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THE COST OF ANTITRUST DETERRENCE: WHY NOT HANG A PRICE FIXER NOW AND THEN?

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The Cost of Antitrust Deterrence: Why Not Hang a Price Fixer Now and Then?*

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Through its antitrust enforcement system, society allocates resources to deter anticompetitive behavior. In this reply, the authors suggest that antitrust enforcement is costly because prosecutors and judges mischaracterize some competitive or efficiency-enhancing behavior as horizontal collusion. They conclude that, given prosecutorial and judicial error, society will not optimally allocate its antitrust enforcement resources by threatening price fixers with exorbitant economic penalities that have only a minimal probability of being enforced.

Professor Schwartz argues persuasively that the cost of antitrust enforcement makes deterrence of all antitrust violations through antitrust enforcement undesirable.[1] This reply agrees that society should enforce the antitrust laws only to the point where the harm[2] averted by increasing enforcement efforts just equals the cost of increasing those efforts.[3] Consequently, an efficient enforcement policy will not deter all antitrust violations because the cost of deterring some of the violations will be greater than the harm averted.

This argument sets forth standard economic theory except for one minor point: Some economists and lawyers, influenced by Professor Becker's pathbreaking work,[4] argue that society should reduce the number of prosecu-

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1. Schwartz, *An Overview of the Economics of Antitrust Enforcement*, 68 GEO. L.J. 1075 (1980).

2. Monopolization misallocates resources by creating deadweight loss and also redistributes wealth from consumers to those owners of the productive enterprises who have both the ability and the inclination to exploit an inelastic demand. F. SCHERER, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 8-18, 459-64 (2d ed. 1980)

Antitrust policy, however, is a poor instrument for engineering a more egalitarian distribution of wealth—either between consumers who buy from monopolies and consumers who own monopolies or between Fortune 500 corporations and Mom-and-Pop entrepreneurs. Consequently, this reply joins Schwartz in assigning a higher priority to the deterrence of the social costs from resource misallocation than to the compensation of injured consumers.

3. K. ELZINGA & W BREIT, THE ANTITRUST PENALTIES 7-16 (1976); R. POSNER, ANTITRUST LAW: AN ECONOMIC PERSPECTIVE 221-22 (1976).

4 Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169, 176-79 (1968). The economic analysis of punishment originated centuries ago with Beccaria, Bentham, and Hobbes. *See, e.g.*, C BECCARIA, ESSAY ON CRIMES AND PUNISHMENTS 160 (Livorno, Italy 1764) (Philadelphia 1793) (severity of punishment should be proportionate to "state of the nation"); J. BENTHAM, THE LIMITS OF JURISPRUDENCE DEFINED 290-91 (New York 1945) (n.p. 1782) (punishment, whether ordinary or extraordinary, should exceed offender's gain from violation); T. HOBBES, LEVIATHAN 162 (London 1651) (Menston, England 1969) (perpetrator not punished if penalty less than benefit of crime).

tions rather than reduce deterrence in order to decrease the costs of our current expensive antitrust enforcement system.[5] Because deterrence depends on the expected value of punishment,[6] various combinations of the detection level and the magnitude of the sanction can establish the same level of deterrence.[7] Although Schwartz does not discuss the "problem of adjusting the sanction to incorporate varying attitudes toward risk,"[8] the solution to the enforcement-cost problem appears to be straightforward: Hang a price fixer now and then. Lumber for gallows is relatively inexpensive, and few offenders would actually be hanged; thus, the cost of enforcing the antitrust laws would be trivial. Although our modest example is fanciful,[9] its implication is real. Threatening price fixers with extreme economic punishments should deter price fixing and require minimal enforcement expenditures. Several economic arguments suggest, however, that continously trading higher fines or damage multiples for lower enforcement expenditures might not be optimal.[10] To the

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5. ELZINGA & BREIT, *supra* note 3, at 112-38; POSNER, *supra* note 3, at 223-24; Scott, *Two Models of the Civil Process*, 27 STAN. L. REV. 937, 939 (1975)

6 As a general legal principle, deterrence pertains not to the extent of the plaintiff's injury but rather to the extent of the defendant's gain or unjust enrichment *See* Hanover Shoe, Inc v. United Shoe Mach. Corp., 392 U.S. 481, 494 (1968) (expressing concern that antitrust violators not "retain the fruits of illegality").

