evaluated whether environmental enforcement actions in these situations are associated with changes in the perceptions of fairness or intentions to comply of corporate managers, or whether these factors are associated with changes in facility-level or firm-level compliance rates. Quantitative studies have been conducted in the tax compliance area, however, and they have suggested that perceptions of a government agency's procedural fairness are associated with higher compliance.<sup>163</sup> For example, an analysis of the 1987 Taxpayer Opinion Survey concluded that procedural fairness was one of two factors associated with increased commitment to compliance by individual taxpayers.<sup>164</sup> Conversely, the study concluded that "[a]uthorities' unresponsive, disrespectful, and unfair treatment of taxpayers fosters disrespect for and rebellion against tax authorities and tax laws."<sup>165</sup> Studies of college students also suggest that the perceived fairness of enforcement methods may affect compliance levels.<sup>166</sup>

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159. See, e.g., Korobkin & Ulen, *supra* note 4, at 1135-36 (discussing empirical results of the "ultimatum game" and related games and concluding that "the evidence suggests that, for many people, self-interest maximization can be somewhat tempered by the affirmative desire to treat others fairly").

160. TYLER, *supra* note 69, at 178. For example, increased compliance occurs when an individual perceives procedural fairness of an enforcing agency or court proceeding. *Id.* at 161-62.

161. See generally E. ALLAN LIND & TOM R. TYLER, *THE SOCIAL PSYCHOLOGY OF PROCEDURAL JUSTICE* (1988); TOM R. TYLER & STEVEN L. BLADER, *COOPERATION IN GROUPS: PROCEDURAL JUSTICE, SOCIAL IDENTITY AND BEHAVIORAL ENGAGEMENT* (2000).

162. See YEAGER, *supra* note 26, at 251-302.

163. *Id.*

164. See Smith, *supra* note 68, at 227-29, 246 (concluding that responsive service and a fair process increased taxpayers' commitment to compliance).

165. *Id.* at 227.

166. Panel on Taxpayer Compliance Research, *supra* note 69, at 120-21.

Although deterrence strategies and strategies designed to strengthen norm-based compliance are “often symbiotic and complementary,”<sup>167</sup> the procedural fairness findings suggest that deterrence-based enforcement can adversely affect perceptions of fair process and adherence to the norm of law compliance. For example, one tax study used survey data to analyze whether deterrence-based enforcement affected willingness to comply voluntarily.<sup>168</sup> The study noted that confidentiality restrictions prevent the Internal Revenue Service (IRS) from publicizing many enforcement cases but that taxpayers hear about the unfairness of enforcement from other taxpayers. In addition, taxpayers communicated with one another more about the fairness of the enforcement contacts than about the amount of additional taxes paid.<sup>169</sup> Specific deterrence appeared to have occurred, but general deterrence may have been undermined by perceptions of unfair procedures. The findings emphasize the importance not only of having fair procedures, but also of how information about fair procedures is communicated.

*Implications.* If empirical testing confirms that the findings concerning the fair process norm are applicable to corporate environmental compliance decision-making, several important implications may follow. At the outset, the existence of fair procedures appears to be an important factor in compliance, and one not addressed by the standard deterrence model. A less obvious implication is that publicizing the existence of fair enforcement procedures also may have a substantial impact on compliance rates. Patterns of informal communication may explain some firms’ views toward environmental enforcement. For example, “war stories” exchanged at firm, trade association, professional or other meetings are a primary means of learning about environmental enforcement. In some situations, the limited ability to learn about the details of public enforcement actions that are based on complex fact patterns or that occur in distant locations may make bellwether cases particularly important. These cases may substitute for more comprehensive and representative information on enforcement.<sup>170</sup>

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167. Smith, *supra* note 68, at 247. For a critical review of the Smith study, see Richard Lempert, *Commentary*, in *WHY PEOPLE PAY TAXES*, *supra* note 44, at 251.

168. Karyl A. Kinsey, *Deterrence and Alienation Effects of IRS Enforcement: An Analysis of Survey Data*, in *WHY PEOPLE PAY TAXES*, *supra* note 44, at 259, 262.

169. *Id.* at 281-82.

170. For a perspective from a Department of Justice attorney on the validity of environmental criminal enforcement case selection, see Avi Samuel Garbow, *The Federal Envi-*

The findings suggest that agencies need to better understand how information is communicated within the regulated community and how to exercise enforcement discretion to avoid misleading stories about bellwether cases.

2. *The norm of good faith.*

*Hypothesis.* The norm of good faith can be expressed as follows: "An individual should be presumed to act in good faith until events prove otherwise." An example of the effect of this norm is the negative reaction of a plant manager if a government inspector's attitude during an inspection conveys a presumption that the manager or firm is a bad actor. As with the other procedural norms, even when a law is consistent with a human health or environmental norm, the violation of the norm of good faith may produce a countervailing resistance to the law or neutralize guilt about noncompliance with it.

The good faith norm is closely related to but distinct from the norm of fair process. The good faith norm relates more to the character of the interactions between the enforcing agency and the regulated firm than to the types of procedures that are in place. The good faith norm also is distinct from the norm of reciprocity. The good faith norm influences behavior on first (and, in some cases, only) interactions, whereas the reciprocity norm is of particular importance in situations that involve iterative relationships.

*Empirical Studies.* In the environmental compliance area, the Bardach and Kagan study included interviews with corporate managers who ascribed reductions in their motivations to comply with the law to regulators' presumptions regarding the managers' bad faith.<sup>171</sup> Similar findings have been made regarding nursing home managers. For example, one review of enforcement survey responses noted nursing home managers' negative reactions to inspectors who "always assume the worst."<sup>172</sup> The authors concluded

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*ronmental Crimes Program: The Lorax and Economics* 101, 20 VA. ENVTL. L.J. 47, 49 (2001). EPA's critics have used perceptions of unfair treatment in a wide range of settings. Several members of Congress have described EPA as "the Gestapo of government." David W. Case, *The EPA's Environmental Stewardship Initiative: Attempting to Revitalize a Floundering Regulatory Reform Agenda*, 50 EMORY L.J. 1, 17 (2001). Interestingly, studies of Australian nursing home operators suggest that individuals may perceive enforcers to resemble the Gestapo even when the enforcers appear to researchers to be even-handed. See Makkai & Braithwaite, *supra* note 138, at 377.

171. BARDACH & KAGAN, *supra* note 86, at 109-13.

172. AYRES & BRAITHWAITE, *supra* note 13, at 25.

that motivations to comply are undermined by inspectors' assumptions that individuals in the regulated community "are driven by baser motivations."<sup>173</sup> An observed pattern of behavior that suggests the existence of the norm in the criminal context is the increased compliance that occurs when an individual perceives that an officer has listened to the violator's explanation of her conduct.<sup>174</sup> Studies of street crime suggest that those who are given this opportunity are less likely to commit violations in the future.<sup>175</sup> Similarly, the analysis of the 1987 Taxpayer Opinion Survey discussed above concluded that responsive service was one of the two factors that increased citizens' commitment to tax compliance.<sup>176</sup> When tax authorities were perceived to be unresponsive or disrespectful, taxpayers demonstrated disrespect for and rebellion against tax authorities and tax laws.<sup>177</sup>

Several studies suggest that the good faith norm is likely to influence not only individual-level compliance, but firm-level compliance as well. Studies of several regulatory compliance areas have concluded that presuming bad faith in individuals increases the likelihood that their firms will not comply in the absence of coercion.<sup>178</sup> At the same time, these studies suggest that individual- and firm-level compliance may increase if the enforcer is able "to surprise the very worst of people by treating them as trustworthy" and is able to induce them to express a commitment to act in a socially responsible fashion in a group setting.<sup>179</sup>

*Implications.* Several prescriptions may arise from the norm of good faith. First, the studies regarding good faith, taken in isolation, have induced cooperation model advocates to suggest various forms of amnesty for environmental offenders. The framework proposed here suggests that amnesty programs that are not carefully tailored may lead to unintended consequences because of their effects on the other factors that influence compliance deci-

173. *Id.* They described this enforcement approach as the "minimal sufficiency principle." *Id.* at 49-50.

174. See Makkai & Braithwaite, *supra* note 138, at 377; see also TYLER, *supra* note 69, at 161-63.

175. See TYLER, *supra* note 69, at 91-92.

176. Smith, *supra* note 68, at 227-29, 246.

177. *Id.* at 227.

178. See BRAITHWAITE, *supra* note 98, at 64-66 (examining research on facility-level compliance with health care and nuclear energy regulations). Braithwaite asserts that the research leads to the conclusion that "when we treat people as knaves, they are more likely to become knaves." *Id.* at 106.

179. *Id.* at 120.

sions.<sup>180</sup> For example, to the extent compliance decisions are the product of calculations of the perceived certainty and severity of the formal legal sanction arising from a violation, amnesty programs may create a disincentive to comply until an enforcement action is threatened or initiated. Similarly, those parties that invest in compliance may react negatively if others do not and are not penalized. As discussed below, the parties that comply may perceive themselves as “dupes” and their commitment to the law compliance norm may diminish.<sup>181</sup>

Second, the training for inspectors discussed above should include information about how to communicate a norm of good faith while continuing to watch for information suggesting that the good faith is not genuine—a “trust but verify” approach. Contrary to the predictions of the deterrence model, the studies that imply the existence of the good faith norm suggest that if more inspectors are hired and conduct more inspections, but individuals in regulated firms perceive each of those inspections as unfair, individual reactance may counteract the increased deterrent effect, muting the impact on compliance rates.<sup>182</sup> Training inspectors to use the inspection process to trigger norms that promote voluntary compliance, or at least to avoid triggering norms that discourage compliance, thus may lead to fewer violations.

### 3. *The norm of reciprocity.*

*Hypothesis.* This norm can be expressed as follows: “An individual should give benefits to those who have given her benefits.” Ex-

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180. For example, a blanket amnesty for first-time violators based on a presumption of good faith may create an uneven playing field regarding the financial costs of compliance. If entities are given a free pass on first offenses, then they may have few incentives, other than those arising from internal and external norms, to implement regulatory requirements until detected. Those who do implement the requirements may be at a competitive disadvantage. The financial incentives may overwhelm the norms favoring compliance, especially when combined with the norm of conformity discussed below; and that may lead to substantial decreases in compliance levels. John Scholz and others have proposed variants on the tit-for-tat model developed by game theorists that may be used to address these issues. See John T. Scholz, *Cooperation, Deterrence, and the Ecology of Regulatory Enforcement*, 18 *LAW & SOC'Y REV.* 179, 219 (1984) (noting that a game theoretic model can reach an equilibrium at which firms adopt a cooperative strategy with a regulatory agency using a “tit for tat” approach if the firms anticipate future interactions with the agency); see also AYRES & BRAITHWAITE, *supra* note 13, at 21. These scholars suggest that a strategy in which the agency presumes good faith, is vengeful in the event it detects bad faith, and is quick to forgive upon a renewed indication of good faith may engender high compliance levels, even if many entities are motivated principally by pecuniary concerns.

181. See *infra* notes 205-08 and accompanying text.

182. See BRAITHWAITE, *supra* note 98, at 105-06 (discussing studies).



amples of the effect of this norm include the negative reaction of a plant manager if a particularly difficult or expensive compliant act is not acknowledged by the enforcing agency. The norm thus interacts with the norm of law compliance in that violation of the norm of reciprocity may decrease the strength of adherence to the norm of law compliance. Alternatively, a positive effect may occur if the enforcing agency provides compliance assistance: the regulator's act may trigger a sense of obligation to reciprocate by the managers of the regulated entity. The reciprocity norm is distinct from the norm of fair process in that it may trigger a perceived obligation to reciprocate in situations that arise long before any act of noncompliance occurs. It thus may be activated in situations in which the fairness of the enforcement process is not at issue.

*Empirical Studies.* Several studies have examined the norm of reciprocity. An early qualitative study of reciprocity concluded that the notion that individuals are obligated to reciprocate was universal among societies studied.<sup>183</sup> In surveys and controlled experiments, individuals have demonstrated a sense of obligation to reciprocate favors.<sup>184</sup> One of the leading proponents of the concept of reciprocity, Robert Cialdini, has identified several patterns of behavior that suggest the existence and strength of the norm.<sup>185</sup> For example, Cialdini has noted that the norm of reciprocity underlies the sense of obligation that is created when a charity provides a potential donor with an unsolicited gift in the mail. Charities pursue this strategy because gifts trigger a sense of obligation in individuals to reciprocate with a donation of greater value than the gift.<sup>186</sup> Charities also utilize the norm of reciprocity to induce an individual to select a lesser donation amount after rejecting a request for a larger donation. A solicitor working for a charity will first ask for a large donation; after this request is re-

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183. See Alvin W. Gouldner, *The Norm of Reciprocity*, 25 *AM. SOC. REV.* 161, 171 (1960) (reviewing the sociological literature and concluding that a norm of reciprocity is universal). Gouldner notes the reluctance of sociologists to define reciprocity, but expresses the moral norm of reciprocity: "You *should* give benefits to those who give you benefits." *Id.* at 170 (emphasis in original).

