

Private Enforcement of Public Policy

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Regulation consists of both formulating policies and designing mechanisms to implement those policies. Much attention has been focused on the desirability and formulation of socially efficient policies.¹ However, proposals for regulatory reform often assume that policies, once designed, will function faultlessly.² In fact, there are often significant obstacles to efficiency in implementing public policy, because government agencies charged with policy implementation do not have the correct economic incentives. Although the social costs and benefits of government programs are greatly affected by the set of rules used to implement them, little attention has been devoted to designing mechanisms to efficiently implement these programs.

The distinction between the efficiency of rules used to implement a policy and the efficiency of the policy itself is illustrated by the "offset policy"³ of the Environmental Protection Agency (EPA)—a system of marketable air pollution rights generally thought to be an economically efficient means to protect the environment.⁴ Under the offset policy, a new

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1. A policy is a social decision to regulate a certain activity. A rule is the method used to implement the policy. In the context of government regulation, an efficient policy maximizes the difference between the social benefits and costs of the policy. An efficient regulation will be defined here as one that attains the social goal established by policymakers and does so at the least cost.

2. One commentator has noted that "policy studies rarely raise, and almost never answer such questions as *who* would have to do *what*, and *when*, and with what foreseeable resistance, modifications, and compromises if alternative A were chosen, or B, or C . . ." Wolf, *A Theory of Nonmarket Failure: Framework for Implementation Analysis*, 22 J.L. & ECON. 107, 132 (1979) (emphasis in original).

3. See Air Quality Standards Interpretive Ruling, 40 C.F.R. § 51, app. S (1985).

4. Although the offset policy does not establish a widespread and robust market in pollution rights, it does represent a limited step in that direction. See Note, *A Remedy for the Victims of Pollution Permit Markets*, 92 YALE L.J. 1022, 1025 n.21 (1983). Many writers have advocated marketable pollution rights as an economically efficient means of environmental protection. See, e.g., B. ACKERMAN, S. ROSE-ACKERMAN, J. SAWYER & D. HENDERSON, *THE UNCERTAIN SEARCH FOR ENVIRONMENTAL QUALITY* 260-81 (1974); W. BAUMOL & W. OATES, *ECONOMICS, ENVIRONMENTAL POLICY, AND THE QUALITY OF LIFE* 250-53 (1979); J. DALES, *POLLUTION, PROPERTY AND PRICES* 93-97 (1968); Hahn & Noll, *Designing a Market for Tradable Emissions Permits*, in *REFORM OF ENVIRONMENTAL REGULATION* 119, 120-23 (W. Magat ed. 1982).

firm wishing to pollute in an area of the country that is not yet in compliance with relevant national ambient air quality standards⁵ is required to obtain an offsetting reduction in emissions from some other source of pollution in the region.⁶ Implementation of the offset policy requires a very detailed set of rules governing the initial allocation of rights, the transfer of such rights, the method for resolving disputes between buyers and sellers of rights, and the techniques for measuring pollution. There is evidence that the implementation of the offset policy by EPA has been far from efficient.⁷ One study found that all but thirty-five of the 1000 offset permits issued in the four years following adoption of the policy were intrafirm offsets, whereby a firm reduced pollution at one of its existing plants in order to increase its emissions at a new facility.⁸ The disappointing results were attributed to such barriers as measurement problems, administrative transaction costs, and comparability of pollutants, geographic location, and timing.⁹

The problems encountered in implementing marketable pollution rights are endemic to all areas of policy implementation because the government agencies charged with developing and enforcing regulations do not have incentives to do so in an economically efficient manner. In addition to choosing efficient policies, therefore, Congress should institute efficient enforcement mechanisms.¹⁰ This article argues that significant social benefits will result from transferring responsibility for implementing public policy from government regulatory agencies to private parties with economic incentives to develop and enforce regulations in an efficient manner.¹¹

Shifting the enforcement of public policy to private enforcement agents will result in efficiency gains for at least three reasons. First, private firms are generally more efficiently operated than public agencies.¹² Second,

5. 42 U.S.C. § 7409 (1982); 40 C.F.R. § 50 (1985).

6. 40 C.F.R. § 51, app. S (1985).

7. See Roberts, *Some Problems of Implementing Marketable Pollution Rights Schemes: The Case of the Clean Air Act*, in REFORM OF ENVIRONMENTAL REGULATION, *supra* note 4, at 93.

8. *Id.* at 98.

9. *Id.* at 97-104. For example, EPA had originally decided that even after receiving state approval, each offset request would have to be approved in normal administrative proceedings, including public hearings. *Id.* at 97.

10. This article does not address the normative issue of whether a given policy *should* be implemented.

11. Others have argued for the privatization of some public services. E. SAVAS, *PRIVATIZING THE PUBLIC SECTOR: HOW TO SHRINK GOVERNMENT* (1982); Savas, *Local Government: Public Versus Private Refuse Collection*, 3 *POL'Y. ANALYSIS* 49 (1977); Spann, *Public vs. Private Provision of Government Services*, in BUDGETS AND BUREAUCRATS: THE SOURCES OF GOVERNMENTAL GROWTH (T. Borchering ed. 1977); Pashigian, *Consequences and Causes of Public Ownership of Urban Transit Facilities*, 84 *J. POL. ECON.* 1239 (1976). These discussions focus on the provision of services rather than on policy implementation.

12. See *infra* note 68.

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Congress is better equipped to choose the correct type of enforcement agent and to endow it with appropriate property rights than it is to choose the correct rules for implementation.¹³ Third, and most important, private enforcement agents, unlike government regulators, will possess ongoing economic interests directly related to the costs and benefits of public policy implementation.¹⁴

This article is organized into four parts. Part I discusses the problems currently encountered in the implementation of public policy by government agencies. Part II details a proposal for shifting the responsibility for implementation of public policy to the private sector, using the examples of automobile safety and pollution control to demonstrate how a system of private enforcement could be structured. Part III discusses the efficiency gains that are likely to result from private enforcement of public policy. Finally, Part IV anticipates and rebuts some of the criticisms which may arise in response to this proposal.

I. Inefficient Implementation by Government Regulators

Economists long ago recognized that government regulators lack incentives to adopt economically efficient regulations.¹⁵ Although there is disagreement about how to model regulators' objectives, few economists believe that social welfare maximization motivates bureaucratic behavior.¹⁶ One theory of bureaucratic behavior is that utility maximization on the part of individual bureaucrats leads to budget maximization rather than to efficient regulation.¹⁷ Budget maximization, or, more precisely,

13. See *infra* notes 34-37 and accompanying text.

14. See *infra* notes 38-44 and accompanying text.

15. See, e.g., G. TULLOCK, *THE POLITICS OF BUREAUCRACY* (1965); A. DOWNS, *INSIDE BUREAUCRACY* (1967). Downs observes that "society cannot insure that it will be served merely by assigning someone to serve it." *Id.* at 87.

16. For critical reviews of the "public interest" theory of government regulation, see R. NOLL, *REFORMING REGULATION* 33-46 (1971); Posner, *Theories of Economic Regulation*, 5 *BELL J. ECON. & MGMT. SCI.* 335 (1974). According to Noll, "the traditional theory of regulation is based on the view that the regulatory process is efficient and perfectible. According to this view, regulatory ineffectiveness arises from various externally imposed difficulties, such as coercion by politicians, improper structure of the agency, a bad legislative mandate, or inadequate means for obtaining information, general political support, and coordination with other agencies." *Id.* at 39. Noll suggests as an alternative that "inherent in the regulatory process is a persistent tendency to make socially undesirable policy, even if the agency is motivated to 'do good' rather than to promote the regulated industry." *Id.* at 40. *But cf.* McFadden, *Revealed Preferences of a Government Bureaucracy: Theory*, 6 *BELL J. ECON.* 401 (1975); McFadden, *Revealed Preferences of a Government Bureaucracy: Empirical Evidence*, 7 *BELL J. ECON.* 55 (1976). Analyzing the freeway routes selected by the California Division of Highways from 1958 to 1966, this study found that the Division of Highways acted as if it attempted to maximize economic net benefits in its selection of routes. However, the study did not address the issue of whether the bureaucracy expended a socially optimal amount of its own resources in selecting the routes—that is, whether a private enforcement agent might have been able to achieve the same selection of routes at a lower cost.

