

**Controlling Corporate Misconduct: An Analysis of
Corporate Liability Regimes**

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INTRODUCTION

How should the law structure the responsibility of corporations for the crimes and intentional torts of their managers and other employees? This question has received too little attention despite its intrinsic importance. Under both criminal and civil law, a firm is directly and vicariously liable for wrongs committed by its agents (managers and other employees) within the scope of their employment. A firm's liability under this principle is very far reaching. For example, it extends to crimes committed by the firm's subordinate agents (including salesmen, clerical workers and truck drivers),¹ even when these agents violate corporate policy or express instructions.² Moreover, although culpable agents

¹ See generally Pamela Bucy, *White Collar Crime: Cases and Materials*, 192-93 (1992); Kathleen Brickey, *Corporate Criminal Liability: A Primer for Corporate Counsel*, 40 BUS. LAW. 129, 131 & n. 11 (1984).

² For example, *United States v. Hilton Hotels Corp.*, 467 F.2d 1000, *cert. den.* 409 U.S. 1125, 93 S.Ct. 938, 35 L.Ed.2d 256; *United States v. Basic Construction Co.*, 711 F.2d 570, 573 (4th Cir.), *cert. denied*, 462 U.S. 954 (1983);

must generally intend to benefit the firm before it is liable, this requirement is easily met if there is any possibility that wrongdoing might increase corporate profits -- even if its net effect is to injure the firm, once expected corporate sanctions are considered.³

see *United States v. Twentieth Century Fox Film Corp.*, 882 F.2d 656, 660 (2d. Cir. 1989), *cert. denied*, 110 S. Ct. 722 (1990) (a corporate compliance program -- "however extensive" -- will not shield the company from criminal liability for its employees actions); compare *Yates v. Avco*, 819 F.2d 630, 636 (6th Cir. 1987) (observing that a supervisor's sexual harassment was foreseeable because the company had adopted a policy to address the problem).

³ Generally the benefit requirement is imposed only when the crime requires a specific mental state. William Fletcher, 10 Fletcher Cyclopedia of the Law of Private Corporations § 4944 (1986). Moreover, the benefit requirement does not require proof that the corporation actually received any benefit; all that is necessary is that the agent intended to further a corporate interest. Bucy, *supra* note 1, at 201; see, e.g., *United States v. Carter*, 311 F.2d 934 (6th Cir.), *cert. denied*, 373 U.S. 915 (1963).

The wide-ranging liability of companies for the crimes and intentional torts of their agents raises two related questions: first, how should the law allocate liability for corporate misconduct between the firm and its agents; and, second, how should the law structure the liability of the firm? The scholarly literature to date has focused chiefly on the first of these questions by exploring the rationales for holding both firms and culpable employees liable for corporate misconduct.⁴ Here, commentators broadly agree that corporate liability usefully enlists the firm in interdicting or deterring its wayward agents and assures that it fully internalizes the costs arising from its activities. By contrast, scholars have only begun to address the question that we explore here: that is, how to structure the corporation's liability for its agents.⁵

⁴ See, e.g., CHRISTOPHER STONE, *WHERE THE LAW ENDS: THE SOCIAL CONTROL OF CORPORATE BEHAVIOR* (1975); Lewis Kornhauser, *An Economic Analysis of the Choice Between Enterprise and Personal Liability for Accidents*, 70 CALIF. L. REV. 1345 (1982); Reinier Kraakman, *Corporate Liability Strategies and the Costs of Legal Controls*, 93 YALE L. J. 857 (1984); Jonathan Macey, *Agency Theory and the Criminal Liability of Organizations*, 71 B.U.L. REV. 315 (1991); A. Mitchell Polinsky and Steven Shavell, *Should Employees Be Subject to Fines and Imprisonment Given the Existence of Corporate Liability?*, 13 INT'L REV. L. & ECON. 239 (1993); Kathleen Segerson and Tom Tietenberg, *The Structure of Penalties in Environmental Enforcement: An Economic Analysis*, 23 J. ENVIR. ECON. & MGT. 179 (1992); Alan Sykes, *The Economics of Vicarious Liability*, 93 YALE L. J. 1231 (1984).

⁵ Examples include Jennifer Arlen, *The Potentially Perverse Effects of Corporate Criminal Liability*, 23 J. LEGAL STUD. 833 (1994); John C. Coffee, Jr., *Does "Unlawful" Mean "Criminal"?: The Disappearing Tort/Crime*

But while academic attention to the structure of corporate liability has been limited, the issue has assumed considerable practical importance as state and federal lawmakers act to reform corporate liability regimes. In many areas, particularly in the criminal law, lawmakers are replacing strict vicarious liability with liability regimes that reduce or eliminate sanctions when principals act to deter wrongdoing. The United States Sentencing Commission's sentencing guidelines for corporate defendants,⁶ enacted in 1991, replaced the traditional rule imposing strict vicarious liability on

Distinction in American Law, 71 B.U. L. REV. 193 (1991); David Dana, *The Perverse Incentives of Environmental Audit Immunity*, 81 IOWA L. REV. 969 (1996); Daniel Fischel and Alan Sykes, *Corporate Crime*, 25 J. LEGAL STUD. 319 (1996), Eric Orts and Paula Murray, *Environmental Disclosures and Evidentiary Privilege*, 1997 ILL. L. REV. 1; Alexander Pfaff and Chris Sanchirico, *Environmental Self-Auditing: Setting the Proper Incentives for Discovering and Correcting Environmental Harm* (unpublished draft, January 1997).

⁶ U.S. Sentencing Commission, SENTENCING GUIDELINES MANUAL, Ch. 8, 393-433 (1993).

the firm for its agents' wrongdoing with a "composite" regime in which the firm is vicariously liable for a reduced penalty if it has discharged certain compliance-related duties. Some states have similarly replaced their strict liability regimes with composite regimes; others have not. In the environmental area, some states have gone even further, enacting duty-based regimes that immunize firms from liability for internally-detected environmental violations that firms make public and correct.⁷ Similarly, both the Environmental Protection Agency (EPA) and the Antitrust Division of the Justice Department have announced that they generally will not seek criminal charges against firms that take appropriate steps to deter, report and correct wrongdoing.⁸ In other areas, some federal prosecutors have gone beyond the mitigation provisions of the Guidelines and refrained from prosecuting firms with good compliance programs, reporting and post-offense reforms.⁹

⁷ See Dana, *supra* note 5, at 969.

⁸ U.S. Environmental Protection Agency, Final Statement, Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations, 60 Fed. Reg. 66,706 (Dec. 22, 1995); Antitrust Division, U.S. Department of Justice, Corporate Leniency Policy (August 10, 1993), 328 Trade Reg. Rep 20,649-21 ¶ 13,113 (Aug. 16, 1994).

⁹ RICHARD GRUNER, CORPORATE CRIME AND SENTENCING (1994), 1995 SUPPLEMENT § 8.5.2 (1995).

These widespread defections from the common law norm of strict vicarious liability implicitly recognize that a novel liability structure may be required in many important contexts. To be sure, strict vicarious liability remains a benchmark norm in the common law, civil law, and in the theoretical literature alike.¹⁰ Moreover, it is not only the most familiar regime of corporate liability, but also is the most plausible one whenever agents only act in the best interests of their principals -- either because they share these interests or because they do as they are told. Given this assumption, forcing the firm to internalize the costs of misconduct logically compels its agents to avoid it. But if this assumption does not hold -- if the firm has different interests from its agents and cannot control them costlessly -- then simple vicarious liability may no longer be the preferred corporate incentive regime. In this case, the state cannot deter misconduct simply by setting liability high enough to ensure that a firm's owners would prefer to avoid it.

Instead the firm must be induced to take direct action to deter agents from committing wrongs, including measures to prevent misconduct and policing measures to detect and sanction it. As the recent profusion of alternative regimes suggests, strict vicarious liability may not be the best regime for inducing the firm to implement optimal deterrence measures. Determining what sort of regime is best -- at least for particular forms of misconduct -- requires a framework that permits systematic comparison of alternative liability regimes.

¹⁰ See, e.g., Polinsky & Shavell, *supra* note 4; Fischel & Sykes, *supra* note 5.

This paper develops such a framework to examine the range of regimes for imposing liability on principals -- and therefore on corporations -- for agent misconduct.¹¹ The core issue associated with these regimes is whether to hold the firm strictly liable for agent misconduct, to hold it liable only upon failure to perform a mandated enforcement duty (such as under a negligence regime), or to employ a combination of both regimes. In this paper, we evaluate the use of strict, duty-based, and "mixed" vicarious liability deployed by the government to deter intentional wrongdoing.¹² Our basic analysis also applies, with some modifications, to liability imposed for unintentional wrongs.¹³

¹¹ In a later paper we will consider a second class of incentive regimes that reach inside the firm to structure the incentives of corporate managers or employees directly. We term these incentives "targeted incentives." See Jennifer Arlen and Reinier Kraakman, *CONTROLLING CORPORATE MISCONDUCT: THE ROLE OF SUPERVISORY INCENTIVE REGIMES* (draft in progress). Corporate liability and targeted incentive regimes are partial substitutes because the enforcement rationale for both regimes is to mobilize the firm's resources to prevent misconduct by subordinate employees.

¹² We do not consider the issue of whether this liability should be criminal or civil. For a discussion of this question see, e.g., V.S. Khanna, *Corporate Criminal Liability: What Purpose Does it Serve?* 109 *HARVARD LAW REVIEW* 1477 (1996); Fischel & Sykes, *supra* note 5; Jeffrey Parker, *Doctrine for Destruction: The Case of Corporate Criminal Liability*, 17 *MANAGERIAL AND DECISION ECONOMICS* 381 (1996).

¹³ Although we focus on intentional wrongdoing, most of our analysis also applies to accidental wrongs and private

We take the basic objective of liability to be enhancing social welfare by minimizing the net social costs of wrongdoing and its prevention.¹⁴ In some cases, individual liability alone can optimally deter wrongdoing. Ordinarily, however, corporate liability is needed, because, for example, individual agents are judgement proof or government sanctioning of agents is too costly.¹⁵ Where corporate liability is justified, it must accomplish two goals: it must induce

actions. Specifically, our conclusions about the basic structure of an optimal corporate liability regime should apply as well to unintentional wrongs -- although the optimal sanctions amounts should differ -- provided that liability for the underlying activity is governed by a strict liability rule. See *infra* note 27. Sanction amounts may differ because firms are more likely to bear its agents' expected individual liability for unintentional wrongdoing in the form of higher wages than is the case with unintentional wrongdoing. Application of our analysis to private actions would raise the issues, not addressed here, of ensuring that damages do not induce insufficient caretaking by victims, or frivolous or insufficient lawsuits.

¹⁴ Corporate liability may serve other aims. Deterrence, however, is generally recognized to be the central goal of corporate liability. Moreover, to the extent policymakers wish to pursue other aims, our analysis reveals when pursuit of these aims comes at the expense of increased corporate wrongdoing.

¹⁵ See *infra* text accompanying notes 20 - 23.

firms to select efficient levels of productive activity (the activity level goal) and to implement enforcement measures that can minimize the joint costs of misconduct and enforcement (the enforcement goal). We demonstrate that neither strict nor duty-based corporate liability regimes -- nor even the recently implemented composite regimes -- can achieve both these goals except in special cases. The composite regimes that can achieve both goals have yet to be adopted.

Satisfying the activity level goal is straightforward: a firm must be strictly liable for the full expected cost of employee misconduct related to its productive activities. In this case, firms will consider the full social cost of its actions in determining whether, and how much, to produce.¹⁶ By contrast, a duty-based regime that permits firms to escape damages by acting reasonably would distort activity levels by allowing firms to avoid the full costs of their employees' actions by taking "due care."¹⁷

But if strict liability provides a straightforward way to satisfy the activity level goal, structuring a firm-level regime to meet the enforcement goal -- or the enforcement and activity level goals together -- is more difficult. To see why, we must preview the enforcement mechanisms through which entity liability deters misconduct.

First, entity liability can reduce enforcement costs by inducing firms to sanction wrongdoers in those circumstances where firm-level sanctions are cheaper (or more accurate) than government-imposed sanctions and have the equivalent deterrent effect.¹⁸

Second, entity liability can lead companies to institute "preventive measures" that deter by making misconduct more difficult or expensive for wrongdoers, or by reducing the illicit benefits of unpunished (or successful) misconduct, without affecting the probability that it is detected by enforcement officials. Such measures can assume many forms, ranging from personnel policies -- for example, firing price fixers and raising the salaries of law abiding managers -- to sophisticated financial controls, screening procedures, and similar mechanisms for limiting agents' opportunities to commit misconduct. The commonality is that these preventive measures reduce the returns or increase the costs of misconduct to culpable agents, and so enhance deterrence, without affecting the probability that the firm is sanctioned.

Third, entity liability can induce the firm to undertake a variety of actions that increase the probability of sanctioning of wayward agents, which we term "policing measures." For example, firms often will be better than government officials at monitoring or investigating agent misconduct, in which case entity liability can deter wrongdoing

¹⁶ E.g., Polinsky & Shavell, *supra* note 4; Segerson & Tietenberg, *supra* note 4; see Arlen, *supra* note 5.

¹⁷ Steven Shavell, *Strict Liability Versus Negligence*, 9 J. LEGAL STUD. 1 (1980); See Polinsky & Shavell, *supra* note 4; Alan Sykes, *The Boundaries of Vicarious Liability: An Economic Analysis of the Scope of Employment Rule and Related Legal Doctrines*, 101 HARV. L. REV. 563 (1988).

¹⁸ Private sanctions imposed by the firm may be superior to state imposed sanctions when the firm can determine guilt more accurately, or has lower administrative and sanctioning costs, and is not more restricted than the state in the sanction it can impose. See Polinsky & Shavell, *supra* note 4.

by inducing firms to undertake such activities. Moreover, once misconduct is detected, entity liability can induce firms to report misconduct, which serves as an *ex ante* deterrent to wrongdoing by assuring that responsible agents will be officially prosecuted once misconduct is detected.

Finally, entity liability can reduce enforcement costs by functioning as an "enforcement bond": that is, by assuring the credibility of the enforcement measures that firms undertake in the eyes of their agents. Because all preventive and enforcement measures are costly and some of these measures, like investigating, reporting, and sanctioning misconduct, cannot be observed before misconduct occurs, agents may doubt that firms will do -- or are doing -- these things at all. Entity liability can give firms an obvious and highly credible incentive to carry through on its enforcement promises. Improving firm credibility may justify entity liability even in circumstances where liability is not necessary to induce optimal activity levels or prevention, for example because the market forces the firm to internalize the costs of that particular wrong.¹⁹

Taken together, the diverse ways in which corporate liability can advance the enforcement goal do not unambiguously favor either strict or duty-based liability. Rather, as we demonstrate below, these four enforcement effects -- encouraging private sanctioning, inducing prevention, inducing policing measures, and enhancing credibility -- can be arrayed on a spectrum according to whether they favor strict or duty-based corporate liability. Strict liability clearly dominates where corporate liability is deployed to encourage the private sanctioning of corporate agents, and is weakly preferable where it is a means of inducing firms to adopt preventive measures. On the other hand, duty-based liability is generally better able to induce firms to undertake optimal policing measures such as monitoring, investigating, and reporting. At the far end of the spectrum, finally, duty-based liability is clearly superior to strict liability as a means of enhancing the internal credibility of the firm's enforcement measures. Our analysis thus reveals a role for corporate liability even when the market ensures that the firm fully internalizes the social cost of wrongdoing, for example through reputational effects.

Because strict and duty-based liability regimes each have distinct enforcement advantages, we explore "mixed" liability regimes that combine aspects of both strict and duty-based liability. Two classes of mixed regimes are possible. The first includes modified forms of strict liability that are adjusted to induce firms to adopt policing measures ("adjusted" strict liability). The second includes "composite" liability regimes that combine monitoring and reporting duties with a residual element of strict liability to induce preventive measures and regulate activity levels. Although several forms of adjusted strict liability perform better than simple strict vicarious liability, even adjusted strict liability cannot satisfy every enforcement goal. By contrast, many -- but not all -- composite regimes will achieve the goals of optimal deterrence and activity levels. We identify several potentially optimal regimes that are superior to existing composite regimes in our view. But we do not endorse any single liability regime because the choice of a best regime turns in part on the characteristics of particular forms of misconduct. Our conclusion that no single regime is appropriate

¹⁹ See *infra* Section I.D. These market forces include the reputational penalties that firms bear when their agents commit certain types of wrongs. See Jonathan Karpoff and John R. Lott, Jr., *The Reputational Penalty Firms Bear From Committing Fraud*, 36 J. LAW & ECON. 757 (1993)(analyzing the reputational impact of firm wrongdoing). Indeed, for this reason, entity liability of the right sort actually benefits firms that the market fully punishes for the misbehavior of agents by providing a private benefit as a low-cost commitment device.

for all cases of corporate wrongdoing stands in sharp contrast with the United States Sentencing Commission's effort to find a single regime to govern all corporate crimes.

The organization of this paper proceeds as follows. Part I develops the diverse mechanisms through which corporate liability can serve the enforcement goal -- that is, by inducing firms to undertake preventive, monitoring, and reporting measures, and by assuring the credibility of their enforcement policies -- and examines the relationship of these mechanisms to the selection of strict or duty-based liability. Part II describes and evaluates the two broad classes of mixed liability regimes: adjusted strict liability and composite liability regimes. Part III introduces the comparative analysis of different composite liability regimes. Finally, Part IV investigates the two existing regimes of entity liability, the modified strict liability regime created by environmental audit privileges and the composite liability regime established by the Federal Sentencing Guidelines, in light of the analysis of this paper.

I. THE CHOICE BETWEEN STRICT AND DUTY-BASED LIABILITY

To recall a familiar bumper sticker: corporations don't misbehave, people do. In a perfect world populated by savvy and solvent human actors, most forms of corporate liability -- as well as other forms of third-party liability for misconduct -- would be unnecessary. The law could deter all socially undesirable actions simply by forcing every individual to bear the costs of her own misconduct.²⁰

²⁰ See Gary Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169 (March/April 1968). This article focuses on intentional wrongdoing. In the case of unintentional wrongs, corporate liability might be justifiable, even in a world of solvent and savvy individuals, for collective torts for which no individual agent could be made personally responsible -- although even here many wrongs probably could be ultimately attributable to company managers, who would be indemnified by their firms.

But of course the world is not perfect, and individual liability alone often cannot adequately deter corporate wrongdoing. A principal reason is that culpable agents frequently lack the assets to pay expected fines which equal the social costs of corporate wrongdoing -- a problem which is particularly likely to arise if wrongdoing is likely to go undetected.²¹ A second reason is that, even when the state can sanction an agent adequately, doing so is costly; but the firm may be able to identify and sanction its agents much more cheaply.²² Finally, a third reason is that corporate agents may sometimes be neither savvy nor rational, and may therefore be unresponsive to individual liability alone.²³

²¹ Absent insolvency concerns, the state could deter socially undesirable misconduct by relying solely on individual liability, with the expected sanction set equal to the social cost of the harm. When misconduct might not be detected, this implies that the sanction, f , must equal the net social cost of the wrong to others, h , divided by the probability of detection, p . Under this regime individuals' expected cost of wrongdoing, pf , equals the net social cost of misconduct. This regime thus eliminates any incentive for individuals to commit any wrongs whose social costs exceed the benefits. To minimize on enforcement costs, the state could set the probability of detection very low, resulting in a high sanction. Since enforcement costs would be de minimus, there would be no need to consider whether an entity other than the state -- for example the firm -- might be able to deter wrongdoing at lower cost. This low probability-high sanction strategy will not work, however, if agents' wealth is less than h/p^{oo} , where p^{oo} is the probability of detection when enforcement expenditures are de minimus. In this case, agents' expected sanctions will be less than the social cost of wrongdoing and too many wrongs will result. As we will discuss, corporate liability can partially remedy this situation by inducing the firm to undertake enforcement expenditures, thereby increasing agents' expected liability by increasing the probability of detection. See Becker, *supra* note 20.

Agents are particularly likely to be judgment proof if enforcement costs are low because the lower the probability of detection, the higher the necessary sanction. Of course, the legal system can supplement monetary fine with nonmonetary sanctions, such as prison sentences. Yet these nonmonetary penalties are, at best, only a partial solution to the problem of agent insolvency: they generally do not eliminate the viability of substantial enforcement expenditures as a mechanism for deterring wrongdoing. First, imprisonment is very expensive. Many crimes can be more effectively deterred by increased expenditures on "enforcement" (see *infra*). In addition, the use of nonmonetary sanctions is limited by "marginal deterrence" concerns -- the state is limited in the sanction it can impose for relatively minor crimes by the need to impose greater sanctions on more serious crimes in order to make more serious crimes less attractive than less serious ones. Finally, normative considerations other than efficiency may limit the use of nonmonetary sanctions. For example, the state may be unwilling to impose a long jail term on someone who committed a relatively minor crime with a very low probability of detection because it seems unjust. See John Coffee, Jr., "No Soul to Damn, No Body to Kick: An Unscandalized Inquiry Into the Problem of Corporate Punishment," 79 MICH. L. REV. 386, 401 (1981); Reinier Kraakman, *The Economic Functions of Corporate Liability*, in Hopt, K. and Teubner, G. (eds.), CORPORATE GOVERNANCE AND DIRECTORS' LIABILITIES 175, 194-95 (1985). Thus, even when the state can and does imprison, nonmonetary sanctions may not be sufficient to deter all wrongdoing, particularly if enforcement expenditures (and thus the probability of detection) are de minimus.

