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# COMMENTS

## THE ECONOMIC INEFFICIENCY OF CORPORATE CRIMINAL LIABILITY

### I. INTRODUCTION

Criminal law jurisprudence offers several rationales for imposing punishments upon criminal offenders, but only one of these rationales, deterrence, is applicable to such economic entities as corporations. This comment employs economic efficiency as a gauge to analyze the effectiveness of imposing criminal sanctions to deter socially undesirable conduct. The comment examines different classes of legal rules to determine whether a private individual or the public (i.e. the government) should enforce each class of rules and, if the public should enforce a class, whether criminal or civil sanctions against violators maximizes economic efficiency and deterrence effectiveness.

The comment concludes that for the class of corporate legal rules with a probability close to one (or unity) that the victims will detect a breach, the victims should privately enforce the rules. Where the probability that the victims will detect a breach is not close to unity, public enforcement of these legal rules with civil sanctions will maximize economic efficiency. Civil sanctions are preferable for corporate breaches of all legal rules because criminal sanctions increase the costs of enforcing legal rules without producing a concomitant benefit to society and thus are less efficient.

Regardless of whether a legal rule is one that should be privately or publicly enforced, the expected cost to a corporate offender from inflicting social damage should equal the social damage that the corporate offense imposes. When an offender's expected cost from committing an offense equals the offense's social cost, the liability system encourages value- or welfare-maximizing corporate behavior, maximizing society's net wealth.

### II. CRIMINAL LAW AND THE CORPORATION

At different times, criminal law jurisprudence has advanced one or more of five rationales to justify criminal punishment: restraint, rehabil-

itation, deterrence, education and retribution.<sup>1</sup> Debate among proponents of these rationales has led to a general acceptance of two inclusive theories of criminal sanctions—the consequentialist and retributive theories.<sup>2</sup>

The first four rationales are conceptually distinct from the fifth and together form the consequentialist theory of criminal punishment: punishment is a means to obtain socially desirable consequences.<sup>3</sup> Restraining, deterring, rehabilitating and educating criminal offenders all benefit society by reducing the number of crimes and offenders. According to consequentialist punishment theory, a future-oriented theory, society should impose criminal sanctions solely to reduce the level of future crime.

In contrast, retributive theory of criminal law regards punishment as the proper response to offenders' acts of moral culpability or blameworthiness.<sup>4</sup> Retributive theory is past- or act-oriented: society should impose sanctions on those who have violated its legal rules solely because of offenders' past acts of immorality, including the act of breaking the law.<sup>5</sup> In a situation where a criminal offender is filled with such compunction that reform is certain, a retributivist would still punish the offender because of his moral blameworthiness;<sup>6</sup> a consequentialist would view the punishment as unnecessary and wasteful.<sup>7</sup>

Retributive theory generally requires some form of *mens rea*, or guilty mind, before society is justified in imposing criminal sanctions because moral culpability—the touchstone of the theory—requires an actor's knowledge of his past actions.<sup>8</sup> Consequentialist theory does not impose a requirement of *mens rea* because the concept is generally irrelevant to the sanction's purpose, which is to reduce future crime.<sup>9</sup>

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<sup>1</sup> See, e.g., MODEL PENAL CODE § 1.02 (proposed Official Draft, 1962); W. LAFAVE & A. SCOTT, CRIMINAL LAW § 5 (1972); H. PACKER, THE LIMITS OF THE CRIMINAL SANCTION 35-61 (1968).

<sup>2</sup> See W. LAFAVE & A. SCOTT, *supra* note 1, at 21-25; H. PACKER, *supra* note 1, at 10-16; *Developments in the Law—Corporate Crime: Regulating Corporate Behavior Through Criminal Sanctions*, 92 HARV. L. REV. 1227, 1231-33 (1979).

<sup>3</sup> See H. PACKER, *supra* note 1, at 11; *Developments in the Law—Corporate Crime*, *supra* note 2, at 1231-43.

<sup>4</sup> See I. KANT, THE METAPHYSICAL ELEMENTS OF JUSTICE 101-07 (Bobbs-Merrill ed. 1965); W. LAFAVE & A. SCOTT, *supra* note 1, at 24; H. PACKER, *supra* note 1, at 9.

<sup>5</sup> See *Developments in the Law—Corporate Crime*, *supra* note 2, at 1237 ("even when the activity proscribed by law is not in itself morally wrong, the knowing violation of the law may be morally blameworthy").

<sup>6</sup> See I. KANT, *supra* note 4, at 102.

<sup>7</sup> See H. PACKER, *supra* note 1, at 11-12; *Developments in the Law—Corporate Crime*, *supra* note 2, at 1233.

<sup>8</sup> See Packer, *Mens Rea and the Supreme Court*, 1962 SUP. CT. REV. 107, 109.

<sup>9</sup> See H. PACKER, *supra* note 1, at 11-12; *Developments in the Law—Corporate Crime*, *supra* note 2, at 1236.

When corporate entities entered the economic and judicial arenas courts and legislatures considered it "fair" to subject corporations to some of the same laws that individuals obeyed,<sup>10</sup> but found it difficult and were reluctant to apply criminal sanctions to corporations.<sup>11</sup> A corporation, as distinct from its board of directors and managers, is not a person and has no "mind;" it cannot possess knowledge and intent, the prerequisites to moral culpability.<sup>12</sup> Some legislatures, however, recognizing that criminal sanctions effectively deterred some undesirable corporate activity, imposed a system of strict liability for certain corporate offenses despite the inconsistency with retributive theory.<sup>13</sup>

As corporations developed into the backbone of the United States' economy, courts and legislatures attempted to inject two elements of retributive theory—knowledge and intent—into the laws governing corporations.<sup>14</sup> An individual's intent is usually not distinguished from his knowledge; if someone is aware of his own actions and their likely consequences, it is logical to presume his intent to engage in the conduct and cause its probable effects.<sup>15</sup> Finding intent in corporate activity and imputing knowledge to the corporation, both of the conduct and its likely results, is more difficult than with an individual because corporations lack definable "minds."<sup>16</sup> The law responded to these problems by fictionalizing corporations into persons. The anthropomorphization of the corporation transmuted the organizational entity into a "natural person,"<sup>17</sup> and ostensibly facilitated the application of retributive theory

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<sup>10</sup> See, e.g., *New York Central & H.R.R.R. v. United States*, 212 U.S. 481, 495 (1909). See also Friedman, *Some Reflections on the Corporation as Criminal Defendant*, 55 NOTRE DAME LAW. 173, 178-79 (1979); Comment, *Corporate Criminal Liability*, 68 NW. U.L. REV. 870, 71 (1973).

<sup>11</sup> See *Commonwealth v. Proprietors of New Bedford Bridge*, 68 Mass. (2 Gray) 339, 445 (1854) ("Corporations cannot be indicted for offenses which derive their criminality from evil intention, or which consist in a violation of those social duties which appertain to men and subjects."); *Queen v. The Great North of England Ry. Co.*, 115 Eng. Rep. 1294, 1298 (Q.B. 1846) (Corporations could not be liable for perjury, felony, treason, or offenses against the person because "[t]hese plainly derive their character from the corrupted mind of the person committing them, and are violative of the social duties that belong to men and subjects."); C. STONE, *WHERE THE LAW ENDS* 18-25 (1975); Friedman, *supra* note 10, at 179.

<sup>12</sup> See generally Friedman, *supra* note 10, at 179-82; Comment, *supra* note 10, at 873.

<sup>13</sup> See Elkins, *Corporations and the Criminal Law: An Uneasy Alliance*, 65 KY. L.J. 73, 93-95 (1976).