17. See W. NISKANEN, *BUREAUCRACY AND REPRESENTATIVE GOVERNMENT* (1971); Niskanen,

discretionary budget maximization,¹⁸ is the logical goal of a utility maximizing bureaucrat who has some control over information and the bureaucracy's agenda¹⁹ and whose utility depends on both income and the non-pecuniary benefits of the position. Budget maximization holds that the bureaucrat, controlling much of the information about the subject of the regulation, can convince the legislature to approve a budget larger than necessary to achieve the bureaucracy's regulatory goals, thus resulting in an inefficient use of resources. Several reforms have been proposed to overcome this inherent problem, including establishing competing agencies and awarding bureaucrats a share of cost-saving innovations.²⁰ Unfortunately, many of these proposals are of limited applicability or, at least, have not been widely implemented.²¹

A competing theory of regulation holds that government regulators are "political support maximizers."²² The political support maximization theory assumes that regulators wish to maximize support, taking into account both the winners and losers resulting from their actions. Since the regulator has a certain amount of discretion in acting, he or she will act to balance the support gained by a given action against that lost. Thus, for example, the price regulator may decide to set prices that vary across locations or consumer groups, hoping to maximize support by maintaining the highest possible price while at the same time minimizing consumer opposition "by exploiting differences among them in per capita wealth or the

Bureaucrats and Politicians, 18 J.L. & ECON. 617 (1975). Niskanen illustrates the rationality of bureaucratic budget maximization by considering the likely consequences of behaving otherwise:

Consider the probable consequences for a subordinate manager who proves without question that the same output could be produced at, say, one-half the present expenditures. In a profit-seeking firm this manager would probably receive a bonus, a promotion, and an opportunity to find another such economy . . . [I]n a bureau, at best, the manager might receive a citation and a savings bond, a lateral transfer, the enmity of his former colleagues, and the suspicion of his new colleagues.

W. NISKANEN, *supra*, at 38 n.7.

18. See Niskanen, *supra* note 17. Niskanen defines the discretionary budget as the difference between "the maximum budget that would be approved by the government review group . . . [and] the minimum cost of producing the output of the bureau." *Id.* at 619.

19. See, e.g., Romer & Rosenthal, *Bureaucrats vs. Voters: On the Political Economy of Resource Allocation by Direct Democracy*, 93 Q.J. ECON. 143 (1979); Romer & Rosenthal, *Political Resource Allocation, Controlled Agendas, and the Status Quo*, 33 PUB. CHOICE 27 (1978).

20. See W. Niskanen, *supra* note 17, at 195-212.

21. For example, Niskanen proposes that political appointees be permitted to appropriate a portion of any cost savings from the level of expenditures originally budgeted for a program. W. NISKANEN, *supra* note 17, at 201-04. However, this would only work in a competitive environment where other bureaus can compete to provide the service. Otherwise, the government employee could simply overstate the amount required to perform the service in order to maximize the "cost savings." Although he advocates increased competition among bureaus, Niskanen readily admits that regulatory reforms have generally consolidated competing bureaus in an attempt to eliminate duplication. *Id.* at 195-201.

22. See Becker, *A Theory of Competition Among Pressure Groups for Political Influence*, 98 Q.J. ECON. 371 (1983); Peltzman, *Toward a More General Theory of Regulation*, 19 J.L. & ECON. 211 (1976); Stigler, *The Theory of Economic Regulation*, 2 BELL J. ECON. & MGMT. SCI. 3 (1971).

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responsiveness of wealth to taxes . . . or in their voting sensitivity to taxes.”²³ This theory has different implications than the budget maximization model,²⁴ but it also suggests that efficient regulation will be the exception rather than the rule.

Recent empirical analyses illustrate how inefficient implementation can occur, independent of the efficiency or inefficiency of the underlying policy. A study of the Federal Reserve Board, for example, found a positive relation between the size of the monetary base and the size of the Federal Reserve Board as measured by number of employees.²⁵ Since expansionary monetary policy allows the agency to hire additional workers, budget maximization suggests that one motivation for expansionary monetary policy is the growth in the agency’s budget resulting from the increased number of employees.²⁶ If true, this indicates inefficiency in implementing monetary policy, as the Federal Reserve Board will prefer a budget greater than that required to fulfill its regulatory agenda.

Another example of inefficient implementation can be found in the regulations promulgated by the Food and Drug Administration (FDA) in response to the 1962 Amendments to the Food, Drug and Cosmetics Act.²⁷ The Amendments authorized the FDA to require “proof of efficacy” for

23. Peltzman, *supra* note 22, at 219. The political support maximization hypothesis is related to the “capture” theory of regulation. Traditional capture theory holds that regulatory agencies were formed to promote the public interest and were later “captured” by the regulated party. This notion was rejected by George Stigler, who instead postulated that agencies are in fact formed to confer benefits on those who are regulated. Stigler, *supra* note 22. Stigler argues that the bureaucrat will confer benefits on one interest group—that which is most easily organized and which has the most to gain. This has been refined to suggest that there may in fact be more than one winner and one loser resulting from bureaucratic behavior. Peltzman, *supra* note 22, at 219.

One of the unresolved issues of regulatory behavior is whether agencies operate independently of the legislature. Implicit in the budget maximization and political support maximization hypotheses is the regulator’s ability to exercise discretionary authority. However, there is evidence that Congress in fact exerts a significant amount of control over the agency decisionmaking process. See, e.g., Weingast & Moran, *Bureaucratic Discretion or Congressional Control? Regulatory Policymaking by the Federal Trade Commission*, 91 J. POL. ECON. 765 (1983).

24. The different implications of the budget maximization and political support maximization hypotheses are illustrated in Cooter & Topakian, *Political Economy of a Public Corporation: Pricing Objectives of BART*, 13 J. PUB. ECON. 299 (1980). Cooter and Topakian analyzed the pricing decisions of the board of directors of San Francisco’s Bay Area Rapid Transit District (BART). They first hypothesized that BART’s fare structure is chosen to maximize total passenger miles travelled on BART and total farebox collections in order to maximize BART’s budget and size. They then posited alternatively that BART’s managers adjust fares to maximize political support. Cooter and Topakian found that pricing subsidies were a function of trip length, not of the socioeconomic characteristics of the riders, which corresponds to the predictions of the budget maximization hypothesis.

25. Shughart & Tollison, *Preliminary Evidence on the Use of Inputs by the Federal Reserve System*, 73 AM. ECON. REV. 291 (1983).

26. Although they acknowledge that budget maximization does not fully explain historical money supply values, Shughart and Tollison argue that “bureaucratic incentives play a role in the formulation of monetary policy and perhaps explain in part the Fed’s apparent inflationary bias.” *Id.* at 291.

27. Drug Amendments of 1962, Pub. L. 87-781, 76 Stat. 780 (1962) (codified in scattered sections of 21 U.S.C.)

new drugs before they could be marketed to consumers. One study found evidence that the FDA's implementation of the 1962 Amendments resulted in a net loss to society.²⁸ For example, the FDA's rules for testing new drugs and its lengthy review process resulted in delays of up to several years for the introduction of many effective drugs.²⁹ These findings are not surprising given that the FDA has no incentive to determine the socially efficient level of government intervention in the testing process.

The political support maximization theory has been used to model enforcement by the Occupational Safety and Health Administration (OSHA) of its industrial work safety rules. In addition to finding OSHA's health and safety regulations generally inefficient, one study demonstrated that OSHA's enforcement of health and safety regulations favors large, unionized firms at the expense of small, non-unionized firms.³⁰ This may be evidence of over-enforcement against small firms, under-enforcement against large firms, or both. In any case, this apparent political support maximization is inconsistent with efficient implementation of public policy by regulators considering only the social costs and benefits of enforcing regulations.

There is also evidence that government bureaucracies are often unable to monitor adequately compliance with their own regulations. For example, a recent study by a subcommittee of the House Committee on Energy and Commerce found that EPA's monitoring of hazardous waste dump sites is "inaccurate, incomplete, and unreliable."³¹ The study found that although twenty-five percent of the sites had inadequate wells more than three years after they should have been in compliance with EPA regulations,³² EPA in over half the cases either had taken no action or had only sent informal warnings.³³

28. See Peltzman, *An Evaluation of Consumer Protection Legislation: The 1962 Drug Amendments*, 81 J. POL. ECON. 1049 (1973).

29. See W. WARDELL & L. LASAGNA, *REGULATION AND DRUG DEVELOPMENT* 55-107 (1975) (discussing the effect on the drug market of the FDA's implementation of the 1962 Amendments).

30. Bartel & Thomas, *Direct and Indirect Effects of Regulation: A New Look at OSHA's Impact*, 28 J.L. & ECON. 1 (1985).

31. SUBCOMM. ON OVERSIGHT AND INVESTIGATIONS OF HOUSE COMM. ON ENERGY AND COMMERCE, 99TH CONG., 1ST SESS., *GROUNDWATER MONITORING SURVEY 1* (Comm. Print 1985).

32. *Id.* at 2.

33. *Id.* at 3. See also Atkinson, *Tainted Ground Water Indicated at 559 Dumps*, Wash. Post, Apr. 29, 1985, at A4, col. 5. There is growing interest in the extent to which agencies use their discretion in deciding how much enforcement they will undertake. See, e.g., Epple & Visscher, *Environmental Pollution: Modeling Occurrence, Detection and Deterrence*, 27 J.L. & ECON. 29 (1984); Shapiro, *Administrative Discretion: The Next Stage*, 92 YALE L.J. 1487 (1983).

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II. A Proposal for Private Enforcement

The budget maximization and political support maximization hypotheses argue that under the present regulatory system, government regulators lack economic incentives to adopt efficient regulations. However, the means may exist to create the correct incentives for efficient policy implementation. This section outlines the theoretical basis for proposing that the responsibility for enforcing public policy be shifted to the private sector and provides two examples of how such a program might be implemented.