A sanction aimed at deterrence must threaten the potential violator with a worse position if he violates the law than if he does not. The expected net costs of the illegality must exceed the expected benefits, thereby assigning a negative expected value to a decision to violate the law. Suppose that several firms, for example, face only two possible outcomes under a strategy of cartelization. They might receive a benefit (B) in the form of monopoly profits, or they might incur a cost (C) in the form of antitrust damages. If the probability of incurring treble damage liability is x, the probability of *not* incurring treble damage liability as well as the probability of receiving monopoly profits is $(1\text{-}x)$ because the probabilities of the two possible outcomes must sum to one. If the violator can retain the benefits from his illegal activity, his net cost of incurring liability is $(C\text{-}B)$. Therefore, the expected value of cartelization (EV) is:

$$EV = (1\text{-}x)\ B\text{-}x\ (C\text{-}B)$$
$$EV = B\text{-}xC$$

More generally, cartelization will be a profitable strategy as long as its expected value exceeds 0:

$$EV = B\text{-}xC > 0$$

or equivalently, if:

$$B/xC > 1$$

If firms are not risk averse, public and private sanctions jointly must force this ratio below one to deter cartelization. For a similar formulation of expected value, see Becker, *supra* note 4, at 177 n.16.

The Antitrust Division apparently views the decision to collude in these terms. Testifying before the Senate, former Assistant Attorney General Shenefield remarked that proposed legislation that would allow the right of contribution among antitrust defendants "could decrease the deterrent effect . . . , thereby making the cost-benefit analysis of whether to enter into an antitrust violation more predictable." *Antitrust Equal Enforcement Act of 1979: Hearings on S. 1468 Before the Subcomm. on Antitrust, Monopoly and Business Rights of the Sen. Comm. on the Judiciary*, 96th Cong., 1st Sess. 7 (1979) (remarks of John H. Shenefield) [hereinafter *Antitrust Equal Enforcement Act of 1979*]. *Cf.* Renfrew, *The Paper Label Sentences: An Evaluation*, 86 YALE L.J. 590, 593-94 (1977) (perceived diminution in penalty resulting from imposition of fines rather than incarceration might encourage violations).

7. *See* Polinsky & Shavell, *The Optimal Tradeoff between the Probability and Magnitude of Fines*, 69 AM. ECON. REV. 880 (1979) (discussing various detection and sanction combinations).

8. Schwartz, *supra* note 1, at 1077 n. 6.

9. To avoid an excursus into the morality of capital punishment, we will not pursue further the possiblity of chief executive officers swaying from gallows. In reality, the harshest feasible antitrust sanction would be a fine or damage award large enough to confiscate the offender's entire wealth.

Because antitrust tortfeasors are jointly and severally liable, bankruptcy quite possibly could be the penalty for a firm convicted of price fixing. *See generally Antitrust Equal Enforcement Act of 1979*, *supra* note 6, at 7 (bill to allow contribution among joint antitrust tortfeasors).

extent that these arguments are valid, Schwartz's point about the costs of enforcement remains relevant to antitrust enforcement.

THE COSTS OF ANTITRUST ENFORCEMENT

Four economic arguments—overinvestment in private enforcement, marginal deterrence, risk bearing, and error—suggest that it is occasionally impossible and usually suboptimal to combine a low level of enforcement and detection with damages of extremely large magnitude. This reply addresses only the sanctions for collusively exploitative behavior by which competitors restrict output and raise prices,[11] including horizontal minimum price fixing,[12] market division,[13] professional bans on competitive bidding,[14] and contemporaneous exchange of disaggregated data[15] or interlocking directorates[16] among competitors in concentrated markets. Of the four arguments against continuously trading higher damages for lower enforcement levels, only error provides a relevant argument against such a theory.