In addition, the state may need to increase enforcement expenditures (and thus turn to the firm for help) for other reasons. If individuals are risk averse, a low-probability high-penalty strategy increases the likelihood that an individual accused of wrongdoing will plead guilty to that wrong even though he is in fact innocent. The state can reduce this risk of false convictions by increasing enforcement expenditures, and thus reducing the sanction. Bruce Kobayashi & John Lott, Jr., *Low-Probability--High-Penalty Enforcement Strategies and the Efficient Operation of the Plea Bargaining System*, 12 INT'L REV. L. & ECON. 69 (1992). Once significant enforcement expenditures are required, however, it will often be optimal for the state to induce firms to incur some of these enforcement expenditures by employing corporate liability in addition to individual liability. See *infra* note 22 and accompanying text.

²² See STEVEN SHAVELL, ECONOMIC ANALYSIS OF ACCIDENT LAW 172-174 (1987). Sanctioning costs justify corporate liability only if the sanction the state would need to impose if it spent virtually nothing on enforcement exceeds agents' wealth. Absent wealth constraints, sanctioning costs would not justify corporate liability because the government could optimally deter wrongdoing by spending almost nothing on enforcement and imposing a sanction on those

individual wrongdoers the government does detect equal to the social cost of wrongdoing divided by the resulting probability of detection. This low probability/high fine strategy will not necessarily work if agents are insolvent, however. In this case, private sanctioning reduces enforcement costs if it is less expensive and as effective. Indeed, even if the firm cannot impose as large a sanction as the state private sanctions may be preferable the expected private sanction exceeds the expected public sanction because private sanctioning costs are sufficiently lower than government sanctioning costs that private sanctions can be imposed more frequently. The benefit of lower cost more frequent sanctions would be even greater if, as evidence suggests, individuals are not rational utility maximizers, but rather are more deterred by a high probability of a relatively low sanction than a low probability of a very high sanction. Cf. R.J. HERNSTEIN AND J. Q. WILSON, *CRIME AND HUMAN NATURE* (1985) (holding the expected sanction constant, individuals are deterred more by a high probability of paying a low fine than a low probability of paying a high fine).

²³ For example, it appears that, holding the expected sanction constant, individuals are deterred more by a high probability of paying a relatively low fine and the relatively low probability of paying a high fine. See, e.g., HERNSTEIN & WILSON, *supra* note 23. This might justify imposing corporate liability to induce firms to raise the probability of detection, even if it would not be justifiable were individuals risk neutral expected utility maximizers.

For all of these reasons, corporate liability fills an important enforcement niche. Like other third-party incentive regimes, it harnesses the social context -- in this case, the context of the firm -- in the service of optimal deterrence by pursuing the basic enforcement goals of (1) inducing efficient activity levels and (2) minimizing the costs of misconduct and enforcement, given a firm's activity level.²⁴ However, these goals place different -- and potentially inconsistent demands -- on a corporate liability regime, affecting the choice between the available regimes:²⁵ strict vicarious liability, under which a firm is liable for all its agents' wrongdoing, duty-based liability, under which the firm is liable only if it failed to satisfy a legal duty (e.g., undertaking optimal enforcement) or a composite of strict and duty-based sanctions.

The activity-level goal requires that the firm bear the full social costs of misconduct associated with its production in order to ensure efficient output levels. This implies that the firm should be liable for all wrongs resulting from its activities²⁶ and subject to an expected total sanction (civil and criminal) equal to those costs that wrongdoing

²⁴ Corporate liability is not the only sort of third-party liability regime available for pursuing these goals. Other possibilities include regimes designed to induce third parties within the firm to monitor firm agents and report agents, such as supervisory liability and bounty regimes, see Arlen & Kraakman, *supra* note 11; Jennifer Arlen, *Commentary on Rewarding Whistleblowers: The Costs and Benefits of an Incentive-Based Compliance Strategy*, in Daniels, R., and Morck, R. (eds.), *CORPORATE DECISIONMAKING IN CANADA*, Calgary: University of Calgary Press, 635 (1995); Ronald Daniels and R. Howse, *Rewarding Whistleblowers: The Costs and Benefits of an Incentive-Based Compliance Strategy*, in Daniels & Morck, *supra*, at 525-549; and those designed to induce outsiders to monitor and report, such as accountant liability, see Reinier Kraakman, *Gatekeepers: The Anatomy of a Third-Party Enforcement Strategy*, 2 J. LAW, ECON. & ORGAN. 53 (1986).

²⁵ Alternatively, in theory the state could employ payment regimes, which grant rewards to firms to induce the desired behavior. Like liability regimes, payment regimes may be strict (outcome-based) or duty-based. In theory, payment regimes are functional substitutes for liability regimes in many respects. Moreover, payment regimes -- such as bounty regimes -- are currently employed. See, e.g., Qui Tam provisions of the False Claims Act, 31 U.S.C.A. § 3729 et. seq.; Section 21A(e), Securities Exchange Act of 1934, 15 U.S.C. 78u-1 (bounty provision for information on insider trading). Nevertheless, for several reasons payment regimes are not plausible entity-level incentive regimes. Cf. *infra* note 30 (discussing targeted incentive regimes).

First, payment regimes are very expensive to administer because every firm would have to receive a properly determined payment regardless of whether a wrong occurred. Moreover, this regime would impose additional social costs if the government collected the revenues required for the payment through a suboptimal tax system.

In addition, rewarding firms for thwarting misconduct or discharging enforcement duties would distort activity levels, at least in circumstances where intentional misconduct is appropriately treated as a production cost. In theory, it should be possible to design a payment regime that induces optimal output of any product whose production increases the cost of wrongdoing by giving firms a reward that falls with every wrong that occurs (based on the social costs of wrong). The firm thus would treat the reduced payment as a marginal cost of producing product, incorporating this into its product price. Nevertheless, such a regime would not induce optimal activity levels because it would not ensure the demise of firms which create excessive risks of wrongdoing; indeed, it might even keep alive firms which are inefficient for other reasons.

Finally, payment incentives offered to firms are open to a peculiar kind of moral hazard, especially when agent misconduct benefits firms as well. Firms that could earn rewards by providing enforcement services, such as reporting the wrongdoing of their own agents, might induce misconduct in the hope of benefitting once or even twice -- first from the misconduct itself, and subsequently from reporting it.

²⁶ For analysis of which harms can be said to be "caused" by a firm for purposes of cost internalization, see Sykes, *supra* note 17, at 571-81. Sykes observes that a harm can be said to be "fully caused" by an enterprise where dissolution of the enterprise would reduce its probability of occurrence to zero. "Partial causation" is defined similarly as a reduction following dissolution of the enterprise in the probability of a harm's occurrence. *Id.*, at 572.

inflicts on others which the firm would not otherwise bear through contract or market forces.²⁷ Forcing firms to pay for all components of product cost (including expected misconduct) helps ensure that product prices reflect the full social cost of the product. Production thus will be socially optimal because customers will purchase the product only if its value to them equals or exceeds its full cost of production, as reflected in the product price.²⁸ Thus, for example, in order to

²⁷ Polinsky & Shavell, *supra* note 4; see Shavell, *supra* note 17. Strict vicarious liability induces optimal activity levels because we are focusing on intentional misconduct, for which agents are always strictly liable. By contrast, this rule will not induce efficient activity-level when the underlying activity is governed by a negligence standard because firms are not liable as long as agents take due care. Thus, even under strict vicarious liability, firms' activity levels will be too high. Precisely for this reason, Polinsky & Shavell, *supra* note 4, propose expanding vicarious liability to make the firm strictly liable for harms resulting from activities which are governed by a negligence standard for purposes of determining individual liability, even if the agent was not negligent.

Expected corporate liability for intentional suboptimal wrongs must equal the full social cost of wrongdoing to others even if employees also are held liable because, absent a risk of court error, firms will only bear their own expected liability for these wrongs. Firms will not compensate employees for expected liability resulting from suboptimal intentional wrongs if firms bear the full social cost of wrongdoing because the firm does not benefit from the wrong and the employee can ensure the wrong does not occur. Arlen, *supra* note 5.

By contrast, in the case of accidental harms, employees cannot ensure the wrong does not occur; they can only take care to reduce its likelihood. Firms, therefore, must reimburse employees for this expected liability, either ex ante through higher wages or ex post by indemnifying them. Thus, for unintentional wrongs, firms will undertake optimal activity levels if the expected sanction equals the social cost of the harm *minus* any employee liability which the firm bears either through higher wages, insurance premiums or indemnification. See Polinsky & Shavell, *supra* note 4.

²⁸ Cost internalization also promotes optimal activity levels by ensuring that demise of those firms whose activities produce excessive costs, once the cost of expected wrongdoing is taken into account. See Shavell, *supra* note 17.

ensure the efficient output of goods whose manufacture produces hazardous waste, firms must bear the full social cost of any environmental damage occasioned by the production and possible improper storage of this waste.

By contrast, the aim of inducing efficient enforcement measures does not lead to a single, straightforward prescription. Misconduct is costly because corporate agents cannot be deterred cheaply or cannot be deterred at all.²⁹

But corporate liability can lower the joint costs of misconduct and enforcement in four principal ways. First, it can induce firms to sanction agents privately, thereby lowering administrative costs in those circumstances where effective private enforcement is less expensive or more accurate than government sanctions. Second, corporate liability can induce firms to take what we term “preventive measures,” which deter wrongdoing without altering the probability that culpable agents will be officially prosecuted -- for example, by rendering misconduct more difficult or costly to undertake or less profitable. Third, it can induce firms to implement “policing measures,” which deter misconduct specifically by raising the probability that it will be sanctioned (that is, by increasing the likelihood that it will be detected or that prosecution will follow if it is detected). And fourth, corporate liability can reduce enforcement costs by increasing the internal credibility -- and hence the effectiveness -- of company efforts to monitor, investigate, sanction, or report the misconduct of its agents. These enforcement aims, our analysis shows, do not favor either strict or duty based liability unambiguously.

In this Part we examine the choice between strict and duty-based liability regimes in light of their ability to satisfy the five goals of corporate liability, focusing on their ability to perform the four major enforcement functions. We begin with the function that is best served by strict liability (reducing sanctioning costs) and proceed the function that is least well served by strict liability (in our view, the problem of lending credibility to the firm’s enforcement efforts). Our conclusions are summarized in Table One.

Throughout, our analysis is based on the conventional assumption that shareholders exert some control over their companies’ enforcement policies, either directly or through managers who share their interests. Our conclusions about the relative merits of strict and duty-based liability rules also apply to firms whose managers serve shareholder interests only imperfectly. Such agency concerns do not affect the choice of a corporate liability regime as much as whether such an entity regime ought to be supplemented by a targeted incentive regime aimed directly at inducing managers to implement optimal enforcement measures.³⁰

²⁹ See *supra* note 21.

³⁰ The assumption that shareholders control the firm’s enforcement policy (directly or indirectly) is reasonable when intentional wrongdoing is committed by agents of closely-held firms, since the shareholders of these firms exercise managerial power directly. Cf. Mark Cohen, *Corporate Crime and Punishment: An Update on Sentencing Practices in the Federal Courts*, 71 B.U.L. REV. 247, 251-52 (1991) (more than 95% of firms convicted between 1984 and 1988 were closely held). Shareholders of publicly-held firms may be less able to rely on managers to implement optimal preventive and policing measures, in which case all corporate liability regimes become less attractive on the margin.

Notwithstanding these agency costs, however, our analysis should apply to the proper design of corporate liability regimes for publicly held firms. First, managers of publicly held firms do place considerable weight on firm profits, in which case firms generally will behave as we describe. Moreover, shareholders may be able to reduce agency costs by using incentive contracts. Finally, to the extent such agency costs persist, they should not affect the optimal design of a corporate liability regime -- only its effectiveness. Rather, solving these agency cost problems may require that corporate liability regimes be supplemented with targeted incentive regimes aimed at individuals in the firm, such as supervisory liability or bounty provisions for employees who report wrongdoing (“targeted incentives”). See Arlen and Kraakman, *supra* note 11.

Indeed, targeted incentive regimes are likely to be attractive supplements to entity liability in the case of publicly held firms. Although entity liability and targeted incentives are functional substitutes in many ways, it is worth observing that they pose very different problems of institutional design. The key issue for targeted incentives is *how* to motivate individuals within the firm to undertake an enforcement role -- with rewards or payments, carrots or sticks. By contrast, the key issue for entity incentives is what sort of stick best motivates corporate enforcement policies -- a strict

liability regime, a duty-based regime (such as a negligence rule), or some combination of the two. In theory, any legal incentive regime can punish (or reward) an outcome “strictly,” or punish (or not reward) a failure to perform a legal duty.

But in practice, the law recognizes only two of these permutations as plausible entity incentives and two others as plausible forms of targeted incentives. See *supra* note 25.

TABLE ONE

	Strict Liability	Duty Based
Activity Levels	Optimal if expected sanction equals social cost of wrong	Inferior to strict liability because (i) duty hard to specify; (ii) higher administrative costs
Sanctioning	Same as above	Same as above
Prevention	Same as above	Same as above
Policing	Not optimal because of perverse effects	Superior to traditional strict liability because no perverse effects
Credibility	Cannot solve this problem	Solves this problem

A. REDUCING SANCTIONING COSTS

The firm’s ability to reduce the process costs of sanctioning agents is, where it exists, the simplest enforcement function. As long as there is any agent misconduct at all, entity liability may be justified if it can induce the firm to sanction wrongdoing more cheaply than the government can. For example, where both the firm and the government can administer a comparable sanction (which is necessarily a monetary penalty), the firm may be the least-cost administrator simply because it can identify and charge culpable agents more cheaply than the government can. In this case, the government need not attempt to sanction agents itself, as long as it can persuade the responsible firm to do so instead.³¹

Strict rather than duty-based liability is clearly the better regime for inducing firms to sanction culpable agents. If the government attempted to impose a duty on the firm to administer private penalties to its agents, the government would have to acquire the same information about agent misconduct that would be necessary to administer sanctions against agents directly. That is, the government could not evaluate whether the firm had adhered to its duty to sanction wrongful employees without determining whether the employee was wrongful and whether the sanction was adequate.³²

³¹ See *supra* note 22. Firms’ efforts to sanction their own agents for wrongs they commit is not equivalent to another form of private sanctioning which has been frequently condemned -- i.e., blackmail -- because our liability regime is designed to ensure that the firm reports wrongdoing to the government even if it sanctions the individual, so government still can impose a public sanction if this is appropriate. In addition, the firm should be able to sanction its agents to deter wrongdoing because it bears the costs of any wrongs they commit. Moreover, as long as the corporate liability regime ensures that firms report wrongdoing, firms cannot impose sanctions which exceed those permitted by law because the agent has no incentive to agree to such an excessive sanction. Finally, in the case of unintentional wrongs, market forces will ensure firms do not impose excessive sanctions since wages will reflect workers’ expected liability. See *supra* note 27.

³² Of course, strict liability could generate perverse incentives if corporate sanctioning increased the probability that firms themselves would be held liable. See *infra* Section I.C. Private sanctioning will not affect the firm’s probability of detection in many important situations: for example, if the firm’s responsibility for the wrong is obvious (and liability

And of course, this would defeat the purpose of inducing the firm to administer sanctions. Under strict liability, by contrast, the government can induce optimal private sanctioning simply by ensuring that the firm's expected liability equals the net social cost of wrongdoing to others. In this case, the firm will sanction agents when doing so minimizes its -- and thus society's -- net cost of wrongdoing and enforcement, but not otherwise.

B. INDUCING PREVENTIVE MEASURES

is certain), even if the identity of its culpable agents is not. As long as the firm's investigatory efforts do not interact with its probability of facing liability, there is no danger of perverse incentives. If sanctioning does affect the firm's probability of being found liable, then the issues we raise concerning inducing optimal policing measures will apply. See *infra* Section I C & D.

Preventive measures cover a much broader range of enforcement measures than shifting sanctioning costs. They are best defined negatively: as measures that deter *without* increasing the probability that the firm or its agents will be sanctioned.³³ Prevention measures fall into two categories: those that increase the wrongdoer's costs *ex ante* and those that decrease her expected returns *ex post*.

Consider first measures that raise the costs of wrongdoing *ex ante*. Some forms of misconduct are typically committed by agents who are not senior officers of the firm, such as small-scale dumping of chemical wastes, illicit sales of prescription painkillers, sales misrepresentations to customers, or the falsification of research or medical test results. Here, a variety of measures might interdict misconduct or at least make it more costly to commit -- measures ranging from strict accounting for chemical wastes to tighter security at pharmaceutical warehouses, closer supervision of sales

³³ Although we distinguish between prevention measures that do not affect the probability of detection and policing measures, that do, we recognize that many measures are both preventive and policing measures. To the extent a prevention measure also affects the probability of detection, it is, for our purposes, partially a policing measure and our discussion of the problems of inducing policing measures will apply.

Because the distinguishing feature of policing measures is whether they affect the probability the firm is detected, when the firm's own liability for a harm is clear, the firm's efforts to determine which agent committed the wrong can properly be treated as a prevention measure, because these efforts will not affect the firm's expected liability.

agents, and careful screening of new employees. For misconduct committed by more senior officers, including price fixing or securities fraud, rules requiring the participation of several managers in price setting discussions or outside counsel's careful review of disclosure documents, can have a similar preventive effect. In each case, the preventive measure establishes an internal gate and gatekeeper that can bar misconduct, either literally or figuratively, unless the would-be wrongdoer invests resources and skill in circumventing it.³⁴

³⁴ For development of the gatekeeper metaphor in the context of official, as distinct from private, enforcement measures, see Kraakman, *supra* note 4. A gatekeeper interdicts misconduct by withholding critical approval or support *ex ante*. While gatekeepers who undertake extensive monitoring might also increase the probability that wrongdoing will be detected *ex post*, many internal gatekeeper strategies -- including those listed in text -- are unlikely to increase the probability of detecting misconduct *ex post*.

Preventive measures that reduce the illicit gains from misconduct *ex post* generally turn on the culpable agent's compensation or continued employment. Firms can structure their compensation and promotion policies to encourage or discourage many forms of misconduct. For example, basing employees' compensation and promotion on short run profits provides them with an incentive to engage in wrongdoing which increases profits, particularly if the individual wrongdoer is less likely than the firm to be sanctioned. Employees have less incentive to commit such wrongs when their compensation is based on the firm's long-run profits, however, because the firm's long-run profits will be net of any expected entity-level sanctions resulting from the wrongdoing.³⁵ Firms also can deter wrongdoing by firing employees.

³⁵ Empirical evidence suggests that the incidence of certain corporate crimes is higher when agents' compensation or performance evaluations are based largely on their employers' rate of return or short-term profits, as opposed to long-run profits. C. Hill, P. Kelley, B. Agle, M. Hitt, R. Hoskisson, *An Empirical Examination of the Causes of Corporate Wrongdoing in the United States*, 45 HUMAN BEHAV. 1055 (1993); John Lott and T. Opler, *Testing Whether Predatory Commitments Are Credible*, 69 J. BUS. 339-382 (1996); see Mark Cohen and Sally Simpson, *The Origins of Corporate Criminality: Rational Individual and Organizational Actors*, in Lofquist, W., Cohen, M., Rabe, G. DEBATING CORPORATE CRIME: AN INTERDISCIPLINARY EXAMINATION OF THE CAUSES AND CONTROL OF CORPORATE MISCONDUCT (forthcoming 1997). Even shareholders of publicly held firms (particularly institutional investors) probably can often obtain sufficient information about a firm's compensation policies to determine whether these policies encourage or deter misconduct.

In some cases, firms facing large potential liabilities can pay agents super-compensatory (or efficiency) wages to sharpen the loss in the event that an agent is subsequently discharged for engaging in misconduct.³⁶

³⁶ See Gary Becker & George Stigler, *Law Enforcement, Malfeasance, and the Compensation of Enforcers*, 3 J. LEGAL STUD. 1 (1974); Steve Shavell, *The Optimal Level of Corporate Liability Given the Limited Ability of Corporations to Penalize Their Employees*, INT'L REV. LAW & ECON. (forthcoming 1997). Indeed, it might appear that firms could prevent wrongdoing entirely -- thereby eliminating the need for enforcement measures -- by paying super-compensatory wages, since in theory these wages can eliminate the insolvency problem. Despite their initial theoretical appeal, super-compensatory wages cannot be relied upon exclusively to solve the problem of corporate wrongdoing, however. First, super-compensatory wages are expensive because they must be paid to all agents engaged in particularly activities who do not commit a wrong; other prevention and enforcement mechanisms may prove to be more effective. See Becker & Stigler, *supra*; B. Eaton & W. White, *Agent Compensation and the Limits of Bonding*, 20 ECON.