A. *Evolution of Efficient Regulations*

Ronald Coase argued in his seminal article that, assuming the absence of transaction costs, parties with property rights in valuable resources will allocate these resources efficiently among themselves.³⁴ According to Coase, rules concerning the initial allocation of property rights do not matter because parties will have incentives to trade until an efficient allocation is reached.³⁵ No outside interference is required to enforce this result as long as the property rights can be clearly defined so that parties will have a base from which to bargain.³⁶

34. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960).

35. While the initial allocation of property rights will not affect the efficiency of outcomes where there are no transaction costs, the Coase theorem will have distributional effects. To use the example provided in note 36, *infra*, a farmer possessing a property right in crop safety will be better off than if a property right in the ability to emit sparks were granted initially to the railroad.

36. As an example of the likely operation of the Coase theorem in a world of low transaction costs, consider the discussion in R. POSNER, *ECONOMIC ANALYSIS OF LAW* (2d ed. 1977) of the example involving a railroad whose trains emit sparks and a farmer whose land is subject to fire damage from the sparks:

Suppose that the right to emit sparks, by enabling the railroad to dispense with costly spark-arresting equipment, would increase the value of its property by \$100 but reduce the value of the farmer's property by \$50 because it would prevent him from growing crops close to the tracks. If the farmer has a legal right to be free from engine sparks, the railroad presumably will offer to pay, and the farmer will accept, compensation for the surrender of his right. Since the right to prevent spark emissions is worth only \$50 to the farmer but imposes costs on the railroad of \$100, a sale of the farmer's right at any price between \$50 and \$100 will make both parties better off. If instead of the farmer's having a right to be free from sparks the railroad has a legal right to emit sparks, no transaction will occur. The farmer will not pay more than \$50 for the railroad's right and the railroad will not accept less than \$100. Thus, whichever way the legal right is assigned, the result, in terms of resource use, is the same: the railroad emits sparks and the farmer moves his crops.

The principle is not affected by reversing the numbers. Assume that the right to emit sparks would increase the value of the railroad's property by only \$50 but would reduce the value of the farmer's property by \$100. If the railroad has a right to emit sparks, the farmer will offer to pay and the railroad will accept some price between \$50 and \$100 for the surrender of the railroad's right. If instead the farmer has a right to be free from emissions, there will be no transaction since the farmer will insist on a minimum payment of \$100 while the railroad will pay no more than \$50.

Whatever the relative values of the competing uses, it seems that the initial assignment of legal rights does not determine which use ultimately prevails. The efficient value-maximizing

The Coase theorem implies that less direct government regulation is needed than had been previously thought. That is, a redefinition of property rights may solve some externality problems without requiring regulatory intervention in the marketplace.³⁷ The major problem in applying the Coase theorem to actual policy decisions is that it assumes the absence of transaction costs. When transaction costs are present, the initial allocation of property rights is often determinative of the outcome, and therefore government regulatory intervention beyond the mere definition of property rights may be necessary.

In such circumstances, Congress' traditional response has been to create a regulatory body endowed with the right to enjoin activities, assess fines, or impose criminal sanctions—that is, to allocate property rights directly. This traditional approach, however, does not necessarily promote efficient outcomes. The concentration of enforcement authority in a single body permits the reallocation of a property right (in clean air, for example) where such reallocation could promote social welfare but would not otherwise be achieved because of high transaction costs. Unfortunately, there is no reason to believe that the allocation chosen will be socially optimal, because government enforcers lack incentives to regulate efficiently.

Evolutionary theories of law suggest an alternative to regulation by government administrative agencies.³⁸ The evolutionary argument suggests that efficient laws will develop if the parties to disputes are chosen correctly. In particular, if two opposing parties have ongoing economic interests in the type of case being contested, and if they have the same

accommodation of the conflict will be adopted whichever party is granted the legal right to exclude interference by the other.

Id. at 34-35 (footnote omitted).

37. *See id.* at 271.

38. In general, evolutionary models of law have focused on common law, suggesting that the observed efficiency of common law results from the evolutionary effect of the tendency of inefficient common law precedents to be litigated and overturned more frequently than efficient precedents. Landes & Posner, *Adjudication as a Private Good*, 8 J. LEGAL STUD. 235, 259 (1979); Priest, *The Common Law Processes and the Selection of Efficient Rules*, 6 J. LEGAL STUD. 65, 66 (1977); Rubin, *Why is the Common Law Efficient?*, 6 J. LEGAL STUD. 51 (1977). In all of these models, common law is driven to efficiency "by the decisions of litigants, and efficiency is achieved if and only if litigants represent the set of future potential parties to disputes involving the rule under consideration." Rubin, *Common Law and Statute Law*, 11 J. LEGAL STUD. 205, 206 (1982).

Whereas Posner and others seem to believe that evolutionary theories apply only to common law, Gordon Tullock has argued that special interest groups and their spending on lobbying for or against statutes are analogues of litigants and their spending on litigation to attack or defend a common law rule. G. TULLOCK, *TRIALS ON TRIAL: THE PURE THEORY OF LEGAL PROCEDURE* (1980). Thus, if spending on litigation drives the common law toward efficiency, spending on lobbying should drive statute law toward efficiency as well. *Id.* at 198. In previous works, one author of this article hypothesized that the failure of statute law to evolve efficiently results from the fact that the wrong types of participants are involved in the development of statute law and related rules. *See Common Law and Statute Law, supra*, at 211. *See generally* P. RUBIN, *BUSINESS FIRMS AND THE COMMON LAW* (1983). This article proposes a system of statutory and regulatory development in which the parties will be endowed with the correct interests.

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stakes in the case that future disputants are likely to have, then there will be pressure on both parties to develop efficiency-promoting rules to resolve their disputes.³⁹ Conversely, if both parties to a dispute have an interest only in the case at hand, but no ongoing interest in similar cases, there will be no pressure for efficiency.⁴⁰

Government enforcement agents have ongoing interests in enforcing public policy, but these interests are not necessarily related to the economic costs and benefits of enforcement. For example, when Congress decides on a goal of reducing traffic deaths, the National Highway Traffic Safety Administration (NHTSA) will not necessarily seek the least expensive means to enforce Congress' policy. On an institutional level it matters little to NHTSA that one method may save lives at a cost of \$1 million per life saved and another at a cost of \$10 million per life saved. If choosing the more expensive method will require substantial monitoring efforts and hence be budget maximizing, or will aid some of the agency's constituent groups and hence be political support maximizing, the agency has incentives not to choose the socially efficient method of regulation.⁴¹ Only if the enforcement agency's compensation depends on the net social benefits of its action can we expect efficient rules to develop.

39. This occurs because inefficient rules are more likely to be litigated until overturned, and efficient rules are less likely to be challenged. Rubin, *Why is the Common Law Efficient?*, *supra* note 38, at 53. For example, where two insurance companies confront each other in an automobile accident case, the prerequisites for efficient evolution of law exist. There is indirect evidence that the set of rules which has evolved in such cases is efficient. Landes, *Insurance, Liability, and Accidents: A Theoretical and Empirical Investigation of the Effect of No-Fault Accidents*, 25 J.L. & ECON. 49 (1982). Landes finds that states with no-fault insurance have higher accident rates and numbers of claims. Thus, the best alternative to the common law solution to accident liability is less efficient than the common law. See also P. RUBIN, *supra* note 38, at 5-7.

40. If one party does have an ongoing interest in the type of case under dispute and the other party has no such interest, there will be pressure for the law to evolve so as to favor the party with the continuing interest, independent of the efficiency of this outcome. Rubin, *Why is the Common Law Efficient?*, *supra* note 38, at 55-56.

41. In recognition of this problem, President Reagan's Executive Order No. 12,291 established procedures requiring that regulatory agencies consider the costs and benefits of every proposed rule. The Order provided that—to the extent permitted by law—“[r]egulatory actions shall not be undertaken unless the potential benefits to society for the regulation outweigh the potential costs to society.” Exec. Order No. 12,291, § 2(b), 3 C.F.R. 128 (1982), supplemented by Exec. Order No. 12,498, 50 Fed. Reg. 1036 (1985). Executive Order No. 12,291 also gives the Office of Management and Budget (OMB) the authority to review cost-benefit analyses conducted by regulatory agencies. *Id.* at § 3, 6.

Executive Order 12,291 sought to make rules more efficient by adding a layer of independent government oversight. It could not, however, duplicate the incentives and discipline of the market and thus cannot ensure that agencies will conduct cost-benefit analyses correctly. First, the OMB staff is very small in comparison to the regulatory agencies. Second, because the agencies control to some extent the flow of information to OMB, they can reduce the accuracy of OMB's oversight. Third, although OMB and the agencies do not share the same incentives (for example, an agency's desire to maximize its budget is likely to carry little weight at OMB), OMB is itself a bureaucracy; it thus does not necessarily have the proper incentives to regulate efficiently, and its oversight may in part be based on political rather than economic considerations. For a discussion of Executive Order No. 12,291, see *Cost-Benefit Analysis and Agency Decision-Making: An Analysis of Executive Order No. 12,291*, 23 ARIZ. L. REV. 1195 (1981).