<sup>14</sup> See, e.g., *Morissette v. United States*, 342 U.S. 246, 250 (1952) ("The contention that an injury can amount to a crime only when inflicted by intention is no provincial or transient notion."). See also *United States v. U.S. Gypsum*, 438 U.S. 422 (1978) (Sherman Act requires intentional misconduct before a violation can be found); Securities Act of 1933, § 24, 15 U.S.C. § 77x (1976); National Labor Relations Act, § 12, 29 U.S.C. § 162 (1976). See generally Mathews & Sullivan, *Criminal Liability for Violations of the Federal Securities Laws: The National Commission's Proposed Federal Crime Code, S. 1, and S. 1400*, 11 AM. CRIM. L. REV. 883 (1973).

<sup>15</sup> See W. LAFAYE & A. SCOTT, *supra* note 1, at 202-3.

<sup>16</sup> See Friedman, *supra* note 10, at 180.

<sup>17</sup> *Id.* at 173-80.

of criminal law to it.

The anthropomorphization of corporations fails to solve the problems associated with applying retributive theory to corporate conduct.<sup>18</sup> Corporations remain "persons" only in legal fiction, not in reality; they are economic entities which legal rules create and maintain.<sup>19</sup> A corporation's board of directors and managers guide and control the entity's economic movements and policies and perhaps are morally accountable,<sup>20</sup> but the corporation itself, distinct from its board and managers, cannot possess knowledge and intent or take voluntary actions. Without these basic characteristics corporations cannot be immoral or culpable and consequently there is no retributive justification for punishing them.<sup>21</sup>

Corporate criminal sanctions sprang from a moral notion that it was fair to subject corporations to the same laws to which individuals were subjected, but by the time the law recognized the discord between retributive theory and corporate criminal sanctions the potential efficacy of the sanctions as deterrents was embedded in the criminal justice system.

This comment accepts the position that retributive theory is a philosophically dissatisfying rationale for punishing corporations,<sup>22</sup> and focuses on the remaining rationale, the consequentialist rationale, for corporate criminal sanctions. Intuitively, it appears that criminal sanctions deter some corporate offenses, but without a standard it is difficult to determine how effectively criminal sanctions achieve the consequentialist goal of reducing the level of corporate crime. Economic efficiency serves as a gauge by which to measure the effectiveness of criminal sanctions imposed by society on corporations for their misconduct. A system of liability and enforcement that reduces the level of corporate miscon-

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<sup>18</sup> See *supra* text accompanying notes 11-13.

<sup>19</sup> "After all, the corporation *itself* . . . is a *persona ficta*, a 'legal fiction' with 'no pants to kick or soul to damn.'" C. STONE, *supra* note 11, at 3 (footnote omitted).

<sup>20</sup> "[A]ll those who may be said to have directed or caused the actor to do the act, or to have participated in accomplishing the result, may be treated as the actors." NATIONAL COMMISSION ON REFORM OF THE FEDERAL CRIMINAL LAWS, I WORKING PAPERS 183 (1970).

<sup>21</sup> "Theoretically, it is impossible for an artificial entity with no mind or soul to have *mens rea* so as to incur moral guilt." Spurgeon & Fagan, *Criminal Liability for Life-Endangering Corporate Conduct, Symposium on the Policies and Legal Theories Underlying the Proposed Federal Criminal Code*, 72 J. CRIM. L. & C. 400, 424 (1981).

<sup>22</sup> But see French, *Types of Collectivities and Blame*, 56 PERSONALIST 160, 166 (1975) (corporations "can be justifiably held blameworthy . . ."); Gross, *Organization Structure and Organizational Crime*, in WHITE COLLAR CRIME: THEORY AND RESEARCH 52 (G. Geis & E. Stotland eds. 1980) ("it is possible to assign responsibility for an organizational outcome to the organization itself . . . ." *Id.* at 60); *Developments in the Law—Corporate Crime*, *supra* note 2, at 1243 ("corporate moral fault may be said to depend on [the corporation's] internal processes").

duct as well as another system but costs society fewer resources is more efficient and thus more effective in reducing corporate crime.<sup>23</sup>

The comment first examines the accuracy of a significant underlying assumption of the consequentialist theory as applied to corporations: corporations respond to threats of economic sanctions. Following the examination of this assumption, the comment explores the costs different systems impose on society and evaluates how effectively criminal sanctions deter corporate misconduct.

### III. CORPORATIONS AS CRIMINALS

Many of the consequentialist theory's rationales for criminal sanctions do not apply to corporations; restraint, education and rehabilitation of corporate violators are unnecessary, impractical, or nonsensical. For example, when society seeks legal judgment against a corporation for violating an antitrust law or for overpolluting, its purpose is not to educate or rehabilitate the offender.<sup>24</sup> Of the rationales that compose the consequentialist theory of criminal sanctions, only deterrence is applicable to corporations; that is, according to consequentialist theory, society imposes sanctions on corporations solely to deter potential offenders.<sup>25</sup>

Consequentialist theory of criminal sanctions assumes a causal connection between sanctions and deterrence. It assumes that threats of fines or imprisonment alter potential offenders' conduct.<sup>26</sup> The causal relationship between punishment and deterrence in turn implies that potential offenders make rational choices regarding their crimes, that they weigh the advantages and disadvantages of committing offenses. The accuracy of this consequentialist assumption of the rationality of offenders' decisions as applied to corporations determines how effectively fines, in general, can deter socially undesirable corporate activity.

Corporations are economic entities whose primary goal is to maximize profits.<sup>27</sup> Those who run the daily affairs of corporations, corpo-

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<sup>23</sup> For a general definition of efficiency, see R. POSNER, *ECONOMIC ANALYSIS OF LAW* § 1.2 (2d ed. 1977).

<sup>24</sup> See generally K. ELZINGA & W. BREIT, *THE ANTITRUST PENALTIES: A STUDY IN LAW AND ECONOMICS* 2-6 (1976); M. GREEN, *THE CLOSED ENTERPRISE SYSTEM* 162 (1972).

<sup>25</sup> See H. PACKER, *supra* note 1, at 356.

<sup>26</sup> Bentham, an early consequentialist, writes: "The temptation may be said to be strong, when the pleasure or advantage to be got from the crime is such as in the eyes of the offender must appear great in comparison of the trouble and danger that appear to him to accompany the enterprise . . ." J. BENTHAM, *An Introduction to the Principles of Morals and Legislation*, in *THE WORKS OF JEREMY BENTHAM* 67 (ch. XI, § XL) (Bowring ed. 1843).