INQUIRY 330 (1982); William Dickens, Lawrence Katz, Kevin Lang & Lawrence Summers, *Employee Crime and the Monitoring Puzzle*, 7 J. LABOR ECON. 331, 343-44 (1989). Second, they will not deter wrongdoing motivated by an agents' fear of impending job loss -- for example, fraud concerning the stock price of publicly-held firms -- because agents who will lose their jobs if they do not engage in misconduct are not going to be deterred by the risk of losing the supra-compensatory wage should they commit the crime and get caught. See Jennifer Arlen and William Carney, *Vicarious Liability for Fraud on Securities Markets: Theory and Evidence*, 1992 ILL. L. REV. 691, 708-09. Nevertheless, the possibility of super-compensatory may affect the optimal residual sanction. See Shavell, *supra*.

Determining the right mix of screening, security, and gatekeeping measures *ex ante*, and of compensation-based measures *ex post*, clearly requires detailed knowledge about the firm. For this reason strict liability ordinarily dominates duty-based liability as a means of inducing preventive measures. A strict liability regime establishes optimal prevention incentives merely by setting the firm's expected penalty equal to the social cost of wrongdoing. Thus the firm, in an effort to choose the level of prevention that minimizes its own total costs, will select the level that minimizes total social costs as well.³⁷ The sanction which achieves this aim is thus the same as that which induces optimal activity levels, i.e., the social cost of wrongdoing divided by its probability of detection. Moreover, if corporate liability is also structured to induce optimal policing measures,³⁸ the government can accept the resulting probability of detection as optimal, and need only calculate the net social cost of the wrongdoing to select the appropriate sanction.

Strict liability is particularly likely to dominate duty-based liability as a method of inducing firms to employ compensation, promotion and discharge policies to deter wrongdoing. At a minimum, strict liability generally can eliminate any firm-level incentive to induce misconduct by imposing a sanction that ensures that firms do not profit from wrongdoing.³⁹ Beyond this, strict liability may be able to entirely eliminate the agents' incentive to commit the wrong in some cases. Either as a result of strict liability or otherwise, firm compensation and promotion policies may be such that its agents benefit from wrongdoing only when the firm derives a long-run benefit net of any expected liability. This will be the case, for example, if the agent's compensation is tied to long-run firm profits and his only motivation for committing a particular wrong is that it might raise his salary by increasing long-run profits. In this situation, holding the firm strictly liable for the agent's wrongdoing -- with an expected sanction equal to the social cost of the wrong to others -- will deter the agent by ensuring that the firm -- and thus the agent -- cannot benefit from the wrongdoing at issue.⁴⁰

³⁷ Robert Cooter, *Prices and Sanctions*, 84 COLUM. L. REV. 1523 (1984); Shavell, *supra* note 17?. This is the standard result that strict liability, with the sanction set equal to the expected social cost of the harm, can induce an actor to take due care, where "due care" here is defined as prevention measures designed to deter wrongdoing. See, generally, SHAVELL, *supra* note 22, Ch. 2. Of course the standard result will not obtain if managers have a personal incentive to encourage misconduct or if the firm is insolvent or will become so if it fails to attempt the misconduct.

³⁸ As can be the case under a composite regime.

³⁹ Here, as elsewhere, wrongdoing is defined as conduct for which the marginal social benefit is less than the marginal social cost.

⁴⁰ Even when the agent benefit from a wrong primarily as a result of the effect of the wrong on the firm's profits, he will not necessarily be deterred from misconduct by a corporate liability regime that ensures that the firm bears the full social cost of wrongdoing, however. A firm's compensation and promotion policies may reward employees when the firm's short run profits increase as a result of the wrong, without necessarily ensuring that all employees bear their proportionate share of any corporate liability should wrongdoing be detected. Thus, if the firm cannot necessarily determine who committed a wrong, a wrongdoer may expect to get a raise or promotion if the wrong increases profits, without expected his salary to fall or himself to be demoted if the wrong is detected and the firm is sanctioned. Firms also may be unable to link agents' compensation to long-run profits if there is a substantial likelihood of employee turnover or if other concerns -- such as excessive managerial risk aversion -- militate against such policies.

Similarly, firm liability will not necessarily eliminate agents' incentives to commit unintentional wrongs if firms cannot monitor agents' caretaking perfectly and agents cannot pay the optimal sanction. This is because "care-taking" often imposes a private cost on agents. Thus, wrongdoing which reduces care costs may benefit the agent even if the firm does not benefit.

Finally, despite corporate liability, managers of publicly held-firms will have an incentive to commit wrongs intended to secure their positions if the misconduct helps the manager secure his job but its detection does not significantly increase his risk of being fired because his position is insecure if he does not commit the wrong, or because,

by then, the wrongdoer is likely to have retired or moved to another firm. Thus, managers may benefit from wrongdoing even if the firm does not. Indeed, existing empirical evidence suggests that agency costs may explain most wrongdoing by publicly held firms. Publicly-held firms are more likely to engage in crime the smaller is managements' ownership stake. Cindy Alexander and Mark Cohen argue that this suggests that shareholders do not benefit from corporate crime *ex ante*, even if managers or other employees do. Cindy Alexander and Mark Cohen, *WHY DO CORPORATIONS BECOME CRIMINALS? AN AGENCY EXPLANATION*, Working Paper, Owen Graduate School of Management, Vanderbilt University (1996). This conclusion is bolstered by evidence that criminal behavior by publicly-held firms is positively correlated with firm size: shareholders' ability to ensure managers serve shareholders' interests declines as firm size increases. Cindy Alexander and Mark Cohen, *New Evidence on the Origins of Corporate Crime*, 17 *MANAGERIAL & DEC. ECON.* 421 (1996). Similarly, evidence suggests that managers commit fraud-on-the-market securities fraud to serve their own interests at the expense of shareholders. Arlen and Carney, *supra* note 36.

By contrast, a duty-based regime could only discourage some efforts by firms to induce misconduct through compensation techniques -- those governed by an explicit duty -- and would inevitably miss other inducements too subtle to be identified or too diffuse to be barred.⁴¹ Duty-based liability could hardly eliminate all incentive to commit misconduct arising from diffuse pressures to increase corporate profit. In addition, a duty-based regime would face serious problems of judicial error. Reviewing compensation and discharge policies is a difficult task: legitimate compensation plans designed to reward employee performance also are likely to reward profit-enhancing misconduct. By comparison, strict liability does not require courts to distinguish legitimate from illegitimate firm behavior.⁴²

⁴¹ In addition, this regime would be less effective than strict liability at reducing agents' benefit from wrongdoing because firms which do not violate a duty would not be liable. In these cases, the firm would still get the full benefit of the crime, and thus agents who benefit when the firm benefits still would have an incentive to commit the wrong.

⁴² See Cooter, *supra* note 37 (strict liability is superior where it is very costly for firms to determine due care); cf. Craswell & Calfee (noting that where court error renders the legal standard uncertain, duty-based liability will not necessarily cause firms to take optimal care, even if on average courts are correct).

This said, duty-based liability can be the equal of strict liability as a method for inducing firms to adopt preventive measures when courts and enforcement officials can cheaply and accurately identify the appropriate measures (which are presumably related to the firm's compensation policies).⁴³ But in most cases strict liability is preferable because it ensures that the firm does not benefit, on net, from wrongdoing (provided the firm is solvent), it taps the firm's own information about preventive technologies, and it minimizes the informational burden on courts and regulators.⁴⁴

C. INDUCING POLICING MEASURES

In contrast to preventive measures, policing measures operate by increasing the probability that culpable agents will be sanctioned. Policing measures are thus particularly relevant to intentional misconduct, which is often uniquely difficult to detect because it is deliberately hidden. By raising the probability that such misconduct will be detected and sanctioned, policing measures increase the expected penalty faced by culpable agents without increasing the actual penalty imposed on those who are caught.

Like preventive measures, policing measures can be either *ex ante* or *ex post*, according to whether they function before -- or only after -- the wrong occurs. *Ex ante* policing generally assumes the form of continuous monitoring under an ongoing compliance program. For example, a securities firm might tape record conversations between its brokers and their customers to guard against misrepresentations or illicit offers by its own agents, or an

⁴³ Indeed, duty-based regimes may be superior if either (i) there is a risk of firm insolvency, see Arlen, *supra* note 5, or (ii) if the precaution is unobservable and thus is plagued with a possible "credibility problems." See *infra* Section I.D. (discussing duty-based regimes as a means of reducing the credibility problem). A duty-based regime also may have lower administrative costs because there will be fewer cases than under a strict liability regime.

⁴⁴ See Cooter, *supra* note 37 (strict liability is superior where it is very costly for firms to determine due care). Cf. Craswell & Calfee (noting that where court error renders the legal standard uncertain, duty-based liability will not necessarily cause firms to take optimal care, even if on average courts are correct). Duty-based regimes are particularly susceptible to error where prevention involves "nondurable" activities (such as those involving human action), as opposed to installing "durable" technologies (such as locking certain cabinets), where the risk arises not only that the court will set the standard wrong but may not be able to determine whether the firm has adhered to the standard. Cf. Mark Grady, *Why Are People Negligent? Technology, Nondurable Precautions, and the Medical Malpractice Explosion*, 82 NW. L. REV. 293 (1988) (making this distinction in the torts context); see *infra* Section I.C.

airline might randomly test its pilots to deter drug or alcohol use on the job. In both cases, a program of credible monitoring can deter misconduct by increasing the likelihood that it will be detected and sanctioned.

Ex post policing measures take place after the wrong occurs and thus do not affect the probability future wrongs will be detected. These *ex post* measures can be divided into two categories: measures, such as episodic auditing, that the firm undertakes even though it has no particular reason to suspect any misconduct has occurred and measures, such as investigation and reporting, that take place only after the firm has reason to believe wrongdoing has occurred.⁴⁵ Nevertheless, investigation resembles monitoring insofar as it raises the probability misconduct will be detected and sanctioned.

Firms can only report misconduct after it has been detected, whether its detection follows from monitoring, investigating, or pure happenstance. From the firm's perspective, reporting misconduct can substitute for (or supplement) sanctioning it internally. From the government's perspective, reporting not only assures that detected misconduct is sanctioned, but also increases the probability and reduces the costs of detection.⁴⁶

⁴⁵ There are important distinctions between monitoring, auditing and investigation that are not fully addressed in the present analysis. For example, monitoring must be done *ex ante*, before the wrong has occurred, and thus before the firm knows the seriousness of the wrong, whereas investigating occurs when more information is available as to the seriousness of the wrong. Thus, all else equal, investigating often may be superior to monitoring because the firm (and society) can concentrate enforcement expenditures on the most serious wrongs. See Dilip Mookherjee & I.P.L. Png, *Monitoring vis-a-vis Investigation in Enforcement of Law*, 82 AMER. ECON. REV. 556 (1992) (discussing the optimal choice for government officials between monitoring and investigating). Yet monitoring nevertheless may be superior if it is observable because it is undertaken *ex ante* and thus is less likely to be subject to a "credibility problem." See Section I.D.

⁴⁶ Corporate liability should ensure that firms invariably report detected wrongdoing. See Louis Kaplow and Steven Shavell, *Optimal Enforcement with Self-Reporting Behavior*. 102 J. POL. ECON. 583 (1994) (arguing that liability

should induce individual wrongdoers to report their own wrongdoing). Firms should report even when the firm is the best party to sanction the wrongdoer because reporting is the lowest cost method for informing the government about wrongdoing. The government thus can ensure that firms have adequately sanctioned wrongdoers (increasing the credibility of firms' threats to do so). Also, even if the wrongdoer is sanctioned, to detect wrongdoing the government should hold the firm liable in order to induce optimal activity levels, prevention measures and policing.

In the general principal-agent context, self-reporting confers another potential benefit on society. Self-reporting reduces risk-bearing costs when principals are risk averse because those who report wrongdoing pay a lower amount with certainty, which is less costly to them than an equivalent expected sanction based on a lower risk of detection but a higher actual penalty if sanctioned. See Kaplow & Shavell, *supra*.

Regardless whether policing measures operate *ex ante* or *ex post*, however, they are likely to favor a duty-based liability regime in the first instance because traditional strict liability generates what we term “perverse effects:”⁴⁷ that is, it can encourage policing measures insofar as they reduce the incidence of misconduct, but it also discourages them insofar as they increase the firm’s expected liability for undeterred misconduct. These perverse effects will have one of two consequences. In some cases they will cause firms to avoid policing measures entirely. In other cases they will merely force lawmakers to choose between optimal policing measures and other enforcement functions, such as regulating activity levels or inducing optimal preventive.⁴⁸

1. *When Perverse Effects Discourage All Policing Measures*

⁴⁷ The term originates with Arlen, *supra* note 5. Note too that we define traditional strict liability as strict liability that imposes a fixed sanction on wrongdoers which does not depend on the probability of detection. *Id.* This may be contrasted with “sanction-adjusted” strict liability, under which actual sanction levels rise or fall.

⁴⁸ In addition, the fine which enables strict vicarious liability to induce optimal monitoring (when it is capable of doing so) is very complicated. Thus, the standard argument that strict liability places lower information demands on courts does not apply to strict liability employed to induce monitoring or investigation of misconduct. See Arlen, *supra* note 5, at 847, 856-857.

Consider first how traditional strict liability may actually deter firms from monitoring, investigating, or reporting. The problem arises because a firm's efforts at policing are unlikely to deter all misconduct with certainty. Given that some misconduct will (or might) occur, policing measures induced by strict liability can affect the firm's expected liability in two ways. On one hand, they can deter some misconduct by increasing the expected liability of culpable agents, and thereby *reduce* the firm's expected liability (the deterrent effect). On the other hand, they can increase the probability that the government will detect and sanction the residual offenses that occur nonetheless, and thereby *increase* the firm's expected liability (the liability enhancement effect). For example, policing measures increase the firm's expected liability if either the firm or its agents reports detected wrongdoing to the government or if the government independently suspects a wrong and uses its broad search and subpoena powers to obtain the information about wrongdoing from the firm for use against it.⁴⁹ If the liability enhancement effect exceeds the deterrent effect, then a firm subject to strict liability will not undertake any policing measures, regardless how large a fine is imposed, because policing measures only increase its expected liability. Indeed, increasing the sanction only decreases the firm's incentives to police.⁵⁰

For example, consider a securities firm's ongoing program of recording broker phone calls to monitor for securities fraud. Under a strict liability regime, such a program will deter some potential fraud, but it will also increase the detection of actual fraud for which the firm will be strictly liable.⁵¹ Strict liability will induce the firm to forego a recording program if the expected increased liability from enhanced detection exceeds the reduction in liability from enhanced deterrence.

This problem can be further illustrated with a simple numerical example. Suppose a firm has many agents, each of whom can decide to engage in a form of misconduct that may or may not benefit the firm. Suppose further that the

⁴⁹ Our analysis does not require that the government always get the information; just that there is a positive risk it will. The greater the risk, the worse the liability enhancement effect.

The assumption that the government may obtain information about wrongdoing that the firm detects is a reasonable assumption for several reasons. First, the government may induce the firm to reveal what it detects through criminal liability rules that heavily penalize firms that do not report misconduct. Second, managers and employees may face strong pressures to reveal enforcement information. Some statutes impose personal liability on managers who fail to report certain violations to the proper authorities. California Corporate Criminal Liability Act of 1989, California Code § 387. Other statutes provide cash bounties to those who report corporate wrongdoing. See, e.g., Qui Tam provisions of the False Claims Act, 31 U.S.C.A. § 3729 et. seq.; Section 21A(e), Securities Exchange Act of 1934, 15 U.S.C. 78u-1 (bounty provision for information on insider trading). Finally, the threat of higher corporate sanctions should the firm not report may induce innocent corporate official who compensation is tied to firm profits to report. See Arlen, *supra* note 5, at 858-860.

Even when a corporation does not report its discovered crimes to the government, corporate enforcement efforts may increase the firm's expected liability. Corporations recognize that the government often discovers evidence of possible corporate wrongdoing on its own. The government may well respond to evidence of possible wrongdoing by subpoenaing corporate records. These records will include documentary evidence resulting from corporate enforcement efforts -- records which may contain evidence of wrongdoing which prosecutors may use to prove their case against the corporation. *Id.* Neither firms nor their managers can shield such records by asserting a 5th Amendment right against self-incrimination. See generally HARRY FIRST, BUSINESS CRIME: CASES AND MATERIALS 382-401 (1990).

⁵⁰ See Arlen, *supra* note 5.

⁵¹ For example, the government used Princeton Newport's own trading records to determine that an employee might have engaged in illegal trading, and then later obtained evidence of alleged wrongdoing by the firm from the firm's own documents and taped conversations of its traders' telephone calls. JAMES STEWART, DEN OF THIEVES 348-352. Other securities firms also faced liability based on their own records.

firm must choose between monitoring optimally or not at all. Without monitoring, misconduct will be detected with a probability of $1/5$; in this case, five agents engage in misconduct. With monitoring, the probability of detection is $1/2$; in this case only three wrongs will occur. Consider the firm's expected costs under a traditional strict liability regime.

The firm's expected costs are $5(1/5)F$ if it does not monitor and $3(1/2)F + M^*$ if it does monitor, where F is the firm's sanction and M^* is its cost of optimal monitoring.⁵² Thus, regardless of F , the firm's expected liability if it does monitor, $(3/2)F$, is higher than its expected liability if it does not monitor. The firm, accordingly, will not monitor.⁵³

2. When Optimal Policing Measures Conflict With Other Liability Functions

Traditional strict liability can induce optimal monitoring, investigating, or reporting when the deterrence effect exceeds the liability enhancement effect. Under these circumstances, a firm will undertake some policing to reduce its expected liability. If sanctions are set at the "right" level, it will select precisely the socially efficient amount of any particular policing measure. The problem is that the sanction that induces efficient policing under traditional strict liability exceeds the sanction that induces optimal activity levels, sanctioning, and prevention measures. Thus, even in the best circumstances, traditional strict liability cannot simultaneously induce optimal policing and serve the other goals of entity-level liability.

To induce optimal activity levels, sanctioning and prevention the sanction must equal the expected cost of wrongdoing. Were firms to police optimally, the sanction, therefore, would have to equal the social cost of wrongdoing, h , divided by the optimal probability of detection, $p^* : h/p^*$.

⁵² This assumes that the wrong does not benefit the firm. If the wrong does benefit the firm, the firm will be even less likely to monitor because monitoring would impose an additional cost of $2B$, which is the benefit to the firm of the two wrongs deterred.

⁵³ For a full mathematical proof of this claim see Arlen, *supra* note 5.

In order to induce optimal policing, however, the sanction imposed must exceed h/p^* in order to ensure that the *net* benefit to the firm of additional policing -- net of the liability enhancement effect -- equals the social cost of the wrongs deterred. The actual expected liability per wrong thus must exceed the expected social cost of these wrongs in order to adjust for the liability enhancement effect.⁵⁴ Yet employing such a sanction undermines other liability goals by inducing the firm to invest excessively in prevention measures and reducing activity levels to suboptimal levels. Thus, strict liability cannot induce efficient activity levels and prevention while also inducing efficient policing, and vice versa.

⁵⁴ See Arlen, *supra* note 5 (providing a mathematical proof of this point). An elaboration of our earlier example can illustrate the point. Previously we supposed that, without monitoring, misconduct was detected with a probability of 1/5 and five agents would commit the wrong. Assume now that optimal monitoring increases the probability of detection to 1/3 and reduces the number of offending agents to two. In this case, the social marginal benefit of monitoring is 3h, which is three times the social cost of wrongdoing to others. The private marginal benefit is $1F - (2/3)F = (1/3)F$. If $F = h/p^*$ the firm's marginal benefit of policing -- and thereby deterring three wrongs -- would be only h, which is less than the benefit to society of deterring those wrongs. Thus if, as the definition of optimal monitoring implies, the marginal cost of undertaking optimal rather than nonoptimal monitoring equals the social marginal benefit, 3h, then this cost will exceed the firm's private marginal benefit if $F = h/p^*$. To counteract the depressing effect of the liability enhancement effect, the sanction must exceed this amount. See *id.*

By contrast, duty-based liability can induce optimal monitoring (or investigation and reporting) without triggering the perverse effects associated with traditional strict liability. Duty-based liability does not create perverse effects for the simple reason that the firm that polices optimally escapes liability for its agents' wrongs. Thus, there is no liability enhancement effect. To see this, return to our example in which a failure to monitor produces five wrongs and a probability of detection of 1/5, while optimal monitoring yields three wrongs and a probability of detection of 1/2.

Assume that the sanction, F , equals $2M^*$ where M^* is the cost of optimal monitoring. Under a pure duty-based rule, a firm which does not monitor faces expected costs of $(5/5)F = 2M^*$. By contrast, the firm's costs if it monitors optimally are merely the costs of monitoring, M^* , which is obviously less than $2M^*$. Accordingly, the firm will monitor optimally.⁵⁵

Because a firm that monitors optimally is not liable, a pure duty based regime will not also induce optimal activity levels, sanctioning and prevention, however.

Of course, duty-based regimes can induce optimal policing measures only if courts can determine what these measures are. If the standard of care is set too low, firms will monitor or investigate too little; if it is too high, they will police too much. Moreover, any uncertainty about the legal standard or its application will cause duty-based regimes to fail to induce optimal behavior. Even if courts decide cases correctly on average, uncertainty can result in inefficient policing.⁵⁶

⁵⁵ Composite duty-based regimes -- which reduce but do not eliminate liability if the firm meets its monitoring, investigating, or reporting duties -- can also induce optimal enforcement measures, provided that the implementation of such measures reduces the firm's penalty enough to warrant the investment. In addition, as we discuss below, composite regimes that mitigate (rather than eliminate) liability when firms implement optimal policing measures can induce such measures while simultaneously meeting all other liability aims, including the optimal regulation of activity levels and inducement of preventive measures.