Related to the problem posed by the lack of bureaucratic incentives for efficient policy implementation is the problem engendered by the policy-makers' relatively high monitoring costs. Suppose Congress decides to forbid pollution. The polluter has no economic incentive to cease polluting unless the enforcement agent monitors and penalizes the emission of pollutants. The government enforcement agency, however, may lack the incentive to monitor the firm effectively. Congress must therefore monitor the government enforcement agency through oversight and appropriations hearings to ensure that the agency is carrying out its congressional mandate.⁴² If, however, Congress were to create private enforcement agents whose economic interests were directly related to the social costs and benefits of their actions, the goals of the policy would be "privately enforceable." An institution will be said to be privately enforceable when it includes mechanisms that make it in the self-interest of enforcement agents to perform according to the desires of the policymaker. That is, the enforcer's costs and benefits parallel society's costs and benefits, so that by maximizing its own self-interest, the enforcer will also maximize the interest of the policymaker. Since the enforcement agent, in maximizing its own self-interest also maximizes the interest of the government, there is little need for the government to monitor the enforcement agent's performance directly.⁴³

Under our current regulatory system, government enforcement agents have ongoing interests in public policy enforcement, a prerequisite for the evolution of efficient rules governing implementation. These interests, however, are not necessarily related to the costs and benefits associated with implementing policies. Efficiency gains can be realized by creating private enforcement agents endowed with a property right in the enforcement of public policy. Under this proposal for private enforcement, these agents would have ongoing economic interests directly related to the costs and benefits of implementation of public policy, thus permitting the evolution of efficient rules governing regulatory policy implementation. The remainder of this section describes two possible applications of this proposal for private enforcement of public policy.⁴⁴

42. See generally L. DODD & R. SCHOTT, CONGRESS AND THE ADMINISTRATIVE STATE (1979); and B. ROSEN, HOLDING GOVERNMENT BUREAUCRACIES ACCOUNTABLE 31-135 (1982).

43. Indirect monitoring of aggregate statistics will, however, be required. See *infra* notes 75-81 and accompanying text.

44. Several other possible examples of how this proposed system of private enforcement of public policy might be applied are discussed in an earlier version of this article. Cohen & Rubin, *Enforcing Government Policy: The Evolution of Efficient Regulation* (Working Paper No. 131, Bureau of Economics, Federal Trade Commission).

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B. *Automobile Safety*

The National Traffic and Motor Vehicle Safety Act of 1966⁴⁵ sets forth a policy whereby new automobiles are to be manufactured “to reduce accidents and deaths and injuries to persons resulting from traffic accidents.”⁴⁶ The Act requires the Secretary of Transportation to issue motor vehicle safety performance standards consistent with this goal. The Secretary must take into account relevant motor vehicle safety research data and consider whether the standard is “reasonable, practicable and appropriate.”⁴⁷

NHTSA currently implements this policy by requiring new automobiles to be manufactured in compliance with various safety standards. Although NHTSA considers the costs and benefits of mandating new safety standards,⁴⁸ there is no mechanism to ensure that this analysis is done correctly. For example, in the case of air bags,⁴⁹ NHTSA’s analysis failed to take into account the private demand for safety, the fact that drivers forced to buy air bags may reduce their demand for other forms of safety. For example, if drivers use less care in driving as a result of mandated safety, an increase in deaths and injuries to other drivers will result.⁵⁰ A traditional response to this problem would be a call for government regulators to be more careful in doing their cost-benefit analysis.⁵¹ Unfortunately, even if the cost-benefit analysis is done correctly, there is no guarantee that the efficient solution will be chosen and implemented by

45. Pub. L. No. 89-563, 80 Stat. 718 (codified as amended at 15 U.S.C. §§ 1381-1431 (1982)).

46. *Id.* at § 1381.

47. *Id.* at § 1392(f).

48. The National Traffic and Motor Vehicle Safety Act of 1966 requires the issuance of performance standards rather than specific equipment-based standards. There is no provision for a cost-benefit analysis. However, NHTSA has conducted economic analyses of proposed safety standards since the early 1970’s. NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION, BENEFIT AND COST ANALYSIS OF METHODOLOGY (1972). See Nash, *Passive Restraints: A Regulator’s View*, in THE SCIENTIFIC BASIS OF HEALTH AND SAFETY REGULATION 53 (1981).

49. NHTSA first imposed an automatic crash protection standard in 1977. The standard requires that front-seat occupants must be automatically protected in frontal collisions at speeds up to thirty miles per hour. Federal Motor Vehicle Safety Standard; Occupant Restraint Systems, 42 Fed. Reg. 34,289-305 (1977). Although manufacturers are free to use any system to achieve compliance with the NHTSA performance standard, air bags have emerged as a leading alternative. The deadline for full compliance with these performance standards has been extended to September 1, 1989, and compliance will not be required if two-thirds of the population are covered by mandatory seat belt use laws by that date. 49 C.F.R. § 571.208 (1984).

50. Blomquist & Peltzman, *Passive Restraints: An Economist’s View*, in THE SCIENTIFIC BASIS OF HEALTH AND SAFETY REGULATION, *supra* note 48, at 41-42.

51. This is one suggestion offered by Blomquist & Peltzman, *id.* at 51. They also suggest the adoption of financial incentives for safe driving. *Id.* We have ignored these suggestions for the purposes of the following example. However, even if the policy advocated by Blomquist and Peltzman were shown to be superior to a policy directed toward automobile manufacturers, the government’s role should nevertheless be limited to determining the values to be placed on reduced injuries and deaths. A private enforcement agent could best determine the structure of financial incentives and rules needed to implement such a program efficiently.

government regulators. No mechanism penalizes the government regulator for wrong or inefficient decisions. In contrast, a program of private enforcement of government policies would attempt to use the discipline of the market to ensure efficient regulatory decisions.

Under a system of private enforcement of public policy, the roles of Congress and NHTSA in auto safety would be completely revamped. Congress would simply place a dollar value on the social costs of traffic injuries and deaths.⁵² NHTSA would determine the current mortality and morbidity rates caused by automobile accidents, controlling for such variables as number of miles driven and average age of driver, but could not promulgate or enforce safety standards. Finally, the government would auction off the right to enforce automobile safety regulations to an enforcement agent in the private sector. Under this scheme, the government would pay the high bidder in the auction an amount equal to the social benefit of any reduction of traffic injuries and deaths from the baseline⁵³ level due to the agent's enforcement efforts and would collect from it correspondingly for any increase. The government's role is to establish the baseline level of injuries and deaths and the social value per life and per injury, to collect aggregate statistics, and to make payments to, or receive payments from, the enforcement agent. The government could not enforce regulations itself nor compel the enforcer to do so.

The private enforcement agent would have the freedom to accept any level of compliance from automobile manufacturers with the baseline standard of accidents or deaths. It would have the power to take any automobile manufacturer to court to ensure compliance with the current safety standards, just as NHTSA currently can,⁵⁴ but the private enforcer could not force manufacturers to go beyond current safety standards. If the enforcement agent believes that some new safety standard will generate payments that exceed the total social cost of achieving the standard, it will be in the enforcer's own interest to pay automobile manufacturers to abide by the standard. Similarly, if the enforcer offers an amount greater than the manufacturers' own costs of satisfying the standard, it will be in the

52. For a survey of the literature addressing the problem of placing economic values on life and safety, see M. JONES-LEE, *THE VALUE OF LIFE* (1976). Studies have estimated the value of life as ranging from \$500,000 to \$4,000,000. W. Viscusi, *RISK BY CHOICE: REGULATING HEALTH AND SAFETY IN THE WORKPLACE* 101 (1983).

53. For the purposes of this example, the baseline level of safety is defined as the level of safety mandated by regulations in place at the time the private enforcement agent is created. However, there is no logical requirement that the baseline be set at the current level of safety; it might alternatively be set above or below the current level. The choice of the baseline will determine the property right held by the enforcement agent and thus will have distributional consequences. See *supra* note 35.

54. NHTSA's authority to enforce its automobile safety regulations is codified at 49 U.S.C. § 105(c) (1982).

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manufacturers' own interests to agree to comply with the standard.⁵⁵ Under this private enforcement program, the enforcer and automobile manufacturer would find it in their mutual interest to agree to achieve a safety level different from the baseline or to install a new safety device if it is socially efficient to do so. There would be no need for the enforcement agent to command the automobile manufacturer to improve safety.

To illustrate how this enforcement scheme would work, consider the problem of an enforcement agent that must decide whether to propose adoption of a newly developed safety device. Let p be the dollar value the government has decided to pay per life saved. Suppose that there are currently A_0 accidents that cause fatalities but that the new device would reduce fatalities to A_1 . Finally, suppose that the device would cost automobile manufacturers C_1 to install and would cost the enforcement agent M_1 to ensure it is installed as agreed upon by the parties. The enforcement agent's expected net income, I_1 , from implementing this proposal would be:

$$p(A_0 - A_1) - M_1 - C_1 = I_1$$

- p = price per life saved
- A_0 = current accident level
- A_1 = accident level with new device
- M_1 = monitoring cost
- C_1 = installation cost
- I_1 = enforcer's net income.