184. See, e.g., Dennis T. Regan, *Effects of a Favor and Liking on Compliance*, 7 *J. EXPERIMENTAL SOC. PSYCHOL.* 627, 633 (1971) (concluding from a controlled experiment that subjects are more likely to comply with a request by a person if the person has done them a favor).

185. Cialdini describes reciprocity as the norm that "[o]ne should be more willing to comply with a request to the extent the compliance constitutes a reciprocation of behavior." *Social Motivations to Comply*, *supra* note 55, at 211.

186. See *id.* at 211-12.

jected, the solicitor will suggest a second, substantially smaller amount. This tactic triggers a sense of obligation in the potential donor to reciprocate the concession made by the solicitor.<sup>187</sup>

Procedural fairness by regulators may also trigger norms of reciprocity.<sup>188</sup> The analysis of the 1987 Taxpayer Opinion Survey concluded that responsive service was one of two factors that increased citizens' commitment to tax compliance.<sup>189</sup> The norm of reciprocity also appears to create a sense of obligation to reciprocate when concessions are made in negotiations.<sup>190</sup> Individuals in regulated entities may feel more inclined to reciprocate if concessions are made during negotiations, regardless of the fairness of either the initial demand or the concession.<sup>191</sup>

*Implications.* The reciprocity norm may suggest a number of policy prescriptions. Enforcement officials' current approach to many negotiations, for example, may be missing opportunities to trigger the reciprocity norm and stimulate future compliance. Concerns about agency capture and other factors have led to a strong bias against compromise in enforcement negotiations by deterrence model advocates. The risk of this approach is that it can lead government negotiators to confuse capture with concessions.<sup>192</sup> Reci-

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187. See *id.* at 212.

188. Smith, *supra* note 68, at 225-26 (noting "the strong tendency for humans to try to reciprocate, in kind, behaviors directed toward them").

189. *Id.* at 227-29, 246. It is unclear whether the responsive service triggered a norm of reciprocity that is distinct from the norms of good faith and fair process. The notion of reciprocity between the regulated and the regulator can be thought of as an aspect of procedural fairness, but it is valuable to treat it as a separate norm in part because it may lead to different prescriptions than a more generalized norm of fair process.

190. See, e.g., *Social Motivations to Comply*, *supra* note 55, at 212-13.

191. See Robert B. Cialdini & Karen Ascanti, *Test of a Concession Procedure for Inducing Verbal, Behavioral, and Further Compliance with a Request to Give Blood*, 61 J. APPLIED PSYCHOL. 295, 298-99 (1976) (concluding that a sequencing of requests beginning with a request for an extreme favor regarding blood donation, followed by a request for a smaller favor, appears to create a perception that a concession was made and is superior to other procedures in producing compliance with the request for a favor); Robert B. Cialdini et al., *Reciprocal Concessions Procedure for Inducing Compliance: The Door-in-the-Face Technique*, 31 J. PERSONALITY & SOC. PSYCHOL. 206, 214 (1975) (concluding that a request for an extreme favor regarding volunteer services, followed by a request for a small favor generated more compliance with the request for the small favor than requests for the small favor only, and suggesting the existence of "a norm requiring that regular concessions be reciprocated"); see also Alan A. Benton et al., *Effects of Extremity of Offers and Concession Rate on the Outcomes of Bargaining*, 24 J. PERSONALITY & SOC. PSYCHOL. 73, 82 (1972) (concluding that the person to whom a concession strategy is applied will feel more responsible for the outcome).

192. In other words, a negotiator may not make concessions out of fear of being perceived as captive of a regulated entity, even when the government's initial position left flexibility for concessions.

procuity studies indicate that granting concessions will often trigger feelings of obligation to reciprocate by the regulated party. This does not mean that the government should necessarily extract less in negotiations than it otherwise would, but that enforcement officials should consider adopting an initial position in negotiations that will allow a subsequent concession in order to trigger an obligation to reciprocate. Simply put, although the deterrence model's focus on formal legal sanctions and concerns about capture may result in an uncompromising approach, a more nuanced strategy might generate higher long-term levels of compliance. The short-term benefit of avoiding a concession in the particular action or negotiation may be more than offset by the lost opportunity to utilize reciprocity to induce future compliance without enforcement interventions.<sup>193</sup>

The reciprocity norm has other implications as well. The norm of reciprocity may be triggered by changing environmental permit application forms so that regulatory obligations are identified upfront, followed by identification of any regulatory flexibility.<sup>194</sup> In addition, although federal and state environmental agencies already look for opportunities to bolster compliance by providing compliance assistance,<sup>195</sup> reciprocity research suggests that compliance assistance programs in the environmental enforcement arena may not only increase capacity to comply but also may trigger reciprocity norms.<sup>196</sup> Research suggests that EPA may be able to further trigger reciprocity norms by engaging in additional compliance assistance and by further publicizing its compliance assistance efforts. EPA also could emphasize the benefits of its compliance assistance services by stressing how inexpensive their services are to the firm relative to those purchased through a private market. The reciprocity studies suggest that these efforts may increase compliance far more than the standard deterrence model would predict. In any event, EPA could test the effectiveness of

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193. Smith, *supra* note 68, at 247. See also Karyl A. Kinsey, *Deterrence and Alienation Effects of IRS Enforcement: An Analysis of Survey Data*, in *WHY PEOPLE PAY TAXES*, *supra* note 44, at 259, 262 (using survey data to analyze whether deterrence-based enforcement also negatively affected willingness to comply voluntarily).

194. The prescriptions offered in this paragraph draw on those suggested by Robert Cialdini for tax compliance. See *Social Motivations to Comply*, *supra* note 55, at 212-14.

195. See Markell, *supra* note 24, at 19.

196. See COMM'N FOR ENVTL. COOPERATION, *VOLUNTARY MEASURES TO ENSURE ENVIRONMENTAL COMPLIANCE: A REVIEW AND ANALYSIS OF NORTH AMERICAN INITIATIVES* 9 (1998), available at [http://www.ccc.org/files/PDF/LAWPOLICY/Vol-2e\\_EN.pdf](http://www.ccc.org/files/PDF/LAWPOLICY/Vol-2e_EN.pdf) (last visited Oct. 28, 2002).

these efforts to stimulate compliance and change the attitudes of affected individuals or entities.

### C. *The Norm of Conformity*

*Hypothesis.* The norm of conformity can be expressed as follows: "An individual should act as others do." The existence of this norm is supported by a wide range of empirical studies, although it is not typically referred to as a norm.<sup>197</sup> The regulatory compliance literature has identified at least two patterns of behavior that suggest the existence of a norm of conformity: (1) perceptions of widespread noncompliance appear to influence compliance rates; and (2) social validation also appears to influence compliance rates.<sup>198</sup>

*Empirical Studies.* Numerous studies in the regulatory compliance literature suggest that perceptions of widespread noncompliance undermine compliance. For example, a survey of tax compliance found that admitted noncompliers are more likely to assume high levels of public noncompliance, and those who report their own tax evasion often also report tax evasion by friends and relatives.<sup>199</sup> The exact role of social norms, however, is not clear.

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197. The tendency of individuals to conform to the behavior of like others has been referred to simply as social influence. See Kahan, *supra* note 21, at 352 (noting that "individuals tend to conform their conduct to that of other individuals"). The norm of conformity also could be categorized as an epistemic custom. An epistemic custom is a pattern of behavior that serves as an informational heuristic. An example includes the buying of certain goods based on brand names. The brand identification that emerges from widespread adoption of the product serves an informational or heuristic function for the consumer who is unwilling or unable to research the product's attributes. See Hetcher, *supra* note 32, at 56-64. The conformity norm may function in this way. In addition, individuals may internalize patterns of behavior as ones that not only are commonly followed by others, but ought to be followed. From the perspective of an evolutionary biologist, receptivity to social influence could include an instinctive component that may confer an evolutionary advantage. See generally Herbert A. Simon, *A Mechanism for Social Selection and Successful Altruism*, 250 SCIENCE 1665 (1990). The distinction among different terms for what I call the conformity norm, although ultimately significant, does not affect the conceptual framework presented in this article.

198. See Cialdini et al., *supra* note 54, at 1015. Cialdini and others also note that a "descriptive" norm that identifies what type of behavior is typical can be stated thus: "If everyone is doing it, it must be a sensible thing to do." They suggest that this norm provides an efficient "decisional shortcut." *Id.*

199. See *Social Motivations to Comply*, *supra* note 55, at 215 (noting that "issues of causality are not unambiguous"). The converse also appears to be true. Recent research in tax compliance has found the belief that others obey tax laws serves as a heuristic for whether an individual chooses to comply. See, e.g., John T. Scholz & Mark Lubbell, *Trust and Taxpaying: Testing the Heuristic Approach to Collective Action*, 42 AM. J. POL. SCI. 398, 410 (1998) (finding a relationship between the belief that most taxpayers at the respondent's income level pay what they "legally owe" and individual tax compliance).

The effect of perceptions of widespread noncompliance on intentions to comply in the future may result from the norm of conformity, or may simply be the product of a perceived reduction in the risk of formal or informal sanctions. Regardless of the cause, enough evidence exists to support further research and, if the role of the conformity norm is empirically verified, changes in enforcement policies and strategies may be in order.

Furthermore, the deterrence model may overestimate the effect of an increase in perceived probability of detection on compliance if effects on norms are not taken into account.<sup>200</sup> The survey of tax compliance discussed above found that having knowledge of someone who has had difficulties with the IRS decreases the individual's perceived probability of detection.<sup>201</sup> Beliefs about whether others are complying appear to be more important to an individual's decision to comply than the amount of the tax or the anticipated sanction. Increases in audit rates thus may result in an increase in noncompliance.<sup>202</sup> In addition, "tax gap" stories—news accounts of the gap between the revenue owed by taxpayers and the amount collected by the government that include information about high rates of noncompliance, even if coupled with information about increased detection methods—may lead to reduced compliance. The tax compliance survey discussed above concluded that highly publicized enforcement actions might perversely signal that it is relatively easy for taxpayers to get away with evasion.<sup>203</sup> The source of this phenomenon and the direction of the causal arrow are unclear, however. Some types of compliance behaviors may be responses to general social influences, such as group identification.<sup>204</sup> Dan Kahan and others have discussed the "desire not to

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200. Steven M. Sheffrin & Robert K. Triest, *Can Brute Deterrence Backfire? Perceptions and Attitudes in Taxpayer Compliance*, in *WHY PEOPLE PAY TAXES*, *supra* note 44, at 193, 214 (referring to attitudes). The Sheffrin and Triest study has been discussed by Dan Kahan. See Kahan, *supra* note 21, at 354 n.19.

201. Sheffrin & Triest, *supra* note 200, at 205-06. Sheffrin and Triest conclude that perceiving others as dishonest significantly increases the likelihood that a person will evade taxes. *Id.*

202. See *id.* at 193, 212-13; see also Marco Steenbergen, Kathleen McGraw & John Scholz, *Taxpayer Adaptation to the 1986 Tax Reform Act: Do New Laws Affect the Way Taxpayers Think About Taxes?*, in *WHY PEOPLE PAY TAXES*, *supra* note 44, at 1 (referring to norms as attitudes).

203. Sheffrin & Triest, *supra* note 200, at 214 (recommending that the IRS engage in "broad, 'low profile' enforcement programs, such as computer matching of income reports and tax returns" rather than targeting a "narrow group of people" through audits or highly publicized enforcement actions).

204. See Kahan, *supra* note 21, at 354. Most individuals "loathe being taken advantage

be suckered."<sup>205</sup> This effect may explain the relatively high tax compliance rates in the United States as compared to European countries.<sup>206</sup> Other research echoes the conclusion that cooperation decreases if compliers view themselves as "dupes."<sup>207</sup>

On a similar note, the tax compliance literature suggests that individuals seek social validation.<sup>208</sup> In other words, people "frequently use the beliefs, attitudes, and actions of others, particularly similar others, as a standard of comparison against which to evaluate the correctness of their own beliefs, attitudes, and actions."<sup>209</sup> As a result, individuals are more likely to comply with a requirement if similar others are doing so. Examples of the impacts of social validation include charitable organizations' use of telethons to create a sense that others in the audience are giving, and the "salting" of church plates with a small initial contribution before the plates are passed among church members. Research also shows that individuals shown lists of prior contributors are more likely to donate to charity.<sup>210</sup> Yet as with perceptions of widespread non-compliance, causation is unclear, as is the role of informal social sanctions.