⁵⁶ Richard Craswell and John Calfee, *Deterrence and Uncertain Legal Standards*, 2 J. LAW, ECON. & ORGAN. 279

(1986); see also Mark Grady, *Proximate Cause and the Law of Negligence*, 69 IOWA L. REV. 363, 391-413 (1984); Marcel Kahan, *Causation and the Incentives to Take Care Under the Negligence Rule*, 18 J. LEGAL STUD. 427 (1989).

The ability of duty-based liability regimes to regulate firms' policing measures thus depends largely on how competently lawmakers and judges can articulate and assess the optimal scope and forms of monitoring.⁵⁷ Despite such problems, however, duty-based regimes generally will be superior to traditional strict liability as a tool for inducing policing measures. Even a poorly specified monitoring duty will induce some policing, in contrast to strict liability which may fail to induce any at all. Moreover, even when traditional strict liability can induce policing, it will not induce optimal policing if courts employ the sanction that induces efficient activity levels, sanctioning and prevention. The cost to society of the additional wrongdoing caused by firms' suboptimal policing efforts will likely exceed the additional administrative costs of an optimal entity level liability regime. Moreover, attempting to induce optimal policing using traditional strict liability would impose substantial information costs of courts in the form of the complex calculations required to determine the optimal sanction and would not serve the other goals.⁵⁸ Nevertheless, the information burdens of a duty-based regime may counsel in favor of employing a modified form of strict liability -- which shares some elements of a duty-based regime -- in some circumstances.⁵⁹

⁵⁷ The problem of uncertain legal standards is likely to be particularly acute when optimal monitoring is firm-specific because there is no standard monitoring technology for all firms in the industry. Similarly, courts are likely to have much more difficulty assessing monitoring measures that involve "nondurable" precautions, such as the human effort involved in detecting securities fraud, than they are in evaluating durable monitoring technologies such as video cameras or tape recorders.

⁵⁸ See Arlen, *supra* note 5; see also *infra* Section II (comparing a duty-based regime to sanction-adjusted strict liability).

⁵⁹ See *infra* Section II.

D. ASSURING THE CREDIBILITY OF THE FIRM'S ENFORCEMENT MEASURES

Duty-based liability is preferable to strict liability because it makes credible firms' threats to implement threatened policing measures. Firms face a credibility problem whenever their efforts to monitor agents' conduct are unobservable and they are cannot commit to monitor,⁶⁰ and also when they undertake to investigate, report, or sanction agent misconduct *ex post*, after the wrong occurred, unless firms can use reputation⁶¹ or third parties⁶² to make such threats credible. For example, the most effective way for a brokerage firm to ensure its representatives are not defrauding its customers may be to tape record their telephone calls and then selectively review them. Yet dealers often cannot tell whether the call is actually being taped. And even if a dealer knows his calls are being taped, he may doubt whether the tapes will be listened to. Similarly, employees cannot determine *ex ante* whether the firm will either attempt to ferret out potential wrongdoing or report the wrong should it detect it.

⁶⁰ By "commit" we mean the ability of the firm to establish monitoring programs *ex ante* which are sufficiently fixed that the firm cannot reduce its monitoring efforts once agents adjust their behavior to reflect the threatened level of monitoring. Note that this monitoring must also be observable for agents to believe firm threats to monitor at a specific level. The credibility problem has been previously noted, generally in model involving government enforcement efforts. See, e.g., Debra Aron & Pau Olivella, *Bonus and Penalty Schemes as Equilibrium Incentive Devices, with Application to Manufacturing Systems*, 10 J. LAW, ECON. & ORGAN. 1 (1994); Malamute & Mookerjee, *Delegation as Commitment: The Case of Income Tax Audits*, 20 RAND J. ECON. 139 (1989); Jennifer Reinganum & Louis Wilde, *Equilibrium Verification and Reporting Policies in a Model of Tax Compliance*, 27 INT'L ECON. REV. 739 (1986). We are, to our knowledge, the first to consider the impact of strict versus duty-based liability on this problem.

⁶¹ Even under strict liability, firms will not face credibility problems if they face adequate incentives to establish a reputation for making credible threats, or if they can use third parties to implement their policing measures. Reputation is most likely be effective in situations where deviations by either party are quickly observed and the future costs of losing one's credibility are high. See generally Benjamin Klein & Keith Leffler, *The Role of Market Forces in Assuring Contractual Performance*, 89 J. POL. ECON. 615 (1981)(even when consumers can perfectly verify the quality of a good after the fact, high reputation firms will have an incentive to "cheat" and supply a low quality good unless these firms are earning a continual stream of rental income from producing the high quality good the discounted value of which exceeds the one-time wealth increase obtained from low quality production).

But reputation can only solve credibility problem in some circumstances. For example, a firm can credibly develop a reputation for policing only if it is properly viewed as being in a potentially infinitely-lived relationship with agent. If instead the firm and agent are in a finite relationship with a fixed time horizon, the agents' knowledge that the firm has an incentive to cheat in the last period will eliminate the reputational benefit to the firm of policing in the second-to-last period, which, as agents will understand this, in turn eliminates the firm's incentive to police in the third-to-last period, and so forth. Thus, in such a situation, reputation will not solve the problem. See generally FUDENBERG & TIROLE, *GAME THEORY*, 166 (19). Even if the firm may be infinitely-lived, reputation will not be sufficient to induce optimal policing if the probability the firm will exist in future periods is small, because then the expected benefit of developing a reputation also will be small. See generally Klein & Leffler, *supra*; Cf. Alexander & Cohen, *supra* note 40 (providing empirical evidence that poor prior performance tends to precede environmental crime consistent with the view that reduced likelihood of repeat dealing increases the likelihood that employees will commit crime).

Moreover, reputational effects can solve the credibility problem only if agents can verify the firm's policing efforts once it has implemented them. This often will be difficult for them to do. Thus, when a firm threatens to sample or monitor probabilistically, an agent's observation of *ex post* monitoring will not enable the agent to determine, for certain, whether the firm truthfully announced its monitoring strategy. See Reinganum & Wilde, *supra* note 60 (discussing this point). Similarly, firms may be unable to establish reputations if agents can determine *ex post* whether the firm has monitored but cannot determine how diligent its monitors are. Finally, firms will not be able to establish

accurate reputations for reporting wrongdoing if agents do not know when, and how much, wrongdoing has occurred; in this case agents who observe firms reporting wrongs will not be able to determine whether the firm is reporting all the wrongs it detects -- and thus they should assume it will report any wrongdoing they do -- or only some portion of the wrongs it detects -- in which case it may not report any misconduct. Thus, firms will have difficulty establishing policing reputations for wrongs likely to be committed by employees and middle level managers, but probably can establish effective reputations for implementing policing measures aimed at wrongdoing by committed by senior officers who are privy to information about both the firm's monitoring policies and about whether the firm has detected possible wrongdoing.

⁶² In some cases firms can solve their credibility problems by hiring third parties to monitor, investigate and report. This solution, however, will not solve the credibility problem in all cases, and imposes its own costs. First, insider investigations often will be more effective than those conducted by outsiders because the insiders will have better information. This is particularly likely because firms will often withhold crucial information from outsiders; for example, they are likely to be reluctant to provide outsiders with the regular reports on production costs, pricing, negotiations with suppliers and customers that are necessary to monitor for antitrust violations. In addition, third party enforcers are effective only if they have an incentive to investigate and report misconduct even when the firm does not want them to. Contractual arrangements alone cannot necessarily provide this incentive because, even if the contract rewards a third party for reporting wrongdoing, the firm can secretly negotiate with its third party monitors to get them to monitor ineffectively or to cover up detected wrongdoing. Cf. Jerry Green, (describing how parties who post a bond with a third party to ensure contract performance can undermine the effectiveness of the bond by bribing the third party with an amount which is less than the bond to not enforce it). Finally, the use of third party enforcers will not induce firms to report those wrongs that they themselves detect, as is necessary in order to minimize enforcement costs. See *supra* note 19.

In these cases, duty-based liability is superior to strict liability because under strict liability employees may not believe a firm's threats to undertake policing measures, and thus may not be adequately deterred. When employees cannot observe a firm's policing efforts before committing the wrong,⁶³ they will believe, and be potentially deterred by, threats to implement such measures only if actually incurring the costs of these measures -- rather than just threatening to do so -- is in the firm's best interests. Yet under strict liability firms have no incentive to actually incur these costs because, under this regime, policing measures will often benefit the firm only to the extent that they alter employees'

⁶³ To be precise, when the firm cannot commit to such efforts ex ante and agents cannot verify its policing efforts ex ante.

expectations: in other words, only to the extent employees believe the threats and are deterred.⁶⁴ Thus, once the firm threatens to implement particular measures, and employees are either deterred from wrongdoing or not, the firm has no incentive to actually spend the money to implement the program. Indeed, the firm has every reason not to implement such measures because they will increase its expected liability for any wrongs that occur. Thus, unless employees can verify its actions *ex ante*, the firm has every reason to announce policing measures without implementing them. The firm's employees know this, however, and thus may rationally assume that the firm will not monitor, report, or sanction

⁶⁴ When policing measures are also preventative measures, the firm may have a credible incentive to police even under a strict liability regime. For example, if detecting fraud also prevents the wayward agent from engaging in additional fraud, the firm's threat to monitor may or may not be credible, according to the relative magnitude of its future expected liability and the cost of monitoring. Even in this case, however, the firm may not be able to commit to monitor *as much* as it will threaten to do.

(even if it does or will). Agents may thus remain undeterred regardless of the firm's actions.⁶⁵ In this case, strict liability will clearly fail to induce optimal firm or agent behavior.⁶⁶

⁶⁵ To see this consider our example of a firm where five agents commit the wrong if there is no policing and only three commit it if the firm polices optimally. See text preceding note 53. Assume that the firm is strictly liable for all wrongs and announces that it will engage in optimal monitoring. The question arises, if agents believe that the firm will police, does it have an incentive to do so? In our example, if agents believe the firm will police only three commit a wrong. Thus, under traditional strict liability, the firm's expected costs if it actually does police are:

$$M^* + 3(1/2)F.$$

However, the firm's expected costs if it does not police are:

$$3(1/5)F.$$

Thus, it is better off if it does not undertake the threatened policing measures. Agents, knowing this to be the case, thus will not believe the firm's threats.

⁶⁶ This analysis implicitly assumes that firms and agents only pursue pure strategies: that firms either undertake policing measures or do not and agents either commit a wrong or do not. In reality, either or both could pursue mixed strategies. Firms could pursue probabilistic policing, under which agents face only a probability of being subject to policing. Agents could respond with a mixed strategy, adopting a probability of engaging in misconduct. The possibility of mixed strategies does not eliminate the credibility problem, however. Consider the question of whether firms will report wrongdoing. If ex post the firm has no incentive to report because reporting only increases its expected liability,

then even if it announces a positive probability of reporting, it still will have no incentive to report if it actually detects a wrong. It will only implement a positive probability of reporting if it has reason to report which is independent of any deterrent effect of the *threat* of reporting -- for example, that reporting might terminate the wrong more quickly, thereby reducing its severity. Similarly, if a firm cannot commit a monitoring policy, and monitoring is unobservable, it will not implement a probabilistic monitoring program unless it has a incentive to monitor which is independent of the deterrent effect of the threat of monitoring -- for example that rapid detection may enable it to reduce the severity of the wrongs it is liable for. Thus, any probabilistic monitoring it does do will be based only on this stand alone benefit; when credibility problems exist, it will not consider the deterrent effect of any additional monitoring. See Reinganum & Wilde, *supra* note 60 (if enforcement is unobservable and the enforcer cannot commit to its enforcement measures, mixed strategies will not yield positive enforcement efforts unless there is a stand alone benefit to policing).

This credibility problem under a strict liability regime is particularly serious for *ex post* enforcement policies that are triggered after misconduct occurs: for example, investigating and reporting misconduct. Unlike monitoring, which occurs *ex ante* and may be observable to agents, *ex post* measures cannot be observed before misconduct occurs. A firm can threaten to report *ex ante* but cannot guarantee it will do so. Agents will often disbelieve a firm's threats because a firm that is strictly liable for its agents' wrongdoing obviously has a strong incentive not to investigate or report it because, after the fact, such actions cannot deter the wrong but will increase the firm's expected liability.⁶⁷ Thus, absent a technology enabling a firm to commit to *ex post* enforcement measures, threats by the firm to implement such measures may fail to deter agents under a regime of strict liability.⁶⁸

By contrast, duty-based liability can be designed to avoid the credibility problem for both monitoring and *ex post* enforcement measures. Under a duty-based regime, the firm is not liable if it engages in optimal monitoring, investigation and reporting. Thus, under this regime the firm benefits both *ex ante* and *ex post* from its monitoring, reporting or sanctioning policies. As under strict liability, the firm benefits *ex ante* to the extent that policing deters

⁶⁷ For example, employees will not completely believe a firm's threats to report detected wrongdoing because they know that once misconduct occurs and the firm detects it, reporting it subjects the firm to substantial criminal liability while have no impact on deterring this particular wrong. The only benefit from reporting thus, would be a signaling effect -- signaling the firm's willingness to report in the future. This effect is likely to be a significant benefit only if agents are imperfectly informed about the firm's costs and benefits of reporting any given wrong, and even so this benefit may not outweigh the costs to the firm of reporting. See *infra* note 70 (discussing reputation).

⁶⁸ See Aron & Olivella, *supra* note 60; Cf. Reinier Kraakman, Hun. Park, & Steven Shavell, *When are Shareholder Suits in Shareholder Interests?*, 82 GEORGETOWN L. REV. 1733 (1994) (the prospect of suit that is counter to a firm's *ex post* interests will not deter managerial misconduct unless the firm makes a credible credibility to sue).

wrongdoing by shaping agents' expectations. But, unlike under strict liability, under duty-based liability the firm also benefits *ex post*, after the crime has occurred, because firms that undertake optimal policing avoid all liability for misconduct that occurs despite its enforcement efforts. Indeed, a firm operating under a properly-designed duty-based regime would monitor, report or sanction misconduct even if doing so had no impact on the behavior of its agents as long as the penalty for failing to do so were sufficiently large. Knowing this, the firm's agents will be deterred because they will expect it to monitor or report misconduct under a duty-based regime. The credibility of the court-threatened sanctions, in other words, serve to enhance the credibility of the firm's policing efforts.

Duty-based liability, therefore, deters more socially harmful conduct than strict liability in those situations where firms face a credibility problem.⁶⁹ Moreover, even where firms can reduce the credibility problem by relying on outsiders to police their employees, duty-based liability may increase social welfare by inducing firms to police directly, rather than relying solely on outsiders who face higher costs of observing and interpreting employees' conduct. Duty-based liability also is superior to relying on outsiders because it ensures that firms that detect wrongdoing themselves will report it.

Of course, a duty-based regime can solve the credibility problem only if the court can determine whether the firm has implemented efficient enforcement measures. This requires monitoring, investigating, reporting, and sanctioning to be *ex post* observable to the court, even though they are not *ex ante* observable to agents.⁷⁰ We expect the judicial observability requirement to be met in most -- but not all -- circumstances where credibility is a serious issue.⁷¹ Certainly, courts generally can observe whether a firm investigated or reported wrongdoing. Many compliance programs also can be verified *ex post*. For example, courts can review a brokerage firm's library of tape recordings and telephone records to determine whether the firm was taping every call, as threatened, or only some calls. Thus, duty-based rules often can assure the internal credibility of the firm's monitoring, investigation, reporting and sanctioning measures.⁷²

⁶⁹ See notes 61 and 62 (discussing when credibility problems exist).

⁷⁰ This is particularly likely to hold when the level of monitoring is difficult for employees to determine *ex post*, but can be established in court through introducing documents, testimony of monitors, and other evidence. In other words, on a day-to-day basis it often will be difficult to determine the amount of firm monitoring, while not being difficult in a court-room where the firm has an incentive to introduce evidence unavailable to its workers.

⁷¹ *Ex ante*, monitoring may sometimes be difficult for courts to verify *ex post* if it is a random process. See Reinganum & Wilde, *supra* note 60.

⁷² See *infra* Section II (discussing the informational requirements of duty-based liability in more detail).

E. SUMMARY: RECONCILING THE MULTIPLE AIMS OF CORPORATE LIABILITY

Although strict liability is necessary to induce optimal activity levels, analysis of the four ways in which entity liability can advance the enforcement goal reveals that neither strict nor duty-based liability is uniformly dominant. Strict liability is generally the superior rule for inducing efficient preventive measures and private sanctioning. But traditional strict liability cannot always induce optimal monitoring, investigating, and reporting. And when it can do so, these policing measures come at the expense of other aims of most corporate liability regimes: i.e., assuring optimal activity levels and prevention measures. Moreover, strict liability is inadequate when the credibility of the firm's monitoring, reporting, or sanctioning commitment is seriously at issue. By contrast, duty-based liability can induce firms to monitor, investigate, and report efficiently when courts can identify optimal policing measures. But it cannot regulate activity levels or induce the efficient substitution of private for public sanctions, and it is presumptively disfavored for inducing preventive measures unless a serious issue of firm credibility is raised (as in threatening to punish misconduct of key employees by discharge).

Since neither strict nor duty-based liability in its simple form can advance all of the mechanisms of corporate enforcement, we now turn to mixed liability regimes that combine elements of both. Mixed liability regimes can be constructed by modifying either strict or duty-based regimes. Part II surveys the primary forms of mixed regimes, while Part III focuses more closely on the most promising family of mixed regimes: composite liability regimes.

Of course, mixed regimes need not be employed in every situation. For example, courts can rely on traditional strict liability when corporate policing is unnecessary either because the government can easily detect misconduct or because misconduct can be deterred completely through the use of private sanctioning and preventive measures (such as screening employees more carefully or revising compensation to reward law-abiding managers).⁷³ Alternatively, courts can rely solely on duty-based liability designed to induce optimal policing measures if market forces cause the firm

⁷³ For example in some cases the agent's benefit from wrongdoing is such that if the firm optimally structures its compensation policies the wrongdoer's benefit from crime is directly proportional to the firm's net benefit (net of any expected criminal liability). This is likely when shareholder-managers of firms with highly concentrated ownership commit a wrong. In this situation, corporate criminal liability can optimally deter wrongdoing even when agents are insolvent by holding firms strictly liable for their agents' crimes subject to an expected sanction equal to social cost of wrongdoing to others. See *supra* text accompanying note 40.

to bear the full social cost of any wrongdoing, thereby ensuring that the firm undertakes optimal activity levels, sanctioning and prevention.⁷⁴ Nevertheless, we expect that most forms of intentional agent misconduct will require the full panoply of measures to induce both optimal activity and prevention levels and optimal policing measures. Thus, in an efficient system, mixed regimes are likely to be the rule, not the exception.

⁷⁴ In order for this to be true, the *ex ante* sanction imposed by the market must equal the social cost of wrongdoing, which means that either the market must always detect wrongs or must impose a reputational sanction which exceeds the actual cost to victims of the wrong. Cf. Karpoff & Lott, *supra* note 19.

This market penalty does not obviate the need for corporate liability because the fact that the firm bears the full social cost of the harm does not mean agents will necessarily be optimally deterred. Deterring agents generally will require that firms implement policing measures. Market forces alone cannot induce optimal policing because the market essentially effects a regime of traditional strict liability. See Sections I. C & D. Thus, to induce optimal policing, market forces must be supplemented by a duty-based regime.

II. MIXED LIABILITY REGIMES

Given that corporate misconduct is often best addressed by a mixed liability regime, how can such a regime be constructed? The answer is by modifying either of the traditional regimes -- that is, by altering strict liability to reward policing measures or expanding duty-based liability to include a dimension of strict liability. We term the resulting classes of mixed regimes "adjusted strict liability" and "composite liability" respectively. Although these regimes resemble one another as much as they do either strict or duty-based liability, they have very different strengths and weaknesses. Only composite regimes can fully solve the credibility problem and motivate optimal policing measures *ex post*, such as reporting wrongdoing. Yet adjusted strict liability regimes ordinarily require less information to administer and thus are less prone to the risk of judicial error. Composite liability, then, is likely to be superior in the general case where all four enforcement functions are relevant, while adjusted strict liability may be preferable where credibility problems are unimportant or the courts cannot handle the informational burden imposed by a composite regime. We discuss both families of regimes in this part, both of which are well represented in the law. Table Two, immediately below, illustrates the range of mixed regimes.