<sup>27</sup> *Developments in the Law—Corporate Crime*, *supra* note 2, at 1365. See also Riley, *Taming G.M. . . and Ford, Union Carbide, U.S. Steel, Dow Chemical . . .*, in *WITH JUSTICE FOR SOME* 207 (B. Wasserstein & M. Green eds. 1970).

rate managers and executives, are experts at analyzing the costs and benefits from different courses of conduct and choosing the most profitable courses for the corporations.<sup>28</sup> If corporate profits lag or sink, new managers may be installed either by the old shareholders or by new shareholders, if the profit-sagging corporation is the target of a successful take-over.<sup>29</sup> Pressure to maximize profits can result in some corporate conduct that transgresses the law; executives may cause the corporation to violate the law if the offense will maximize corporate profits.<sup>30</sup>

A corporation run by rational profit maximizers will decide whether to commit an offense depending on the difference between the expected benefits of the offense to the corporation from the offense and the expected costs of the offense.<sup>31</sup> The expected benefits to a corporation are higher profits either from avoiding present or future costs or, less typically, from increasing present or future revenues. The expected costs of committing an offense include money and time spent in preparation and effectuation, the probability that offenders will be detected, the probability that the corporations will be convicted, and the cost of punishment.<sup>32</sup> The cost of punishment comprises the severity of corporate fines (the only sanction applicable to corporations) and any damage from criminal stigmas. The expected cost to a potential corporate offender of committing an offense is equal to the product of the probability that the government will impose a fine and the severity of the fine.<sup>33</sup>

Because corporations are profit maximizers, fines for offenses can effectively deter undesirable corporate activity. If the expected costs of engaging in particular conduct increase sufficiently, corporate decision-makers will reduce the frequency of the offenses they commit. The fact that fines can effectively deter undesirable conduct implies nothing, however, about efficient levels of fines or deterrence, or about the legal

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<sup>28</sup> Fischel, *Efficient Capital Market Theory, the Market for Corporate Control, and the Regulation of Cash Tender Offers*, 57 TEX. L. REV. 1, 8-9 (1978). *C.f.* C. STONE, *supra* note 11, at 38-50 ("[T]here is a certain amount of economically nonrational behavior, especially in the calculation of legal threats, that stems from deeply rooted features in the organization itself." *Id.* at 43).

<sup>29</sup> Fischel, *supra* note 28, at 2, 5-7.

<sup>30</sup> C. MCCAGHY, *DEVIAANT BEHAVIOR: CRIME, CONFLICT, AND INTEREST GROUPS* 218 (1976); *Developments in the Law—Corporate Crime*, *supra* note 2, at 1365.

<sup>31</sup> For a study indicating criminal activity often is the result of rational calculations, see Ehrlich, *Participation in Illegitimate Activities: An Economic Analysis*, in *ESSAYS IN THE ECONOMICS OF CRIME AND PUNISHMENT* 68 (G. Becker & W. Landes eds. 1974).

<sup>32</sup> The ability of corporations to benefit from an illegal act but still not be legally subject to liability also affects the expected costs. For an extensive discussion of the "ease of evasion," see *Developments in the Law—Corporate Crime*, *supra* note 2, at 1243-57.

<sup>33</sup> R. POSNER, *supra* note 23, at 165.

mechanisms that impose fines. The following section presents a framework for analyzing efficient fine and deterrence levels, and the relative efficiencies of different systems for enforcing society's legal rules.

#### IV. AN ECONOMIC FRAMEWORK OF CORPORATE LIABILITY

If society's sole purpose were to deter all breaches of its legal rules, society would employ millions of police and detection agents, and courts would impose tremendous penalties for the smallest infractions. Although few offenses would occur, society would spend much more to prevent offenses than the offenses would cost society. Society would pay more for a good, a very low offense rate, than the good would be worth to society. An enforcement system that overdeters offenders is inefficient.

An efficient enforcement system minimizes the total social cost of offenses.<sup>34</sup> Corporate offenses impose two social costs: the cost of reducing the number of offenses to a certain level, and the cost of enduring the offenses at that level. Therefore, an efficient enforcement system minimizes the cost of offense prevention and the cost that committed offenses impose on society.

To understand the costs society incurs from imposing sanctions on corporations, this section employs two versions of an economic model of an efficient enforcement system. Version A of the model, a typical economic approach to criminal sanctions,<sup>35</sup> minimizes the government's cost of offense prevention without regard to the costs the government imposes on corporations to comply with the laws. This section highlights and explains the inherent inefficiency in this type of liability system as applied to corporations. Version B of the model corrects the inefficiencies of Version A by expanding the cost of offense prevention to include the costs fines impose on corporations. Version B states that the social cost of an offense should determine the level of the fine society imposes for an offense. Only when an offense's social cost determines the corporation's expected cost can an enforcement mechanism be efficient.

##### VERSION A

In this version, the government, which is used to denote the controller and administrator of the enforcement system, controls the short-run determinants of society's corporate offense rate: the probability offenses will be detected and the level of corporate fines.<sup>36</sup> The government indi-

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<sup>34</sup> See generally Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169 (1968).

<sup>35</sup> See generally *id.*

<sup>36</sup> The model is more informative in economic terminology:



rectly controls the probability that it will detect corporate offenses by the number of detection agents it employs,<sup>37</sup> while it directly controls the level of fines. The government, by changing either of these deterrence variables, controls the level of corporate offenses, which in turn determines the social cost of corporate violations.<sup>38</sup>

The costs to the government of deterring corporate violations are the cost of hiring detection agents who seek out and investigate possible

$$O = g_O (D, F, V) \quad (1)$$

where  $O$  is the number of corporate offenses committed within a geographical area such as the United States;  $D$ ,  $F$  and  $V$  are the probability of detection, the level of fines, and the probability of conviction, respectively;  $g_O$  describes the functional relationship between the variables and the number of offenses committed. Any increase in one of the variables reduces the total number of offenses:

$$\frac{\partial O}{\partial D} < 0, \quad \frac{\partial O}{\partial F} < 0, \quad \frac{\partial O}{\partial V} < 0.$$

The rational character of corporate decisionmakers supports these results. See *supra* note 31. To the extent that there is nondeterrable corporate offenses (e.g.,  $\frac{\partial O}{\partial A} = 0$  and  $\frac{\partial O}{\partial F} = 0$ ), such offenses are viewed as natural phenomena which this comment does not include in its analysis. The exclusion is reasonable because the *purpose* of hiring detection agents and imposing fines is to deal with deterrable corporate activity (i.e.,  $\frac{\partial O}{\partial A} < 0$  and  $\frac{\partial O}{\partial F} < 0$ ). The model assumes that corporate decisionmakers have knowledge of all three variables, including the probabilities of detection and conviction. This assumption is not entirely realistic, but it is not essential to the model and will be maintained for the purposes of analysis.

The rules governing corporate liability control the probability of conviction. The government must impose some liability system in order to deter corporate offenses and the model assumes that all systems impose the same cost on society. This assumption is unrealistic if, for example, one liability system imposes a much lower burden of proof than another system imposes. This assumption is the subject of analysis in notes 84-90 & accompanying text *infra*. The assumption is made for the purposes of this section and the model assumes that the liability system is not a variable in the social cost of control function. Thus,

$$O = g_O (D, F). \quad (2)$$

<sup>37</sup> That is,

$$D = g_D (A), \text{ with } \frac{\partial D}{\partial A} > 0, \quad (3)$$

where  $A$  is the number of government detection agents employed, and  $g_D$  describes the functional relationship between the number of agents and the probability of detection. This function substituted into equation (2) produces the function:

$$O = g_O (A, F). \quad (4)$$

The number of government agents and the *level* of fines, both of which are controlled by the government, determine the level of corporate offenses.

<sup>38</sup> The cost of offenses to society depends upon the type of offenses committed. A transfer of wealth by theft, for example, imposes a smaller cost on society than the destruction of the same amount of property. Corporate offenses vary in nature from regulatory offenses to life-endangering activity such as negligent constructions or designs. For the purposes of analysis, the model assumes only one type of offense and thus assumes away the different social costs different offenses impose. Generally, the social cost of corporate offenses is

$$C_O = f_O (O), \text{ with } \frac{\partial C_O}{\partial O} > 0, \quad (5)$$

where  $C_O$  is the total cost of offenses to society and  $f_O$  describes the functional relationship between the number of offenses and the social cost of offenses. The model also assumes that

offenses<sup>39</sup> and the administrative costs associated with imposing, collecting and distributing fines.<sup>40</sup> Thus, the total cost to society of corporate offenses is the sum of the cost of violations, the cost of detection agents and the cost of administering fines.<sup>41</sup>

the cost of corporate offenses to society is independent of the level of offenses in society; that is, it assumes the second derivative of equation (5) is zero.