That is, if the enforcement agent could convince automobile manufacturers to incorporate the new safety device, it would expect to receive a

55. In this simple example, all automobile manufacturers were assumed to be identical. It is quite likely, however, that manufacturers differ in their propensity to produce safe cars. It is not just that some auto makers are better than others at producing safe cars. Automobiles are composite goods with various attributes such as performance, comfort, safety, and fuel economy. Technological and economic constraints are such that these attributes often must be traded off. See Lave, *Conflicting Objectives in Regulating the Automobile*, SCIENCE, May 22, 1981, at 893.

Firms that have a comparative advantage in producing safe automobiles may be paid to provide a greater level of safety than those that are less efficient in producing safety. An automobile manufacturer that is asked to provide more than the baseline amount of safety will be fully compensated by the enforcement agent. Since it is socially beneficial to have this company increase its safety expenditures, the payment from the government to the enforcement agent for reduced fatalities due to this company's increased safety will more than offset the cost of the additional safety related expenditures.

Conversely, a firm whose cost of obtaining the current level of safety exceeds the social benefit of obtaining that level may desire to reduce its safety level. That firm will have to pay the enforcement agent an amount equal to the reduced social benefits. Because the social benefit is less than the firm's cost savings, this automobile manufacturer will be able to stop producing that socially inefficient level of safety and compensate the enforcement agent for its reduced revenue. It is in the interest of the enforcement agent to accept this proposed change. Although the enforcement agent will have to pay the government (or receive less compensation from the government for its other safety enhancing activities) an amount equal to the social cost of the decrease in safety, the enforcement agent will receive an amount at least as large as this from the automobile manufacturer.

payment from the government equal to the social benefit of the reduced fatality rate, $p(A_0 - A_1)$. This incremental income would be offset by the added administrative expenses the enforcer would incur in monitoring compliance, M_1 , and the cost of persuading automobile manufacturers to adopt the device, C_1 .⁵⁶

Given the above notation, a proposed safety device is socially beneficial if $I_1 > 0$; that is, if the expected social benefit of the reduction in fatalities less the monitoring cost exceeds the cost of obtaining that reduced fatality rate. The incentives created by this enforcement scheme are such that if the device is socially beneficial, the private enforcer will be able to pay automobile manufacturers enough to secure the voluntary installation of the new safety device. However, if a device is socially inefficient (that is, $I_1 < 0$), then the increment to the enforcer's income resulting from the potential saving of lives, $p(A_0 - A_1)$, will be less than the incremental cost of the new safety device, C_1 , plus the cost of monitoring compliance, M_1 , and the enforcer will be unable to offer automobile manufacturers enough money to induce them to install the new device.

As another example, suppose some current safety standard is socially inefficient. A government enforcer might have little incentive to drop this inefficient standard. However, under a system of private enforcement, regulated industries will "bribe" the enforcement agent not to enforce inefficient standards. The automobile manufacturers would be willing to pay an amount up to the cost of the currently mandated safety device, C_2 , in order to avoid compliance with the standard. If the enforcement agent were to stop enforcing a standard and traffic deaths were to rise concomitantly from A_0 to A_2 , the enforcement agent would lose $p(A_2 - A_0)$. Since there would be one less standard to enforce, the enforcement agent could eliminate that portion of its monitoring of automobile manufacturers that is devoted to ensuring compliance with that safety standard; this would result in a savings to the enforcement agent of M_2 . Thus, the net income realized by the enforcement agent if it permits this relaxation of safety is:

56. C_1 is the *minimum* cost of persuading automobile manufacturers to install the new device. Automobile manufacturers will likely be able to command some return on their investment in automobile safety and thus receive some payment greater than C_1 . Accordingly, the enforcer's expected income will actually be less than I_1 . I_1 should thus be thought of as the expected income that is available to be divided between automobile manufacturers and the enforcement agent.

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$$C_2 + M_2 - p(A_2 - A_0) = I_2$$

C_2 = installation cost

M_2 = monitoring cost

p = price per life saved

A_2 = accident level without enforcement

A_0 = current accident level

I_2 = enforcer's net income.

In order for the enforcer to be willing to relax safety standards, the increment to its income, I_2 , must be greater than zero. Note, however, that where a device is socially inefficient, I_2 —by definition—will be greater than zero, and the agent will not enforce the standard.⁵⁷ Conversely, the enforcement agent will not relax a socially efficient standard, because such non-enforcement will reduce its net income. The enforcement agent's profit thus reflects the social net benefit of its enforcement decisions, and the agent will have the proper incentives to regulate efficiently.⁵⁸

C. Pollution Control

Proposed alternatives to the current regulatory approach to limiting environmental pollution have included emission fees⁵⁹ and marketable pollution rights.⁶⁰ Such proposals have generally focused on the relative merits of these policies as alternatives to current regulatory efforts,⁶¹ and little attention has been paid to the optimal form of enforcement of these

57. A standard is socially inefficient if the value of the lives saved by using the device, $p(A_2 - A_0)$, is less than the cost to manufacturers of compliance with the standard plus the cost to the enforcer of monitoring compliance; that is, $p(A_2 - A_0) < C_2 + M_2$. Rearranging the terms, where a standard is socially inefficient, $C_2 + M_2 + p(A_0 - A_2)$ will be greater than zero.

58. It is important to distinguish this proposal from a system in which the government deals directly with the regulated industry. For example, one could have proposed that Congress directly compensate automobile manufacturers for reduced fatalities. However, since there are many automobile manufacturers, it would be difficult to allocate properly the payments to those responsible for the reduced fatalities. Alternatively, one could also have proposed that NHTSA implement this policy by offering to pay any auto maker p dollars per expected life saved as a result of any safety device installed. The problem with this approach is that there is no guarantee that the government enforcer will evaluate the proposed safety device from the perspective of social cost-benefit criteria. For example, a budget maximizing bureaucrat may require an enormous (and inefficient) amount of test data, since he would have to hire additional technical staff to evaluate each proposed safety device. On the other hand, the private enforcer would only require additional tests if it is socially efficient to do so, since its compensation depends on net social benefits.

It might be argued that this proposal could be replicated with public officials by "relabeling" the private enforcer a "public" official. However, this public official would not look like the public servants we know today. For example, the enforcer would not be constrained by civil service protections and administrative procedures. Thus, he would be a "public" enforcer in name only.

59. See W. BAUMOL & W. OATES, *supra* note 4, at 246-50, 255-67; A. KNEESE & B. BOWER, *MANAGING WATER QUALITY: ECONOMICS, TECHNOLOGY, INSTITUTIONS* 131-72 (1968).

60. See *supra* notes 3-7 and accompanying text.

61. See, e.g., W. BAUMOL & W. OATES, *THE THEORY OF ENVIRONMENTAL POLICY* 172-190 (1975) (evaluation of the merits of taxes and subsidies as alternative methods of regulating externalities).

market-based policies.⁶² Under a conventional, government-enforced emission fee scheme, a government regulatory agency monitors polluters and collects a tax or a fee from each based on a variable schedule, derived from estimates of the social cost of emissions. Suppose instead that the government sells the right to collect emission fees to a private enforcement agent. This enforcement agent would be endowed with an appropriate economic interest in collecting taxes. Since bidding for the right to collect taxes is competitive, the contract will go to the firm that is able to pay the largest amount, collect the fines, and still earn a profit. Assuming competitive bidding by expected profit maximizing firms, this will be by definition the firm that is able to monitor and collect emission fees in the least costly manner. Moreover, there will be additional benefits due to the evolution of efficient rules used to implement this emission fee scheme.

Under a private enforcement scheme, the enforcement agent would have the right to collect a fee from each polluter based on the polluter's level of emissions. As in the automobile safety example, the government would pay the enforcer an amount equal to the social value of any reduction in pollution from the baseline level of pollution,⁶³ and the enforcer would likewise pay the government an amount equal to the social cost of any increase in pollution emitted above the baseline level.⁶⁴ For a given level

62. The economics literature on pollution control has not generally focused on monitoring and enforcement of environmental regulation. *But see* Epple & Visscher, *supra* note 33 (estimating a model of firm behavior in the case of oil transport vessels); Harford, *Firm Behavior Under Imperfectly Enforceable Pollution Standards and Taxes*, 5 J. ENVTL. ECON. & MGMT. 26 (1978) (examining the problem of a firm subject to imperfect monitoring); Cohen, *The Costs and Benefits of Oil Spill Prevention and Enforcement*, J. ENVTL. ECON. & MGMT. (forthcoming) (estimating the costs and benefits of Coast Guard enforcement of oil spill regulations). Roland McKean has noted the difficulty of enforcing environmental and safety regulations and urges policymakers to take into account enforcement costs and the fact that firms may devote resources to avoid detection. He also cautions that the incentives of enforcement agencies will vary a great deal from case to case. McKean, *Enforcement Costs in Environmental and Safety Regulation*, 6 POL'Y ANALYSIS 269 (1980). For a formalized treatment of some of these ideas, see Lee, *The Economics of Enforcing Pollution Taxation*, 11 J. ENVTL. ECON. & MGMT. 147 (1984); Lee, *Monitoring and Budget Maximization in the Control of Pollution*, 21 ECON. INQUIRY 565 (1983).