TABLE TWO
MIXED LIABILITY REGIMES

	Adjusted Strict Liability	Composite Liability
Primary Variations	1) Probability-fixed liability a) privilege b) use immunity 2) Sanction-adjusted strict liability 3) Adjusted "quasi-strict" liability	1) Two-tier liability 2) Multi-tier liability
Primary Example	Strict liability with environmental audit privilege	U.S. Sentencing Guidelines for corporate defendants

A. ADJUSTED STRICT LIABILITY REGIMES

Adjusted strict liability regimes hold firms strictly liable for any wrongdoing that occurs but attempt to induce optimal monitoring and overcome the perverse effects of strict liability by insulating a firm's expected sanction from the effects of policing measures. An insulating adjustment can be made in two ways: (1) by leaving the firm's sanction unchanged but using privilege or use-immunity provisions to freeze the probability of detecting misconduct so that it remains fixed despite the firm's monitoring efforts ("probability-fixed strict liability"); or (2) by mitigating a firm's sanction to precisely offset the increase in the probability of detection associated with policing measures undertaken by the firm ("sanction-adjusted strict liability"). On an expected sanction basis, these two adjustments to strict liability are virtually identical: both ensure that a firm's decision about monitoring measures will not affect its expected liability, leaving the firm free to make its monitoring decision solely on the basis of deterrence considerations. Despite their functional similarity, however, the two forms of adjusted strict liability differ in their administrative characteristics as well as in their actual incidence in the legal system. Several enforcement regimes deploy variations on probability-fixed liability, but none to our knowledge employ sanction-adjusted liability.

1. *Probability-Fixed Strict Liability*

The full doctrinal equivalent of probability-fixed liability is strict liability coupled with use immunity for information gleaned from the firm's monitoring or investigatory efforts.⁷⁵ This evidentiary privilege bars the use of the firm's information against the firm -- and thereby assures that the firm's expected penalty does not increase as a result of its policing efforts -- but nonetheless permits use of the information in prosecuting the firm's agents. Strict liability modified by use immunity is the most attractive of the adjusted liability regimes in theory, at least if one assumes that it is truly possible to insulate a firm from the liability effects of its own policing efforts -- even, for example, when the firm hands its own agents over to be prosecuted for misconduct for which the firm itself is liable. Its chief theoretical drawback relative to sanction-adjusted liability is that it requires the government to impose very large sanctions or worse on some unlucky firms when misconduct would be difficult to detect without firm assistance.⁷⁶ Firms with limited assets will escape such sanctions.⁷⁷ Equally to the point, however, it simply strains credibility to suppose that firms will go so far as to investigate and report misconduct, and risk enormous sanctions, in the belief that the authorities will ignore what they know, including their knowledge that misconduct has occurred at all, and laboriously pursue investigations of misconduct from the outside.⁷⁸

⁷⁵ See Arlen, *supra* note 2, at 865-66.

⁷⁶ Probability-fixed regimes created by use immunity or evidentiary privileges have also been criticized on the grounds that these regimes will induce firms to shift resources from prevention into auditing, which, it is argued, is less

effective at deterring wrongdoing. See Dana, *supra* note 2. We agree with Professor Dana that these regimes lead to a relative increase in the amount of auditing and other policing measures. Yet this is a reason to adopt these regimes, not to reject them. Under the present regime, firms are undertaking too little policing. Increasing policing, therefore, promotes social welfare. And, provided that the expected sanction equals the social cost of wrongdoing, in theory firms nevertheless will undertake optimal prevention. The problem with this regime, as we noted, is that the sanction needed to satisfy this condition will often be so high as to exceed the firm's assets, causing these regimes to be unable to induce optimal prevention or policing. For a discussion of additional problems with privileging information firms obtain through policing measures, see *infra* Section IV.A. .

⁷⁷ See Arlen, *supra* note 5. As firm insolvency already may be a substantial problem, it often will be impossible to implement the huge fines required by probability-fixed regimes, in which case neither prevention, nor policing nor activity levels will be optimal. Cf. Alexander & Cohen, *supra* note 40 (providing empirical evidence that poor prior performance tends to precede environmental crime); Arlen and Carney, *supra* note 36 (a substantial number of firms who committed fraud-on-the-market securities fraud had a net worth less than shareholders' total harm); Mark Cohen, Theories of Punishment and Empirical Trends in Corporate Criminal Sanctions, 17 *Managerial & Dec. Econ.* 399, 403 (1996) (35.7% of the organizations convicted of federal crimes between 1984 and 1990 could not afford to compensate for the harm caused by the offense). For a discussion of the use of ex ante composite liability as a partial solution to the problem of firm insolvency see *supra* note ____.

⁷⁸ Cf. Orts & Murray, *supra* note 5, at 7 (noting that even if the firm's internal assessments are privileged, strict liability will not provide optimal incentives to audit if the government can use the underlying facts contained in the audit against the firm).

We surmise that it is precisely because a foolproof regime of use immunity is neither possible nor credible, that the prevailing form of probability-fixed strict liability is strict liability accompanied by an evidentiary privilege that prevents outsiders from obtaining the firm's policing information for use in any civil, administrative or criminal proceeding. We address the primary example of such a privilege regime -- strict liability coupled with an environmental audit privilege -- in Part IV. For present purposes, it suffices to point out that a privilege regime is inferior to sanction-adjusted liability because, in addition to the insolvency problem discussed above, a privilege bars reporting or using a firm's enforcement information to sanction the firm's culpable agents. A privilege regime thus undercuts much of the deterrent value of the firm's policing efforts in addition to requiring the deployment of extremely large (and potentially impracticable) sanctions against those firms unlucky enough to be prosecuted on the basis of the government's independent investigation.⁷⁹

2. *Sanction-Adjusted Strict Liability*

Given the drawbacks of attempting to fix the probability of prosecuting a firm for misconduct in order to induce policing measures, the alternative of sanction-adjusted strict liability seems initially more promising. This regime attempts to induce optimal policing measures within a strict liability framework by continuously reducing sanctions to offset an increased probability of detection. Specifically, rather than facing a fixed actual sanction, the firm is subject to a fixed expected sanction, pF , equal to the social cost of wrongdoing to others, h . Thus, the sanction equals h , divided by the actual probability of detection, p .

This regime escapes the perverse effects associated with traditional strict liability because it eliminates the liability enhancement effect: whatever the firm's policing expenditures, its expected liability per wrong remains the

⁷⁹ See, e.g., Jennifer Arlen, *Shielding Audits Will Aggravate Pollution Problems*, 17 NATIONAL LAW JOURNAL A23 (Monday, Oct. 3, 1994).

same.⁸⁰ The firm, thus, gets the full benefit of the deterrence effect. Therefore, if a firm can credibly announce *ex ante* and *ex post* policing measures, it will undertake optimal policing, prevention, sanctioning and activity levels. Moreover, because the firm's expected liability equals the social cost of wrongdoing, h , the firm fully internalizes the cost of wrongdoing and thus will undertake optimal prevention, activity levels, and sanctioning.⁸¹

Yet there remain two important limitations on sanction-adjusted strict liability that are best described as different aspects of the credibility problem. First, to the extent that policing measures are intrinsically costly, firms will fail to implement them unless they are observable or perceived as credible threats. Under sanction-adjusted liability, a firm's expected sanction for any given wrong equals h , the social cost of wrongdoing, no matter what the firm's policing efforts. Policing measures, therefore, reduce the firm's expected liability only by deterring wrongdoing. If policing is unobservable, however, such measures will deter wrongdoing only to the extent the firm can credibly threaten to undertake such measures. Yet agents know that once the firm has threatened to implement various policing measures, it has no incentive to actually do so: actual implementation can only cost the firm, both directly and by increasing the probability wrongdoing is detected. Agents therefore will not believe firm's threats; thus, the firm has no incentive to actually implement the threatened measures.

⁸⁰ See Arlen, *supra* note 2, at 857-58 (discussing a version of this regime). An adjustable regime that reduced sanctions discretely -- rather than continuously -- with an increasing probability of detection would induce suboptimal policing unless a reduction in sanctions occurred at the precise point that a firm adopted optimal policing measures. But such a regime would require the court to determine whether the firm had adopted optimal policing measures, and would thus be a duty-based regime in effect.

⁸¹ See *supra* Section I.A-B.

To see this, consider our earlier example in which five agents commit a wrong if the firm does not monitor optimally, with a resulting probability of detection of $1/5$, but only three commit the wrong if the firm does monitor optimally, yielding a probability of detection of $1/2$.⁸² Assume that the firm announces it will undertake optimal monitoring and that agents believe it. Thus only three engage in misconduct. The question is, if the agents do believe it, does the firm have any incentive to actually undertake the measures. Whether the firm monitors optimally or not, its expected liability per wrong, pf , equals h . Thus, if the firm undertakes optimal policing at a cost of M^* its total expected costs are $M^* + 3h$; its expected costs are $3h$ if it does not. Thus, the firm will not monitor, and -- knowing this -- agents will not be deterred by the firm's threat to monitor.

⁸² See text accompanying note?

A second equally serious aspect of the credibility problem arises under sanction-adjusted strict liability in the case of policing measures such as investigating and reporting misconduct that the firm undertakes only after it suspects its agents have committed a wrong. These measures can become very costly to a firm after misconduct is discovered as a result of the structure of the liability regime itself. Consider the example of reporting misconduct. As previously discussed, optimal enforcement requires that firms report detected wrongdoing. Reporting reduces enforcement costs by saving the government the resources to uncover the firm's information independently and also reduces the risk that firms can escape sanctions through insolvency, by raising the probability of detection and lowering the sanction necessary to induce wrongdoers to internalize the cost of misconduct.⁸³ Suppose now that a firm detects misconduct as a result of optimal monitoring. Under sanction-adjusted liability, if the firm reports the wrong it will be held liable, subject to a fine of h/p^{**} , where p^{**} is the probability of detection if the firm monitors optimally and reports detected wrongdoing.⁸⁴ If the firm does not report the wrong and the government detects it, it will be subject to a fine of h/p^{*o} -- where p^{*o} represents the government's probability of detection if the firm monitors optimally but does not report misconduct. *Ex ante* the firm's expected liability per wrong is h in both situations. From the perspective of the firm which has detected the wrong, the situation is dramatically different: Its expected liability if it reports the wrong is $h/p^{**} > h$, whereas its expected liability if it does not report the wrong is $g(h/p^{*o})$, where p^{*o} is effectively the probability the government will eventually detect the wrong (whether or not the firm detects) and g is the probability the government will detect a wrong that the firm has already detected. If the firm's detection does not increase the probability the government will detect then g equals the *ex ante* probability of detection, p^{*o} , and the firm's expected liability if it does not report equals h , which is invariably less than its expected liability if it does report, h/p^{**} .⁸⁵ The former exceeds the latter, unless the firm's detection does not increase the probability the government will detect wrongdoing.⁸⁶

Sanction-adjusted liability, therefore, generally will not induce optimal policing whenever credibility problems exist, although it can induce optimal policing -- as well as optimal activity levels, sanctioning and prevention measures -- when credibility problems do not exist, for example because the firm can capture the full benefit of policing measures by establishing a reputation for implementing threatened policing measures. In these circumstances, this regime is attractive because it imposes a lower informational burden than duty-based liability. While this regime does impose a higher informational burden than traditional strict liability -- specifically, the cost of calculating the probability of

⁸³ See *supra* note 46.

⁸⁴ The sanctions must meet these requirements in order to ensure that *ex ante* the firm's expected liability equals h , as is necessary if this regime is to induce optimal prevention, sanctioning, activity levels and policing.

⁸⁵ This is the probability the government eventually detects the wrong because if the firm does not report detected wrongdoing, the only way it can be sanctioned is if the government eventually detects the wrong.

⁸⁶ See *supra* note 208 [appendix note]

detection *in those cases where wrongdoing is detected and firms are sanctioned* -- this additional cost is probably justified by the benefit to society of the reduction in wrongdoing *across all firms* resulting from the increased expenditures on policing occasioned by the elimination of perverse effects.

3. *Adjusted Quasi-Strict Liability*

Can adjusted strict liability be modified to eliminate the perverse penalty it imposes on *ex post* reporting and investigating? The answer is “yes” and “no,” depending on what is meant by strict liability. The answer is “no” if “strict” liability means a sanction determined by a single function (such as h/p) in all states of the world. It is “yes” if strict liability means a liability regime that is keyed to outcomes: that is, a regime that does not evaluate the quality of a firm’s behavior but only whether the firm took a specific action such as reporting wrongdoing. We term this liability regime -- which can induce both optimal *ex ante* monitoring, and *ex post* investigation and reporting -- an adjusted “quasi-strict” liability regime.

A complete development of quasi-strict liability is provided in the Appendix. Adjusted quasi-strict liability is similar to adjusted strict liability in that the sanction imposed on the firm depends, at least in part, on the *ex ante* probability of detection. This regime adds an additional feature, however: a firm’s sanction varies according to whether it reported wrongdoing or not: a firm that reports faces a lower sanction than one that does not. Thus there is a duty-based element -- the firm’s sanction turns on its decision to report -- but there is also a strict liability element -- the firm’s sanction turns on whether it reported or not, not on whether it monitored optimally or would have reported had it detected misconduct.⁸⁷

Under this regime a firm can be induced to report misconduct if the sanction imposed on a firm that reports, F^r , equals the *expected* sanction imposed on a firm that does not report, gF^{nr} , where g is the probability the government will detect a wrong the firm has detected and F^{nr} is the firm’s fine if it does not report. In order to induce optimal policing, activity levels, and prevention, however, the firm’s *ex ante* expected sanction must equal the social cost of wrongdoing. This implies that the firm’s expected liability if it does not detect the wrong first (and thus cannot report) plus its expected liability if it does detect and report must equal the social cost of the harm. In other words, the weighted sum of F^r and F^{nr} -- weighted by the relevant probabilities of detection -- must equal h , in addition to satisfying the requirement for optimal reporting. Calculating this fine is difficult since a court must know not only the overall

⁸⁷ Quasi strict liability is similar to the regime proposed by Professor David Dana, in that the firm’s sanction is mitigated if the firm reports wrongdoing. See Dana, *supra* note 5. Dana’s regime differs from the two adjusted strict liability regimes we describe, however, in that he does not advocate further adjusting the sanction for changes in the probability of detection resulting from policing practices. Rather, Dana appears to be combining his reporting mitigation provision with a traditional strict liability regime. The reporting mitigation provision is completely consistent with our conclusions. Unlike Dana, however, we conclude that the residual strict liability should be adjusted because otherwise firms will undertake insufficient monitoring and investigation as a result of perverse effects and credibility problems. See *supra* Section I.

probability of detection but also the probability that the government will detect any wrong that the firm has detected and the probability that the firm can detect and report misconduct *before* the government detects it.

It is not surprising, therefore, that we do not see any examples of this regime in the world. Its administration would impose a significant administrative burden on courts (a burden that may exceed that imposed by a composite regime considered below). Moreover, it would not induce optimal monitoring or investigation of wrongdoing when there is a credibility problem. Consider investigation: as in the case of adjusted strict liability, a firm subject to this regime would not investigate suspected wrongdoing because an investigation would take place *ex post*. Thus, investigation cannot deter a wrong but can increase the firm's probability of being found liable for it. Quasi-strict liability cannot solve this problem by simply reducing the sanction imposed on firms that investigate because, unlike reporting, investigation is not a binary -- an either/or -- activity: a firm's investigatory expenditures can vary widely. Accordingly, to decide whether a firm deserves credit for investigation courts would need to determine whether the firm investigated optimally -- which is a duty-based analysis.⁸⁸

For these reasons, we do not expect adjusted quasi-strict liability to be a serious rival to forms of corporate liability regimes. Thus, the central policy choice lies between adjusted strict liability and composite liability.

⁸⁸ In addition, this regime will not induce optimal monitoring if monitoring affects the probability the firm detects first, in addition to affecting the overall probability of detection. For example, if monitoring decreases the probability that the government will detect wrongdoing before the firm does, firms will receive a private benefit from monitoring, in addition to the benefit to society of deterring wrongdoing: the increased likelihood that the firm will detect the wrong first, thereby rendering it eligible for sanction mitigation. This quasi-strict liability regime will induce excessive monitoring as firms increase monitoring over optimal levels in order to increase the likelihood that they be able to detect first, and thus report first and qualify for sanction mitigation.

4. A Comparison of Adjusted Strict Liability Regimes

Adjusted strict liability regimes therefore can be arranged on a spectrum according to their likely enforcement efficiency and informational requirements. Probability-fixed strict liability regimes -- including regimes accompanied by use immunity or evidentiary privilege -- are likely to be least effective in overcoming the perverse effects and credibility problems associated with strict liability but they also impose the smallest informational burden on the courts. Under those regimes, it is only necessary to withhold information; no independent assessment of enforcement measures or detection probabilities is required. By contrast, sanction-adjusted liability, which sets the firm's liability at the elegant ratio of h/p , produces a significant increase in enforcement efficiency at a relatively modest informational cost. This regime can assure optimal *ex ante* monitoring but standing alone, it cannot induce optimal investigation and reporting, nor can it resolve any credibility problems arising from the intrinsic expense of policing measures. Finally, adjusted quasi-strict liability imposes the heaviest informational burden and most closely resembles composite liability. In principle, it can resolve the credibility problem associated with inducing optimal reporting, but it cannot solve the credibility problem associated with *ex ante* monitoring or *ex post* investigation. Sanction-adjusted strict liability, therefore, appears to be the superior adjusted strict liability regime. Quasi-adjusted strict liability imposes almost the same (if not higher) information burden as composite liability without achieving the equivalent enforcement benefits, making composite liability superior to quasi-adjusted strict liability if information costs are relatively low, and sanction-adjusted strict liability superior to quasi-adjusted strict liability if information costs are relatively high.

B. COMPOSITE LIABILITY

The credibility incentive and information problems associated with both adjusted strict and quasi-strict liability lead us in many circumstances to prefer the alternative class of mixed liability regimes: that is, composite regimes that "layer" duty-based and strict liability to induce policing measures and internalize the social costs of misconduct (except where the market internalizes these costs automatically⁸⁹). Composite liability can be understood as making the firm separately liable for two distinct wrongs: for its agent's misconduct, and, additionally, for its own failure to discharge its policing duties.

The most common form of composite regime enforces policing duties and sanctions underlying misconduct simultaneously -- by holding firms liable for all detected wrongs subject to an additional sanction if policing measures are suboptimal.⁹⁰ Such a regime must generally satisfy two requirements. First, it must impose a high "default sanction" on firms that have not satisfied their policing duties, sufficient to ensure that the firm would prefer to satisfy those duties

⁸⁹ Recall that firms must face expected residual liability equal to the social cost of misconduct to regulate activity levels and induce preventative measures -- including the obvious measure of declining to reward agents for engaging in misconduct. Firms must often pay the price *ex post* for misconduct in market settings such as securities fraud. In this case, residual liability is unnecessary because the market already forces firms to internalize the costs of wrongdoing.

⁹⁰ A composite regime could sanction breaches of an *ex ante* monitoring duty independently of underlying misconduct, as where the government searches for and sanctions any shortcoming in a monitoring program proactively before finding evidence of misconduct. Although administrative economies will ordinarily dictate investigating a firm's misconduct in tandem with its monitoring program, insolvency concerns may lead to severing this connection in order to inspect monitoring efforts more frequently. Put differently, if liability for underlying misconduct is likely to exhaust a firm's assets, the prospect of facing additional liability for breach of a monitoring duty will have little effect if it can only be imposed when the firm is also liable for the underlying misconduct. In this situation, to induce optimal monitoring the government may need to periodically evaluate a firm's *ex ante* policing measures and impose sanctions on firms whose efforts are suboptimal. Note, however, that *ex post* policing duties such as investigating and reporting misconduct can only be enforced in conjunction with the misconduct itself.

in return for a reduced sanction. And second, firms that have satisfied their policing duties must be subject to a residual sanction to ensure that they implement optimal prevention measures, sanctioning and activity levels. This residual liability should equal the social cost of misconduct divided by its probability of detection. The central distinction between this regime and adjusted strict liability is that here the court must establish optimal levels of monitoring, investigation and reporting and must evaluate the firm's behavior to determine whether it adhered to its legal duties.

Many possible variations on composite regimes exist. The simplest regime is a two-tier composite regime under which policing duties are bundled: the firm earns a reduced sanction only if it performs all of its policing duties optimally.⁹¹ Specifically, the firm faces a default sanction of F^H for each wrong its employees commit unless it has both monitored and investigated optimally and reported any wrongdoing it detected; if it satisfies these obligations it faces a reduced residual sanction, F^L , to induce optimal preventive measures and activity levels.⁹² This two-tier regime is wholly fault-based, since it assigns the low residual sanction -- or full mitigation -- to any firm that monitors and investigates optimally even if they fail to report misconduct, provided they fail to report because they did not detect it. This regime may be implemented in a variety of ways: for example, entirely through the use of civil sanctions or, alternatively, by combining a residual civil liability with a criminal default sanction.⁹³

⁹¹ This regime is described *infra* in the Appendix.

⁹² This section focuses on monitoring and reporting. The analysis could easily be expanded to include either a three-tiered regime based on *ex ante* monitoring on the one hand and *ex post* investigating and reporting on the other, or, probably better, a four-tiered regime with separate mitigation provisions for monitoring, investigating, and reporting. We remain open to the possibility of that a four-tiered regime may be optimal.

⁹³ For a discussion of the relative merits of civil versus criminal corporate liability see the articles cited in note 12 *supra*.