Substituting the determinants of offenses (equation (4)) into the social cost of offenses equation (5) produces

$$C_O = f_O(A, F). \quad (6)$$

The government's choice of the number of detection agents and the level of fine combine to determine the social cost of corporate offenses.

<sup>39</sup> The government's control of corporate offenses imposes costs on society just as offenses impose costs on society. The cost of the government detection agents is

$$C_A = f_A(A), \text{ with } \frac{\partial C_A}{\partial A} > 0, \quad (7)$$

where  $C_A$  is the cost to society of the detection agents;  $f_A$  describes the functional relationship between the number of detection agents and the cost of agents to society; and the greater the number of detection agents employed, the higher the cost of agents to society. Ignoring the possibility that the detection agents will have strong unions, the model assumes the salary paid agents will not vary with the number of agents hired. That is,

$$\frac{\partial^2 C_A}{\partial A^2} = 0.$$

<sup>40</sup> The cost to society of imposing a fine is equal to the administrative costs associated with collecting the fine and channelling it to the proper recipient(s) (for example, to the treasury or the victims). Because the remainder, after these administrative costs, is basically a transfer payment from one sector of society to another, Version A does not include the fines' absolute values in determining the social cost of the fines. The number of offenses detected and the level of the fines affect the administrative costs of fines in the model. Costs of collecting fines are assumed to be constantly proportional though not equal to the magnitude of the fine and thus increase with the number of detected offenses. Consequently,  $F$  denotes the administrative costs of fines. But see Becker, *supra* note 34, at 190 (there is no social loss from fines). If juries are more reluctant to render guilty verdicts as the magnitude of the fines increases, the level of fines will affect the probability of convictions. The model assumes, however, that only the number of detection agents affects the probability of conviction.

The cost of fines becomes

$$C_F = f_F(A, F), \text{ with } \frac{\partial C_F}{\partial F} > 0, \quad (8)$$

where  $C_F$  is the social cost of fines. Multiplying the probability that corporate offenses will be detected by the total number of corporate offenses committed ( $O$ ) yields the total number of convictions,  $DO$ . The total cost of administering sanctions to corporate offenders is the total number of convictions multiplied by the cost of administering each sanction. The form of equation (8) can now be specified:

$$C_F = DOF, \quad (9)$$

where  $C_F$  is the total social cost of administering corporate sanctions.

<sup>41</sup> The total social cost of corporate offenses is the algebraic sum of the cost of violations,  $C_O$ , the cost of corporate offense detection,  $C_A$ , and the cost of administering the fines,  $C_F$ :

$$C_O^T = C_O + C_A + C_F \quad (10)$$

where  $C_O^T$  is the total social cost of corporate offenses.

Substituting equations (6)-(8), the total social cost of corporate offenses is depicted as a function of its determinants:

$$C_O^T = f_O(A, F) + f_A(A) + f_F(A, F) \quad (11)$$

When the social cost of corporate offenses is minimized according to Version A's assumptions,<sup>42</sup> the model states that the government

<sup>42</sup> To minimize the total social cost, the government determines the number of detection agents and the level of corporate fines so as to minimize  $C_O^T$ :

$$\frac{\partial C_O^T}{\partial F} = \frac{\partial C_O}{\partial F} + \frac{\partial C_F}{\partial F} = 0 \quad (12)$$

and

$$\frac{\partial C_O^T}{\partial A} = \frac{\partial C_O}{\partial A} + \frac{\partial C_A}{\partial A} + \frac{\partial C_F}{\partial A} = 0 \quad (13)$$

Thus, the marginal increase in the social cost of corporate offenses resulting from lower fines should equal the marginal savings, or benefit, of the lower fines. Equation (13) states that the marginal cost of detection agents plus the marginal cost of administering fines caused by an increase in detection agents should equal the marginal reduction in the cost of corporate offenses from the increased number of agents.

These basic conclusions reflect the notion that marginal benefits of an activity should equal the marginal costs to maximize economic efficiency.

Substituting the specified cost equation,  $C_F = DOF$ , and the offense function,  $C_O = f_O(O)$ , into the total cost function  $C_O^T = f_O(A, F) + f_A(A) + f_F(A, F)$ , and then minimizing total social cost produces more useful data concerning the social cost of corporate offenses and their prevention:

$$0 = \frac{\partial C_O^T}{\partial F} = \frac{\partial C_O}{\partial O} \frac{\partial O}{\partial F} + D(F \frac{\partial O}{\partial F} + O) \quad (14)$$

and

$$0 = \frac{\partial C_O^T}{\partial A} = \frac{\partial C_O}{\partial O} \frac{\partial O}{\partial A} + \frac{\partial C_A}{\partial A} + F(O \frac{\partial D}{\partial A} + D \frac{\partial O}{\partial A}) \quad (15)$$

Since  $\frac{\partial C_O}{\partial O} \frac{\partial O}{\partial F}$  (the marginal increase in the cost of offenses caused by a decrease in fines) is negative,  $F \frac{\partial O}{\partial F} + O$  must be positive for a solution to exist.

In equation (15),  $\frac{\partial C_O}{\partial O} \frac{\partial O}{\partial A}$  is the marginal decrease in the social cost of offenses caused by an increase in the number of detection agents.  $F(O \frac{\partial D}{\partial A} + D \frac{\partial O}{\partial A})$  is the effect that a change in the number of detection agents has on the cost of administering fines. It is impossible to determine, *a priori*, the sign of the terms because of the mixed effects of an increase in the number of detection agents: Hiring additional agents increases the probability of detection and thus increases the cost of administering fines; but hiring additional agents also deters some potential offenders and decreases the cost of administering fines. If an increase in convictions is the net effect, the sum of the two terms is negative and a marginal cost; if the sum of the terms is positive, it is a marginal benefit.

Minimizing the social cost from corporate offenses and their prevention produces a corresponding optimal corporate offense rate:

$$\frac{\partial C_O}{\partial O} = -D(O \frac{\partial F}{\partial O} + F) \quad (16)$$

and

$$\frac{\partial C_O}{\partial A} = -\frac{\partial C_A}{\partial A} \frac{\partial A}{\partial O} - F(D + O \frac{\partial D}{\partial A} \frac{\partial A}{\partial O}). \quad (17)$$

These equations indicate that optimality is achieved when the marginal benefit of offense prevention,  $\frac{\partial C_O}{\partial O}$ , equals the marginal cost of offense prevention. See Becker, *supra* note 34, at 180-81.

should employ an optimum number of detection agents and impose fines at an optimum level. The model also states that the government should not set fines according to the damage corporate offenses cause, but rather in proportion to the responsiveness, or elasticity, of offenses to the fines. Corporate offenses that are responsive, or highly elastic, with respect to fines should carry suitable penalties, but those offenses that are not very responsive to fines should carry much lighter penalties.<sup>43</sup> If a fine will not alter the frequency of an offense, the costs of imposing the penalty could outweigh any benefits from imposing the penalty.

Closer examination of Version A of the model exposes the inefficiency of a system for setting fines, and, as a result, the number of detection agents, without regard to the social damage the offenses impose. In Version A, the government minimizes its costs of prevention and the costs the remaining offenses impose. But, because fines are essentially transfer payments from offenders to recipients, the cost of fines to society in Version A is the cost of collecting and disbursing the money (i.e., the transaction costs).<sup>44</sup>

When the government minimizes total social cost under Version A, it increases fines up to the point where the marginal administrative cost to it from collecting and disbursing a higher fine equals the marginal decrease in social cost of corporate offenses from the higher fines.<sup>45</sup> The level of a fine thus determined is unrelated to the damage that the offense imposes on society.