63. As in the automobile safety example, the baseline level of pollution is assumed for the purposes of this example to be the level prevailing at the time the private enforcement agent is created. *See supra* note 53. However, Congress may exercise its discretion in choosing an appropriate baseline level of pollution. The baseline level, while not a property right in the sense that the baseline level of automobile safety is (because the enforcer cannot command compliance with it), will determine the size and direction of payments made between the government and the enforcement agent.

64. This system of transfer payments between the government and the enforcer is necessary to preserve the enforcer's economic interest in achieving the socially optimal level of pollution. Without these transfers, the enforcer's interests would be skewed toward preferring too much pollution. Suppose that the enforcer were simply given the right to collect fines in the amount of \$1000 per unit of pollution but was not compensated for abatement. Suppose also that a polluter can abate at a cost of \$500 per unit of pollution. While it is clearly efficient for the polluter to abate, the enforcer and polluter will have an incentive to collude. For example, if the polluter ordinarily emits ten units of pollution but is driven to eliminate all emissions by the threat of a \$10,000 fine, it would expend a total of \$5000 for abatement. The enforcer, on the other hand, would collect no fines and might incur

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of monitoring, the enforcer's total revenues would remain constant, regardless of the amount of pollution emitted, at an amount equal to the baseline level of pollution multiplied by the tax imposed per unit of pollution. Its profits will thus be determined by the cost-effectiveness with which it monitors individual polluters.⁶⁵

As noted above, the enforcement agent under this scenario will be indifferent to the ultimate level of pollutants emitted. Polluters, however, will not be. Because a polluter will be required to pay a fee for each unit of pollution detected, it will have economic incentives to adjust pollution to the point where the social cost of reducing pollution, as measured by the cost of abatement plus the monitoring cost required to produce such abatement, exactly equals the social benefit of that reduced pollution, as reflected in the per-unit tax on pollution. Under a system of private enforcement, where t is the per-unit emission fee, P is the level of pollutants detected by the enforcer, B is the baseline level of pollution, and C is the per-unit cost of abating pollution, the polluter's total cost is equal to:

$$t(P) + C(B - P)$$

t = per-unit tax on pollution

P = level of pollution detected by enforcer

C = per-unit cost of abating pollution

B = baseline level of pollution.

The enforcement agent will not be able to mandate a certain level of pollution; each polluter will determine its own level based on its marginal cost of abatement. Exclusive of the amount bid in order to become the enforcement agent, the enforcer's net income is:

$$t(P) + t(B - P) - M = t(B) - M = I$$

t = per-unit tax on pollution

P = level of pollution detected by enforcer

B = baseline level of pollution

M = monitoring cost

I = enforcer's net income.

The enforcer's income will equal the tax collected as a result of its monitoring and enforcement efforts, $t(P)$, plus a payment to or from the

significant monitoring costs. Given such a potential outcome, both parties could profit by not enforcing the scheme—the polluter by not abating and thus incurring the \$10,000 fine, and the enforcer by not monitoring and at the same time paying the polluter something over \$5000, thus making it cheaper for the polluter to pollute than to abate.

65. For simplicity, we have assumed the firm is unable to devote resources to avoid detection of the pollution. Although this may be a reasonable assumption for some polluters, even if avoiding detection is possible, it does not change the nature of the argument. For a formal analysis that takes into account a firm's ability to devote resources to avoid detection, see Lee, *The Economics of Enforcing Pollution Taxation*, *supra* note 62, at 154-58.

government based on amount of pollution abated, $t(B - P)$, minus monitoring and enforcement costs, M . If P is lower than B , the enforcer will be entitled to a payment from the government. If, however, P is higher than B , the enforcer must pay the government for the cost of the increased pollution.

Enforcement of such an emission fee scheme is socially efficient if the value of abatement achieved, $t(B - P)$, less the monitoring costs necessary to bring about such a reduction in pollution, M , is greater than the cost of achieving the reduction, $C(B - P)$. Although a polluter would be willing to offer up to $t(P) + C(B - P)$ to the enforcer not to enforce the fee scheme, this amount will be less than the enforcer's net income, I , when it is socially efficient to reduce pollution by $(B - P)$.⁶⁶

The cost and effectiveness of the enforcer's monitoring methods determine its profits. Thus, the enforcer will have an incentive to develop efficient monitoring devices—that is, to engage in monitoring only up to the point where the marginal cost of monitoring is equal to the marginal benefit of the fines collected. More important, rules will develop such that the socially optimal level of pollution will actually be achieved.

To illustrate the dynamic process whereby private enforcement will lead to efficient enforcement of public policy, suppose that the enforcer's current monitoring technique involves taking readings of polluters' emissions once a week. Suppose also that the polluting firm is able to adjust its pollution daily, thus reducing its emission fees—at the expense of the enforcer—by depressing emissions on days when the monitor is present. Finally, suppose that the enforcement agent is considering adoption of a new monitoring technique which would monitor emissions daily. The initial effect of this new and more accurate daily monitor will be to increase the pollution observed, thus raising the polluter's fees. The polluter will respond by increasing tax payments, reducing pollution, or both, any of which raise the agent's revenues. The enforcer will seek to implement the daily monitor if the sum of the additional fees and the increased government compensation is greater than the increase in cost to the enforcer of the daily monitor.

66. The polluter will be unwilling or unable to offer the enforcer enough compensation to abandon enforcement where

$$t(P) + C(B - P) < t(P) + t(B - P) - M$$

or, by cancelling terms, where

$$C(B - P) < t(B - P) - M.$$

If enforcement of this level of abatement is socially beneficial, $C(B - P)$ by definition will be less than $t(B - P) - M$.

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Using the above notation, let P_w be the level of pollution currently detected using the weekly monitor, let P_c be the level of pollution currently being emitted which could be detected with the daily monitor, and let P_d be the level of pollution which would actually be detected using the daily monitor, given that polluters may increase abatement in response to implementation of the daily monitor. In addition, let M_w be the monitoring cost associated with the weekly monitor and let M_d be the monitoring cost associated with the daily monitor. Adoption of the daily monitor will be attractive to the enforcement agent if:

$$t(P_c - P_w) > (M_d - M_w)$$

t = per-unit tax on pollution

P_c = current level detectable with daily monitor

P_w = current level detected with weekly monitor

M_d = monitoring cost with daily monitor

M_w = monitoring cost with weekly monitor.

If the additional increment to income resulting from the increased detection of pollution is greater than the additional monitoring costs incurred as a result of adopting the daily monitor, the enforcer will desire to undertake the new monitor.

On the other hand, implementation of the daily monitor will also add to the costs borne by polluting firms. The adoption of the new monitoring technique will cost the polluting firm an additional amount equal to:

$$t(P_d - P_w) + C(P_c - P_d)$$

t = per-unit tax on pollution

P_d = level actually detected with daily monitor

P_w = current level detected with weekly monitor

C = per-unit cost of abating pollution

P_c = current level detectable with daily monitor.

The first term in the above equation represents the additional emission fees paid because of the more effective monitoring; the second represents additional abatement expenses incurred as a result of the new monitor. For each unit of additional pollution detected by the new daily monitor, the polluter will decide whether paying the emission fee or abating is cheaper.

After determining its desired level of pollution and abatement under the daily monitor, the polluting firm will face another decision: whether to abate to the reduced level and/or pay additional taxes, or to pay the enforcement agent not to implement the new monitoring method. If the increased expense to the polluter resulting from the enforcer's use of the daily monitor is greater than the gains accruing to the enforcer from

additional pollution tax revenues and government payments, less monitoring costs, the polluting firm will be able to pay the enforcer not to undertake the new monitoring technique. Conversely, if the polluter's increased cost is smaller than the enforcer's incremental gain, the polluter will be unable to pay the enforcer not to implement the daily monitor.

The daily monitor will be socially efficient if its social benefits exceed its social costs, or:

$$t(P_c - P_d) > C(P_c - P_d) + (M_d - M_w)$$

t = per-unit tax on pollution

P_c = current level detectable with daily monitor

P_d = level actually detected with daily monitor

C = per-unit cost of abatement

M_d = monitoring cost with daily monitor

M_w = monitoring cost with weekly monitor.

Thus, where the new daily monitor is socially inefficient, polluters will be able to pay the enforcer not to implement it, and where the new monitor is socially efficient, they will be unable to afford to do so. Jointly, then, the polluting firms and the enforcement agent will maximize net social benefits.⁶⁷

Unlike the incentives motivating the private enforcement agent, those motivating a governmental enforcer do not result in socially efficient implementation of public policy. Using the above example, a governmental agent might proceed with implementation of a daily monitor despite the fact that the additional fines collected as a result of using the daily monitor do not justify the cost of the new technique, because implementing the daily monitor may require a larger agency budget. Not only does this lead to a waste of monitoring resources, but it may also result in more or less pollution being emitted than is socially optimal. Under a system of private enforcement of public policy, on the other hand, if the net social costs of an alternative enforcement technique outweigh its benefits, the private enforcement agent will have no incentive to adopt the new technique.