Under this regime, the optimal residual sanction equals the social cost of wrongdoing to others divided by the probability of detection when policing is optimal, h/p^{**} .⁹⁴ The default sanction, however, must satisfy two requirements: it must produce a mitigation amount, $F^H - F^f$, that is large enough to induce both *ex ante* and *ex post* policing measures. Firms engage in monitoring *ex ante*, before agents decide whether to commit wrongdoing, but they discharge other policing duties such as investigating and reporting *ex post*, after misconduct occurs and it is too late to influence the conduct of culpable agents. Thus, to induce optimal policing, a mitigation provision must meet two conditions. First, it must ensure that *ex ante* -- before agents have decided whether to commit a wrong -- the firm's profits are higher if it monitors optimally (and reports detected wrongdoing) than if it fails to monitor optimally and is subject to the higher default sanction, F^H , for each wrong the government detects.⁹⁵ Second, it must assure that *ex post*, after wrongdoing is detected, the firm is better off reporting the misconduct -- and accepting the sanction F^f -- than it is remaining silent and risking the default sanction F^H .

⁹⁴ Alternatively, the sanction could be simply the net social cost of crime to others divided by the actual probability of detection. The advantage of basing the residual fine on the optimal probability of detection is that if there are many similarly situated firms, the court could apply the same to many firms. This approach only works if mitigation induces optimal policing, however.

In addition to inducing optimal prevention, activity levels and sanctioning, this residual liability is consistent with optimal policing. Specifically, a firm that adheres to its legal duty to police will not be induced to take undertake excessive policing by the threat of strict residual liability. See *infra* Appendix, Section III.A.2.

⁹⁵ See *supra* note 46 (corporate liability should ensure that firms always report wrongdoing).

The first requirement is satisfied firms are subject to a default sanction of $F^H = h/p^o$, where p^o is the probability of detection if the firm does not undertake policing measures, and a residual sanction of $F^r = h/p^{**}$ if they do.⁹⁶ This

⁹⁶ This fine structure will induce optimal policing but is not the minimum default sanction that will do so. For a discussion of the minimum mitigation amount see *infra* Appendix.

It might seem that all composite regimes suffer in comparison to traditional strict liability because they require larger penalties, and thus are more vulnerable to failure as a result of firm insolvency. In fact, however, the default sanction under our composite regimes is not necessarily higher than the optimal sanction under strict vicarious liability. The minimum default sanction under our composite regimes equals the residual liability H/p^* plus an amount calculated to induce optimal monitoring; the sanction h/p^o certainly will suffice to induce optimal policing. By contrast under traditional strict vicarious liability the sanction simply equals h/p . However, the optimal measure of h/p under traditional

sanction necessarily induces optimal policing because this sanction ensures that the firm's expected costs equals the total social costs of its activities (including the cost of wrongdoing), whether it polices optimally or not. Thus, since by definition optimal policing minimizes total social costs, the firm's expected costs also must be lower if it polices optimally than if it does not. Therefore, this regime provides the firm with the sufficient *ex ante* incentives to undertake optimal policing.⁹⁷

strict liability is the harm divided by the expected probability of detection based on the policing measures the firm is likely to implement. Because firms subject to a traditional strict liability rule often will not undertake efficient policing, and indeed in some cases may not implement any policing measures, see *supra* Section I C & D, the probability of detection under strict liability may be substantially lower than under our composite regimes. Thus if firms do not implement any policing measures, the optimal sanction under traditional strict liability will equal h/p^o , an amount that exceed the minimum optimal default sanction under a composite regime.

⁹⁷ See *infra* Appendix. If the firm faces a credibility problem with respect to monitoring, this sanction must be adjusted to that agents' expectations that the firm will monitor optimally are correct. See *infra* Appendix, Section III.A.4.

To satisfy the second requirement, a two-tier regime must ensure that after misconduct occurs the firm is better off undertaking efficient *ex post* policing measures, such as reporting, than not. A firm that reports a wrong will automatically face residual liability of F^r . Therefore, to ensure that the firm reports,⁹⁸ its expected liability if it does not report wrongdoing that it has detected must equal or exceed its residual liability if it does report.⁹⁹ Thus, its expected default liability $g F^H$ must equal or exceed the residual liability, F^r . This implies that F^H must equal or exceed F^r/g , where g is the probability of government detection given that the firm has already detected misconduct.¹⁰⁰ This implies that F^H must equal or exceed $h/(p^{**})g$.

The optimal default sanction, then, equals the greater of the optimal *ex ante* or *ex post* default sanctions.¹⁰¹ This two-tiered regime eliminates perverse effects by ensuring that a firm's expected costs are always lower when it engages in optimal policing than when it does not. In contrast with adjustable strict liability, this regime also can remedy the credibility problem by providing firms with a strong financial incentive to actually implement threatened policing measures: the firm faces the higher default sanction unless it actually implements optimal policing measures. In other words, the composite regime can provide a firm with an independent reason to police, thus ensuring that agents will believe its threats to do so.¹⁰² Finally, the residual liability ensures that the firm undertakes optimal activity levels, sanctioning and prevention.

This regime will induce optimal policing even if courts do not calculate the default sanction provided that the default sanction exceeds the minimum amount necessary to induce optimal policing, and provided that firms and courts

⁹⁸ See *supra* note 46 (corporate liability should ensure that firms always report wrongdoing).

⁹⁹ This specification of the sanction assumes that reporting only affects the firm's expected liability for this particular wrong. In other words, reporting one wrong does not deter other wrongs. This assumption is justified if employees are fully informed about the firm's costs and benefits to the firm of reporting any given wrong -- since in this case reporting one wrong does not provide employees with any information about the firm's willingness to report other wrongs. If reporting does help deter other wrongs, then a lower unmitigated sanction, F^H , than described here will be capable of inducing optimal reporting. See *infra* note 192.

¹⁰⁰ See *infra* Equation (18), Appendix.

¹⁰¹ To illustrate, return to our example where the probability of detection is $1/2$ if the firm optimally monitors and reports and $1/5$ if it does neither; five employees commit wrongs when the firm does not police but only three occur if the firm undertakes optimal policing. Assume that the firm does not benefit from the wrong. In this case, a firm which undertakes optimal policing will bear the full social cost of the harm if its expected sanction per wrong, $(1/2)F$, equals the social cost of the wrong, h . Thus, $F^r = 2h$. The firm will monitor optimally, if its expected cost of optimal monitoring plus its expected liability for the three expected wrongs, $M^* + 3(1/2)2h$, is less than or equal to its costs if does not, $0 + 5(1/5)F^H$. This implies that $F^H \geq M^* + 3h$. To ensure that the firm reports detected wrongdoing, the firm's expected liability if it does report, $F^r = 2h$, must be less than or equal to its expected liability if it does not $g(M)F^H$. Assuming that once the firm has detected a wrong, the probability the government will eventually detect it is 80%, this implies that $(4/5)F^H \geq F^r$. Thus, $F^H \geq (2.5)h$. Thus, the optimal residual liability, F^r , is $2h$ and the optimum minimum default sanction, F^H , is $M^* + 3h$.

¹⁰² See *infra* Section I.D.

can accurately identify optimal policing.¹⁰³ Courts need worry about setting the default sanction too high only when there is a risk of judicial error, in which case an excessive default sanction may induce excessive policing.¹⁰⁴

C. ADJUSTED STRICT LIABILITY AND COMPOSITE REGIMES COMPARED

¹⁰³ Thus, courts could employ a rough rule of thumb to determine the default sanction, provided the standard for optimal policing is set correctly. For an alternative possible fine, see *infra* Equation (20), Appendix.

¹⁰⁴ See Calfee & Craswell, *supra* note 56. The conclusion that liability may induce excessive policing invariably holds for government imposed civil and criminal sanctions provided that, as is generally the case, the government need not show that the firm's failure to comply with its legal duties "caused" the harm. Cf. Kahan, *supra* note 56 (showing that uncertainty leads to suboptimal caretaking when private plaintiffs must show but for causation).

Composite liability is thus the only form of liability able to regulate activity levels and perform all enforcement functions, including the function of assuring the credibility of the firm's own policing measures to its agents. Yet, a price must be paid for this versatility. Although strict liability regimes meld into composite regimes as they grow more elaborate, composite liability always imposes higher information costs on courts -- and hence larger administrative costs. The choice between composite and adjusted strict liability, then, frequently involves balancing enforcement efficiency against administrative costs.¹⁰⁵ This point is most usefully made by comparing the informational requirements of the most attractive form of adjusted strict liability, sanction-adjusted liability, with those of simple composite liability.

Table Three (below) lists the information requirements of the two liability regimes. As the Table indicates, administering either regime requires at least two kinds of information: (1) an estimate of the net cost or harm of the misconduct to actors other than the firm, and (2) an estimate of the ex ante probability that the misconduct will be detected, given the policing measures undertaken by the firm.¹⁰⁶

¹⁰⁵ That is, the court's administrative and information costs. Firms require the same information under all regimes.

¹⁰⁶ Courts probability need to know the probability of detection in order to determine whether the firm took due care. To determine this, courts must know the net social cost of wrongdoing deterred -- i.e., the net social cost of the marginal wrong. See *infra* Appendix, Equation (7). This equals the social cost of wrongdoing to others plus the cost of committing the wrong minus the benefit of the wrong to the marginal wrongdoer and to the firm. As it often will be difficult to determine the benefit of wrongdoing to the marginal wrongdoer, courts often will need to determine that benefit by determining the expected sanction, pf , which will equal the benefit of wrongdoer to the marginal wrongdoer.

These two estimates -- of the net social cost of misconduct and the probability of detection -- are also the only information that a regime of sanction adjusted strict liability requires.¹⁰⁷ A court should not have too much difficulty estimating the social cost of wrongdoing, since this is merely a variant on the traditional measure of tort damages: that is, the harm misconduct caused by misconduct adjusted for the wrongdoer's costs and benefits. Estimating the ex ante probability of detection is much more difficult, however, given the need to correct for the distortion of hindsight (i.e., the fallacy that misconduct must have been likely to be detected because it was in fact detected). In theory, a court can estimate this probability in two ways: it can make a point estimate the probability based on the circumstances of the particular case, or it can determine the general relationship between policing and detection -- that is, a probability schedule -- and deduce the probability of detection based on a firm's policing expenditures. In practice, a court is likely to rely on both approaches. Although determining a full probability schedule based on the efficacy of multiple policing measures is unrealistic, it is hard to imagine how a court could make a point estimate of the probability of detection without at least local insight into the effect of policing measures on detection probabilities.

TABLE THREE
INFORMATIONAL REQUIREMENTS
OF MIXED LIABILITY REGIMES

	Adjusted Strict Liability	Composite Liability
1) Actual probability of detection	Yes	Yes, unless courts can determine benefit of wrong to marginal agent
2) Net social cost of misconduct	Yes	Yes (net of the firm's benefit of wrongdoing)
3) Marginal increase in detection with increase in policing	No	Yes
4) Sanction imposed on marginal agent	No	Yes, unless courts can determine benefit of wrong to marginal agent
5) Number of agents deterred by marginal increase in detection	No	Yes
6) Whether firm that detects misconduct also reports	No	Yes
7) Probability that government detects if firm does not	No	Yes, but can be a rough

¹⁰⁷ Under composite liability, but not under sanction-adjusted strict liability, the net social cost of wrongdoing (item 2) must be net of the benefit of wrongdoing to the firm.

police		estimate
8) Probability that government detects if firm detected	No	Yes, but can be a rough estimate

Administering a composite regime requires courts to obtain additional information, however, beyond that needed to administer sanction-adjusted strict liability. In fact, a composite regime generally requires six additional categories of information (items 3-8). But the sheer number of these categories is not a reliable guide to the difference in administrative burdens between the regimes, since only three of the new categories -- those dealing with the firm's choice of policing measures (items 3-5) — impose a qualitatively different informational task on the court: a task that is in effect the administration of a negligence standard. To see this point, it is useful to review what a court must actually do in order to determine whether a firm merits a reduced penalty under a composite regime for having satisfied its duty to take optimal monitoring and investigatory measures.

Since the mitigation provision of a composite regime is essentially a negligence rule, its application might seem to require a court to undertake the daunting task of discovering the hypothetical set of policing measures that would have been optimal under the circumstances, as a yardstick for evaluating the measures that the firm did in fact adopt. But in fact the mitigation provision of a composite regime -- and indeed, any negligence rule -- is much easier to administer than this formulation would suggest. Consider the case of a duty of reasonable monitoring. The socially optimal amount of monitoring is the level at which the marginal cost of additional monitoring exceeds the marginal benefit of this monitoring. Thus, to determine whether the firm's monitoring is optimal, a court need only determine whether the benefit of an additional unit of monitoring exceeds the costs. If the benefits of additional monitoring exceed the costs, then the firm's own monitoring -- whatever it may have been -- was deficient; if not, the firm satisfied its duty.¹⁰⁸ In other words, the court need not determine the optimal level of monitoring in the abstract but only whether, on the facts at hand, there

¹⁰⁸ This assumes that the cost function is well-behaved in that marginal costs are constant or increasing and marginal benefits are constant or decreasing so that if the court finds that a particular level of monitoring is a local maximum it also is a global maximum.

was an additional monitoring measure that might have been taken and that was cost justified.¹⁰⁹ Although this determination is also subject to the distortion of hindsight, it can be made with far less information than would be needed to calculate the optimal level of monitoring.

In many cases it will be clear that a firm has failed to take an obvious monitoring measure, in which case an adjudication of breach of duty is quickly concluded. In other cases, it may be equally clear that there was little else the firm could have done. But in close cases the matter is more difficult. The court must determine the cost and benefit of a marginal change in policing measures. The benefit, in turn, is simply the expected number of instances of misconduct that might have been deterred by the measure not taken, multiplied by the expected social cost that the misconduct inflicts.

¹⁰⁹ Cf. Mark Grady, *Untaken Precautions*, 18 J. LEGAL STUD.139 (1989) (negligence analysis involves a specific analysis of whether there exist any precautions the defendant should have taken but did not, not a global analysis of what is due care); Mark Grady, *A New Positive Economic Theory of Negligence*, 92 YALE L. J. 799 (1983)(same).

The heart of the negligence determination lies in estimating how much misconduct might have been deterred by an additional policing measure such as an intensified monitoring program. The first step is to estimate the marginal impact of the measure on the probability of detection (item 3). This determination is similar, we believe, to the task of estimating the probability of detection under a sanction-adjusted strict liability regime. It does not require knowledge of the full probability schedule associated with multiple policing measures, but it does require insight into how the detection probabilities change in the neighborhood immediately beyond the probability associated with the firm's actual level of policing effort. The increase in the probability of detection leads easily to a determination of the marginal increase in expected liability faced by those engaged in misconduct (item 4). Often the expected sanction will simply be the agent's wealth -- what the agent stands to lose -- discounted by the probability of detection.¹¹⁰ The final step in determining the benefit conferred by a marginal increase in a policing measure such as monitoring lies in estimating the number of wrongdoers who would have been deterred by the resulting increase in their expected sanction (item 5). Again, this determination does not require comprehensive information about the distribution of private gains from misconduct over all wayward agents. Rather, a court need only estimate the number of agents on the margin -- those for whom wrongdoing is only barely profitable and for whom a relatively small change in the expected sanction would suffice to deter wrongdoing.

¹¹⁰ This expected liability will equal pf , where f is the individual sanction (monetary plus nonmonetary) if agents are solvent; and it will equal pW , where W is the agents' wealth, if agents are insolvent (or there is some limit on nonmonetary sanctions). See *supra* Equation (7) (for the marginal wrong $b = p^f(M)W$). Unlike in the case of sanction adjusted strict liability, courts need not necessarily determine the cost to the wrongdoer of committing the wrong because, although the net benefit of the wrong to an agent equals his direct benefit b , minus his cost of committing the wrong, the direct benefit should equal the marginal cost of doing the wrong, which equals his expected fine, pW , plus the cost of doing the wrong. So the net benefit simply equals the expected fine.

After a court determines the effect of a marginal increase in policing on the amount of misconduct, it can quickly rule on whether a firm has breached its policing duties. Once again, if the cost of the marginal policing measure exceeds its benefit — the amount of harm deterred multiplied by its expected social cost — the firm has fulfilled its duty.

In this case all policing measures are optimal -- providing that the firm does not engage in a coverup by failing to report misconduct that it has detected (item 6).¹¹¹ And the firm should face a mitigated sanction under the composite regime of h/p^* , where p^* is both the optimal probability and the actual probability of detection under the circumstances. That is, in this case p^* is the same probability that would be used to calculate a sanction under the sanction-adjusted strict liability regime.

By contrast, if the firm has violated its policing duties because additional measures would have been beneficial on the margin, the firm faces the default sanction under the composite regime. Calculating the optimal default sanction also is relatively straightforward. This should equal or exceed the greater of (1) the social cost of wrongdoing to others divided by the probability of detection if the firm does not undertake policing measures (item 7) and (2) the optimal residual sanction divided by the probability the government will detect a wrong the firm has already detected (item 8). To determine the optimal default sanction courts only need to avoid setting the default too low. As long as they can set the duties with reasonable precision, courts do not need to worry about excessive default sanctions. This reduces the information burden of setting the default rule if courts can set the duty appropriately.

Accordingly, although a composite regime requires more information than sanction adjusted strict liability, the additional information required is less than it at might first appear. Specifically, courts do not need to determine the optimal forms of policing or select the optimal levels of monitoring and investigation to administer a composite regime. The additional administrative burden of a composite regime is, in effect, the burden of administering a negligence rule, and this burden it might at first appear.

This not to minimize the administrative cost advantage of adjusted strict liability. When the credibility of the firm's policing measures is not an issue — when the firm can effectively commit itself through reputation or otherwise — sanction-adjusted strict liability clearly dominates composite liability. But when credibility is a problem, as we believe it often is, the deterrence benefit of employing a composite regime can easily overshadow the administrative advantages of sanction-adjusted strict liability, particularly administrative costs are relevant only when actions are actually brought.¹¹² Or put somewhat differently, composite liability is relatively more attractive the more significant

¹¹¹ We expect that in most cases courts will be able to determine whether a firm has detected misconduct. They will generally have access to the information produced by the firm's monitoring programs and audits, and to much of the information produced by its internal investigations. See *supra* note 49 (discussing the 5th Amendment).

The government also may be able to reduce the likelihood that detected wrongs will go unreported by providing properly designed bounties for reporting wrongs. See Arlen & Kraakman, *supra* note 11 (discussing bounty provisions).

¹¹² Under sanction-adjusted strict liability and a composite regime firms will need to be able to calculate optimal monitoring, investigation and determine whether to report wrongdoing.

the credibility problem and the lower the expected number of legal proceedings, while adjusted strict liability is more attractive otherwise.

Because only a composite regime can convincingly meet all the objectives of corporate liability, the structural characteristics of composite regimes merit closer analysis. In Part III, we provide a systematic comparison of alternative composite regimes.

III. COMPOSITE LIABILITY REGIMES

In principle, an efficient composite regime requires no more than two liability levels: a default liability tier and a residual liability tier. However, more complex liability regimes are also possible that include intermediate levels of liability to reward a firm for performing *some* (but not all) of its policing duties or, alternatively, to reward a firm for achieving certain results, such a reporting misconduct, irrespective of whether it has performed all of its policing duties. In this Part, we introduce the comparative evaluation of composite regimes.

Although the two-tier regime discussed above has the advantage of relative simplicity, it also has practical limitations that incline us to favor a more complex regime in many circumstances. In particular, the two-tier regime fails if managers perceive a significant risk that a firm will lose its benefits of mitigation as the result of either judicial error or an agency problem (for example, employees who refuse to report misconduct). In this case, under the simple regime, the possibility that the firm will be found to have breached one of its policing duties may cause it to abandon the rest because it receives no mitigation unless it satisfies all its duties. Thus, if a firm fears that its agents will not report detected wrongdoing, it may also decide that a monitoring program makes no sense because it will not receive any mitigation for monitoring.

When this concern arises we favor abandoning the two-tier regime by unbundling policing duties. The state could employ a multi-tier regime that separately motivates *ex ante* policing measures such as monitoring and *ex post* measures such as investigating and reporting. For example, the regime could subject the firm to a very high sanction if it neither monitors optimally nor reports, but mitigate this sanction if it *either* monitors or reports. Thus, the firm will have an incentive to take one efficient policing measure even if it lacks an incentive to take another.

The question is, what is the proper form of this regime. A multi-tier regime can specify two duties, *ex ante* and *ex post*, or it can specify an *ex ante* monitoring duty but tie the mitigation of liability for *ex post* behavior to the achievement of a result, such as the reporting of actual misconduct. The choice between these alternatives is of considerable practical significance: as will be shown, the result-based alternative will not necessarily induce optimal monitoring and also is much more costly to implement. Nevertheless, as we discuss in Part IV, the structure of the regime established by the Federal Sentencing Guidelines is, effectively, a result-based structure.

Table Four, below, compares the sanction structure of the simple two-tier regime, a two-duty, three-tier regime (the mitigation-aggravation regime) and a three-tier, duty and result-based regime (the mitigation-mitigation regime). The key distinction to note is that under the result-based mitigation-mitigation regime, firms receive full mitigation only if they report actual misconduct. By contrast, under both the duty-based two- and three-tier regimes, firms receive full mitigation if they perform all policing duties.