Corporations' expected costs from committing offenses are directly related to the level of the government's fines.<sup>46</sup> Because the levels of fines in Version A are unrelated to the social damage of the offenses, the

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<sup>43</sup> The final step involves articulating the elasticity of corporate offenses with respect to fines,  $\epsilon_f$ , and detection agents,  $\epsilon_a$ . *Id.* at 182-5. That is,

$$\frac{\partial C_O}{\partial O} = -DF(1 - \frac{1}{\epsilon_f}) \quad (18)$$

and

$$\frac{\partial C_O}{\partial O} = -\frac{\partial C_A}{\partial A} \frac{\partial A}{\partial O} - DF(1 - \frac{1}{\epsilon_a}), \quad (19)$$

with

$$\epsilon_f = -\frac{F}{O} \frac{\partial O}{\partial F}$$

and

$$\epsilon_a = -\frac{D}{O} \frac{\partial O}{\partial D}$$

where  $-\frac{D}{O} \frac{\partial O}{\partial D}$  is the corporate offense elasticity with regard to detection; and  $-\frac{F}{O} \frac{\partial O}{\partial F}$  is the corporate offense elasticity with regard to fines.

<sup>44</sup> See *supra* note 40.

<sup>45</sup> See *supra* note 42.

<sup>46</sup> See *supra* note 33 and accompanying text.

expected costs to corporations of committing offenses are unrelated to the social damage the offenses cause. When the government determines a fine for a given offense, the fine may produce an expected cost to corporations higher than, equal to, or lower than the offense's social damage. When the government sets a fine for an offense that produces an expected cost to potential corporate offenders significantly higher or lower than the social cost of the offense, the government discourages some value-maximizing (or cost-minimizing) corporate activities.<sup>47</sup>

For example, if Corporation XYZ has a choice of either committing Offense O, which imposes a total social cost of \$100, or taking measures to avoid Offense O at a cost of \$1,000, XYZ should commit the offense. If XYZ spent \$1,000 to avoid liability for an offense that damages society \$100, society—an aggregate of its members including XYZ—would induce a \$900 waste of its resources. A fine for Offense O that produces an expected cost to XYZ greater than the offense's social damage economically encourages XYZ to spend more resources to avoid committing the offense than the offense would damage society. When the expected cost to corporations of committing a given offense is greater than the total social damage from the offense, society actively discourages value-maximizing conduct and decreases society's total welfare.

Similarly, a fine that produces an expected cost to corporations less than the social cost the offense imposes economically encourages corporations to commit offenses that are *not* value- or welfare-maximizing. If, in the example above, XYZ could avoid committing Offense O by spending \$50 but the expected cost of committing Offense O were only \$10, the fine would induce XYZ to commit the offense, even though the \$100 social cost is greater than the \$50 cost of prevention. Thus, to maximize efficiency and total social welfare, the fine for breaching a legal rule should produce an expected cost to the violator equal to the offense's social damage.

#### VERSION B

Because the government in Version A of the model minimizes its cost of crime prevention without regard to the costs it imposes on corporations to comply with the law, Version A is an inherently inefficient system for deterring corporate offenses. The costs imposed upon society as a whole by Version A outweigh the benefits stemming from the violations that the system deters. Version B provides a more efficient and effective deterrence system by expanding the cost of offense prevention to include compliance costs that fines impose on corporations.<sup>48</sup>

<sup>47</sup> See generally Stigler, *The Optimum Enforcement of Laws*, 78 J. POL. ECON. 526 (1970).

<sup>48</sup> Version B is identical to Version A except that the total cost of crime is minimized

Version B establishes expected costs to corporations at committing offenses<sup>49</sup> that equal the costs that the offenses impose on society plus the social costs of substituting the court system for the market system where appropriate.<sup>50</sup> Thus, an efficient liability system requires that the actual social costs of offenses rather than the government, determine the expected costs to corporations at committing offenses.<sup>51</sup> In Version B, the government minimizes total social costs of detection agents and fine administration subject to the constraint that expected costs equal the social costs of offenses.<sup>52</sup>

An enforcement system that sets expected costs to corporations equal to the social costs of the offenses while minimizing detection costs maximizes economic efficiency and deterrence effectiveness. An analysis of an efficient, effective corporate deterrence system is incomplete, however, without an analysis of the relative efficiencies of different methods for imposing expected costs on corporations. The following section examines three methods for enforcing legal rules and imposing efficient levels of fines, or "levies,"<sup>53</sup> against corporations.

## V. ENFORCEMENT MECHANISMS

Three systems for enforcing economic sanctions against corporations for violating legal rules are criminal enforcement through public prosecutors, civil enforcement through government agencies and civil enforcement through private rights of action. A major relevant distinc-

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subject to the constraint  $f = C_O \times \frac{1}{D}$ , where  $f$  is the fine levied for an offense with a social cost of  $C$ , and  $D$  is the probability the fine will be imposed upon the offender. That is, minimize  $C_O^T = C_O + C_A + C_F$ , subject to  $f = \frac{C_O}{D}$ , where  $F$ , the administrative cost of imposing a fine, is a function of  $f$ , the level of fine.

<sup>49</sup> Recall that the expected cost of committing an offense is the product of the probability that a sanction will be imposed and the severity of the sanction. Similarly, the fine imposed equals the expected cost to a corporate offender divided by the probability the fine will be imposed. That is,  $E.C. = f \times p$  and  $f = E.C./p$ , where  $E.C.$  is the expected cost,  $f$  is the fine and  $p$  is the probability the fine will be imposed.

<sup>50</sup> It should be noted that where there is a market in which the offender could have "bargained" with its victim, an expected cost equal to the victim's damage will make the offender indifferent between both methods of transactions and will not necessarily channel the transactions into the market. Where there is a market, the expected cost to the offender should include both the social cost of the offense and the cost of substituting the legal system for the market. Where there is not a market in which the corporate offender could have bargained in advance, however, the offender should not pay a market inducement component. See R. POSNER, *supra* note 23, at 165-66.

<sup>51</sup> The government would not have to set fines until corporations were convicted; the government need only to convince potential offenders that the total fine or payout will equal the offense's social damage escalated by the probability that payouts will occur.

<sup>52</sup> See *supra* notes 36-43, 48.

<sup>53</sup> When society extracts money from corporations for inflicting social costs and the extractions are directly proportional to the amount of the social damage inflicted, the extractions are perhaps more aptly termed "levies" than "fines."

tion between these three enforcement methods, for the purposes of analysis, is that the first two are public forms of enforcement while the third is a strictly private form.

Public and private enforcement of legal rules against corporations share many of the same types of costs. Detection, litigation and collection costs are common to both. Although these forms of enforcement share these same types of costs, the magnitudes of some costs differ depending upon which sector, public or private, enforces the legal rules.

#### A. PRIVATE ENFORCEMENT

The cost of detection differs greatly for some corporate violations of legal rules depending upon which sector enforces the rules. When a corporation breaches an agreement with a private party, the "victim" detects the breach at zero or minimal cost. When a defective product causes injury to its buyer, the buyer/victim is likely to detect his injury and to know the identity of the injurer; the victim's detection costs, therefore, will be close to zero. If the public (the government) were the exclusive "detector" of breaches of all rules, including those governing contractual obligations and products liability, society would spend more resources detecting some offenses, by hiring agents or compensating informers, than it would cost individual victims to detect these offenses themselves. When an enforcement system lowers its detection costs while maintaining the same probability of detection and the same level of deterrence, it becomes a more efficient and effective system.<sup>54</sup> Thus, for some legal rules governing corporate conduct, labelled for convenience Group V rules,<sup>55</sup> utilizing the victims of violations as the detection agents would improve the efficiency and effectiveness of enforcement.<sup>56</sup>

If the victims of Group V breaches have litigation costs equal to or lower than the public's, the victims also should have to bring private actions against corporate offenders. Requiring the victims to bring suits themselves reduces the transaction costs associated with collecting and transferring knowledge and evidence to third parties as well as transferring compensation, or levies, from corporations to victims.<sup>57</sup> Private suits by victims for Group V offenses eliminate the costs incurred when the government acts as an intermediary.