III. Efficiency Gains from Private Enforcement

The previous examples demonstrate how private enforcement of public policy results in social efficiency gains. These gains derive from three

67. To see this, note that the new monitor will cost the firm $t(P_d - P_w) + C(P_c - P_d)$ and will result in increased income to the enforcer of $t(P_c - P_w) - (M_d - M_w)$. Subtracting the firm's costs from the enforcer's gains yields $t(P_c - P_d) - C(P_c - P_d) - (M_d - M_w)$, which is precisely the net social benefit of the new daily monitor.

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sources: the private nature of the enforcement organization,⁶⁸ the use of a market based incentive scheme, and the evolution of efficient rules of implementation.⁶⁹ This section describes and distinguishes between those efficiency gains which can accrue from market-based schemes generally and those which can be realized only by allowing private parties to determine the rules under which public policy will be enforced.

A. *Gains From Market-Based Policy*

Some of the efficiency benefits described in the automobile safety and pollution control examples could be achieved regardless of whether the government or a private agent implemented these policies. For example, in the case of automobile safety, there are two significant efficiency gains that would be realized even under government enforcement. First, the government would require much less information than it does under the current regulatory framework, since it need only estimate the social benefits of avoiding each injury or preventing each death. This “market for safety” would determine the optimal level of investment in automobile safety devices. Thus, the government would have no need for the enormous volume of technical and economic data required under the current command and control approach to automobile safety regulation.⁷⁰

68. Private firms are generally more efficient than government agencies or public firms. For a survey of the relevant literature, see DeAlessi, *The Economics of Property Rights: A Review of the Evidence*, 2 RESEARCH L. & ECON. 1, 27-40 (1980). Profit maximizing firms have incentives to reduce monitoring costs, without necessarily decreasing monitoring ability, by developing new technologies, bargaining for cheaper labor, or eliminating unproductive employee or management practices. The incentives for a budget-maximizing bureaucrat, however, are just the opposite. For example, significant savings may result from replacing most of NHTSA's employees with employees of the private enforcement firm. Unproductive employees would not have the employment guarantees currently afforded to most government workers. Moreover, the private firm will not be burdened by the administrative procedures that guide government agencies. For example, under the Administrative Procedure Act, if an agency intends to make a new rule or amend an existing rule, it must issue an advance notice of the proposal and give the public an opportunity to comment. 5 U.S.C. §§ 553(b), (c) (1982). These and other procedural requirements make the rulemaking process extremely burdensome and inefficient.

69. Although the maximum efficiency gain from a private enforcement system is obtained when efficient policies are implemented, efficiency gains due to the private nature of the enforcement agent and the evolution of efficient rules of implementation would accrue even if the government policy to be implemented were socially inefficient. For example, the government may decide for political or equity reasons to exempt certain industries from pollution control requirements. Alternatively, the government may decide on a level of auto safety that is “too safe,” in the sense that the marginal social cost of reducing the fatality rate far exceeds the social benefit. Private enforcement of these inefficient policies will still produce social benefits, assuming the goal is to implement that policy in the least expensive manner. Of course, to the extent that private enforcers can be expected to achieve a higher level of compliance than government enforcers, one might argue that this is an undesirable means of enforcing inefficient policies, since less compliance is preferred. The claim that inefficient policies should be enforced by private agents is based on the assumption that policymakers prefer, for whatever reason, more compliance. It is also possible that the social benefits of more efficient implementation may outweigh the social cost of increased compliance.

70. This is an important advantage over current regulatory schemes. Government regulators do

Second, a market-based scheme, whether enforced by the government or a private firm, is well suited both to adapt to changing technologies and to foster research into improved safety technology. Under the current regulatory environment, NHTSA may require a new performance standard if it determines it is technologically feasible. However, because automobile manufacturers will have to increase production costs to implement a more stringent standard, there is no incentive for automobile manufacturers to develop these new technologies themselves.⁷¹ Under a market-based approach, on the other hand, automobile manufacturers would have incentives to develop new, efficient safety devices, since they would be reimbursed for at least their full production costs by the enforcement agent.

B. *Gains From Private Enforcement*

Although governmentally enforced market-based schemes provide some improvement over the current regulatory approach, important efficiency gains in our proposal derive solely from the private nature of the enforcement agent. Efficient implementation of a government policy by a private enforcement agent can be expected for two reasons. First, the parties involved in this private enforcement scheme have ongoing economic interests in the regulated activity. Thus, the parties are of the sort that are

not have access to automobile manufacturers' private information about the cost of installing proposed safety devices. Further, under the current regulatory approach, automobile manufacturers are likely to overstate the costs and understate the technical feasibility of safety devices. If the government regulator wishes to set a "safety" tax, it does not need to know the cost of increased safety if there is only one firm or if social damages are independent of the level of fatalities. However, if there are several firms and social damages are dependent upon the level of safety, the government needs to know the cost of achieving various safety levels in order to set the proper tax. Under a market-based system of regulation, this informational asymmetry is irrelevant for determining the ultimate level of safety. Automobile manufacturers will be paid to increase safety, and the amount the enforcement agent is willing to pay depends on the benefits resulting from the device rather than its incurred costs. Of course, automobile manufacturers may still be able to exploit this informational asymmetry to extract the highest possible compensation from the enforcement firm. In a previous paper, one author of this article provides several examples where firms have apparently used their private information about regulatory compliance costs to their advantage. M. Cohen, *Essays in the Economics of Information and Environmental Regulation* 32 (unpublished manuscript on file with the *Yale Journal on Regulation*). Various incentive schemes to overcome this informational asymmetry have been proposed. See, e.g., Collinge & Bailey, *Optimal Quasi-Market Choice in the Presence of Pollution Externalities*, 10 J. ENVTL. ECON. & MGMT. 221 (1983) (quasi-market framework in which market forces choose efficiently); Kwerel, *To Tell the Truth: Imperfect Information and Optimal Pollution Control*, 44 REV. ECON. STUD. 595 (1977) (mixed effluent charge/license plan); Roberts & Spence, *Effluent Charges and Licenses Under Uncertainty*, 5 J. PUB. ECON. 193 (1976) (use of licenses supplemented by an effluent subsidy and a finite penalty). But since these transfer payments only occur when the device is socially efficient, the exact amount of the payment will determine the relative wealth of automobile manufacturers and enforcement agent, not social welfare.

71. Since NHTSA uses performance standards, manufacturers have incentives to develop cheaper ways to achieve the same results. However, they have no incentive to find a technologically and economically feasible way to achieve a higher safety level if doing so costs as much or more than achieving current safety levels.

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needed in order for rules of implementation to evolve efficiently.⁷² In disputes, there will be automobile manufacturers or polluters, for example, on one side and enforcement agents on the other. When government agencies enforce market-based schemes, there is no market discipline to assure that the enforcer conducts its analysis correctly or seeks the most efficient means and level of monitoring.⁷³ A private enforcer, on the other hand, will have the correct incentives to enable the evolution of efficient rules governing the implementation of public policy, since its incentives are purely economic and are structured to reflect the social costs and benefits of implementation.

Second, efficient implementation will be privately enforceable in the sense that the party with the responsibility for implementing public policy has a strong financial incentive to do so when it is socially efficient, and an equally strong incentive not to enforce such regulations when doing so is socially inefficient. Government is therefore needed only to establish the policy regarding automobile safety or air pollution, for example, by determining the baseline level of safety or pollution, placing a dollar value on lives saved and reduced pollution, and auctioning off the right to enforce. Once the right is sold, government need only monitor aggregate statistics, such as highway mortality figures and ambient air quality, in order to determine the amount and direction of the required transfer payment between the government and the private enforcer.

IV. Private Enforcement of Public Policy in Practice

Private enforcement of public policy would result in a significant change in the nature of government regulation. Although the theoretical justification for private enforcement is sound, its implementation raises two potential difficulties—the monitoring of enforcers and the cost of administering the program.⁷⁴

72. See *supra* notes 38-42 and accompanying text.

73. For example, NHTSA has specific test requirements to determine performance of vehicles in avoiding injuries during a crash. Anthropomorphic Test Dummies, 49 C.F.R. § 572 (1984). Since NHTSA has no inherent incentive to design test standards that are efficient, automobile manufacturers have had to rely on costly litigation to stop the regulators from adopting test procedures that they felt were inaccurate. See *Chrysler Corp. v. Dep't of Transp.*, 472 F.2d 659 (6th Cir. 1972); and Nash, *supra* note 48, at 57-60. Under a private enforcement system, the enforcer and automobile manufacturers would jointly have incentives to design tests to yield results as close as possible to real life crash conditions, since each firm's compensation is based upon actual reductions in human injuries and deaths.

74. The automobile safety and pollution control examples outlined above are necessarily simplified to illustrate the nature of the benefits which are expected to result from private enforcement. Before these proposals could be adopted, more detailed analyses would be needed to apply these ideas to specific policy areas.