Overinvestment in private enforcement. A private plaintiff's incentive to invest in antitrust litigation increases as the expected recovery increases.[17] Consequently, it might be impossible to increase the damage multiple without simultaneously increasing the level of private enforcement. Society would therefore be frustrated in attempting to reduce total enforcement costs by trading detection probabilities against the magnitude of the penalty. This

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10 *See* POSNER, *supra* note 3, at 221 (optimal antitrust enforcement possible with fines ranging from nominal to exorbitant); *cf.* Kolm, *A Note on Optimum Tax Evasion*, 2 J PUB ECON. 265, 266 (1973) (optimal deterrence of tax evasion possible with penalty ranging from nominal to exorbitant).

11. This reply ignores sanctions for noncollusive exploitative behavior, such as tie-in sales, vertical restrictions, and perfect price discrimination, because it is likely that Professor Schwartz joins Professors Posner, Bork and Baxter in assailing the Supreme Court's decisions outlawing such noncollusive behavior *See* R. BORK, THE ANTITRUST PARADOX 198-210 (1978), POSNER, *supra* note 3, at 212-17, Baxter, *Placing the Burger Court in Historical Perspective*, 47 ANTITRUST L J 803 (1979) [hereinafter Baxter, *The Burger Court*]; Posner, *The Chicago School of Antitrust Analysis*, 127 U. PA. L. REV. 925, 934-44 (1979); Baxter. Book Review, 8 BELL J. ECON 609, 613-15 (1977) (reviewing R. POSNER, ANTITRUST LAW: AN ECONOMIC PERSPECTIVE (1976)); Schwartz, Book Review, 67 GEO. L.J. 1055, 1065-68 (1979) (reviewing R BORK, THE ANTITRUST PARADOX (1978)). We also ignore sanctions for expansionary behavior by which a firm seeks to increase, rather than exploit, its ability to price above marginal cost.

12. *See* United States v. Trenton Potteries Co., 273 U.S. 392, 394-400 (1927) (price fixing violates antitrust laws even if higher price reasonable).

13. *See* Timken Roller Bearing Co. v. United States, 341 U.S. 593, 598-99 (1951) (use of trademark licensing to allocate markets illegal); Addyston Pipe & Steel Co. v. United States, 175 U.S. 211, 240-41 (1899) (producer contracts effectively establishing territorial sales agreements illegal)

14. *See* National Soc'y of Professional Eng'rs v. United States, 435 U.S. 679, 686-90 (1978) (professional code of ethics banning competitive bidding illegal).

15. *See* United States v. United States Gypsum Co., 438 U.S. 422, 447-50 (1978) (exchange of information for price verification probably illegal); United States v. Container Corp of America, 393 U.S. 333, 335-37 (1969) (even infrequent or irregular exchange of price data manipulates market).

16. *See* 15 U S C § 19 (1976) (prohibiting interlocking directorates); United States v. Sears, Roebuck & Co., 111 F. Supp 614, 617-19 (S.D.N.Y. 1953) (interlocking corporate directorates of competitors illegal). *But see* Stigler, *The Economic Effect of the Antitrust Laws*, 9 J.L. & ECON. 225, 226-27 (1965) ("prohibition of interlocking directorates has not had a noticeable effect upon corporate directorates").

17. *See generally* Landes & Posner, *The Private Enforcement of Law*, 4 J. LEG. STUD. 1 (1975).

problem is hard to measure, but is not hard to resolve. If large penalties or damage multiples induce an excessive investment in private antitrust enforcement, Congress should limit the availability of private damages[18] or, as Schwartz suggests, modify the relationship between damage assessments and private recovery.[19]

Marginal Deterrence. Professor Stigler advances the economic analysis of law enforcement with his insight that a "structure of rational enforcement" should be designed such that "[e]xpected penalties increase with expected gains so there is no marginal net gain from larger offenses."[20] Stigler argued that if minor assault and murder both carried death penalties, the criminal would not be marginally deterred from murdering the person he had just assaulted.[21] Marginal deterrence directly applies to the sanctions for horizontal minimum price fixing because price fixers must decide whether the increase in expected benefits of raising their collusive markup one more cent will exceed the increase in expected sanctions, if any.[22] Marginal deterrence

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18 Professors Elzinga and Breit deplore the private treble damage remedy. *See* ELZINGA & BREIT, *supra* note 3, at 81-96 (present system with treble damage remedy inefficient, hence defective). Professor Hay, however, disagrees with Elzinga and Breit on this point. *See* Hay, Book Review, 31 VAND. L. REV. 427, 432-33 (1978) (reviewing ELZINGA & BREIT, THE ANTITRUST PENALTIES (1976)) (compensation desirable because provides incentive to sue and increases costs, thereby enhancing deterrence).