*Implications.* Perhaps the most important implication of the norm of conformity is that certain prescriptions of both the deterrence and cooperation models could generate unintended consequences, including reductions in compliance rates. For example, following the deterrence model, EPA enforcement tactics reflect the view that "well placed and well publicized" enforcement actions will increase compliance rates.<sup>211</sup> One such federal enforcement

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of" and as a result react negatively when they believe that others have refused to comply. *Id.* at 358.

205. Kahan, *supra* note 55, at 604 (quoting Peter H. Huang & Ho-Mou Wu, *More Order without More Law: A Theory of Social Norms and Organizational Cultures*, 10 J.L. ECON. & ORG. 390, 403 n.53 (1994)).

206. Kahan, *supra* note 21, at 358.

207. See, e.g., Sunstein, *supra* note 39, at 945 (citing multiple articles in THE HANDBOOK OF EXPERIMENTAL ECONOMICS (John H. Kagel & Alvin E. Roth eds., 1995)).

208. Cialdini notes that a social validation principle can be expressed as follows: "People should be willing to comply with a request for specific behavior to the degree that similar others are or have been performing it." *Social Motivations to Comply*, *supra* note 55, at 214.

209. *Id.* at 213.

210. See *id.* at 214 (discussing advertising claims that certain products are the "largest selling").

211. See Rechtschaffen, *supra* note 12, at 1219-20 (quoting Cheryl E. Wasserman, *An Overview of Compliance and Enforcement in the United States: Philosophy, Strategies and Management Tools*, in CONFERENCE PROCEEDINGS, FIRST INTERNATIONAL CONFERENCE ON ENVIRONMENTAL ENFORCEMENT 7, 10 (1990)).

strategy is to publicize major, national consolidated enforcement actions on a single type of violation or pollutant in order to call major media attention to the enforcement actions. The media attention is designed to enhance general deterrence. Yet the tax research suggests that in some situations noncompliance may increase, rather than decrease, following the announcement of a major enforcement initiative. The tax research suggests that enforcement actions may have a negative impact on compliance if the message received by the regulated community is not that the certainty and severity of sanctions is high, but that noncompliance is widespread. Potential noncompliers may react more to the notion that they are "dupes" than to the intended message of the enforcement announcement that the risk of penalties is high. The tax research at a minimum raises serious doubts about this strategy. To avoid sending the message that noncompliance is widespread among similar others, enforcement announcements may achieve greater success if they focus less on large, high-profile announcements than on broad, low-profile actions.<sup>212</sup> If high-profile announcements are necessary for reasons unrelated to informal social regulation (e.g., to maintain congressional or public support for enforcement), the message may need careful scripting to convey the notion that compliance is widespread, that the rare instances of noncompliance occur among dissimilar others, and that the noncompliance will likely lead to detection and large formal and informal sanctions.

One way to generate more accurate perceptions of widespread compliance is to expand programs that facilitate and reward the conduct of Good Samaritans.<sup>213</sup> EPA and state governments have embarked on a wide range of Good Samaritan programs designed to increase compliance rates. One of the earliest and best known was EPA's Leadership Program.<sup>214</sup> EPA conducted a pilot study of the Leadership Program with twelve companies and two federal facilities as the first participants. The Leadership Program, like many

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212. See, e.g., Sheffrin & Triest, *supra* note 200, at 214 (suggesting "broad, 'low-profile' enforcement programs").

213. Ellickson has noted the potential value of Good Samaritans to the efficacy of norms in closely-knit groups. ELICKSON, *supra* note 1, at 210-11.

214. The Environmental Leadership Program has been reconstituted as the National Environmental Performance Track. See U.S. ENVTL. PROT. AGENCY, NATIONAL ENVIRONMENTAL PERFORMANCE TRACK (2000), available at <http://www.epa.gov/performance-track> (last visited Oct. 26, 2002). The over-compliance requirement is also a feature of other EPA recognition programs. For a thorough discussion of these programs, see Case, *supra* note 170, at 39-59.

similar federal and state programs, sought to reward only those companies that exceeded compliance. This over-compliance criterion has been the subject of debate. The requirement ensures that the program does not reward regulated entities simply for doing what they are legally obligated to do, but an unintended result of rewarding over-compliance is that membership is limited to a small subgroup of the regulated community. Studies on the social influence of perceived compliance rates suggest that the addition of a new type of recognition program may lead to higher general compliance levels. A program that rewards regulated entities for compliance, rather than over-compliance, with environmental regulatory requirements could include a much broader group of companies. Publicizing the existence of the large membership could reinforce the perception of widespread compliance.

The research findings also suggest several additional implications for corporate environmental compliance. Since publicity regarding high compliance rates may be as important to stimulating compliance as publicity about large sanctions for violators, EPA may wish to publicize survey results showing that most regulated entities comply and that most people (either in the general public or in a specific subpopulation) view noncompliance as violating widely held norms.<sup>215</sup> EPA should craft environmental enforcement announcements to convey the message that most firms comply with environmental laws and that "similar others" comply. As to those who do get caught, EPA should take pains to portray them as different from others in the regulated community.

Research also suggests a vulnerability in the pure form of the cooperation model: in some situations, small reductions in the threat of formal sanctions can cause compliance rates to plummet.<sup>216</sup> These effects appear to arise if the reductions in the threat of formal sanctions lead to a perception of widespread noncompliance. If that perception exists, individuals may conclude that the compliance incentives are so out of line with a rational calculus of the costs and benefits of compliance that compliance is foolish. Cooperation-based enforcement programs thus run the risk of increasing noncompliance by creating perceptions of widespread noncompliance. The absence of a floor of deterrence may lead not

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215. For an example of this type of approach in the tax literature, see *Social Motivations to Comply*, *supra* note 55, at 215. For a discussion of environmental compliance rates, see *infra* text accompanying notes 254-58.

216. See Sheffrin & Triest, *supra* note 200, at 214.



just to small declines in compliance, but to tipping points beyond which noncompliance will be rampant.<sup>217</sup> As a result, it may be important to identify those tipping points and to employ sufficient deterrence-based enforcement mechanisms to avoid them. Testing the hypotheses suggested here will be an important step in that direction.

#### IV. TESTING THE PREDICTIONS OF THE CONCEPTUAL FRAMEWORK

The environmental compliance literature can be divided into two categories: quantitative analyses of the effects of enforcement actions on facility- or firm-level compliance, and qualitative studies of the factors and processes that affect individual managers' decision-making.<sup>218</sup> The former provide quantitatively defensible results but do not explore the influence of norms on individual decision-making. The latter provide insights into managers' decision-making processes but do not provide quantitative evaluations of the relationship between managers' decision-making and facility- or firm-level compliance. These two lines of inquiry have added substantially to our understanding of environmental compliance behavior. Yet they also have left a gap: neither has examined the relationship between social influences on managers' decision-making and facility- or firm-level compliance. Thus, although there are strong indications that internal and external norms influence compliance, no published quantitative studies have examined the linkage between actual, facility- or firm-level compliance rates and the internal and external norm influences on corporate environmental decision-makers. Policymakers are left to speculate about the extent and direction of the normative influences on compliance.

The conceptual framework outlined above is designed to help bridge that gap. The framework suggests that formal legal sanctions, internal norm sanctions and external norm sanctions all in-

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217. See *supra* text accompanying notes 204-07. For a popular discussion of the tipping point, see MALCOLM GLADWELL, *THE TIPPING POINT* (2000).

218. For an example of a quantitative study, see Wesley A. Magat & W. Kip Viscusi, *Effectiveness of the EPA's Regulatory Enforcement: The Case of Industrial Effluent Standards*, 33 J.L. & ECON. 331, 354 (1990). For examples of "thick" qualitative studies, see generally BARDACH & KAGAN, *supra* note 86; JACKALL, *supra* note 114. For a description of thick studies, see CLIFFORD GEERTZ, *THE INTERPRETATION OF CULTURES: SELECTED ESSAYS* 3, 30 (1973) (observing that "thick" qualitative studies are those based on extensive information gathering on the motivations of each individual by the researcher, as opposed to quantitative, "thin" studies in which individuals' motivations are not examined in detail).

fluence the environmental compliance decisions of corporate managers. If the framework is to add to the predictive capacity of the standard deterrence model, however, formal legal sanctions, internal norm sanctions and external norm sanctions all must exert a meaningful influence on corporate environmental compliance at the level of the facility or the firm.

This Part examines the empirical support for this proposition. It begins by assessing the standard deterrence model prediction that increases in the certainty and severity of formal legal sanctions will increase compliance. It then examines the question of whether empirical studies support the hypothesis that internal and external norm sanctions also influence compliance. It closes by examining the reasons for the gap in the environmental compliance literature and the potential bridging role of the framework presented here.

#### A. *The Standard Deterrence Model*

The standard deterrence model posits that increases in the perceived likelihood of detection and severity of sanction should increase compliance.<sup>219</sup> Compliance is presumed to be intentional, either directly or through the allocation of resources necessary to eliminate stochastic noncompliance.<sup>220</sup> The individual or firm is expected to comply only when the costs of noncompliance are higher than the benefits.<sup>221</sup>

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219. See Becker, *supra* note 19, at 176 (concluding that, in the various theories about the determinants of criminal offenses, "when other variables are held constant, an increase in a person's probability of conviction or punishment if convicted would generally decrease, perhaps substantially, perhaps negligibly, the number of offenses he commits"). Corporate criminal compliance may be expected to more closely resemble the rational economic actor posited by the standard deterrence model. See, e.g., John Braithwaite & Gilbert Geis, *On Theory and Action for Corporate Crime Control*, 28 CRIME & DELINQUENCY 292, 302 (1982) (concluding that deterrence is more likely to be effective with corporate crime than with street crime because "[c]orporate crimes are almost never crimes of passion; they are not spontaneous or emotional, but calculated risks taken by rational actors").

220. See Cohen, *supra* note 14, at 10,246.

221. For a firm, the monetary benefits of noncompliance can be substantial and may include the costs avoided by not installing and operating pollution control equipment or by not remediating past contamination. For an individual, the monetary benefits of noncompliance also may be substantial and may include items such as bonuses and promotions for meeting financial targets. See, e.g., Cohen & Simpson, *supra* note 31, at 47; A. Mitchell Polinsky & Steven Shavell, *Enforcement Costs and the Optimal Magnitude and Probability of Fines*, 35 J.L. & ECON. 133 (1992). A wide range of factors may complicate the analysis. For example, perceptions of the likelihood of detection or the severity of the sanction upon conviction may be unrealistic. Several studies have examined the perceived, as opposed to actual, likelihood of detection and severity of sanctions. See, e.g., Paternoster & Simpson, *supra* note 63, at 555-56. The threat of sanctions may be complicated by gov-

Given the immense environmental and economic consequences of corporate environmental compliance rates, the empirical support for these propositions is remarkably scarce.<sup>222</sup> Empirical studies can be conducted at any of several levels of analysis ranging from the individual to the facility, the firm, or an industry sector. The vast majority of the environmental studies have focused on facility-level compliance. I begin by examining these studies, and follow up with an examination of studies of individual-level compliance.

Not surprisingly, the environmental studies have focused on a limited number of areas in which data were readily available, most notably oil transport operations and the pulp and paper industry.<sup>223</sup> Some studies focus on environmental compliance, while others examine environmental performance. The former refers to compliance with environmental laws, and the latter refers to actual levels of emissions, not whether those emissions are in compliance with environmental laws.<sup>224</sup> On the whole, the results are similar for both facility- and individual-level environmental behavior: increases in monitoring lead to increases in compliance and performance, but increases in sanctions have limited effect.

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ernment enforcement strategies. Agencies may engage in tit-for-tat or "bad actor" strategies, in which enforcement agencies "leverage" resources by targeting them at repeat offenders. Studies of the standard model have sought to account for these strategies. See, e.g., Winston Harrington, *Enforcement Leverage When Penalties Are Restricted*, 37 J. PUB. ECON. 29 (1988) (proposing a dynamic repeated game model); Paul Downing & James N. Kimball, *Enforcing Pollution Control Laws in the U.S.*, 11 J. POL'Y STUD. 55, 59-60 (1982); see also Jon D. Harford, *Measurement Error and State-Dependent Pollution Control Enforcement*, 21 J. ENVTL. ECON. & MGMT. 67 (1991).

222. See Cohen, *supra* note 19, at 78 (noting that until recently there have been "surprisingly few" empirical studies of environmental enforcement and compliance); Cohen, *supra* note 14, at 10,245; Michael, *supra* note 14, at 537 (finding a "lack of significant combined empirical-theoretical research in the areas of policy implementation and enforcement"); Rechtschaffen, *supra* note 12, at 1205 (concluding that "there is little in the way of empirical evidence that can be used in deciding which enforcement techniques [based on deterrence or cooperation] are most likely to achieve regulatory goals").