TABLE FOUR

	No Monitoring or Reporting	No Monitoring but Reporting	Monitoring; no Reporting		Monitoring and Reporting
			Detect	Good Faith	
Simple Regime	F ^H	F ^H	F ^H	F ^r	F ^r

Mitigation Aggrava-tion	F^{AA}	F^A	F^a	F^r	F^r
Mitigation Mitigation	F^{hh}	F^h	F^m	F^m	F^R

Monitoring means optimal monitoring ($M = M^*$)

Good Faith = Firm did not detect wrongdoing

A. MITIGATION-AGGRAVATION REGIME

In essence, the mitigation-aggravation regime is the simple two-tiered regime, expanded to allow for partial mitigation if the firm either monitors optimally or satisfies its reporting duty but not both. Under this regime, a firm which fails to satisfy any of its policing duties is subject to a default sanction, F^{AA} . If the firm monitors optimally, its liability is fully mitigated to F^r , the residual sanction, unless the firm detected but did not report wrongdoing. In this case, the sanction is increased to an intermediate sanction, F^a . As with the simple regime, the firm gets full mitigation if it monitors optimally but does not report in good faith because it did not detect the wrong through no fault of its own. If the firm reports detected wrongdoing but does not monitor optimally, it faces a second intermediate sanction, F^a .¹¹³

The optimal sanctions under this regime are essentially identical to the optimal sanctions under the simple regime. As before, the residual liability, F^r , must equal the net social cost of wrongdoing divided by the optimal probability of detection.

¹¹³ For a complete discussion of this regime see *infra* Appendix Section III.C.

The two duty-based components of the regime must induce optimal policing: that is, the mitigation provision must provide the correct *ex ante* incentives to monitor and the aggravation provision must ensure that a firm that suspects wrongdoing has occurred will investigate and (if warranted) report. The aggravation provision thus must ensure that, whatever the firm's level of monitoring, a firm which has discovered wrongdoing is better off reporting it.¹¹⁴ This condition is identical to the condition for inducing *ex post* policing in the simple regime. Thus, F^a must at least equal the residual liability, F^r , divided by the probability the government will eventually detect the wrong, g . This implies that $F^a = h/(p^{**})g$.¹¹⁵

TABLE FIVE

	No Monitoring or Reporting	No Monitoring but Reporting	Monitoring; no Reporting		Monitoring and Reporting
			Detect	Good Faith	
Simple Regime	F^H Max $[h/p^o, h/(p^{**})g^*]$	F^H (Same)	F^H (same)	F^r h/p^{**}	F^r h/p^{**}
Mitigation	F^{AA}	F^A	F^a	F^r	F^r

¹¹⁴ As before, the present analysis assumes that the firm cannot commit to reporting wrongdoing it detects. Therefore, the aggravation provision will induce optimal reporting only if reporting lowers the firm's expected liability for the wrong it has detected. See *supra* text accompanying notes and *infra* text accompanying notes ? - 100 and *infra* text accompanying note 199.

¹¹⁵ Similarly, F^{AA} and F^a must be such that a firm which has not monitored optimally is still better off reporting detected wrongdoing. In other words: $F^{AA} \geq F^A/g(M^o)$

Aggrava- tion	$h/(p^{o*})g^o$	h/p^{o*}	$h/(p^{**})g^*$	h/p^{**}	h/p^{**}
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The mitigation provision must ensure that each firm is better off if it monitors optimally, even if it will report all wrongdoing that it detects. This implies that the sanction imposed on a firm that satisfies its reporting duty but not its monitoring duty, F^A , must be such that the firm's expected costs per worker are lower if the firm monitors optimally than if it does not. Thus F^A must approximately equal the firm's expected residual liability, F^I , plus the additional cost of monitoring optimally divided by the probability that the firm will be found liable if it does not monitor optimally (but does report).¹¹⁶ A sanction equal to h/p^{o*} , where p^{o*} is the probability of detection if the firm does not monitor optimally but reports any detected wrongdoing will induce optimal monitoring;¹¹⁷ needless to say, a sanction of $h/p^o > h/p^{o*}$ also will satisfy this condition.

Thus, a full duty-based mitigation-aggravation regime can induce optimal monitoring, reporting, prevention, and activity levels, and remove a firm's incentives to induce wrongdoing, by independently mitigating liability to reward *ex ante* monitoring and aggravating liability to punish failures to report detected misconduct *ex post*. Unlike the simple regime, this multi-tier regime can induce optimal monitoring even if the firm is not sure that it will get credit for reporting detected wrongdoing, and vice versa. This regime thus is superior to the simple regime whenever courts may err in applying the monitoring or reporting duties, or whenever a firm cannot completely control whether it will satisfy these duties, because, for example, of agency problems.

¹¹⁶ See *infra* Section III.C.3, Appendix. Similarly, F^{AA} and F^a must ensure that a firm which will not report detected wrongdoing nevertheless will monitor optimally. This condition ensures that even if the firm cannot guarantee that it will report wrongdoing (for example, because of agency problems), it nevertheless will have an incentive to undertake efficient monitoring.

¹¹⁷ This sanction will induce optimal monitoring because in this situation the firm's expected costs if it monitors optimally and reports detected wrongdoing equals social costs in this situation, and the firm's expected costs if it does not monitor optimally (but does report) also equals social costs. Because optimal monitoring minimizes social costs, it also must minimize the firm's costs. Remember, under this regime we need not worry about the liability enhancement effect because the firm dramatically reduces its expected liability by taking due care. See Appendix *infra* (showing that this regime will not induce excess monitoring).

B. A MITIGATION-MITIGATION REGIME

A mitigation-mitigation regime, like the mitigation-aggravation regime, bifurcates the policing duties into an *ex ante* monitoring duty and *ex post* investigating and reporting duties. Under the mitigation-mitigation regime, however, the firm is eligible for full mitigation only if it actually reports wrongdoing. The reporting component of mitigation, thus, is outcome-based: a firm which monitored optimally but failed to detect in good faith receives only partial mitigation. Thus, in effect, the firm is strictly liable for failure to report misconduct.

The basic fine structure under a mitigation-mitigation regime is as follows. The firm is subject to a residual sanction of F^R if it both monitors optimally and reports misconduct. It faces a sanction of F^m if the firm monitors optimally but does not report. It faces another intermediate sanction of F^h if it reports but does not monitor optimally; and finally, it faces a default sanction of F^{hh} if it neither monitors optimally nor reports.¹¹⁸

The mitigation-mitigation regime is capable of inducing optimal reporting, activity levels, and prevention, but it will not necessarily induce optimal monitoring. In some cases, it will lead to excessive monitoring. Moreover, it is much more difficult to administer than the mitigation-aggravation regime.

Consider the efficient level of residual liability under this regime. As before, the residual liability must ensure that the firm's expected liability equals the social cost of wrongdoing. But here the firm's expected liability if it monitor optimally and will report all detected wrongdoing is quite complex because the firm will not necessarily detect before the government does. Thus the firm's expected residual liability is F^R multiplied by the probability of detection by the firm plus F^m multiplied by the probability the government detects first.¹¹⁹ It is this weighted expected liability that must equal the social cost of wrongdoing, not simply the fully mitigated liability, F^R .¹²⁰ This is more difficult to calculate than

¹¹⁸ See *supra* Table Two.

¹¹⁹ See *infra* Appendix Section III.E.

¹²⁰ To see this consider our example. See *supra* text accompanying notes 52 - 53. Assume that the firm and the government are equally likely to be the first to detect. Thus, if the firm intends to satisfy its reporting duties, the overall probability of detection is $1/2$ but the probability that the firm will get full mitigation is only $1/4$; there is a $1/4$ chance it will get only partial mitigation for monitoring but not reporting. The firm's expected residual liability per wrong, therefore, is: $(1/4)F^R + (1/4)F^m$. This amount must equal the social cost of wrongdoing to others.

residual liability under a mitigation-aggravation regime. Moreover, F^R and F^m must satisfy another requirement: they must ensure that firms will indeed report detected wrongdoing. In other words, F^R and F^m , also must satisfy the same requirements as the aggravation provision in the previous regime. This results in a very complicated sanction structure.¹²¹

The other components of the mitigation-mitigation regime, F^{hh} and F^h , must ensure that the firm is better off if it satisfies its duty to monitor optimally. This can be done by ensuring that the firm's expected costs if it does monitor optimally are lower than if it does not.¹²²

¹²¹ See *infra* Appendix Section III.E.

¹²² See *infra* Appendix, Section III.E. Calculating the optimal amount of mitigation under this regime is complex because the firm may or may not detect and report misconduct before the government does. Thus its expected sanction if it does not monitor is a weighted sum of F^h and F^{hh} , weighted according to the probability that the firm or the government will detect wrongdoing.

Unfortunately, the mitigation-mitigation regime may create excessive incentive to monitor. The problem arises if the firm's monitoring increases the probability that it will detect a wrong before the government: If, in addition to deterring wrongs, monitoring increases the likelihood that the firm will be able to get full mitigation for any wrong that does occur. In this case, a firm that is monitoring optimally may have a strong incentive to employ even more monitoring: the substantial reduction in the sanction if it can detect and thus report wrongdoing before the government.¹²³ This quest for this purely private benefit may induce excessive monitoring.¹²⁴

¹²³ The risk of excessive monitoring produced by a mitigation-mitigation regime can be eliminated, but it is more expensive to do so. Specifically, mitigation-mitigation will not provide firms with an incentive to engage in excess monitoring if, instead of employing fines, F^m and F^R , F^m and F^R are instead variable and depend on the firm's actual monitoring efforts (provided the firm at least took due care). Under such a regime, the firm will not have an incentive to engage in excessive monitoring because implementing additional monitoring about the required level will not change the firm's expected sanction, which equals the social cost of wrongdoing to others.

¹²⁴ To see this in the context of our simple example, assume as before that when the firm monitors optimally the total probability of detection is $\frac{1}{2}$ and the firm and the government are equally likely to detect wrongdoing first. Assume also that if the firm engages in excessive monitoring the overall probability of detection is $\frac{3}{4}$. This does not deter any additional misconduct and thus the extra expenditures are socially wasteful. Yet the firm may benefit. Assume that this additional monitoring ensures that the firm detects first. In this situation, if the firm takes optimal care its expected liability is $3[(1/4)F^R + (1/4)F^m]$. If it monitors excessively its expected liability is $3(3/4)F^R$. Thus if $F^m > 2F^R$ the firm reduces its expected liability by monitoring excessively and it may be profitable to do so.

C. A COMPARISON OF COMPOSITE REGIMES

The simple regime discussed in Section II has the great benefit of its relative simplicity. This may well be the superior regime when policing duties are easily defined and the firm can tightly control its own policing efforts -- as, for example, when ownership is concentrated in the hands of shareholder-managers. Nevertheless, multi-tiered regimes probably dominate simple regimes when firms may not get credit for satisfying their monitoring or reporting duties even though they engaged in optimal efforts to do so. In this case, the partial mitigation available under the mitigation-aggravation regime provides an important incentive for firms to monitor even if they are concerned they will not get credit for complying with the reporting duty, and vice versa. Thus, in comparison to the simple regime, multi-tiered regimes are less vulnerable to errors in assessing policing duties.

As for which of the three-tier regimes is superior, the choice depends on whether the benefits of using a true duty to induce for reporting under the mitigation-aggravation regime exceed the costs. If courts can indeed determine whether a firm detected wrongdoing but failed to report it, then the mitigation-aggravation regime generally will be superior to the mitigation-mitigation regime. Both residual liability and the minimum amount of mitigation are easier to calculate under the mitigation-aggravation regime because the firm in theory is necessarily subject to the residual sanction if it monitors optimally and reports detected wrongdoing. By contrast, under mitigation-mitigation, even a firm that does everything it should have done will not get full mitigation if the state detects wrongdoing before it does. As we have seen, this requires courts and firms to make more complex calculations in order to determine the both residual sanction and the default sanctions. Moreover, the mitigation-mitigation regime may induce excessive monitoring: Firms may monitor excessively if doing so decreases the probability that the government will detect wrongdoing first, thereby reducing the likelihood of the firm being subject to a default sanction.¹²⁵

Nevertheless, the mitigation-mitigation provision may be superior to mitigation-aggravation if courts cannot necessarily detect when a firm has discovered wrongdoing. In this case, under a mitigation-aggravation provision a firm often could fail to report with impunity. A mitigation-mitigation regime, by contrast, would provide strong incentives to report because under it firms must report to get the benefit of full mitigation. They cannot get full mitigation by pretending that they monitored optimally but simply didn't detect anything.¹²⁶

¹²⁵ The problems peculiar to the mitigation-mitigation regime vanish if the firm that monitors optimally will always detect misconduct before the government does. In this case, if the firm monitors optimally, its residual liability under the mitigation-mitigation regime will be F^R , because the firm will always detect first and thus can ensure itself complete mitigation by reporting. As a result, the optimal sanctions under this regime will be identical to those under the mitigation-aggravation regime, because there will be no risk that the government will get there first.

¹²⁶ Mitigation-mitigation also may be superior when the central concern is that courts will not set the monitoring standard high enough because the mitigation-mitigation provision provides firms with an extra incentive to monitor: that

The switch from traditional strict corporate liability to an optimal composite regime generally should reduce the overall social cost of corporate wrongdoing and enforcement, even though it entails increased administrative costs.

Although composite regimes require more information to implement, these costs arise only when firms are sanctioned. These costs generally should be less than the additional cost of employing traditional strict liability: the social cost of the increased wrongdoing resulting from firms' inadequate policing efforts. As the next Section shows, our optimal regimes also are superior to, and probably have lower administrative costs than, the composite regime implemented by the United States Sentencing Guidelines.

IV. COMPARISON WITH EXISTING LAW

Our analysis of corporate liability regimes has important implications for evaluating existing rules governing corporate liability. The simplest conclusion of our article is that traditional strict corporate civil and criminal liability for employees' wrongdoing will not induce firms to monitor employees and to investigate and report wrongdoing optimally. Thus, our analysis generally supports the recent trend away from traditional strict liability and toward various forms of mixed liability regimes for most corporate wrongdoing potentially subject to criminal liability. More importantly, however, our discussion also provides a framework for critiquing novel regimes of mixed liability, which often fall short of optimal from an enforcement perspective.

As we indicated in Part II of this Article, mixed liability regimes divide into two families: adjusted strict liability regimes and composite liability regimes. In this Part we examine a prominent example of each of these mixed regimes: (1) the environmental audit privilege, which is often deployed to construct a probability-fixed strict liability regime; and (2) the United States Sentencing Guidelines for Organizations, which establishes a far-reaching composite liability regime for corporate crime. Both mixed regimes, we believe, are superior to the traditional common law rule of strict corporate liability. Yet each of these regimes has severe enforcement limitations. Relative to any of the composite regimes we examined in Part III, the environmental audit privilege is likely to cost far more, in terms of diminished deterrence, than it saves in administrative costs and judicial accuracy. By contrast, the basic approach of the composite regime erected by the Federal Sentencing Guidelines is consistent with our analysis. Yet the particular structure of the Guidelines undercuts the enforcement logic of composite liability.

A. ENVIRONMENTAL AUDIT PRIVILEGES

is, the hope that by doing so they will be able to detect and report misconduct before the government discovers it. By contrast, under the mitigation-aggravation provision, a firm that will be deemed to have monitored optimally has little to no incentive to incur additional monitoring or to ensure that it detects wrongdoing.

In the environmental area, at least 18 states have granted an evidentiary privilege to corporate environmental audit reports. Although these privilege statutes vary widely, they generally establish a broad privilege for environmental audits which protects environmental audits from civil, criminal and administrative discovery and render them inadmissible in any criminal, civil or administrative action.¹²⁷ This privilege is generally available only if a firm that detects wrongdoing during its audit moves promptly to remedy the problem.¹²⁸ Nevertheless, the scope of the privilege can be quite broad. It can cover not only the audit report itself, but all documents developed for the primary purpose of doing the audit, including filed notes, photographs, and surveys. In some states, moreover, this privilege is an absolute, that is, not qualified at all.¹²⁹

Of course, the audit privilege must function together with a liability regime. When combined with traditional strict liability, these privileges produce probability-fixed strict liability, which eliminates the perverse effects associated

¹²⁷ See Orts & Murray, *supra* note 5, at 22-24. Privilege statutes thus differ from use immunity in that a privilege protects the material from discovery for any purposes, whereas use immunity allows the government to obtain the material for use against others, but not for use against the firm.

¹²⁸ See *id.* at 22-24 (describing exceptions to the standard privilege).

¹²⁹ At present at least 18 states have some form of environmental audit privilege. LOUIS BROWN, ANNE O. KANDEL & RICHARD GRUNER, *THE LEGAL AUDIT* (1997); see David Erickson and Sarah Matthews, *Environmental Compliance Audits: Analysis of Current Law, Policy and Practical Considerations to Best Protect Their Confidentiality*, 63 *UMKC. L. REV.* 491, 517 (1995).

with traditional strict liability.¹³⁰ States that have adopted this form of the audit privilege, then, rely entirely on adjusted strict liability to induce environmental policing measures. Other states combine strict liability and an audit privilege with a significant mitigation of liability if a firm detects and reports misconduct¹³¹ -- a variation on the strategy of quasi-strict liability developed in Part II.¹³²

Even well-designed environmental privileges are generally inferior to well-designed composite regimes in terms of their ability to deter misconduct, however. First, and most important, audit privileges may reduce deterrence by insulating culpable agents. Privileging the firm's environmental audits deprives the government of the use of this

¹³⁰ See Arlen, *supra* note 5, at 865-66 (discussing evidentiary privileges, such as environmental audit privileges).

¹³¹ Particularly when the firm must report the wrongdoing in order to keep the audit privilege, auditing could increase the firm's expected liability unless firms that report are granted mitigation. Cf. Eric Orts and Paula Murry, *Environmental Disclosure and Evidentiary Privilege*, 1997 ILL. L. REV. 601 (1997) (proposing an evidentiary privilege which excludes information about the underlying facts but noting that this privilege must be accompanied by a mitigation provision).

¹³² See text accompanying notes ? - ? *supra*.

information to detect and strengthen its case against the individual wrongdoers. Thus, culpable corporate agents face a lower probability of liability under an audit regime than they would otherwise and thus have less incentive to refrain from misconduct.¹³³ Moreover, in order to counteract this reduced deterrence effect, the government must often conduct its own investigations, which wastes enforcement resources by forcing the government to searching for information the corporation already has. By contrast, a well-designed composite regime permits the government to use all of the firm's information to sanction individual wrongdoers.

¹³³ See Jennifer Arlen, *Shielding Audits Will Aggravate Pollution Problems*, NAT. L. J. A23 (October 3, 1994); cf. Arlen, *supra* note 5, at 865-66 (considering a modified privilege, akin to use immunity, under which the information cannot be used against the firm but can be used against individual wrongdoers).

An audit privilege accompanied by strict or quasi-strict liability also suffers in comparison to composite liability because it will not induce firms to implement policing measures other than audits if either perverse effects or credibility problems are serious. In addition, privileges distort the firm's allocation of resources between auditing and other policing measures, causing firms to prefer the former.¹³⁴

Moreover, in contrast with composite regimes, this regimes will not even induce optimal auditing if firms face a credibility problem. Generally, environmental auditing is a form of ex post monitoring that occurs periodically and not continuously. Thus, employees deciding whether to commit a wrong cannot necessarily determine whether the firm will conduct an audit covering the time period of their wrong. Granting the firm an audit privilege removes any disincentive the firm may face resulting from the fear of liability, but it does not provide an incentive for a firm to conduct threatened audits. By contrast, our mitigation provision provides such an incentive.¹³⁵

Finally, an audit privilege may undermine the ability of corporate liability to serve its other deterrence goals. A strict liability regime with an audit privilege can regulate optimal activity levels and induce optimal preventive and sanctioning measures if the expected sanction equals the social cost of wrongdoing. Thus, the sanction imposed on the firm must equal the social cost of the harm divided by the probability the firm is held liable, *given that* the government cannot use the firm's own audit information against it. Since this probability of sanctioning may be quite low, a much higher residual sanction is likely to be necessary under an audit privilege regime than under a composite regime.¹³⁶ Thus, there is a greater risk that firm's will be rendered insolvent by sanctioning, in which case an audit privilege regime will not induce optimal activity levels, prevention, and sanctioning.¹³⁷

¹³⁴ See Dana, *supra* note 5 (discussing the impact of privilege laws on relative expenditures on audits and other enforcement measures).

¹³⁵ Perhaps for this reason, some states with environmental audit privileges also grant immunity from prosecution to firms that conduct environmental audits, report detected wrongdoing, and take prompt action to correct the wrong. See Dana, *supra* note 5, at n. 7.

¹³⁶ In addition, the optimal default sanction imposed on firms that do not report detected wrongdoing must also be higher under an audit privilege regime.

¹³⁷ Cf. Arlen, *supra* note 5, 865-866 (the risk of insolvency also is greater if the state employs a modified use immunity rule under which the information cannot be used against the firm).