19 *See* Schwartz, *supra* note 1, at 1093-94.

20 Stigler, *The Optimum Enforcement of Laws,* 78 J. POL. ECON. 526, 531 (1970). *See generally* H.L.A. HART, LAW, LIBERTY, AND MORALITY (1963) Hart argues for the "moral gradation of punishment," *id.* at 34, a philosophical notion that complements Professor Stigler's economic theory of marginal deterrence:

> There are may reasons why we might wish the legal gradation of the seriousness of crimes, expressed in its scale of punishments, not to conflict with common estimates of their comparative wickedness. One reason is that such a conflict is undesirable on simple utilitarian grounds: it might either confuse moral judgments or bring the law into disrepute, or both. Another reason is that principles of justice or fairness between different offenders require morally distinguishable offences to be treated differently and morally similar offences to be treated alike.

Id. at 36-37.

Professors Michael and Wechsler warn that morally excessive sanctions might cause nullification and thus would be counterproductive. Michael & Wechsler, *A Rationale of the Law of Homicide* (pt. 2), 37 COLUM. L. REV. 1261, 1265 (1937). Another legal scholar argues that legislatures would be reluctant to enact sanctions "as high as would be required by the pure economic model . . . [partly because of] the intractable problem of *ex post* fairness, and the concomitant problem of judge, jury, or prosecutor nullification." Engel, *An Approach to Corporate Social Responsibility,* 32 STAN. L. REV. 1, 43 n.141 (1979).

The nullification argument suggests that a jury might acquit a guilty party for either of two reasons. First, a jury might find the absolute magnitude of the probable sanction excessive. Second, a jury might find that a sanction unfairly lacks moral gradation or perhaps inefficiently lacks marginal deterrence. *See* Woodson v. North Carolina, 428 U.S. 280, 289-303 (1976) (mandatory death sentences often avoided by jury because penalty overly harsh); *cf.* Engel, *supra,* at 43 n.141 (legislature nullification might result because of need to create marginal deterrence); Hall, *Strict or Liberal Construction of Penal Statutes,* 48 HARV. L. REV 748, 750-51 (1935) (jury nullification prevalent in England in early 1800s because death penalty imposed for lesser offenses); Michael & Wechsler, *supra,* at 1265 n.14 (same).

Either phenomenon might similarly influence a jury in antitrust enforcement. ELZINGA & BREIT, *supra* note 3, at 129-30; Erickson, *Antitrust Treble-Damage Actions: Do They Work?,* 61 CAL. L REV 1319, 1323 (1973).

21. Stigler, *supra* note 20, at 527. Professor Stigler specifically warns against nonincreasing marginal deterrence: "If the thief has his hand cut off for taking five dollars, he had just as well take $5,000." *Id.*

22. The cartel would never exceed the joint-profit-maximizing price that would exist in the absence of antitrust enforcement. *Cf.* POSNER, *supra* note 3, at 241-43 (rational monopolist never produces when marginal cost exceeds marginal revenue).

will be irrelevant, however, if the use of an extremely large penalty and small probability of enforcement can deter *all* price fixing.

Risk-Bearing. As defined earlier, deterrence depends on the expected value of punishment.[23] More precisely, deterrence depends on the *expected utility* of punishment.[24] If price fixers are risk averse,[25] large damages and minimal enforcement efforts can create greater deterrence at a lower cost than an enforcement policy with an equal expected punishment value that combines a higher probability of detection with a lower damage award.[26]

Professors Polinsky and Shavell have shown theoretically that imposing large damages with a small probability of detection is not optimal if this risk bearing imposes on persons subject to the sanction an additional disutility that exceeds the additional utility from spending less on enforcement.[27] Nonetheless, the Polinsky-Shavell argument is irrelevant to horizontal minimum price fixing unless there are errors in attributing this behavior to firms or unless the anticompetitive agreement generates some gain to society's

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23 *See* note 6 *supra* and accompanying text (sanction must make violation of law unprofitable).