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<sup>54</sup> See generally R. POSNER, *supra* note 23, at § 1.2.

<sup>55</sup> "V" is for victims in "Group V legal rules."

<sup>56</sup> The victims of these offenses should be the sole detection agents if the marginal cost of employing a public detection agent is greater than the marginal reduction in the social cost of corporate crime caused by the public agent, which is a plausible assumption.

<sup>57</sup> The victims of corporate offenses must receive some compensation from the offender to induce them to bring suits once they have detected the infractions. Compensating victims for their injuries ensures that corporate offenders will be forced to pay the social cost of their activities and serves as a further check that the activities will be value-maximizing.

Two criteria define the class of legal rules the private enforcement of which maximizes efficiency: The corporate offenses must have identifiable victims, and must leave the victims aware of the violation and the violator's identity. It is this high level of probability that their violation will be detected that distinguishes the legal rules that are more efficiently enforced by the private citizen from those that must be publicly enforced to maximize efficiency.<sup>58</sup>

If corporations could escape liability by spreading the social costs of their offenses across a broad group of victims, eliminating the economic incentive for any one victim to bring suit, then corporations could impose significant social costs without a safeguard or check to ensure that the benefits of the corporation's activities are greater than their social costs.<sup>59</sup> In cases where the costs of litigation outweigh each victim's economic interest in obtaining redress from the offender, the class action suit promotes economic efficiency. The class action suit, which aggregates victims' damages, is a gap-filling mechanism for ensuring that the offender pays for its damage, while providing victims with an economic incentive to obtain compensation.<sup>60</sup>

To achieve an efficient level of deterrence of corporate offenses, the expected cost to corporations should equal the social cost from the offenses.<sup>61</sup> For offenses with a probability of detection and conviction of unity ( $p=1$ ), the actual corporate levy should equal the social costs the activities impose; that is, corporations should pay amounts equal to victims' damages.<sup>62</sup> If the probability of either detection or conviction falls below unity, the corporate levies must exceed the costs of the victims' injuries. If the levies do not exceed the damages in this case, the expected costs to corporations—the products of the levies and the probabilities of detection and conviction—will be less than the offenses' social damages, and will induce corporations to breach rules (or not take precautions) when social costs exceed benefits.<sup>63</sup>

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<sup>58</sup> See *infra* notes 69-76 and accompanying text.

<sup>59</sup> See *supra* text accompanying and immediately subsequent to note 97.

<sup>60</sup> For a discussion of some of the economic pitfalls of class action suits, see Rosenfield, *An Empirical Test of Class-Action Settlement*, 5 J. LEGAL STUD. 113 (1976).

<sup>61</sup> See *supra* notes 36-53 and accompanying text.

<sup>62</sup> The expected cost of committing an offense ( $E.C.$ ) is the probability a sanction will be imposed ( $p$ ) multiplied by the severity of the sanction ( $f$ ):  $E.C. = p \times f$ . The efficiency-maximizing levy is one that has an expected cost equal to the social cost of the offense ( $S.C.$ ). The efficiency-maximizing fine, or levy, is thus,  $f = S.C./p$ . From this equation it is clear that an offense with a very high probability that the offender will be forced to pay requires a levy approximately equal to the social cost of the offense, which is the damage to the victims. Assuming that a high percentage of detected offenses are redressed, the probability that an offense will be detected can be substituted for the probability a sanction will be imposed.

<sup>63</sup> For example, if the probability of detection and conviction for breaches is .50 and the social cost of the offense is \$100, the efficient levy, is \$100/.50 or \$200. If the levy is less than



In cases where corporate levies exceed the victims' damages, the allocation of the differential between the actual corporate levies and the damages to the victims, whether it is deposited into a general fund or goes as a windfall to the victims, is irrelevant. Requiring corporations to pay the differential, not how the differential is allocated, is what affects the efficiency of the system.<sup>64</sup>

Private enforcement of Group V legal rules, those that have a probability close to unity that victims will detect violations, produces optimal efficiency and any public enforcement causes overdeterrence and inefficiency.<sup>65</sup> If expected costs of corporate offenses do not equal the social costs of the offenses, the expected costs can be increased. If the expected costs of offenses equals their social damages, any additional enforcement increases the probability of detection, which in turn increases the corporations' expected costs above social costs. Expected costs greater than social costs deter corporations from engaging in value-maximizing conduct, conduct the total social benefits of which exceed its costs.<sup>66</sup> The result is a move from efficiency to inefficiency and less effective deterrence.

Private enforcement of some legal rules leads to economic efficiency; private enforcement, however, is not an efficient mechanism for enforcing all legal rules. Not all corporate transgressions of legal rules produce knowing victims.<sup>67</sup>

## B. PUBLIC ENFORCEMENT

Some corporate offenses have as their "victims" people unaware of the injury or unaware of the breacher's identity. Public detection agents must police violations of these legal rules—labelled for convenience Group G rules<sup>68</sup>—to ensure efficiency. An example of a Group G offense is a firm emitting carcinogenic effluence and effluvia. It is unlikely that individuals in a nearby industrial town will know that the polluted

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\$200, the expected cost to the corporate offender is less than \$100, the social cost of the offense. Assume the levy is \$150 and that to prevent the offense the corporation would have to pay \$80. The efficient solution is for the corporation to pay \$80 to prevent the \$100 social cost. The expected cost to the corporation from committing the offense, however, is \$75 (\$150  $\times$  .50), which, being less than the cost of prevention, will induce the corporation to commit the offense and pay the levy—an inefficient result.

<sup>64</sup> If allocating the difference between the corporate levy and the victim's damage involves a transaction cost, which is likely, then not permitting the victim to receive the "windfall" could decrease efficiency.

<sup>65</sup> This is based on the assumption that the marginal cost of increasing the fine, or levy,  $\frac{\partial C_F}{\partial F}$ , is less than the marginal cost of employing a unit of public detection,  $\frac{\partial C_A}{\partial A}$ .

<sup>66</sup> See *supra* text accompanying and immediately subsequent to note 47.

<sup>67</sup> See *supra* note 58 and accompanying text.

<sup>68</sup> "G" for government in "Group G legal rules."

air is damaging them. Even if the townspeople detect the damage it is unlikely that an individual would or could spend the resources needed to single out the offending firm from surrounding nonoffending firms.<sup>69</sup> Because of the high expense for an individual to investigate the violation, the probability of private detection is low.