223. For extensive reviews of this literature, see generally Cohen, *supra* note 14; Cohen, *supra* note 19. For OSHA compliance, see Shapiro & Rabinowitz, *supra* note 95. See also Thomas O. McGarity & Sidney A. Shapiro, *OSHA's Critics and Regulatory Reform*, 31 WAKE FOREST L. REV. 587 (1996); Christen Carlson White, *Regulation of Leaky Underground Fuel Tanks: An Anatomy of Regulatory Failure*, 14 UCLA J. ENVTL. L. & POL'Y 105, 151-53 (1995/96).

224. For an examination of both compliance and performance, see Magat & Viscusi, *supra* note 218, at 334-39 (analyzing Clean Water Act compliance and emissions). For an examination of environmental performance but not compliance, see generally Shameek Konar & Mark A. Cohen, *Information as Regulation: The Effect of Community Right to Know Laws on Toxic Emissions*, 32 J. ENVTL. ECON. & MGMT. 109 (1997) (discussing Toxics Release Inventory emissions).

1. *Likelihood of detection.*

A number of studies indicate that increases in the likelihood of punishment, such as those achieved through increased government monitoring, increase facility-level compliance and performance.<sup>225</sup> In a leading study, Mark Cohen concluded that increased monitoring by the Coast Guard appeared to have a general deterrent effect at the facility level on the volume and frequency of oil spills arising from oil transfer operations.<sup>226</sup> Studies in the pulp and paper industry also have demonstrated that government monitoring has a specific deterrent effect at the facility level. For example, Wesley Magat and Kip Viscusi reviewed compliance in the U.S. pulp and paper industry and concluded that every inspection resulted in: (1) fewer facilities failing to comply with mandatory emissions reporting requirements; (2) a reduction in levels of biological oxygen demand, an important indicator of effluent water quality; and (3) a reduction in noncompliance with permit effluent limits and reporting requirements.<sup>227</sup> Similar conclusions have been reached in subsequent studies of pulp and paper mill compliance,<sup>228</sup> as well as studies of facility-level compliance with a wide range of civil and criminal laws, including nursing home regulations and mine safety regulations.<sup>229</sup>

Although improved environmental compliance and perform-

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225. See, e.g., Cohen, *supra* note 14, at 10,245.

226. *Id.* at 10,246 ("To date there is no evidence that government-imposed penalties have any deterrent effect on oil spills.").

227. Magat & Viscusi, *supra* note 218, at 354, 359.

228. See Benoît Laplante & Paul Rilstone, *Environmental Inspections and Emissions of the Pulp and Paper Industry in Quebec*, 31 J. ENVTL. ECON. & MGMT. 19, 35 (1996) (finding that the expected inspection rate is a significant explanatory variable for compliance rates); Louis W. Nadeau, *EPA Effectiveness at Reducing the Duration of Plant-Level Noncompliance*, 34 J. ENVTL. ECON. & MGMT. 54, 76 (1997) (finding that a 10% increase in monitoring activity is associated with a 0.6% to 4.2% reduction in violation time, and a 10% increase in enforcement is associated with a 4.0 to 4.7% reduction in violation time).

229. See, e.g., John Braithwaite & Toni Makkai, *Testing an Expected Utility Model of Corporate Deterrence*, 25 L. & Soc'y REV. 7, 8 (1991) (reviewing studies and concluding that "[t]hey have shown very little support for an effect of the perceived severity of sanctions on compliance but reasonable support for the hypothesis that the perceived certainty of punishment increases compliance with the law"). Braithwaite and Makkai also note that qualitative fieldwork suggests that corporate managers may overestimate the probability of detection and punishment. *Id.* at 16 (finding such overestimation among nursing home managers). Studies of inspections conducted by the Mine Safety and Health Administration have found that a 25% increase in inspections was associated with a reduction in fatalities ranging from 7 to 20%, even though the average penalty for a successful citation was only \$173. See BRAITHWAITE, *supra* note 98, at 63 (citing JOHN BRAITHWAITE, TO PUNISH OR PERSUADE: ENFORCEMENT OF COAL MINE SAFETY 3 (1985)).

ance has often been associated with an increased likelihood of detection, the observed effects of the increased monitoring have been limited. Several studies have found only limited decreases in environmental emissions or limited increases in compliance associated with increases in government monitoring.<sup>230</sup> One study examined Coast Guard enforcement of oil spill regulations and concluded that a ten percent increase in monitoring at the facility level resulted in just over a three percent reduction in the volume of accidental oil spills.<sup>231</sup> Studies of the effects of enforcement activities on the number of oil spills,<sup>232</sup> on the amount of pulp and paper mill emissions,<sup>233</sup> and on compliance with Occupational Safety and Health Act (OSHA) requirements<sup>234</sup> have reached similar conclusions. Taken together, the facility-level studies suggest that large increases in government monitoring may be necessary to generate meaningful increases in environmental performance or compliance. Increasing monitoring is costly, however, and the intrusiveness and political backlash generated by increased monitoring may make monitoring strategies difficult to sustain.<sup>235</sup>

No studies have explored how changes in the perceived likeli-

230. Cohen & Simpson, *supra* note 31, at 43 (noting that "prior empirical studies of corporations have been able to explain only a small percentage of the variation in crime rates").

231. Dennis Epple & Michael Visscher, *Environmental Pollution: Modeling Occurrence, Detection and Deterrence*, 27 J.L. & ECON. 29, 46 (1984). Epple and Visscher also estimated that a 10% increase in monitoring led to a 2.1% increase in spills detected, suggesting that the increased detections arising from increased monitoring was greater than any deterrent effect of the increased monitoring itself. *Id.* at 54.

232. See Eric E. Anderson & Wayne K. Talley, *The Oil Spill Size of Tanker and Barge Accidents: Determinants and Policy Implications*, 71 LAND ECON. 216, 227 (1995) (examining oil transport operations and concluding that Coast Guard pollution detection activity is effective at the margin in reducing size of accidental spills); Montserrat Viladrich-Grau & Theodore Groves, *The Oil Spill Process: The Effect Of Coast Guard Monitoring on Oil Spills*, 10 ENVTL. RESOURCE ECON. 315 (1997) (finding that enforcement activity has a larger effect on the frequency of oil spills than on the size of oil spills).

233. Magat & Viscusi, *supra* note 218, at 352 (concluding that each inspection resulted in a 20% decrease in mean biological oxygen demand, indicating improved environmental performance).

234. John T. Scholz & Wayne B. Gray, *OSHA Enforcement and Workplace Injuries: A Behavioral Approach to Risk Assessment*, 3 J. RISK & UNCERTAINTY 283, 301 (1990) (concluding that a 10% increase in OSHA inspection frequency generated a 1.5% reduction in workplace injuries); W. Kip Viscusi, *The Impact of Occupational Safety and Health Regulation 1973-1983*, 17 RAND J. ECON. 567, 575 (1986) (concluding that a 10% increase in OSHA enforcement activity generated a 2% improvement in injury rate). Studies conducted during the late 1970s and early 1980s found that the average penalty for an OSHA violation was \$37. See BRAITHWAITE, *supra* note 98, at 63.

235. See, e.g., YEAGER, *supra* note 26, at 37 (noting the budget constraints on EPA enforcement).

hood of detection affect actual environmental compliance decisions at the individual level. One study has examined whether increases in the perceived likelihood of detection are associated with self-reported behavioral intentions regarding environmental compliance. The study included environmental compliance as one of four vignettes in an examination of corporate crime. It found that when "moral inhibitions" were weak, increased likelihood of detection was among the variables observed to constrain noncompliance.<sup>236</sup> The findings of the extensive tax literature on the effect of increased monitoring on individual compliance are generally consistent with those of the one environmental study.<sup>237</sup>

In short, the studies demonstrate that increased monitoring leads to increased compliance at the facility level. Increased monitoring may have the same effect at the individual level, but no linkage has been established between increased inspections, individual intentions to comply, and actual facility- or firm-level compliance. In addition, the facility-level studies suggest that large increases in monitoring are necessary to achieve small increases in compliance. A central impediment for policymakers, therefore, is the limited financial and political capital available for the large increases in inspections and other monitoring activities that would be needed to increase compliance.<sup>238</sup> So long as monitoring is expensive for the government and intrusive for the regulated community, fiscal and political constraints on enforcement activity will limit the extent to which government may increase monitoring or sanctions to improve compliance rates. These activities may entail higher fiscal and political costs than can reasonably be expected to

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236. Paternoster & Simpson, *supra* note 63, at 549, 570 (referring to internal norm effects as "moral inhibitions" and the sense of "personal shame" that would accompany the commission of the act). See also Cohen & Simpson, *supra* note 31, at 47 (examining the constraining effects of legal and informal sanctions and concluding that, "[f]or the most part, these effects are most salient when directed at the individual, not the firm").

237. Many of the empirical tax compliance studies support the deterrent effect of increasing the likelihood of detection. See Panel on Taxpayer Compliance Research, *supra* note 69, at 71. Experiencing an audit, if the audit was conducted fairly and discovered all noncompliance, may increase future compliance by the audited taxpayer, although the results are not clear. *Id.* at 71, 93-94. One review concluded that studies of deterrence-based enforcement approaches suggest that increasing the probability of sanctions for noncompliance increases anticipated compliance with the law. Kinsey, *supra* note 168, at 260, 273.

238. See, e.g., Rechtschaffen, *supra* note 12, at 1214 (discussing the limited financial resources of the EPA).

be secured or sustained by agencies at the federal and state level.<sup>239</sup> In addition, the attempt to maintain or increase inspection rates in the future may resemble an attempt to chase a mechanical rabbit, as the regulated universe is expected to become more numerous and diverse in the future.<sup>240</sup>

Including norms in the conceptual framework may help explain the finding that increased inspections are associated with increased compliance. Inspections and detection may trigger internal and external norm sanctions that are at least as influential as formal legal sanctions.<sup>241</sup> For example, if detection of a violation triggers the norm of law compliance, internal sanctions may occur immediately, as may an increase in perceived risk of external social sanctions. The norm of law compliance (and the norms of human health and environmental protection, to the extent they are implicated by the violation) thus may lead individuals to develop more compliant behavioral intentions immediately upon detection. The risk to the environmental manager need not be that a notice of violation will become front-page news in the local newspaper and will lead to external social sanctions; knowledge of the likely discovery of the violation or interactions with the inspector may suffice to trigger internal norm sanctions.<sup>242</sup>

The norms of good faith and autonomy also may explain why increasing the likelihood of detection may have only a limited effect on compliance. If the monitoring process violates these procedural norms, the reduced motivations to comply may equal or exceed the deterrent effects. For example, if inspectors presume bad faith in managers, managers may get a message that the enforcement agency presumes bad faith, and that the good faith of the entity did not substantially affect the behavior of the enforcing agency.<sup>243</sup> Increases in inspections thus may have a positive effect

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239. See Spence, *supra* note 13, at 978 (noting the threat to the regulatory system's legitimacy that aggressive enforcement may pose).

240. See COMM'N FOR ENVTL. COOPERATION, *supra* note 196, at 8.

241. See, e.g., Braithwaite & Makkai, *supra* note 229, at 8 (concluding that "[t]he deterrence literature demonstrates a much stronger effect of perceived informal sanctions (such as family disapproval) on compliance than of formal sanctions").

242. Inspections may include "exit conferences" and other interactions between the inspector and groups or individuals within the firm that may enhance the internal and external norm sanctioning opportunities. See BRAITHWAITE, *supra* note 98, at 63.

243. The Bardach and Kagan findings regarding a "culture of resistance" thus may be thought of as arising from violation of the good faith norm. See BARDACH & KAGAN, *supra* note 86, at 112-16; see also Spence, *supra* note 13, at 985-96 (discussing the legitimacy effects of complexity).

on the perceived likelihood of detection but a negative effect on intentions to comply. Empirical research has not yet explored these types of interactions among environmental enforcement interventions, norms, and regulatory compliance decisions.