24. For the classic treatment of risk aversion as it relates to the expected utility hypothesis, see K. ARROW, *The Theory of Risk Aversion,* in ESSAYS IN THE THEORY OF RISK-BEARING 90 (1970).

25. A risk averse price fixer would prefer a cartel strategy with a 50% probability of incurring damages of $10,000,000. Several economists have applied the theory of risk aversion to the firm's decision whether to violate the antitrust laws. *See* ELZINGA & BREIT, *supra* note 3, at 120-26 (risk aversion influences propensity to violate antitrust laws), Block, Nold & Sidak, The Deterrent Effect of Antitrust Enforcement: A Theoretical and Empirical Analysis (December 1978) (Technical Report ISDEE-1-78, Center for Econometric Studies of the Justice System, Hoover Institution, Stanford University) (same) (copy on file at *Georgetown Law Journal*).

26. ELZINGA & BREIT, *supra* note 3, at 112-38.

27. Polinsky & Shavell, *supra* note 7, at 880-81. Professors Polinsky and Shavell conclude that

> [i]f individuals are risk averse . . . [and] if it is optimal to control the activity at all, then, regardless of how costly it is to catch individuals, it may never be optimal to catch them with a very low probability and to fine them much more than the external cost. This is true because doing so would lower utility due to risk bearing and could more than offset the benefits from controlling participation in the activity.

Id. at 881. Although Polinsky and Shavell assume in their model that nonoffenders are never prosecuted by mistake, *id.* at 888, explicit consideration of prosecutorial error would enhance their results.

Polinsky and Shavell subsume in their model the argument of Professors Block and Lind that there is a threshold probability, below which deterrence will not occur because the offender has only a finite level of wealth. Thus, apart from concerns about the risk preferences of offenders, an enforcement agency cannot continously trade higher fines for lower probabilities of detection. Block & Lind, *Crime and Punishment Reconsidered,* 4 J. LEGAL STUD. 241, 246 (1975); Polinsky & Shavell, *supra* note 7, at 882

The risk-bearing argument made by Polinsky and Shavell refines the overdeterrence argument that Professors Posner and Dam each made under the assumption of risk neutrality Posner and Dam argue that when the probability of detection exceeds one-third, treble damages overdeter if the antitrust defendant's expected benefit from the violation falls below zero. POSNER, *supra* note 3, at 222, 226-27; *Increasing Sherman Act Criminal Penalties: Hearings on S. 3036 Before the Subcomm. on Antitrust & Monopoly of the Senate Comm. on the Judiciary,* 91st Cong., 2d Sess. 25 (1970) (prepared statement of Kenneth W. Dam). Obviously, the same argument holds whenever the product of the probability and the damage multiple exceeds one. Posner's concern is that "some illegal acts will be deterred that confer benefits on society greater than the cost they impose." POSNER, *supra* note 3, at 222. Posner cites as an example a horizontally-merged firm whose gains in productive efficiency exceed its social cost in terms of allocative inefficiency *Id See also* Williamson, *Economies as an Antitrust Defense: The Welfare Tradeoffs,* 58 AM. ECON. REV. 18, 33 (1968) (when merger produces both increased market power and economies, "efficiency defense deserves consideration"). Posner recognizes, however, that overdeterrence is irrelevant to most cases of horizontal minimum price fixing because a cartel rarely increases productive efficiency more than it reduces allocative efficiency. POSNER, *supra* note 3, at 222.

wealth that at least partly counterbalances the deadweight loss accompanying collusive pricing. Thus, in the absence of judicial or prosecutorial error, Polinsky and Shavell would not claim that their theory refutes the argument that the optimal enforcement device against naked price fixing is the threat of a miniscule probability of extreme economic sanctions.[28]

Error. Only the possibility of error—a complication that Schwartz explicitly eschews[29]—provides a compelling economic justification for not threatening price fixers with a small probability of incurring an extreme economic penalty for violating the antitrust laws. The possibility of judicial or prosecutorial error introduces a cost of enforcement that cannot be eliminated by setting arbitrarily high penalties. Indeed, errors in enforcement revitalize the risk-bearing argument made by Polinsky and Shavell.