Because of the low probability that individual investigation will detect breaches, efficient corporate levies for breaches of Group G legal rules will exceed the total social damage from breaches.<sup>70</sup> Some commentators suggest that to provide incentives for private enforcement of all legal rules, including Group G type rules, enforcers could be rewarded with the proceeds of a large fine.<sup>71</sup> Thus, it appears that entitling private enforcers to the proceeds of efficiency maximizing levies may create private incentives to detect corporate offenses, and create an efficient system of private enforcement of all legal rules.<sup>72</sup>

The defects of this type of private enforcement system, however, reveal the need for public enforcement of Group G legal rules to maximize an enforcement system's efficiency and effectiveness.<sup>73</sup> Private enforcers, unlike the government, are profit maximizers whose goal is to maximize the difference between their costs of detection and their revenues from detection. The profit maximizing nature of private enforcers creates inefficiency when the system relies upon them to police Group G rules, legal rules with a low probability that breaches will be detected.<sup>74</sup> For example, if the amount of private resources devoted to detection of corporate breaches of Group G rules is below the optimum level and the levies or "rewards" are above the optimum level, the government's reduction of the rewards will not result in a move towards efficiency. Private enforcers will not interpret the reduction in the rewards as a signal to increase their levels of detection, for such an increase would not be cost-justified. Rather, competition will force enforcers to spend less on detection, and the result will be a lower, not the desired higher,

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<sup>69</sup> Although economic incentives could be provided to private detection agents, the result would still be inefficient. See *infra* text accompanying notes 71-76.

<sup>70</sup> See *supra* notes 63-69 and accompanying text.

<sup>71</sup> See Becker & Stigler, *Law Enforcement, Malfeasance, and Compensation of Enforcers*, 3 J. LEGAL STUD. 1 (1974).

<sup>72</sup> For some breaches of Group V legal rules there is an economic gap between the high cost to individuals of enforcing the legal rules and their relatively low return from enforcement. Class action suits fill the gap by providing incentives and enhance efficiency. For some breaches of Group G legal rules there is a similar gap: It is prohibitively expensive for individuals to detect breaches or breachers compared to the low return from their detection. Rewarding private enforcers with efficient fines may be a method to fill the economic gap.

<sup>73</sup> Landes & Posner, *The Private Enforcement of Law*, 4 J. LEGAL STUD. 1, 30-33 (1975).

<sup>74</sup> *Id.* at 3-16.

probability of detection; this is a move away from efficiency.<sup>75</sup>

Public enforcement of legal rules where the probability of detection is significantly below one does not lead to inefficient levels of expenditures on detection because the government does not have to act as a private profit maximizer. The government as public enforcer is not constrained to interpret the reduction in levies as a signal to decrease detection expenditures. Instead, the public enforcer can appropriately respond by increasing its resources devoted to detection of corporate breaches of these legal rules. The result is a move towards efficiency.<sup>76</sup>

This analysis indicates that private enforcement of legal rules where the probability of detection is close to unity and public enforcement of those rules where the probability of detection is significantly less than unity maximizes the economic efficiency and effectiveness of a corporate deterrence system. The following section examines the most efficient form of public enforcement of Group G legal rules.

#### C. PUBLIC ENFORCEMENT: CIVIL VERSUS CRIMINAL LEVIES

Public enforcement of Group G legal rules to deter corporate offenses can take the form of either criminal or civil procedures and liability. Because the government cannot imprison corporations, monetary levies are the only sanctions available to deter undesirable corporate conduct.<sup>77</sup> Civil and criminal levies may appear to be economically indistinguishable: both involve charges to corporate treasuries and should be equally severe for a given offense.<sup>78</sup> Two major differences between civil and criminal levies, however, affect the effectiveness of enforcement systems.<sup>79</sup>

First, a system of criminal levies may be 'cheaper' than a civil system. Although most commentators reject the theory,<sup>80</sup> some commenta-

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<sup>75</sup> For additional and more detailed critical analysis of private enforcement of all legal rules, see Landes & Posner, *supra* note 73, at 1-33.

<sup>76</sup> Landes & Posner, *supra* note 73, at 1-15.

<sup>77</sup> Corporate managers and directors could be jailed for their illegal actions, see *Developments in the Law—Corporate Crime*, *supra* note 2, at 1259-1275, but this comment deals only with holding corporations *qua* corporations criminally liable.

<sup>78</sup> See *supra* notes 36-51 and accompanying text.

<sup>79</sup> Although it is cheaper to meet a "preponderance of the evidence" standard than a "beyond reasonable doubt" standard, using this as a basis for endorsing civil corporate sanctions would render the criminal standard of proof less efficient in all cases—an economically indefensible position. See *infra* notes 84-90 and accompanying text.

<sup>80</sup> See H. PACKER, *supra* note 1, at 361; *Developments in the Law—Corporate Crime*, *supra* note 2, at 1366.

Coffee highlights six potential problems inherent in a strategy of deterring corporate conduct through adverse publicity: the government is a poor propagandist; government publicity may be "drowned out" by the current flood of criticisms of corporations; corporations can mitigate bad press with "counter-publicity"; the effect of adverse publicity from a regulatory violation is dubious; adverse publicity is a "loose-canon," the effect of which is "wholly

tors<sup>81</sup> suggest that criminal convictions may impose "stigmas" on convicted corporations in the form of social distrust. A corporation convicted of a crime may experience reduced sales and lower profits. If criminal labels produced subsequent monetary losses to corporations, the accompanying levies would need to be correspondingly lower than civil levies to avoid overdeterrence.

Society should reflect the additional monetary losses resulting from criminal stigmas in lower levies, thus producing expected costs from violating Group G legal rules equal to the offenses' social costs. The government could use the criminal stigma to save the administrative costs of imposing higher, civil levies. A system of criminal levies, according to this argument, would produce the same level of deterrence as a civil system but would save society part of the cost of administering levies, and thus would be more efficient than a civil system.

The analysis is incomplete, however, without an examination of the costs of such a criminal levy system. To impose efficiency-maximizing expected costs, the government would have to spend additional resources to measure the monetary penalty a criminal stigma would impose on a convicted corporation. A corporation's sales fluctuate in response to countless variables, and the government would have to weed through sales and income data to determine, *ex ante*, a criminal conviction's profit effect. Such a determination would impose a potentially large cost on the criminal system.<sup>82</sup>

Assuming that the resources the government would save in levy administration costs were greater than those it would spend to determine the effect of the stigmas on corporations' profits, the criminal stigma would have decreasing marginal benefits to the government. As courts convicted corporations of criminal offenses, the criminal label would have decreasing and, eventually, no impact on a corporation's future profits. As criminal levies became more common and their profit effect decreased, courts would have to increase levies to maintain the appropriate expected costs to corporations.<sup>83</sup>

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unpredictable"; and several civil liberties issues surround the use of adverse publicity as a sanction. Coffee, "No Soul to Damn: No Body to Kick": An Unscandalized Inquiry Into the Problem of Corporate Punishment, 79 MICH. L. REV. 386, 425-29 (1981).

<sup>81</sup> See, e.g., M. CLINARD & P. YEAGER, CORPORATE CRIME 29-31, 318-322 (1980); Fisse, *The Use of Publicity as a Criminal Sanction Against Business Corporations*, MELB. U. L. REV. 107 (1971).

<sup>82</sup> The government would not have to forecast the profit effect of a conviction for each corporate offense on each corporation until conviction. To avoid the calculation, the government need only to convince potential offenders that the *total* monetary payout, fine and stigma effect, will equal the offenses' social costs escalated by the probability that payouts will occur.

<sup>83</sup> Some commentators "demonstrate" the stigma effect of corporate convictions by hastily drawing inferences from a corporation's activities. For example, two commentators cite

At the point where the criminal label's profit effect was zero the criminal levy would equal the civil levy for a given offense because the initial rationale for imposing a reduced levy—the criminal label's penalty to profits—would no longer exist. According to this analysis, criminal levies for Group G offenses are no more efficient than civil levies, but arguably are no less efficient.