B. THE FEDERAL SENTENCING GUIDELINES

The United States Sentencing Guidelines Governing the Sentencing of Organizations (the Sentencing Guidelines) is easily the most important example of a formally developed composite regime.¹³⁸ The Sentencing Guidelines provide that any firm that fails to comply with its duties to monitor, investigate, or report criminal misconduct can be subject to a large default sanction. This sanction may be 2-4 times the "base fine," which often is based on the harm caused by the wrong.¹³⁹ Under the Guidelines, a firm becomes eligible for mitigation of the default sanction if its offense occurred despite "an effective program to prevent and detect violations of the law," provided the firm reported all detected violations within a reasonable time after becoming aware of them.¹⁴⁰ Thus, the firm is eligible for mitigation for monitoring only if it reports any wrongdoing it detects. Firms are eligible for additional mitigation if they report

¹³⁸ Guidelines, *supra* note 6, § 8. Environmental crimes are not governed by the Guidelines as to fines, but courts may apply the Guidelines by analogy.

¹³⁹ Under the Guidelines the base fine equals the greater of (i) the amount determined from a fine table (which is based on offense level); (ii) the pecuniary gain to the organization from the offense, or the pecuniary loss from the offense caused by the organization, to the extent the loss was caused intentionally, knowingly or recklessly. Guidelines, *supra* note 6, § 8C2.4. Often, the pecuniary loss will exceed the other measures. But see *infra* text accompanying notes 152 - 158 (discussing the base fine).

¹⁴⁰ Guidelines, *supra* note 6, at § 8C2.5(f).

wrongdoing, fully cooperate in its investigation, and accept responsibility for the wrong.¹⁴¹ Thus, in contrast with our mitigation-aggravation regime, a firm that implements an effective compliance program but does not detect the wrong before the government is only eligible for partial mitigation.

Since the Guidelines erect a true composite regime, they mandate that even a firm eligible for full mitigation remains subject to residual criminal liability. Although this residual liability is likely to be very low, it can often be augmented by additional sources of liability: the Guidelines require that the firm must also make restitution wherever possible, and the firm may be subject to government-imposed or private civil sanctions as well. In addition, the residual liability provisions of the Guidelines have also been modified in a number of important areas in ways that reduce residual liability. For example, the Department of Justice and the federal agencies charged with prosecuting government procurement fraud, antitrust, and environmental wrongdoing have adopted policies come close to insulating firms from criminal prosecution if they detect and report a wrong before the government discovers it, take prompt remedial action; and in the case of environmental offenses, institute an intensive and comprehensive environmental compliance program.¹⁴²

¹⁴¹ Guidelines, *supra* note 6, at § 8C2.5(g). Should the firm satisfy the last one or two requirements it receives partial mitigation.

¹⁴² EPA Guidelines, *supra* note 8; Antitrust Division, Guidelines, *supra* note 8; see generally, Laurence Urgenson, *Voluntary Disclosure: Opportunities and Issues for the Mid-1980s*, 943 PLI/CORP 225 (JUNE, 1996). This description of the programs focuses on their common features. For a more detailed discussion of the programs see Urgenson, *supra*. In addition, there is evidence that in other areas some prosecutors have decided not to prosecute when firms with an on-going compliance program report wrongdoing to the government and take any necessary steps to correct it. Firms are

still subject to substantial civil penalties, however, which may include treble damages in the case of antitrust violations and double to treble damages in the case of Government Procurement Fraud, as well as a possible risk of a qui tam action. See GRUNER, *supra* note 9, at 1995 Supplement §8.5.2 (discussing prosecutors).

1. The Mitigation Provisions

The basic approach of the Guidelines -- to mitigate fines for those firms that have an effective compliance program, cooperate with the government's investigation, and/or report wrongdoing -- is consistent with our recommendations. The structure of the Guidelines' composite regime is not, however.

The amount of mitigation firms received for monitoring, investigation and reporting is not necessarily sufficient to induce optimal policing. The Guidelines grant each firm the same amount of mitigation for optimal monitoring, investigation or reporting -- 3 points for monitoring and 5 points for reporting, investigation and accepting responsibility.

By contrast, as we show, the mitigation amount should be higher the greater the benefit to society of implementing optimal policing measures: Specifically, the greater the impact of optimal policing measures on the probability of detection.¹⁴³ The Guidelines fixed mitigation provisions, by contrast, are less effective at inducing policing in the very situations where policing is most likely to be desirable -- where it is very effective at detecting wrongdoing.¹⁴⁴ To induce optimal policing, therefore, the Commission must abandon its goal of standardizing fines for all similar crimes, and attempt to take into account the impact of policing measures on the probability of detection.

¹⁴³ For example, under our simple composite regime the amount of mitigation is $h/p^{**} - h/p^0$.

¹⁴⁴ Indeed, careful examination of the Guidelines reveals that they particularly disadvantage large firms. Under the Guidelines, regardless of the initial culpability score, a firm that is eligible for 5 points of mitigation for reporting, investigating and accepting responsibility for the wrong would reduce the minimum multiplier by 1 and the maximum multiplier by 2. But this results in a lower percentage decrease in the fine for larger firms than for smaller firms. A large firm that might start with a maximum multiplier of 4 would cut its multiplier by only 50%, to 2. Whereas a smaller firm, that might start with a maximum multiplier of 2.4 would reduce this multiplier to .4, a 6 fold reduction.

To see the problem, consider the mitigation provisions governing reporting, investigation and cooperation, measures that dramatically increase the firm's probability of detection. The Guidelines provide that a firm that reports, cooperates and accepts full responsibility for a wrong is eligible for mitigation of 5 points. For a larger firm that starts with the maximum culpability score, this translates into a default sanction imposed on firms that do not report, investigate and cooperate that is twice as large as the sanction imposed on those that do. This mitigation provision is sufficient to induce reporting, therefore, only if a firm that detects and does not report faces at least a 50% chance of getting caught. If the probability the government detects it is lower, the firm has no reason to report.¹⁴⁵

2. Structure of the Duty-Based Provisions

In addition, the structure of the Guidelines duty-based provisions is not optimal. First, the Guidelines improperly exclude firms from eligibility for mitigation in certain situations. The Guidelines provide that firms are ineligible for mitigation based on their monitoring efforts whenever misconduct is committed by certain managerial employees, such as an individual within the high-level personnel of the organization or of a unit with more than 200 employees, on the theory that in this case monitoring necessarily is ineffective.¹⁴⁶ Thus, a firm is not eligible for

¹⁴⁵ In this situation the default sanction equals $2F^r$. The firm's expected liability if it does not report, $g(2F^r)$ equals or exceeds its liability if it does report, F^r , only if $2g > 1$. This implies that the firm will report only if the probability the government will detect a wrong the firm has detected equals or exceeds 50%. This amount of mitigation, therefore, will not always be sufficient to induce reporting.

¹⁴⁶ Guidelines, *supra* note 6, §8C2.5(f). In addition, there is a rebuttable presumption against mitigation if an individual within substantial authority personnel participated in the offense. *Id.*

The Commentary to the Guidelines provides that "'High level personnel of the organization' means individuals who have substantial control over the organization or who have a substantial role in the making of policy within the organization. The term includes: a director; an executive officer; an individual in charge of a major business or functional

mitigation for programs designed to deter wrongdoing by directors, executive officers and supervisors of major units,¹⁴⁷ even though such programs may be worthwhile. In effect, firms facing the possibility of wrongdoing by such persons are governed by a traditional strict liability rule under the Guidelines, as least as far as monitoring efforts are concerned. As previously shown, a traditional strict liability regime generally will not induce optimal policing.

unit of the organization, such as sales, administration, or finance; and an individual with a substantial ownership score." Commentary to §8A1.2.

"Substantial authority personnel' means individuals who within the scope of their authority exercise a substantial measure of discretion in acting on behalf of an organization. The term includes high-level personnel, individuals who exercise substantial supervisory authority (e.g., a plant manager, a sales manager), and any other individuals who, although not a part of an organization's management, nevertheless exercise substantial discretion when acting within the scope of their authority (e.g. an individual with authority in an organization to negotiate or set price levels or an individual authorized to negotiate or approve significant contracts. Whether an individual falls within this category must be determined on a case-by-case basis." Commentary to § 8A1.2 (3)(c).

¹⁴⁷ See *supra* note 146 (defining high level personnel).

The Guidelines also provide that a firm is not eligible for mitigation for reporting or cooperating in an investigation unless it "accept[s] responsibility" for the offense. The Guidelines state that only in "rare situations" will a firm be able to satisfy this requirement without pleading guilty.¹⁴⁸ This requirement, combined with the requirement that firms report detected wrongdoing "promptly," means that firms may have to report suspected wrongdoing before determining whether in fact its agents committed a wrong, and then may be forced to plead guilty in order to be eligible for a mitigated sanction. This is undesirable because forcing firms to pay from wrongdoing they did not commit imposes excessive costs on them, thus distorting activity levels and prevention levels.

In addition, like the mitigation-mitigation regime, the Guidelines' regime denies full mitigation to any firm that fails to detect misconduct before the government does, even when it has adopted an optimal monitoring program. This regime, therefore, is subject to all the same criticisms as the mitigation-mitigation regime: the optimal residual sanction is much more difficult to calculate and the regime may induce excessive monitoring in certain circumstances.¹⁴⁹

Finally, a close look at the Guidelines reveals the regime suffers from the problems associated with each of our three composite regime -- simple, mitigation-aggravation, and mitigation-mitigation -- with few of the benefits of any of them. As previously explained, the Guidelines' reporting provisions adopt a partial mitigation-mitigation approach, incorporating the problems of such a regime into the Guidelines. Yet the Guidelines' regime does not share the chief advantage of the mitigation-mitigation regime: its simplicity in terms of assessing the reporting duty. Under the mitigation-mitigation regime, courts only need to determine whether the firm reported the wrong before the government detected it. By contrast, under the Guidelines -- as under mitigation-aggravation -- a court must determine whether a firm detected misconduct and reported it promptly, since otherwise the firm is not eligible for mitigation. But, because of the "mitigation" approach to reporting, the Guidelines bear the cost of a mitigation-aggravation regime while not getting the benefits of such a regime -- the straight-forward residual liability provision and the ability to induce optimal monitoring -- just as they bear the cost, but not the primary benefits of the mitigation-mitigation regime. Finally, having adopted a multi-tiered approach, the Guidelines nevertheless suffer from a critical defect of the simple regime: Like our simple regime, the requirement that a firm cannot receive partial mitigation for monitoring if it fails to report detected wrongdoing, provides insufficient incentives for a firm to monitor if it fears that it will not be seen to have reported promptly *enough*, either because a court incorrectly determines that it detected wrongdoing before it actually did, or because its agents neglected to report detected wrongdoing for personal reasons. Thus, liability under the Guidelines incorporates the chief drawbacks and none of the advantages of any of the preferred composite regimes.

3. Residual Liability

¹⁴⁸ Guidelines, *supra* note 6, §8C2.5, Commentary 13.

¹⁴⁹ See Appendix, Section III.E.

The Guidelines' provisions governing the residual liability level of firm that fully discharged its policing duties are also in need of revision. In all of the composite regimes we examine in Part III, the optimal expected residual sanction equals the social cost of the harm.¹⁵⁰ Thus the actual residual sanction must equal the social cost of the harm divided by the probability of detection when the firm's policing efforts are optimal.¹⁵¹ By contrast, under the Guidelines,

¹⁵⁰ See *supra* Part III. This rule should apply even if the firm's benefit exceeds the harm, provided that this private benefit is one that society counts as a social benefit. The social cost of the wrong should include the dynamic costs of wrongs, including victims expenditures to prevent such wrongs. See Fred McChesney, *Boxed In: Economists and the Benefits of Crime*, 13 INT'L REV. L. & ECON. 225 (1993)(discussing this point and arguing that fines for intentional wrongs should be based on the benefit to wrongdoers); Fred McChesney, *Desperately Shunning Science*, 71 B.U.L. REV. 281, 285 (1991) (same); Gordon Tullock, *The Welfare Costs of Tariffs, Monopolies and Theft*, 5 W. ECON. J. 224, 228-231 (1967) (same).

¹⁵¹ As previously noted, the precise statement of the optimal residual liability is more complicated to the extent the

the residual fine is not necessarily based on the harm caused, and when it is the measure of harm is limited to the pecuniary losses resulting from the misconduct, not all the social costs of the harm.¹⁵² This is a substantial deviation from the optimal sanction.

Moreover, even when the sanction is based on the harm caused, a firm's expected liability under the Guidelines generally will not be optimal. To induce optimal deterrence, the total sanction must equal the social cost of wrongdoing multiplied by one over the probability of detection. The Guidelines make no effort to ensure that this condition is met.

First, under the Guidelines courts cannot even determine what is the total sanction imposed on the firm because the Guidelines do not enable courts to take full account of civil, administrative and market penalties in determining the appropriate residual sanction. Thus, where these sanctions are large, residual liability under the Guidelines may be excessive; where these other sanctions are small, firms may be subject to insufficient residual liability.

Guidelines regime is a mitigation-mitigation regime.

¹⁵² Specifically, under the Guidelines the fine is based on the pecuniary losses caused by the firm's misconduct only if these losses were caused intentionally, knowingly, or recklessly -- and even then, only if these losses exceed both the firm's pecuniary gain and an arbitrary amount set forth in the Offense Level Fine Table. Guidelines, *supra* note 6, § 8C2.4.

In fact, residual liability under the Guidelines is likely to be insufficient unless firms are subject to substantial other sanctions. Even when the Guidelines base residual liability on the pecuniary losses occasioned by misconduct, the firm's expected residual criminal fine generally will not equal the social cost of wrongdoing. Under the Guidelines, the maximum liability imposed on a firm eligible for full mitigation is 40-80% of the base fine; and some firms might well be subject to a sanction of no more than 5-20% of the base fine.¹⁵³ Thus, even if the pecuniary costs equal the full social costs of the harm, the residual sanction will be no more than 80% of the social cost of the harm; for smaller firms, the sanction will be even lower. This would be insufficient even if firms with optimal policing measures were always sanctioned for its employees wrongs.

Of course, in some cases the residual liability imposed by the Guidelines will be higher because the Guidelines mandate that, wherever possible, courts should require firms to provide compensation to victims and otherwise remedy any harm caused by the offense.¹⁵⁴ In such cases, residual liability will equal this restitution amount plus the criminal fine. The total sanction, therefore, may equal the social cost of the harm but it still will be less than twice the harm caused. This liability alone will be insufficient if the *ex ante* probability that the firm is liable for its employees' wrongs is less than 50%. Thus, the criminal liability provided for in the Guidelines will not induce the firm to implement efficient activity levels, sanctioning or prevention measures.¹⁵⁵ Whether total corporate liability will induce optimal deterrence depends on the magnitude of other forms of liability -- a liability which will vary widely from one type of misconduct to another.

Moreover, residual liability is even more glaringly inadequate when firms with effective policing measures can avoid criminal sanctions altogether -- as appears to be generally the case for antitrust and environmental offenses¹⁵⁶ and

¹⁵³ See Guidelines, *supra* note 6, §8C2.6.

¹⁵⁴ Guidelines, *supra* note 6, §8B.

¹⁵⁵ The comment about prevention measures depends in part on whether courts consider prevention measures in assessing the firm's eligibility for mitigation for "prevention and detection." Some of the measures we consider to be prevention measures -- in particular salary structure -- probably will not be examined under Section 8C2.8(f) in which case the strict liability residual is needed to provide adequate incentives to undertake these measures.

¹⁵⁶ See *supra* note __. The Environmental Protection Agency refuses to adopt a blanket immunity proposal, but has said it generally would not seek gravity-based penalties and would refrain from recommending firms for prosecution if

may also be the case for other wrongs as a result of prosecutorial discretion.¹⁵⁷ The problem is likely to be particularly great when firms escaping criminal liability face, at most, only civil liability for the actual damage they cause, and there is some risk that wrongdoing may go undetected and unsanctioned.

4. Reforming the Guidelines

the firm detected the wrong as a result of a comprehensive environmental audit, took prompt steps to correct the wrong, cooperates with the EPA and outlines a program to prevent future violations. Urgenson, *supra* note 57, at 235-36.

¹⁵⁷ See GRUNER, *supra* note 9, at 1995 Supplement § 8.5.2 (discussing prosecutors).

Thus, although the Guidelines erect a composite liability regime, as we recommend, it is a regime in need of significant reform if it is to become an efficient enforcement tool. First, in designing corporate sentences, the Guidelines should permit courts to take account of civil, administrative and market penalties firms may face for the same misconduct.¹⁵⁸ Second, judges should be instructed to base penalties on estimates of the probability of detection when enforcement is optimal and when it is not. Third, firms should not be automatically precluded from mitigation based on monitoring programs when senior officials engage in misconduct. Fourth, firms should be eligible for partial mitigation for monitoring even if they do not report wrongdoing -- unless, in that circumstance, a simple composite regime is superior to the other regimes, in which case no partial mitigation should be available.

These changes would require the Commission to focus on the goal of optimal deterrence, instead of the goal of standardizing sentences for misconduct of comparable seriousness and eliminating firm-specific or industry-specific considerations from sentencing. While this goal may be laudable in the abstract, our analysis reveals that its pursuit has come at a huge cost: the adoption of a regime that will lead to insufficient corporate enforcement expenditures,¹⁵⁹

¹⁵⁸ The sentencing guidelines determine the basic parameters of the firm's liability without regard to other forms of liability or to whether the market will the firm to bear some or all of the cost of wrongdoing to others. Judges can take into account collateral consequences of conviction, including civil obligations, in determining what fine to impose within the range of fines set by the Guidelines, but such considerations do not affect the base fine amount. See Guidelines, *supra* note 6, §8C2.8. For a discussion of the need to consider market forces in determining the appropriate sanction for fraud, see Jonathan Lott, Jr., *The Level of Optimal Fines to Prevent Fraud When Reputations Exist and Penalty Clauses Are Unenforceable*, 17 *MANAGERIAL & DEC. ECON.* 363 (1996).

¹⁵⁹ As previously noted, the Guidelines may induce efficient policing measures in some cases, but the mitigation

increased wrongdoing and increased administrative costs. Can standardization possibly be worth this price? We suggest it cannot, particularly since there is much less need for uniform corporate sentences since the normative concerns about prejudicial sentences that attend wide variations in the sentencing of individuals have considerably less force in the context of controlling corporate misconduct.

IV. CONCLUSION

Corporations generally must be held liable for their agents' wrongdoing in order to both deter wrongdoing and ensure that firms' production levels are efficient. Yet it is crucial to understand firms both for what they are -- organizations in which agents sometimes commit misconduct -- and for what they are not -- autonomous entities that wholly control their own agents. Recognizing that firms are not themselves wrongdoers, but are organizations in a position to monitor for and influence their own agents, reveals a more complicated role for corporate liability than has been previously recognized. To optimally deter agents' wrongdoing, corporate liability must both regulate activity levels and induce the firm to implement enforcement measures, such as preventive measures that make misconduct less attractive to agents, policing measures -- such as monitoring for and reporting misconduct -- that increase the likelihood that wayward agents will be identified and sanctioned, and, where appropriate, sanctioning wrongdoers. To induce optimal policing measures, the corporate liability regime often will have to solve the credibility problem. Thus, many corporate liability regimes will be fully effective only to the extent that they can effectively perform all five of these functions.

We show that the traditional rule of strict vicarious liability can result in excessive wrongdoing because it does not provide firms with sufficient incentives to implement policing measures such as monitoring, investigation, and reporting misconduct. Except in cases where wrongdoing is plainly visible to all, wholly controllable by the firm, or where the firm bears the full social cost of the wrong, a regime that mixes elements of strict and duty-based liability dominates a regime of strict vicarious liability alone. Two cases of mixed regimes are possible: adjusted strict liability regimes and composite liability regimes. In general, adjusted strict liability (which includes strict liability modified by doctrines such as use immunity and privilege) imposes the lower informational burden and administrative cost. Only a composite regime, however, can yield first-best deterrence in all cases.

In most cases, we believe the best general regime of corporate liability is a multi-tier composite regime. Under such a regime, a firm faces a high default penalty that is reduced to a much lower residual penalty if the firm satisfies its monitoring, investigation, and reporting duties. The implicit reward inherent in the drop from the default penalty to the residual penalty must be large enough to induce the firm to satisfy its policing duties; the remaining residual penalty should be just large enough to ensure that the firm internalizes the full costs of undeterred misconduct that remains despite an optimal enforcement effort.

Nevertheless, there are several regimes of composite liability, each with its own distinctive strengths and weaknesses. We do not recommend any single regime in this paper, in part because the choice of regime depends on

provisions will not induce efficient policing measures in other circumstances. To the extent policing is suboptimal, more wrongs will be committed than is socially desirable.

the character of misconduct. There is much work to be done yet in analyzing the comparative strengths and weaknesses of composite regimes. Nevertheless it is possible to make a number of significant observations about the weaknesses of existing composite regimes -- and particularly the federal sentencing guidelines -- based on our initial efforts to compare composite regimes.

Recent reforms to the laws governing corporate criminal liability constitute an important step towards implementing an optimal composite regime. Yet they are only a first step; substantial additional reform is required. The most important reforms include implementing mitigation provisions that are more clearly designed to induce firms to monitor, investigate and report. Also, any reforms should ensure better coordination of civil and criminal liability so that the firm's total expected liability provides the right incentives. These changes will require moving away from the rigid regime created by the federal guidelines towards a regime which allows consideration of more firm and crime-specific factors. It also will require express recognition that the purpose of corporate sanctions is not to punish wrongdoers but rather to induce firms to detect, report and punish wrongdoers.