## 2. *Severity of the sanction.*

Given the high cost of government monitoring, policymakers over the last two decades predictably have resorted to increasing the penalties for environmental noncompliance rather than focusing on detection. Some empirical evidence supports the general notion that environmental enforcement programs that focus substantially on sanctions are more effective than those that do not. Several quantitative empirical studies of the relative efficacy of sanction-focused and cooperation- or compliance-focused approaches have been published. Most have concluded that environmental compliance is higher in regulatory programs that emphasize a punitive or deterrence-oriented approach to enforcement,<sup>244</sup> although one found a cooperation-oriented approach to be more effective.<sup>245</sup>

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244. Three studies that examined the relative effectiveness of deterrence-based and cooperation-based approaches found deterrence-based enforcement programs to be associated with higher levels of compliance. The first, which compared pulp and paper mill compliance in Canada and the United States, found that compliance rates were significantly lower for the pulp and paper industry in Canada than for the same industry in the United States. The study concluded that enforcement in the United States relies on more of a deterrence-based approach and that the lower compliance rates in Canada cast doubt on the efficacy of the more cooperative Canadian regulatory approaches. Kathryn Harrison, *Is Cooperation the Answer? Canadian Environmental Enforcement in Comparative Context*, 14 J. POL'Y ANAL. & MGMT. 221, 240 (1995). Two other studies examined the enforcement of erosion and sedimentation control programs. One explored the use of various enforcement techniques in the implementation of a single state's program. The program was implemented by the state in some counties and by local governments in others. The state enforcement focused on deterrence, and the local government enforcement focused on compliance assistance. The authors concluded that deterrence-based approaches were the most successful for simple prescriptive standards, and a combination of deterrence-based and compliance assistance-based approaches was more successful for complex performance standards. Raymond J. Burby & Robert G. Paterson, *Improving Compliance with State Environmental Regulations*, 12 J. POL'Y ANAL. & MGMT. 753, 767 (1993). A related study compared "coercive" and "cooperative" approaches in the urban erosion and sedimentation control programs across twenty states. The study placed the enforcement authority into three groups: strong coercion, moderate coercion, and weak cooperation. Administrators were surveyed regarding the perceived efficacy of the enforcement programs. The study concluded that programs that lacked a strong deterrent approach were perceived to be less effective. Raymond J. Burby, *Coercive v. Cooperative Pollution Control: Comparative Study of State Programs to Reduce Erosion and Sedimentation Pollution in Urban Areas*, 19 ENVTL. MGMT. 359, 368 (1995).

245. The study that reached a different conclusion examined industrial wastewater



Nevertheless, the extent to which increases in the magnitude of formal legal sanctions influence environmental compliance is unclear. Facility-level studies that have examined increases in the severity of sanctions have generally found little or no effect on facility-level environmental compliance, at least until a threshold level of monitoring is achieved. For example, in his review of studies of oil transfer operations, Cohen concluded that the magnitude of penalties did not have a measurable effect on oil spill size or frequency.<sup>246</sup> Comparable findings have been made in studies of facility-level compliance with other environmental regulations,<sup>247</sup> and in studies of facility-level compliance with regulations in a wide range of other areas, such as nursing home<sup>248</sup> and worker safety regulations.<sup>249</sup>

The individual-level studies are consistent with the facility-level studies and may suggest why facility-level studies have found that the magnitude of formal legal sanctions has little or no effect on compliance. For example, studies of individual-level tax compliance have concluded that the severity of the penalty is less of a deterrent than the probability of detection.<sup>250</sup> These studies suggest that to the extent the size of the sanction is influential, the

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emissions of toxic chemicals into the Rhine and the Great Lakes. *See generally* Verweij, *supra* note 142. The limited availability of comparable data on industrial wastewater emissions of toxics, however, complicated the analysis. For example, one aspect of the study compared actual emissions data from the sources of Great Lakes toxic chemicals with estimates of Rhine River source emissions derived from ambient, not source, data. *Id.* at 1013. Although almost no studies have been conducted among programs within the United States to determine whether (and at what level) increasing compliance assistance activities while reducing deterrence activities will lead to overall increases or decreases in environmental compliance, one recent study has raised questions about the relative efficacy of punitive versus cooperative programs. *See* Rechtschaffen, *supra* note 12, at 1205 (asserting that the argument that greater compliance arises from cooperative approaches is "unconvincing" and "largely untested").

246. Cohen, *supra* note 14, at 10,246 (concluding that "[t]o date, there is no evidence that government-imposed penalties have any deterrent effect on oil spills").

247. *Id.* at 10,252.

248. *See, e.g.*, Braithwaite & Makkai, *supra* note 229, at 8 (concluding that studies on self-reported juvenile delinquency or tax compliance "have shown very little support for an effect of the perceived severity of sanctions on compliance but reasonable support for the hypothesis that the perceived certainty of punishment increases compliance with the law").

249. At least two studies of mine safety have found no association between safety improvement and the magnitude of legal sanctions. *See* BRAITHWAITE, *supra* note 98, at 63 (citing studies).

250. Dick J. Hessing et al., *Does Deterrence Deter? Measuring the Effect of Deterrence on Tax Compliance in Field Studies and Experimental Studies*, in *WHY PEOPLE PAY TAXES*, *supra* note 44, at 291, 291-92. Erard found that taxpayers improve compliance in the years following a large audit assessment, although this effect depends on an assumption that individuals targeted for a prior year audit were otherwise more likely to file noncompliant returns.

influence is observed only after the probability of detection has exceeded a minimum threshold.<sup>251</sup>

The individual-level vignette study discussed above concluded that formal legal sanctions were among the variables that may constrain environmental noncompliance, but only when moral inhibitions or internal norms were weak.<sup>252</sup> The conceptual framework presented here may further explain why increases in sanctions appear to have a limited effect on compliance. For example, the effects of informal social sanctions arising from the law compliance, human health and environmental protection norms may overwhelm the effects of changes in the size of formal legal sanctions. Detection of noncompliance may trigger these informal social sanctions, making changes in formal legal sanctions less influential. The norms of good faith and fair process suggest additional reasons why increasing the severity of the sanction may have little or no effect on compliance: if the nature of the regulated individual's interactions with enforcement officials violates the norms, the reduced motivations to comply may equal or exceed the deterrent effects of increased sanctions. For example, if the managers of a regulated entity are motivated to comply with a law that is extremely complex, they may perceive that an aggressive enforcement penalty violates the norm of good faith. Individuals in the regulated firm may perceive that the enforcement agency presumes bad faith, and that their good faith efforts to understand and comply with the law did not substantially affect their treatment by the agency.

### 3. *Levels of compliance.*

The deterrence model predicts that when the certainty and severity of sanctions are very low, so too will be compliance. Inspection rates for many environmental programs are in fact extremely low, making detection and thus sanctions unlikely. For example, EPA recently stated that it and the states conduct as many as 168,000 inspections in an active year, yet it estimates that there may be more than eight million regulated entities.<sup>253</sup> The number of

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Brian Erard, *The Influence of Tax Audits on Reporting Behavior*, in *WHY PEOPLE PAY TAXES*, *supra* note 44, at 95, 113-14.

251. Panel on Taxpayer Compliance Research, *supra* note 69, at 72, 110-11.

252. See, e.g., Paternoster & Simpson, *supra* note 63, at 549.

253. See U.S. ENVTL. PROT. AGENCY, *supra* note 6, at 8. The GAO, using a more expansive definition, recently placed the number of regulated entities at forty-one million. U.S. GEN. ACCOUNTING OFFICE, *HUMAN CAPITAL: IMPLEMENTING AN EFFECTIVE WORKFORCE STRAT-*

large emissions sources is quite a bit smaller, perhaps 700,000 facilities, and the targeting of enforcement activities may substantially increase the inspection frequency for many of the largest or most recalcitrant emissions sources.<sup>254</sup> Nevertheless, official inspection rates for many sources are remarkably low.

In addition, even with increases in statutorily authorized penalties over the last two decades, the mean and median fines actually levied on violators are also quite low. For example, in 1995 the median administrative fine imposed by EPA was approximately \$4,000.<sup>255</sup> Thus, even if the largest emissions sources are subject to higher than average inspection rates, the small size of the fines suggests they will have a limited deterrent effect.

Despite the small risks of inspections and the small size of sanctions, compliance rates are widely regarded to be higher than predicted by the standard deterrence model.<sup>256</sup> This is a necessarily rough conclusion for many reasons. A wide range of estimates are available for both inspection rates and mean or median size of penalties, perceived risks may exceed actual risks, and the compliance calculus for any one decision requires consideration of the per-

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EGY WOULD HELP EPA ACHIEVE ITS STRATEGIC GOALS 22 (2001). The Environmental Council of the States has reported that 1.75 million sites were regulated by the states in 1999, of which 501,000 were inspected and 449,000 were subject to additional compliance evaluations. ENVTL. COUNCIL OF THE STATES, *STATE ENVIRONMENTAL AGENCY CONTRIBUTIONS TO ENFORCEMENT AND COMPLIANCE* 13 (2001). In addition, the percentage of violations that result in sanctions and the size of the sanctions are disputed. See, e.g., Steve Cook, *Budget, Staffing Cuts May Harm EPA Enforcement*, *GAO Report Says*, 32 *Env't Rep.* (BNA) 1686, 1687 (Aug. 24, 2001) (quoting an environmentalist for the assertion that although states conduct 90% of the inspections of regulated entities, they collect only 15% to 30% of the penalties).

254. One estimate suggests that EPA regulates over 700,000 facilities. Eric S. Schaefer, *Encouraging Voluntary Compliance Without Compromising Enforcement: EPA's 1995 Auditing Policy*, in 1 *PROCEEDINGS: FOURTH INTERNATIONAL CONFERENCE ON ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT* 451, 453 (Chiang Mai, Thailand, 1996). The GAO has reported that inspection rates for regulated major sources under the Clean Air Act in EPA's regions range from a low of 27% per year to a high of 80%. U.S. GEN. ACCOUNTING OFFICE, *supra* note 126, at 19. See also CLIFFORD S. RUSSELL ET AL., *ENFORCING POLLUTION CONTROL LAWS* 37-43 (1986) (discussing infrequent monitoring and small fines of many state and local environmental enforcement programs in the United States).

255. See Kelly Kristen Lear, *An Empirical Examination of EPA Administrative Penalties* 17 (Kelley School of Business Working Paper, 1998). The average penalty was \$10,181 and the maximum was \$125,000. *Id.* at 16.

256. Cohen concludes that although there is some disagreement about the actual environmental compliance rates in the United States, the "stylized fact" is that compliance rates exceed the rates that would be anticipated given the relative infrequent monitoring and low penalties levied for noncompliance. Cohen, *supra* note 19, at 47 n.6.

ceived cost of compliance.<sup>257</sup> Together, these considerations cast doubt on any single prediction of the overall level of compliance using the deterrence model. Nevertheless, observed compliance seems surprisingly high given the low certainty and severity of sanctions.

The tax compliance literature is remarkably consistent with the environmental compliance literature on this point. There is widespread agreement that tax compliance in the United States is higher than the standard deterrence model would predict.<sup>258</sup> As with environmental compliance, the probability of detection and the size of the formal legal sanction are low in the tax area.<sup>259</sup> Nevertheless, a 1992 estimate concluded that eighty-three percent of the total tax liability was collected despite the low risks of detection and even lower risks of penalties.<sup>260</sup> In addition, this level of compliance does not appear to be a short-term phenomenon—the proportion of taxes owed that remain unpaid each year has remained roughly constant from 1973 to 1992.<sup>261</sup>

As with the other anomalies in the deterrence model predic-

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257. See, e.g., Toni Makkai & John Braithwaite, *The Limits of the Economic Analysis of Regulation: An Empirical Case and A Case for Empiricism*, 15 LAW & POL'Y 271, 279 (1993) (concluding that the actual cost of compliance only explained 19% of the variance in the expected cost of compliance).

258. See, e.g., Sheffrin & Triest, *supra* note 200, at 193; Andreoni et al., *supra* note 68, at 821 (concluding that “[t]aking information reporting into account, taxpayers still appear to be more honest than might be expected”).

259. Tax audit rates are quite low. They have varied from 4.8% to 0.8% between 1965 and 1995. Andreoni et al., *supra* note 68, at 820. In addition, penalties are not imposed in the great majority of cases. One recent literature review concluded that only 4.1% of audited returns resulted in a penalty. *Id.* at 821. One possible explanation for the higher than anticipated tax compliance rates is that perceived detection rates are more important than actual ones. Although studies suggest that individuals overestimate their chance of being detected, there is a strong association between moral commitment to comply and overestimates of the likelihood of detection. *Id.* at 846. It is unclear which direction the causation arrow points, or if there is one. *Id.* at 845. In addition, studies suggest that the transaction costs (in monetary terms and guilt) of an audit also can be substantial, leading some taxpayers to over-comply to avoid triggering an audit. *Id.* at 833.

260. See Andreoni et al., *supra* note 68, at 819.

261. A 1992 estimate concluded that approximately 17% of the total tax liability was not collected and put the cost of that foregone collection at \$95 billion annually. *Id.* The “tax gap” studies that have been noted by the social norms theorists in the legal literature were conducted because of the substantial size of the gap between compliance and non-compliance. As with environmental noncompliance, even relatively low levels of tax non-compliance, when aggregated across a vast number of regulated entities, can have substantial negative effects. An estimate by the IRS of the cost of noncompliance with tax laws by corporations and individuals in 1987 was \$84.9 billion, or roughly 20% of the total tax liability. Joel Slemrod, *Why People Pay Taxes: Introduction*, in WHY PEOPLE PAY TAXES, *supra* note 44, at 1.

tions, the social norms included in the conceptual framework may be at work. For example, the internal and external effects of the law compliance norm, either alone or in combination with other norms, may help explain the surprisingly high levels of observed environmental law compliance. In an oft-cited observation, Chester Bowles, the Administrator of the Office of Price Administration during the Second World War, asserted that twenty percent of the regulated community will automatically comply with any regulation just because it is the law, five percent will seek to evade the regulation, and the remaining seventy-five percent will comply as long as they believe that the evading five percent will be caught and punished.<sup>262</sup> A recent study provides empirical confirmation of a division along these lines in at least one group of regulated firms.<sup>263</sup> A plausible hypothesis is that the existence of these compliance groups is a reflection of differences in the norms of firm owners or managers.