The second major difference between public civil and criminal systems of enforcement is the level of procedural protection each system provides corporate defendants. In particular, the criminal system provides the corporate defendant the procedural advantage that its opponent, the prosecutor, must prove the defendant's guilt beyond a reasonable doubt. The economic argument against the reasonable doubt standard, and thus against criminal levies on corporations charged with violating a legal rule, is premised upon the cost of an erroneous determination of a corporation's responsibility.<sup>84</sup>

In typical criminal cases, where the defendant faces a prison term and/or disparagement of his reputation, the only benefit to society from his conviction is the deterrent effect; there is not a transfer payment such as there is with levies. When a court convicts an innocent defendant of a criminal offense, that is, when it makes an error in determining responsibility, the deterrent effect of the conviction is *negative*:<sup>85</sup> it decreases potential offenders' expected punishment costs by narrowing the gap between the cost of engaging in lawful conduct and of engaging in unlawful conduct.<sup>86</sup>

The net social cost of convicting an innocent defendant is the cost of the sanction to the defendant and the social cost of increased criminal

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the following example: "[S]eeking to avoid conviction for reckless homicide for the Pinto deaths of three girls, Ford Motor Company spent in litigation expenses an estimated one million dollars to escape a possible \$30,000 penalty." According to these commentators, this example proves that, "[a]s with individuals, the social opprobrium attached to a criminal conviction acts as a deterrent for corporations." Spurgeon & Fagan, *supra* note 21, at 426 (footnote omitted). Ford officials, on the other hand, justified the expense in this way: "[C]onviction . . . would doubtless facilitate any civil actions brought against Ford by the victims' relatives;" and, according to a criminal investigator for the prosecutor in the Pinto case, a conviction in the Pinto case would lead to the "next logical step . . . to go after individual executives." *INDUSTRY WEEK*, Feb. 19, 1979, at 24. Thus, it is at least arguable that additional litigation costs that a criminal conviction would produce, and not a stigma from conviction, justified Ford's litigation costs.

<sup>84</sup> See R. POSNER, *supra* note 23, at 430-34.

<sup>85</sup> *Id.* at 434.

<sup>86</sup> Posner provides an example of this effect with regard to vaguely drawn statutes, but the analysis is applicable here: "[I]f the expected punishment cost for people who steal is 10, but people who don't steal face an expected punishment cost of 3 because of the vagueness of the theft statute, the effective expected cost for theft is only 7." *Id.* at 424-25 n.3. If the words, "convictions of innocent defendants" are substituted for "vagueness of the theft statute," the example is apposite.

conduct as a result of the reduced net expected punishment costs. The net social cost of acquitting a guilty defendant is the social cost of an increase in crime from the decrease in the probability of conviction.<sup>87</sup>

Acquitting one guilty defendant in a typical criminal case probably will not produce a significant increase in crime; therefore, several acquittals of guilty defendants are required to equal the social cost of one erroneous conviction.<sup>88</sup> Thus, the requirement of proof beyond a reasonable doubt in cases involving prison terms and/or disparagements of reputation is economically sound.

The costs of an erroneous determination of a corporation's responsibility are different from those involved in typical criminal cases. When a corporation must compensate society for damage it inflicts, society's benefit from a verdict against the corporation equals the amount of compensation. The net social cost of a court's finding against a nonresponsible corporation, the difference between the cost to the defendant—the levy—and the benefit to the government-plaintiff—the levy—is minimal (allowing for transaction costs). The net social cost of a court's finding in favor of a responsible corporation, the difference between the defendant's benefit and the government-plaintiff's loss—again, the levy—is minimal.

Thus, unless an assumption is made with respect to the marginal utility schedules of responsible defendants who escape liability and nonresponsible defendants who incur liability,<sup>89</sup> economics dictates a burden of proof such that of the cases erroneously decided, half will be in favor of nonresponsible defendants and half in favor of responsible defendants. The civil standard that the government-plaintiff prove the defendant's responsibility by a preponderance of the evidence—by a probability incrementally greater than fifty percent—is such a burden of proof.<sup>90</sup> For corporate conduct that does not produce victims who are aware of their injuries, or Group G offenses, government civil, not criminal, proceedings maximize economic efficiency.

Many commentators have also reached the conclusion that the government should not impose criminal sanctions for corporate activity in violation of legal rules by methods of analyses other than efficiency maximization. For example, commentators have argued against criminal levies and proceedings based on: the discord of corporate criminal

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<sup>87</sup> *Id.* at 434.

<sup>88</sup> *Id.*

<sup>89</sup> Because money is often assumed to be a good with decreasing marginal utility—a given individual's first dollar is more valuable to him than his last dollar—the defendant who must pay although innocent arguably experiences a greater loss in his utility than the guilty defendant who escapes liability. *Id.* at 432.

<sup>90</sup> R. POSNER, *supra* note 23, at 432.

liability with the requirements that criminals have intent and knowledge of their actions;<sup>91</sup> the dubious applicability of constitutional protections to corporations;<sup>92</sup> the failure of corporate criminal liability to comport with the consequentialist *and* retributive rationales for criminal sanctions;<sup>93</sup> the ineffectiveness of the criminal stigma as a deterrent to corporate activities;<sup>94</sup> the empirical ineffectiveness of criminal sanctions in deterring corporate conduct, in general;<sup>95</sup> the unfairness of the arbitrary criminal attachment to corporations where the government can pursue either civil or criminal procedures against a corporation;<sup>96</sup> and the unfairness of both criminal and civil liability for the same economic social injury.<sup>97</sup>

## VI. CONCLUSION

An enforcement system maximizes total social welfare when it employs two different mechanisms for two different types of corporate offenses. The private sector should enforce legal rules where the probability that victims will detect corporate violations is close to unity; the public sector should enforce rules where the probability of detection is significantly below unity by means of civil, not criminal, proceedings and levies.

The monetary levies for breaches under both private and public systems should produce expected costs to potential corporate violators equal to the social damage of the offenses. When social damage determines the expected costs to corporations from violating society's legal rules, private and public-civil enforcement of the rules exploits the rational nature of corporate decisions, and minimizes the total social costs of corporate offenses.

JOHN T. BYAM

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<sup>91</sup> See, e.g., NATIONAL COMMISSION ON REFORM OF THE FEDERAL CRIMINAL LAWS, I WORKING PAPERS 184 (1970); Friedman, *supra* note 10, at 173, 180, 184; Mueller, *Mens rea and the Corporation*, 19 U. PITT. L. REV. 21, 23 (1957).

<sup>92</sup> See, e.g., Brosnahan, Miller & Foy, *Corporate Criminal Liability*, 26 PRAC. L. 23, 29-30, 32-35 (1980); Friedman, *supra* note 10, at 188-91, 195-201; *Developments in the Law—Corporate Crime*, *supra* note 2, at 1276-89.

<sup>93</sup> See, e.g., *Developments in the Law—Corporate Crime*, *supra* note 2, at 1236-37, 1262, 1303-06.

<sup>94</sup> See, e.g., H. PACKER, *supra* note 1, at 361; Breit & Elzinga, *Antitrust Penalties and Attitudes Toward Risk: An Economic Analysis*, 86 HARV. L. REV. 693, 697 (1973); Kadish, *Some Observations on the Use of Criminal Sanctions in Enforcing Economic Regulations*, 30 U. CHI. L. REV. 423, 434 (1963).

<sup>95</sup> See, e.g., M. GREEN, *supra* note 24, at 162; Kadish, *supra* note 94, at 435.

<sup>96</sup> See, e.g., *Developments in the Law—Corporate Crime*, *supra* note 2, at 1301-06.

<sup>97</sup> See, e.g., Clark, *Civil and Criminal Penalties and Forfeitures: A Framework for Constitutional Analysis*, 60 MINN. L. REV. 379 (1976); Friedman, *supra* note 10, at 195-97; *Developments in the Law—Corporate Crime*, *supra* note 2, at 1300-51.