There are two important instances in which efficient horizontal behavior might be mischaracterized as collusion. First, a court might erroneously infer collusion from parallel behavior that is consistent with competition, such as the submission of identical sealed bids for a standard product[30] or industry-wide vertical restrictions on distribution.[31] Second, a court might mistakenly characterize an explicit efficiency-creating agreement between competitors,

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28. Conversation with A. Mitchell Polinsky in Stanford, California (Mar 8, 1980).

29. *See* Schwartz, *supra* note 1, at 1077 n. 11. Schwartz, however, has considered error elsewhere. *See* Schwartz & Tullock, *The Costs of a Legal System*, 4 J. LEGAL STUD. 75, 79-81 (1975) (marginal cost of enforcement in any legal system should equal marginal cost of error).

30. *See* POSNER, *supra* note 3, at 66. Posner notes that "if the item is standard, or composed of standard items, identical bids are consistent with competition because the bidders' costs may be identical." *Id* The Department of Justice carefully monitors identical bids submitted to government purchasers *E g*, [1977] Att'y Gen. Rep. under Executive Order 10936, Identical Bidding in Public Procurement

31 Maintenance of an industry-wide resale price represents one example of a vertical restriction susceptible to mischaracterization. *See* BORK *supra* note 11, at 293 (although of limited utility, failure to maintain same retail price might indicate defection from cartel), POSNER, *supra* note 3, at 67-68 (maintaining resale price "ambiguous," although possibly inaccurate, sign of cartelization); Bowman, *The Prerequisites and Effects of Resale Price Maintenance*, 22 U. CHI. L. REV. 825, 838-39 (1955) (manufacturers prefer to avoid price competition); Telser, *Why Should Manufacturers Want Fair Trade?* 3 J. LAW & ECON. 86, 96-99 (1960) (noncollusive, resale price maintenance mechanism encourages collusion among upstream suppliers).

Vertical restrictions, however, do limit distribution and restrict intrabrand competition by inducing distributors to invest in point-of-sale services or advertisements that are susceptible to free-rider effects. Continental T.V., Inc. v. GTE Sylvania Inc., 433 U.S. 36, 53-55 (1977); *see* ABA ANTITRUST SECTION, MONOGRAPH NO. 2, VERTICAL RESTRICTIONS LIMITING INTRABRAND COMPETITION 67-68 (1977) (benefits consistent with competition include greater market penetration and increased distribution services); BORK, *supra* note 11, at 273-79 (vertical integration makes advertising feasible for individual firms previously constrained by cost); Posner, *The Rule of Reason and the Economic Approach: Reflections on the* Sylvania *Decision*, 45 U. CHI. L. REV. 1, 6-12 (1977) (tie-in activities such as advertising have free-rider effects) [hereinafter Posner, *Sylvania*].

An industry-wide vertical restriction on products differentiated by quality or location more closely approximates a monopolistically competitive equilibrium than a perfectly competitive equilibrium. *See generally* E. CHAMBERLIN, THE THEORY OF MONOPOLISTIC COMPETITION 56-70 (8th ed. 1965). Stigler notes that "the predictions of [Chamberlin's] standard model of monopolistic competition differ only in unimportant respects from those of the theory of competition because the underlying conditions will usually be accompanied by very high demand elasticities for the individual firms" G STIGLER, THE ORGANIZATION OF INDUSTRY 320 (1968). Such product differentiation makes cartelization difficult, however, because it entails nonprice competition. BORK, *supra* note 11, at 293.

such as a joint venture[32] or the contemporaneous exchange of information[33] between competitors in unconcentrated markets as a facade for horizontal conspiracy.