## B. *Internal Norms*

Norms appear to provide plausible explanations for a number of the anomalies detected in tests of the standard deterrence model's predictions, but do studies support these norm-based explanations? Have internal norms and external norms been demonstrated to affect environmental compliance levels at the individual, facility or firm levels? The next two Subparts examine the data on internal and external norms.

### 1. *Environmental studies.*

At the outset, no published quantitative study has examined the

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262. See BARDACH & KAGAN, *supra* note 86, at 65 (citing CHESTER BOWLES, *PROMISES TO KEEP: MY YEARS IN PUBLIC LIFE, 1941-1969* 25 (1971)). The Bowles observation has been cited in many sources. See, e.g., AYRES & BRAITHWAITE, *supra* note 13, at 26; Michael, *supra* note 14, at 537 (noting that "the depth and breadth of modern federal regulation and limits on federal resources make it increasingly difficult to find that evasive five percent" and that "[b]ecause of this difficulty, the cooperation of the vast majority is put in jeopardy"); John T. Scholz, *Enforcement Policy and Corporate Misconduct: The Changing Perspective of Deterrence Theory*, 60 L. & CONTEMP. PROBS. 253, 262 (1997). The approach offered by Eric Posner in his recent examination of the tax compliance literature is consistent with the Bowles quote as well. Borrowing an image used by Larry Langdon, former Commissioner of the IRS Large and Midsize Business Division, Posner suggests that the regulated community consists of a mainstream or white hat community, a marginal or gray hat community and a deviant or black hat community. See Posner, *supra* note 48, at 1795-97.

263. See Braithwaite & Makkai, *supra* note 88, at 206 (noting similar compliance groups among nursing homes).

relationship between the internal norms of corporate environmental decision-makers and actual facility-level environmental compliance.<sup>264</sup> Several quantitative studies provide initial indications, however, that internal norms may affect individual- or facility-level environmental compliance. Two studies have used vignettes regarding environmental emissions to examine the self-reported behavioral intentions of current or potential business managers. Neither study examined the relationship between internal norms and actual individual-, facility- or firm-level environmental compliance, but the studies do provide an indication of how the surveyed individuals' intentions to comply correlate with internal norms.

The first study, conducted by Raymond Paternoster and Sally Simpson, included environmental compliance as one of four vignettes in a study of corporate crime. The study surveyed current business managers and business students.<sup>265</sup> It found that formal legal sanctions and external social sanctions constrained noncompliance, but internal norm effects had the greatest influence.<sup>266</sup> The study concluded that when moral inhibitions were weak, formal and informal sanctions and organizational context affected deterrence, but when individuals' moral inhibitions were high, "consideration of the cost and benefit of corporate crime was virtually superfluous."<sup>267</sup>

The second study, conducted by Brenda Flannery and Douglas May, surveyed managers of metal finishing firms. The study examined the managers' responses to questions based on vignettes regarding hazardous wastewater treatment.<sup>268</sup> The study concluded that cost, internal norms and external norms all affected the behavioral intentions of the managers, although the effects of internal norms were weak.<sup>269</sup>

A third study in the environmental area, conducted by Mark

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264. This is not surprising given that most of the quantitative empirical studies that have evaluated the deterrence model have been influential but have not examined motivations to comply. For an exception, see generally Braithwaite & Makkai, *supra* note 229 (examining nursing home compliance).

265. Paternoster & Simpson, *supra* note 63, at 571 (noting that moral beliefs have a strong inhibitory effect on behavioral intentions).

266. *Id.* at 549, 570 (referring to internal norm effects as "moral inhibitions" and describing the sense of "personal shame" that would accompany the commission of the act).

267. *Id.* at 549.

268. Flannery & May, *supra* note 107, at 643.

269. *Id.* at 653 (concluding that costs, external norms and internal norms all "significantly contributed to explained variance in managers' decision intentions").

Cordano and Irene Frieze, did not review environmental compliance directly but explored the intentions of business managers to undertake voluntary corporate pollution prevention activities.<sup>270</sup> The study suggested that internal norms are closely associated with the intention of an individual manager to conduct pro-environmental behavior in a firm. The authors predicted that environmental managers' internal norms about pollution prevention would positively relate to their preference to implement source reduction activities. The results suggest that, among the several factors considered in the study, internal norms yield the strongest relationship with behavioral preferences for pollution prevention activity.<sup>271</sup>

A number of qualitative studies also have examined the influences on individual decision-making processes of corporate managers. These studies indicate that although internal norms may influence compliance, the influence does not always lead to increased compliance. A substantial anti-environmental sentiment among business managers may subvert, rather than support, compliance. The Bardach and Kagan study concluded that regulatory unreasonableness contributed to a culture of resistance among business managers.<sup>272</sup> A 1988 study likewise concluded that the organizational climate in corporations limited the influence of business managers' moral concerns on regulatory compliance decision-

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270. Mark Cordano & Irene Hanson Frieze, *Pollution Reduction Preferences of U.S. Environmental Managers: Applying Ajzen's Theory of Planned Behavior*, 43 *ACAD. OF MGMT. J.* 627 (2000) (referring to internal norms as attitudes).

271. Environmental managers' assessments of external norms about environmental regulation (called "subjective norms" in the study) were positively correlated to their preference to implement source reduction activities. *Id.* at 636. Cordano and Frieze found attitudes or internal norms supporting pollution prevention to be widespread among environmental managers in corporations. *Id.* at 635. These internal norms yielded the strongest relationship with behavioral preferences for source reduction activity, consistent with other tests of the theory of planned behavior. These internal social norms, however, did not correspond to corporate behavior. Not surprisingly, the study suggests that internal norms may not lead directly to corporate behavior. Instead, barriers may be formed by external social norms in the organization, or by financial, technological or other constraints on capacity to comply. See Cordano & Frieze, *supra* note 270, at 636. Internal norms or attitudes also have been found to influence recycling by individuals. See Carlson, *supra* note 98, at 1281-85 (reviewing studies). Carlson concludes that the studies on recycling demonstrate that "norm internalization matters in predicting compliance with a norm for high-effort behavior: the stronger one believes in a norm the more effort she will exert." *Id.* at 1299.

272. See BARDACH & KAGAN, *supra* note 86, at 112-19. In addition, a study of Clean Water Act enforcement activities in the 1970s and 1980s concluded that norms of environmental law compliance were overwhelmed by other, anti-environmental norm influences. See YEAGER, *supra* note 26, at 251-96.

making.<sup>273</sup> Similarly, a review of water quality enforcement in the United Kingdom concluded that the internal norms of business managers, as well as the public, regarding compliance with environmental and economic regulations were more ambivalent than those concerning violations of many other laws.<sup>274</sup> The bulk of the qualitative studies are more than a decade old, however, and a more current examination of corporate managers' norms regarding the environment is needed to assess whether the earlier findings remain valid.

## 2. *Studies of other regulatory areas.*

Additional studies of internal norms have been conducted regarding compliance with criminal, nursing home, tax and other laws. Several studies suggest a significant role for internal norms in the compliance-related decision-making of business managers and behavior at the facility or firm level. For example, a study involving interviews of retired middle managers found that the middle managers believed that top management behavior, rather than financial pressure, was the principal influence on ethical behavior by firms.<sup>275</sup> Similarly, a review of the literature containing interviews of corporate managers noted that managers believe that they are motivated by informal social obligations in addition to economic considerations.<sup>276</sup> A study of corporate criminal behavior concluded that internal norms of law compliance inhibited offending decisions, regardless of the social cost accompanying commitment of the act.<sup>277</sup> Likewise, a study of corporate managers concluded that negative publicity triggered both internal and external norm effects. As to internal norm effects, it found that the impact of negative publicity on the managers' self-esteem was a more effective deterrent than formal sanctions.<sup>278</sup>

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273. See JACKALL, *supra* note 114, at 101-33.

274. HAWKINS, *supra* note 28, at 204 (noting that "offenses against regulation have not been culturally absorbed and do not invite the same condemnation as breaches of the traditional code; except when hazardous behavior is the result of negligent or deliberate misconduct").

275. See MARSHALL B. CLINARD, *CORPORATE ETHICS AND CRIME: THE ROLE OF MIDDLE MANAGEMENT* 53 (1983).

276. AYRES & BRAITHWAITE, *supra* note 13, at 21-30.

277. See Lori Ellis & Sally S. Simpson, *Informal Sanction Threats and Corporate Crime: Additive Versus Multiplicative Models*, 32 J. RES. CRIME & DELINQ. 399 (1995).

278. FISSE & BRAITHWAITE, *supra* note 136, at 317-21. A 1992 study of corporate managers' criminal compliance reached similar conclusions. Sally S. Simpson, *Corporate Crime Deterrence and Corporate Control Policies: Views from the Inside*, in *WHITE COLLAR CRIME RECON-*



Studies of nursing home managers in Australia concluded that the severity of legal sanctions did not predict nursing home regulatory compliance, and the certainty of detection did so only to a limited extent.<sup>279</sup> Participation in a subculture of resistance that undermined the legitimacy of the standards, however, was associated with noncompliance, and moral beliefs in the regulations were associated with compliance.<sup>280</sup> Nursing home managers who expressed a belief that those responsible for meeting compliance standards should feel guilty for noncompliance generally scored higher on compliance.<sup>281</sup>

Studies of tax compliance also support these findings at the individual level.<sup>282</sup> An early study employed questions designed to fo-

SIDERED 289, 299 (Kip Schlegel & David Weisburd eds., 1992). Braithwaite has asserted that “[s]ociety gets more protection from the habit-forming value of law than from its deterrent value.” John T. Braithwaite, *The Limits of Economism in Controlling Harmful Corporate Conduct*, 16 LAW & SOC’Y REV. 481, 489 (1981-82). See also Harold G. Grasmick & Robert J. Bursik, Jr., *Conscience, Significant Others and Rational Choice: Extending the Deterrence Model*, 24 LAW & SOC’Y REV. 837, 853-54 (1990) (finding that self-imposed feelings of shame had a strongly deterrent effect for drunk driving, tax cheating, and petty theft); TYLER, *supra* note 69, at 60 (concluding on the basis of a survey of randomly selected Chicago citizens that “the most important incremental contribution is made by personal morality”).

279. See Braithwaite & Makkai, *supra* note 229, at 35 (finding “little support for the additive or multiplicative effects of the certainty of detection, the certainty of punishment, and the severity of punishment,” and concluding that only the effect of state-level [as opposed to federal-level] certainty of detections “gives some hope that the deterrence doctrine is not a total irrelevance in this domain”).

280. See Makkai & Braithwaite, *supra* note 88, at 213 (noting that the differences were observed in government-generated data, not in self-reported data on compliance, and suggesting that those who resist compliance give themselves higher compliance ratings than government inspectors). Note that in an analysis using panel data, Makkai and Braithwaite did not confirm the belief in standards but did uncover a significant “guilt” effect. See Toni Makkai & John Braithwaite, *The Dialectics of Corporate Deterrence*, 31 J. RES. CRIME & DELINQ. 347, 358 (1994).

281. See Makkai & Braithwaite, *supra* note 280, at 360-61.

282. See Andreoni et al., *supra* note 68, at 822 (surveying the literature and finding some deterrent effect from tax enforcement, but noting that “the magnitude of the effect is uncertain”). The tax literature includes an extensive review of internal norms. Roth and coworkers define commitment to obey the law as “the individual’s perceived moral obligation to obey, based on internalized beliefs and attitudes.” Panel on Taxpayer Compliance Research, *supra* note 69, at 118. A recent tax survey may have detected a change in internal norms regarding tax compliance that coincides with decreases in deterrence-based enforcement by the IRS over the last several years. See U.S. INTERNAL REVENUE SERV., TAX OVERSIGHT BOARD, 2001 ANNUAL REPORT (Executive Summary) Table ES-1 (2002) (noting that between 1999 and 2001 the percentage of survey respondents who think it is “not at all” acceptable to cheat on income taxes decreased from 87% to 76%). One older survey found little or no effect from deterrence on all but the taxpayers most likely to comply. See Hessing et al., *supra* note 250, at 304; see also J.C. Baldry, *Tax Evasion is Not a Gamble: A Report on Two Experiments*, 22 ECON. LETTERS 333, 335 (1986) (concluding that the decision to evade taxes was influenced by external norms and internal norms (“moral costs”) as well

cus the taxpayer on either deterrence (the prospect of being audited or punished) or on the taxpayer's internal norms of law compliance.<sup>283</sup> The authors concluded that appeals to internal norms appeared to increase compliance levels, but threats of formal sanctions had little or no impact on compliance levels.<sup>284</sup> A more recent tax compliance study concluded that the standard legal deterrence model of tax compliance can better explain the empirical findings if variables are added to account for non-pecuniary costs, including an "honesty characteristic" (which roughly corresponds to the notion of an internal norm) and interdependence among taxpayers (a potential external norm effect).<sup>285</sup> The study concluded that accounting for non-pecuniary costs in this way improved the explanatory value of the standard deterrence model.<sup>286</sup> Overall, the quantitative tax compliance studies are remarkably consistent with the other studies of regulatory compliance, suggesting that internal norms may have a substantial influence on environmental compliance as well.