A. *Monitoring Enforcers*

A private enforcement system creates a principal-agent relationship between the government and the enforcement agent.⁷⁵ As with any contract, there must be some mechanism whereby the principal can determine whether the agent has fulfilled the contract provisions.⁷⁶ In this system of private enforcement, the government must be able to monitor the enforcers by evaluating aggregate performance—the total number of auto accidents and injuries or aggregate pollution levels, for example—in order to determine the amount and direction of the necessary payment between the government and the enforcer.

If the government's monitoring is not effective, replacing government enforcement with a system of private enforcement may create the risk of collusion. For example, in the case of pollution control, the enforcer and the polluting firm may be able to make higher joint profits by lying to the government about the level of pollution abatement, which would result in a higher level of pollution than is optimal. Thus, colluders would try to extract more from the government than they are entitled while at the same time reducing abatement costs.

However, a government enforcement agent is also prone to collusion. Bribes and kickbacks are certainly not the exclusive domain of the private sector. There is no reason to believe the problem would be any better or worse with a private enforcement agent. Moreover, solutions such as performance bonds, which have been proposed to minimize agency costs in the government enforcement context,⁷⁷ are equally applicable to a system of private enforcement.

More importantly, the government can cheaply and effectively monitor the enforcement agent and thus eliminate the risk of collusion by structuring compensation so that it is based on easily observable data. The

75. For a discussion of the costs inherent in agency relationships, see Jensen & Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305 (1976).

76. Of course, this problem is not unique to our proposal—under the current regulatory scheme, the executive departments and agencies are merely agents of Congress. To keep abreast of government enforcement of public policy, standing House and Senate committees conduct investigations and sponsor legislation designed to minimize the costs of the agency relationship. See Niskanen, *supra* note 17 at 623-29; Weingast & Moran, *supra* note 23.

77. See Becker & Stigler, *Law Enforcement, Malfeasance, and Compensation of Enforcers*, 3 J. LEGAL STUD. 1, 9 (1974). Becker and Stigler propose that police officers be required to post performance bonds against any malfeasance. By creating a penalty—in the form of forfeiture of the bond—for shirking or malfeasance, the principal is effectively writing an incentive contract designed to mitigate the informational asymmetry inherent in any agency relationship. See also Harris & Raviv, *Some Results on Incentive Contracts with Applications to Education and Employment, Health Insurance, and Law Enforcement*, 68 AM. ECON. REV. 20, 28-30 (1978) (applying principal-agent theory to the compensation of law enforcement officials).

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government need not monitor the amount of resources devoted to enforcement, or the level of compliance; its only concern is the aggregate level of the social activity—such as pollution or automobile fatalities—being regulated.⁷⁸ Returning to the pollution tax proposal discussed above,⁷⁹ the government will base the amount of the transfer payment between itself and the enforcement agent on exogenously measured ambient air quality. This monitoring need not be costly, since the government must verify only a given jurisdiction's air quality, not the emissions level of each firm. In the case of private enforcement of auto safety,⁸⁰ the problem of monitoring the enforcement agent will similarly be insignificant, since the data on which the transfer payment between the government and the private enforcer is based, aggregate auto accident data, is readily verifiable and in fact is already collected.⁸¹

B. *Cost of the Program*

This proposal may entail substantial governmental expenditures. In the automobile safety example, the net result of private enforcement may be that large payments would be made to automobile manufacturers in order to induce them to increase the level of safety.⁸² If this occurred, there would be a net transfer from taxpayers to automobile purchasers. These transfer payments are, however, a feature of the market-based policies generally; they are not unique to this proposal for private enforcement agents.

Despite possible distributive effects, private enforcement of public policy would impose no net costs upon society. Someone must pay for safety. Under the current regulatory approach, automobile manufacturers and, indirectly, automobile buyers pay for safety features. Under the proposed system of private enforcement, taxpayers rather than auto manufacturers and buyers would pay for safety. This does not increase the total cost

78. With a risk neutral agent, the government need not observe the level of effort, only the final outcome. Moreover, the government's measurement of outcomes need not be perfect. See Harris & Raviv, *Optimal Incentive Contracts with Imperfect Information*, 20 J. ECON. THEORY 231, 233 (1979); Harris & Raviv, *supra* note 77.

79. See *supra* notes 59-65 and accompanying text.

80. See *supra* notes 45-58 and accompanying text.

81. Because of this monitoring problem, this proposal for private enforcement is more likely to provide benefits over public enforcement when the government can base the enforcement agent's compensation on easily observable aggregate data. The more difficult and/or costly it is to collect this data, the less likely it is that this proposal will result in a significant improvement over public enforcement.

82. This proposal will not necessarily require large transfer payments to the auto makers. The magnitude and direction of payments will depend both on where the enforcement "baseline" is set and on the value of life established by Congress. For example, if the baseline level of safety were set high enough or the value of life low enough, there would be a transfer of wealth from automobile manufacturers to the enforcer or to the government.

above that of the current system. In fact, to the extent the program increases efficiency, the cost of achieving a given level of safety would actually be reduced.

The risk associated with private enforcement may also impose costs on the government. Those bidding for the right to become private enforcement agents will demand a return on their investment commensurate with the perceived riskiness of the enforcement venture. If private enforcement is perceived as a particularly risky venture, bidders will demand high expected returns,⁸³ making the proposed enforcement scheme costly to taxpayers. However, any new economic activity is risky. Once the market adapts to the nature of the new activity, there is no reason to expect the enforcers' required return to be any higher than that demanded for other ventures of equivalent risk.⁸⁴

Moreover, it must be remembered that moving an activity from the public to the private sector does not increase its level of risk—the risk just becomes more explicit. Promoting the explicit consideration of risk is actually a benefit rather than a disadvantage of this proposal, since government enforcers do not have incentives to consider the risks associated with the regulations they adopt. For example, if NHTSA believes some new device may be able to achieve a new level of safety, it may mandate that level of performance without considering the probability that it will be impossible or prohibitively expensive to develop the device. There is no incentive for the government enforcer to do further research before implementing the new performance standard. If enforcement is made private, on the other hand, the risk becomes explicit. If the expected benefit from future research exceeds the expected cost of the research, the private enforcer will not implement the new standard but will undertake the research or pay the polluters or automobile manufacturers to do so.

Conclusion

Debate over government regulation has traditionally focused on the nature of policies to be enacted. In practice, however, even efficient

83. With respect to auto safety, for example, the risks may be high if the enforcing firm must offer large payments to automobile companies in order to induce them to undertake investment in proposed new safety equipment where there is uncertainty as to the effectiveness of the new equipment. If the expected reduction in accidents or fatalities does not occur, then the enforcement firm will lose a substantial amount of money.

84. Just as a new product may be test marketed to reduce the risk of major losses, the enforcement agent can be expected to test newly proposed safety devices to minimize start-up risk. Since auto manufacturers have better information about the likelihood that safety devices will succeed in reducing fatalities, it is natural for the auto companies to be asked to share this risk. In other words, the private enforcer could be expected to shift some of the risk over to the auto companies by offering to pay a premium for successful results and possibly pay less than the cost if they fail to meet expectations.

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policies do not often yield efficient results because they must be implemented by government enforcement agents through a set of detailed rules and enforcement procedures. Because government enforcers lack adequate incentives to take into account the social costs and benefits of enforcement, implementation of public policy by government enforcers has been inefficient.

Efficient implementation of governmental policy can be achieved by turning over the task of implementing public policy to private enforcement agents imbued with economic incentives to regulate only where it is socially efficient to do so.⁸⁵ The advantages of moving from public to private enforcement are threefold. First, private firms generally operate more efficiently than public agencies. Second, because it is easier to choose parties correctly than to choose efficient outcomes, an efficient result is more likely to occur if the government concentrates on creating a property right in a party which—unlike a government agency—will have appropriate economic interests in efficient regulation. Third, and most important, if private enforcement agents are created with appropriate incentives, evolutionary forces will lead to efficient implementation of policy.⁸⁶

85. An intermediate step between public and private enforcement is the voluntary standards organization, such as the American National Standards Institute (ANSI). These associations establish standards but have no direct enforcement power. Since they are concerned with both the cost of the standard and the effects on industry-wide demand, there would be some pressure for efficiency. At least one regulatory agency, the Consumer Product Safety Commission, relies heavily on such groups. See Levinson, *Voluntary Standards: Integral to CPSC Mission*, *Legal Times*, Sept. 9, 1985, at 10, col. 1.

86. This article offers normative policy prescriptions for overcoming many of the problems inherent in regulation by government bureaucracies. However, there is no reason to believe that decisionmakers desire socially efficient outcomes. Morris Fiorina, for example, argues that Congress designs regulatory institutions to maximize their own visibility and usefulness in serving their constituents, thus increasing the congressmen's chances of reelection. M. FIORINA, *CONGRESS—KEYSTONE OF THE WASHINGTON ESTABLISHMENT* 39-49 (1977). Congressmen, because they are able to increase their political support by helping constituents through bureaucratic inefficiencies, may in fact desire a bureaucracy which regulates inefficiently.