On the whole, the quantitative and qualitative studies that have examined motivations to comply suggest that internal norms are likely to influence both individual managers' decision-making and facility- or firm-level environmental compliance. In fact, among internal norm sanctions, external social sanctions and formal legal sanctions, internal norm sanctions have been identified as the most influential in several regulatory compliance areas.<sup>287</sup> Initial re-

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as expected economic returns). Shapiro and Rabinowitz have noted that if a manager has internalized a general duty to obey the law or specific norm related to health and safety rules (because of training), the norm might stimulate compliance; but the effect of such norms may be weakened by the mixed messages society sends about who is responsible for protecting workers. Shapiro & Rabinowitz, *supra* note 95, at 130.

283. See Richard D. Schwartz & Sonya Orleans, *On Legal Sanctions*, 34 U. CHI. L. REV. 274, 299-300 (1966/67) (describing internal norms as "social commitment").

284. See *id.*; see also Panel on Taxpayer Compliance Research, *supra* note 69, at 79 (discussing methodological weaknesses in the Schwartz and Orleans study).

285. James P.F. Gordon, *Individual Morality and Reputation Costs as Deterrents to Tax Evasion*, 33 EUR. ECON. REV. 797, 797-98 (1989).

286. *Id.* The study examined an internal norm effect: the non-pecuniary cost arising from private stigma (anxiety, guilt or a reduction in self-image) that may be suffered upon detection.

287. Grasmick and Scott found that guilt is the strongest sanction of the three Wrong factors, followed by social sanctions and legal sanctions. Harold G. Grasmick & Wilbur J. Scott, *Tax Evasion and Mechanisms of Social Control: Comparison with Grand and Petty Theft*, 2 J. ECON. PSYCHOL. 213, 227 (1982). See also Makkai & Braithwaite, *supra* note 138, at 377 (nursing home compliance); Panel on Taxpayer Compliance Research, *supra* note 69, at 120 (tax compliance). High moral commitment to obeying tax laws increases self-disclosure to researchers of tax evasion, but it is not clear whether these individuals actually are

search suggests that this finding also may hold true for environmental compliance; thus internal norms may be the most important aspect of informal social regulation for environmental compliance.<sup>288</sup>

### C. *External Norms*

Studies have suggested that external social sanctions also may influence environmental noncompliance and environmental performance, but again the studies typically have not combined facility- or firm-level quantitative assessments of environmental behavior with surveys of changes in individual managers' norms. As a result, when viewed in the aggregate the studies are suggestive but not conclusive. For example, stock values appear to decline following disclosure of information about releases of hazardous materials that may lead to enforcement actions.<sup>289</sup> EPA announcements of environmental enforcement actions, the filing of private cost recovery actions under the Superfund statute,<sup>290</sup> and worker health and safety enforcement actions also have affected stock values.<sup>291</sup> But it is unclear whether the stock price declines exceed the amount of the expected penalties. In other words, the stock price changes may simply reflect the cost of the environmental liability, not an additional external norm effect.<sup>292</sup>

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more compliant. See Panel on Taxpayer Compliance Research, *supra* note 69, at 73. The tax studies that demonstrate the role of moral commitment are subject to a number of methodological weaknesses, including the role of self-deception (e.g., respondents who agree with the statement that "[i]t is okay to claim an undeserved deduction when you are not really sure what the rule is"). *Id.* at 122. Roth and coworkers conclude that "although the small number of studies and problems associated with each leave many questions unanswered, the overall weight of the evidence supports the basic hypothesis that commitment plays a significant role in explaining tax compliance behavior." *Id.* at 123.

288. See, e.g., Paternoster & Simpson, *supra* note 63, at 568, 581.

289. See Benoît Laplante & Paul Lanoie, *The Market Response to Environmental Incidents in Canada: A Theoretical and Empirical Analysis*, 60 S. ECON. J. 657, 657 (1994).

290. See Mary E. Barth & Maureen F. McNichols, *Estimation and Market Valuation of Environmental Liabilities Relating to Superfund Sites*, 32 J. ACCT. RES. 177, 205 (Supp. 1994) (concluding that publicly traded firms' market value reflects future Superfund liability); Michael I. Muoghalu et al., *Hazardous Waste Lawsuits, Stockholder Returns and Deterrence*, 57 S. ECON. J. 357, 365 (1990) (concluding that Superfund cost recovery actions affect market value).

291. See Clifford L. Fry & Insup Lee, *OSHA Sanctions and the Value of the Firm*, 24 FIN. REV. 599 (1989) (concluding that OSHA actions affect market value).

292. See Jonathan M. Karpoff et al., *Environmental Violations, Legal Penalties, and Reputation Costs* 24 (John M. Olin Law & Economics Working Paper No. 071, Oct. 1999), available at <http://www.law.uchicago.edu/Lawecon/> (last visited Nov. 2, 2002). Reputation costs of actual final determinations of sanctions may not be significant, but an adverse impact on the market value of companies may still occur at the time of the announcement of the

Several other studies of corporate environmental compliance appear to have identified external norm effects. A study of a combined enforcement and public disclosure campaign by the British Columbia environmental authority found that an increased threat of formal legal sanctions reduced the environmental emissions of the regulated pulp and paper plants, but public disclosure created "additional and strong incentives for pollution control."<sup>293</sup> An innovative program in Indonesia also suggests that external social norms may influence facility-level environmental performance.<sup>294</sup> The Program for Pollution Control, Evaluation and Rating (PROPER) initiative grouped facilities into one of five categories based on the facilities' compliance and environmental performance. The categories were color-coded (e.g., the best were in the gold category) to facilitate easy public interpretation of the facilities' status. The list was then publicly announced. A subsequent examination of facility performance suggests that many moved up in the rankings. The risk of detection and severity sanctions remained very small throughout the study period, and enforcement policy did not change during the period, suggesting that the behavioral changes were not the result of a perceived increase in the likelihood or severity of formal legal sanctions.<sup>295</sup> Facility managers were not surveyed regarding the factors that influenced their decision-making, however, so it is unclear whether the changes were the product of fear of informal social sanctions or of concern

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action against them, and the adverse impact may correlate closely to the claimed damages or penalties. *Id.* at 10. For a discussion of the impacts of environmental information on consumer purchasing decisions, see Menell, *supra* note 101, at 1435.

293. Foulon et al., *supra* note 99, at 31 (noting the influence of public disclosure on pulp mills in British Columbia) (emphasis in original).

294. See generally Afsah et al., *supra* note 99 (explaining the influence of an facility-ranking disclosure initiative on Indonesian industrial facilities). See also Sheoli Pargal & David Wheeler, *Informal Regulation of Industrial Pollution in Developing Countries: Evidence from Indonesia*, 104 J. POL. ECON. 1314 (1996); Sheoli Pargal et al., *Formal and Informal Regulation of Industrial Pollution: Comparative Evidence from Indonesia and the United States* (World Bank Policy Research Department Working Paper No. 1797, 1997); Tom Tietenberg & David Wheeler, *Empowering the Community: Information Strategies for Pollution Control* (paper presented at Frontiers of Environmental Economics Conference, Airlie House, Virginia, Oct. 1998).

295. David Wheeler, *Information in Pollution Management: The New Model*, in WORLD BANK, BRAZIL: MANAGING POLLUTION PROBLEMS 15 (1997) (explaining that the number of firms in two of the top PROPER categories increased from sixty-six to ninety-nine and that the ratings may educate facility owners regarding the environmental status of their plants, in addition to creating informal external social pressure for better environmental performance).

about changes in the perceived value of the company by capital markets or other factors.

External norm effects can be inferred from several other studies of corporate environmental compliance. For example, a study of an EPA voluntary toxic emissions reduction program found that participating firms were more likely than non-participants to belong to industry sectors with consumer contact.<sup>296</sup> Other studies have been conducted on the Toxics Release Inventory, the publicly available compilation of toxic chemical emissions by large firms discussed earlier in this article. Firms are required to report emissions that exceed threshold amounts, even if those emissions are legal.<sup>297</sup> Studies suggest that news stories generated by the initial release of the Toxics Release Inventory data to the public had a negative impact on the stock value of publicly traded firms that reported substantial releases.<sup>298</sup> In addition, a study of firm behavior following release of the data concluded that those firms with the largest negative returns reduced their emissions more than other firms.<sup>299</sup> An

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296. See, e.g., Seema Arora & Timothy N. Cason, *Why Do Firms Volunteer to Exceed Environmental Regulations? Understanding Participation in EPA's 33/50 Program*, 72 *LAND ECON.* 413, 426 (1996) (finding that firms that participated in an EPA voluntary toxics reduction program were more likely to be in industries with greater consumer contact, using advertising expenditures as a proxy for consumer contact).

297. For a brief explanation of the Toxics Release Inventory, see *supra* note 123 and accompanying text.

298. James T. Hamilton, *Pollution as News: Media and Stock Market Reactions to the Toxics Release Inventory Data*, 28 *J. ENVTL. ECON. & MGMT.* 98, 108 (1995) (finding in an analysis of 436 public companies that the first public announcement of the Toxics Release Inventory data in 1989 was associated with abnormal (negative) returns of 0.3% on the day of public release of the data, amounting to an average of \$4.1 million per firm). Hamilton attributed the abnormal negative returns to unanticipated news regarding increased pollution control costs. For reviews of the literature on the impact of information on environmental compliance and emissions, see Cohen, *supra* note 14, at 10,250; David W. Case, *The Law and Economics of Environmental Information as Regulation*, 31 *Envtl. L. Rep. (Envtl. L. Inst.)* 10,773 (2001).

299. Shameek Konar & Mark A. Cohen, *Information as Regulation: The Effect of Community Right to Know Laws on Toxic Emissions*, 32 *J. ENVTL. ECON. & MGMT.* 109, 123 (1997) (finding in an analysis of the forty firms with the largest abnormal negative stock returns in 1989 as a result of the Toxics Release Inventory data that these firms reduced their Toxics Release Inventory emissions more than other firms in their industry sectors and had a lower likelihood of government fines in later years); see also Walter G. Blacconiere & W. Dana Northcut, *Environmental Information and Market Reactions to Environmental Legislation*, 12 *J. ACCT., AUDITING & FIN.* 149, 177 (1997). But see Madhu Khanna et al., *Toxics Release Information: A Policy Tool for Environmental Protection*, 36 *J. ENVTL. ECON. & MGMT.* 243, 245 (1998) (concluding, in a study of chemical industry firms over the period of 1990 to 1994, that negative stock returns following the disclosure of Toxics Release Inventory data had a significant effect on the amount of wastes transferred off-site and a negligible impact on the total amounts of toxic wastes generated by the firms).

analysis of the environmental reputation effects on large firms of securities disclosures of environmental lawsuits and Toxics Release Inventory data concluded that disclosures regarding even legally emitted toxic chemicals had a significant effect on the intangible asset value of publicly traded companies, with the average intangible asset value loss approaching \$380 million.<sup>300</sup> Anecdotal information suggests that in the United States, community groups use public disclosure of toxic emissions data to exert social pressure on facilities and firms. Until combined quantitative and qualitative studies are conducted, however, it will not be possible to assess the link between changes in individual-, facility- or firm-level environmental behavior and the norms of individual decision-makers.<sup>301</sup>

The Cordano and Frieze pollution prevention study discussed above also identified a potential external norm effect on individual environmental managers. The study found that environmental managers' internal norms were positively correlated with their attitude toward implementing pollution prevention activities, but those attitudes did not correspond to corporate actions.<sup>302</sup> Although the environmental managers' internal norms supported pollution prevention, they did not feel external social pressure from other business managers to conduct pollution prevention. The study results may suggest that pecuniary considerations prevailed in decision-making or that the pro-environmental internal norms held by the environmental managers were counteracted by the external norm influences of others in their firms.<sup>303</sup>

In addition, several of the studies discussed above in connection with internal norms detected external norm effects. For example, the study of the impact of adverse publicity on corporate managers found that the managers' social relationships were an important deterrent to noncompliance, more so than formal sanc-

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300. Shameek Konar & Mark A. Cohen, *Does the Market Value Environmental Performance?*, 83 REV. ECON. & STAT. 281, 287-89 (2001) (analyzing the environmental reputation effects on 321 of the S&P 500 firms based on securities disclosures of environmental lawsuits and Toxics Release Inventory releases and finding that the average intangible-asset value loss from bad environmental performance was \$380 million, or nine percent of the replacement value of the assets).

301. For example, the effects may not arise from external social regulation, but rather from changes in perceptions about the efficiency of the firms' operations, or increased risks of enforcement inspections or tort liability. For a discussion of the use of Toxics Release Inventory information in informal social regulation, see Karkkainen, *supra* note 123, at 316-23.

302. See Cordano & Frieze, *supra* note 270, at 636.

303. *Id.*

tions.<sup>304</sup> The studies of nursing home managers also concluded that managers were more deterred by external norm effects than by formal legal sanctions. The external norm effects included the influence of a subculture of resistance, which undermined the legitimacy of the regulatory requirement.<sup>305</sup> The study concluded that accounting for interdependence in this way improved the explanatory value of the standard deterrence model.<sup>306</sup>

#### D. *Future Research*

In sum, environmental enforcement and the debate about its future have proceeded largely without defensible empirical results regarding the relationships among the norms relevant to environmental compliance, the impact of enforcement approaches on those norms, and actual facility- or firm-level compliance. This research gap results in part from the challenge of gathering and analyzing environmental compliance data, but several recent developments suggest that this challenge may not be as great as it once was.<sup>307</sup> Following the reorganization of EPA's enforcement

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304. See FISSE & BRAITHWAITE, *supra* note 136, at 279.

305. See John Braithwaite & Toni Makkai, *Criminological Theories and Regulatory Compliance*, 29 *CRIMINOLOGY* 191, 213 (1991).

306. The tax literature suggests that external social norms are influential, at least at the individual level. See Panel on Taxpayer Compliance Research, *supra* note 69, at 112. Informal external social sanctions may affect tax compliance in several ways, but given the extent of the legal norms literature on the impact of external norms on tax compliance, the empirical research base regarding those effects is surprisingly thin. One indication of the role of external norms is that voluntary compliance is associated with whether a person's friends or acquaintances are noncompliant. *Id.* Several studies conclude that taxpayers who have non-compliant friends report less compliance themselves. This phenomenon could arise from the norm of conformity, perceptions about the likelihood of getting caught, a social signal that a particular law is unimportant, the desire not to be a "sucker," or other causes. *Id.* at 31. The strength of the inference and the relative roles of formal and informal sanctions in this process are the subject of substantial dispute. See, e.g., Grasmick & Green, *supra* note 15, at 328. A study of whether individuals express future intentions not to comply suggests that there is such a relationship. Panel on Taxpayer Compliance Research, *supra* note 69, at 113. The studies in this area should be approached cautiously, however, because of potential erroneous self-reporting. *Id.* One tax study found that, in determining compliance rates, the economic burden of the tax was less important than one's acquaintances. Steenbergen et al., *supra* note 202, at 29-30, 32. Based on interviews with taxpayers, the study's authors concluded that the social influence arising from discussions of taxes influenced the taxpayers' internal norms and their compliance rates. Similarly, Gordon concluded that the standard deterrence model of tax compliance can better explain the empirical findings if variables are added to account for non-pecuniary costs, including an internal norm effect and external reputation damage suffered upon detection. See Gordon, *supra* note 285, at 798.

307. See Cohen, *supra* note 19, at 44-45 (noting the difficulty of conducting enforcement research and the recent growth in data availability). In addition, many academic

program in 1993 and 1994, EPA has placed a new emphasis on measuring the extent and nature of its enforcement activities and on evaluating the extent to which enforcement efforts and compliance assistance programs stimulate changes in environmental performance.<sup>308</sup> EPA also has begun to make new facility-level compliance data publicly available, enabling researchers to examine the effects of enforcement on different business sectors.<sup>309</sup> In June 2001, the National Academy of Public Administration strongly endorsed additional research on the impacts of enforcement on environmental conditions in an effort to better target enforcement efforts toward human health and environmental risks.<sup>310</sup>

The increased availability of compliance data alone will not solve the problem. The research gap also stems from an equally daunting challenge—the difficulty of conducting interdisciplinary research. Many of the quantitative studies of environmental compliance have been conducted by economists and others who traditionally have not focused on norms and related social influences on individual decision-making. Many of the qualitative studies have been conducted by sociologists or social psychologists who traditionally have not focused on relating qualitative findings to quantitative measures of facility- or firm-level performance.

The fact that these two areas of research generally have remained ships passing in the night is more than an intellectual curiosity. If social science researchers do not generate defensible empirical studies of the relationship between formal legal sanctions, internal norms, external norms and compliance, the predictive powers of the deterrence model are unlikely to be improved. In the absence of such improvements, the debate among policy-makers is likely to continue swinging between unproven empirical assertions regarding the effectiveness of various enforcement techniques, and scarce enforcement resources will be wasted on ineffective or even counterproductive programs.

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studies focus on the making of law, rather than its enforcement. *See, e.g.*, Farber, *supra* note 14, at 322-23.

308. *See* Markell, *supra* note 24, at 7-8. *See generally* Jon D. Silberman, *Does Environmental Deterrence Work? Evidence and Experience Say Yes, But We Need to Understand How and Why*, 30 *Envl. L. Rep. (Envl. L. Inst.)* 10,523, 10,523 (2000).

309. *See, e.g.*, U.S. ENVTL. PROT. AGENCY, INTEGRATED DATA FOR ENFORCEMENT ANALYSIS, available at <http://www.epa.gov/compliance/planning/data/multimedia/idea/index.html> (last visited Nov. 2, 2002).

310. NAT'L ACAD. OF PUB. ADMIN., *supra* note 115, at 36.



In recent years, a number of social scientists have begun to use quantitative techniques to explore the role of norms in compliance with several regulatory schemes, but the relationship between social norms and environmental compliance remains largely unexplored. The time is ripe for more complete and rapid progress in this area. Direction for this research effort can be found in recent developments in social norms scholarship among economists and lawyers, and in recent studies by sociologists and social psychologists.<sup>311</sup>

The conceptual framework proposed here takes an important step in the development of the research agenda for this work. It proposes a typology of potentially influential norms and accounts for some of the ways in which enforcement interventions may affect the norms and the interactions among them. The interactions among the norms may be complex, but testing the effect of different enforcement interventions on the intensity or different lexical orderings of these norms among corporate environmental decision-makers and the individuals who influence their behavior may lead to more accurate predictions of compliance behavior and more effective enforcement prescriptions.

## V. CONCLUSION

The environmental enforcement debate has been vigorous, but it has not led to anything close to a consensus on the appropriate mix of enforcement strategies. Instead, like debates over many other environmental issues, the enforcement debate has swung between two options—deterrence and cooperation—that are unnecessarily and unwisely regarded as mutually exclusive. That dynamic is reflected in and perpetuated by existing research, which often frames the basic decision about enforcement prescriptions as a choice between the approaches supported by either the deterrence

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311. To have influence in the policy-making process, the environmental enforcement research will need to bridge the gap between the quantitative economic studies and the qualitative sociology studies that have been conducted to date. The research will need to be based on a research design that both generates defensible, quantitative results and focuses on understanding motivations to comply. Research into the effect of social norms on environmental compliance could be conducted in several ways. As discussed above, the National Academy of Public Administration (NAPA) has recently identified the need to develop data and methodologies that will allow enforcement to be evaluated in terms of its environmental impacts. The effort suggested by NAPA could be broadened to look at not only the impact of environmental information on the evaluation of enforcement performance, but also the effect of environmental information and enforcement interventions generally on the informal social norms that may play a large role in compliance.

model or the cooperation model.<sup>312</sup> In particular, the debate has led to calls for research on whether formal legal deterrence or more cooperative strategies generate the highest levels of compliance. Yet research framed by such a bi-polar model may not only be unenlightening, it also may produce misleading results.<sup>313</sup>

The interactions among norms, enforcement and compliance are complex; and the research regarding those interactions that this article proposes will be complex. The challenges range from the absence of a governing paradigm regarding the existence and function of norms to the heterogeneity of current environmental enforcement tools, requirements and targets. At the same time, there are reasons for optimism, including the availability of more robust compliance data, the widespread interest in regulatory reform, and the growing support for empirical work at the intersection of law, social science and public policy. Those considerations suggest that we may be on the verge of a period of explosive growth in our understanding of the variables that affect compliance with environmental laws.

This article attempts to facilitate and structure that growth. It provides a conceptual framework based on the insights from the legal and social science literature and proposes a testable typology of eight norms that influence environmental compliance. Even in its untested form, the framework proposed here suggests that regulators need to understand the relationships among enforcement, social norms and compliance, regardless of whether their environmental enforcement objective is optimal compliance, full compliance, or over-compliance. At a minimum, regulators should take affirmative steps to avoid having social norms undercut the deterrent effect of formal legal sanctions. In certain circumstances, it also may be advisable to seek to trigger or shift social norms to facilitate the achievement of desired environmental outcomes.<sup>314</sup>

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312. For three recent articles on the deterrence versus cooperation debate, see Lof-ton, *supra* note 20, at 10,906 (comparing enforcement approaches and environmental values in the United States and the United Kingdom); Rechtschaffen, *supra* note 12, at 1186 (concluding that a strong deterrence focus is essential); and Spence, *supra* note 13, at 977-96 (concluding that the rational polluter assumptions that lend support to deterrence-based enforcement are undercut by research suggesting that cooperation model advocates arguments regarding the effect of complexity on compliance are right much of the time).

313. See Silberman, *supra* note 308, at 10,523. The polarization between the models undercuts attempts to understand the optimal balance of enforcement prescriptions in other fields as well. See, e.g., AYRES & BRAITHWAITE, *supra* note 13, at 101-32; Burby & Paterson, *supra* note 244, at 754.

314. See Sunstein, *supra* note 39, at 908 (noting that “[a] regulatory policy that targets

Work based on frameworks such as the one proposed here also may help resolve the more theoretical debates in the legal literature regarding the influence of internal and external norms. For example, the hypotheses to be tested in the environmental compliance area can be structured in a way that may not only test the framework proposed here, but also help resolve a debate in the norms literature regarding the influence of internal social norms. Some have concluded that research should focus principally on external norms. In this view, internal norms serve as signals of the behavioral type of the actor, but these “[n]orms do not cause anything.”<sup>315</sup> Yet many of the most intriguing examples of departures from the standard deterrence model in the environmental and other regulatory compliance literature discussed above appear to arise from internal, not external, norms. The research on norms and environmental compliance thus may advance the more general debate over internal norms in addition to generating more effective strategies for environmental enforcement.

Finally, the development of testable frameworks like the one proposed here may contribute significantly to the maturation of norms scholarship. Although broad theoretical models are enormously valuable insofar as they provide a disciplined, parsimonious analytical approach to hypothetical situations, by their nature they exclude many variables. The empirical studies in the social science literature suggest that humans respond to various social stimuli, whether regulatory or extra-regulatory, in ways that are often counterintuitive. If norms are to improve the predictive capacity of rational choice theory and assist policymakers, the broad models proposed in the norms literature will need to be translated into testable approaches tailored to particular types of compliance behavior. The conceptual framework presented in this article, including the delineation of specific norms and mechanisms of action of

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social norms may well be the cheapest and most effective strategy available to a government seeking to discourage risky behavior. It may complement or work more efficiently than existing regulatory approaches”). The framework suggests that a number of more specific changes in environmental laws and policies may be warranted. For example, if the hypotheses proposed in this article are confirmed, enforcement agencies should craft enforcement strategies to publicize the human health or environmental harms of violations to trigger internal and external norm sanctions. Agencies also should seek to change the types of public disclosures of violations to increase opportunities for informal social sanctions as well as for formal legal sanctions. In particular, agency enforcement actions and the announcements regarding them should be managed to avoid creating perceptions of widespread noncompliance.

315. See Posner, *supra* note 48, at 1788.

law on those norms, suggests a methodology for developing and testing the role of norms in environmental compliance decision-making and other regulatory areas.

The recent growth in empirical legal scholarship has promise, but it brings with it a related concern: false knowledge. A core lesson from the history of science is that the growth of knowledge often is impeded not by ignorance but rather by researchers' reluctance to abandon false ideas.<sup>316</sup> How many of our current views about the effects of law on behavior will prove to have been false after a generation in which the testing is as rigorous as the theoretical analyses conducted to date? This article does not suggest that every proposition of importance can be tested or even that policy-makers should always wait for answers to those hypotheses that can be tested. The political process and the exigencies of many environmental and other problems will not permit that approach. But an underlying framework that supports systematic investigation of the ways in which social norms affect environmental compliance is one step in that direction, and it may provide a way to address the swinging pendulum of environmental policy. In the environmental area, stopping the pendulum, or at least circumscribing its arc, would be a welcome development indeed.

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316. See DANIEL BOORSTIN, *CLEOPATRA'S NOSE* 7 (1994) (stating that "the great menace to progress is not ignorance but the illusion of knowledge").