If these errors occur, public and private enforcers will deter behavior that causes no social cost. In the first instance, the erroneously penalized behavior already reflects a competitive allocation of resources; in the second instance, it would increase productive efficiency more than it reduces allocative efficiency.[34] This susceptibility to error on the part of judges and prosecutors imposes a cost on the enforcement of the laws against price fixing that cannot be eliminated by trading higher damage multiples against lower apprehension levels. On the contrary, such trading probably will increase the real burden of these errors because of risk aversion. If the proportion of all mistaken price-fixing prosecutions remains constant, for example, the error cost of prosecuting one in nine price fixers and allowing ninefold damages significantly exceeds the error cost of prosecuting only one in three price fixers with treble damages.

Because the enforcement in the first situation would impose higher risk-bearing costs, it would also deter more resources from engaging in efficient or efficiency-enhancing horizontal behavior susceptible to judicial or prosecu-

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32. In employing a per se rule, the Court has erroneously perceived efficiency-creating agreements as violations of the antitrust laws. *See* United States v. Topco Assoc., Inc., 405 U.S. 596, 608 (1972) (cooperative association forbidding sales outside specified territory illegal); United States v. Sealy, Inc., 388 U.S. 350, 357-58 (1967) (parceling exclusive territory per se violation). *See also* POSNER, *supra* note 3, 165 165-66 (*Sealy* Court in adopting per se rule erred by simply considering restriction as either "horizontal" or "vertical"); Baxter, *The Burger Court, supra* note 11, at 814-15 (Court fails to consider possible beneficial aspects of antitrust behavior), Posner, *Sylvania, supra* note 31, at 9-10 (advertising not feasible in *Topco* and *Sealy* without horizontal integration)

33. *See* Posner, *Information and Antitrust. Reflections on the* Gypsum *and* Engineers *Decisions*, 67 GEO. L.J. 1187, 1188 (1979) (agreement in *Gypsum* simply to exchange price information to avoid violating Robinson-Patman Act) In analyzing United States v. United States Gypsum Co., 438 U.S. 422 (1978), Professor Posner argues persuasively that exchanging information between competitors is socially desirable if it lowers the *variance* of prices rather than the *mean* price:

> The purpose of a legitimate exchange of price information is to narrow the dispersion of prices—that is, to eliminate as far as possible those prices in the tails of the price distribution that reflect the ignorance of buyers or sellers concerning the conditions of supply and demand. . . . There is no reason to expect the price level—the average price in the market—to change. If it does change, that is evidence that the purpose of the exchange of information was not to narrow the dispersion of prices—a legitimate objective—but rather to raise prices above the competitive level.

Posner, *supra*, at 1188 (citation omitted).

Schwartz also makes the point that, even in the absence of risk aversion, the simple concentration of defense resources induced by an increase in the penalty might reduce judicial error. Of course, the importance of this point depends on the technology of error reduction, a full discussion of which is beyond the scope of this reply.

34. Professor Bork defines allocative efficiency as "the placement of resources . . . in tasks where consumers value their output most." BORK, *supra* note 11, at 91 n.*. He defines productive efficiency as "the effective use of resources by particular firms," encompassing more than simply economies of scale or specialization of function in his definition. *Id.* at 91 Bork asserts that the "whole task of antitrust [is] to improve allocative efficiency without impairing productive efficiency so greatly as to produce either no gain or a net loss in consumer welfare." *Id. But see* FTC v. Proctor & Gamble Co., 386 U.S. 568, 580 (1967) (Congress proscribed both benign and malignant mergers to foster competition); United States v. Philadelphia Nat'l Bank, 374 U.S. 321, 371 (1963) (same); *See also* Williamson, *supra* note 27, at 33-34 (because merger might produce both increased efficiency and greater market concentration, Antitrust Division and Federal Trade Commission should weigh both before challenging mergers).

torial mischaracterization. This result holds even though both examples produce the same expected loss due to error.

ANTITRUST DETERRENCE IN AN IMPERFECT WORLD

Schwartz contends that deterrence is incomplete because antitrust enforcement is costly. In turn, this reply contends that antitrust enforcement involves a real cost only because it involves error. Judges and prosecutors will always mischaracterize some competitive or efficiency-enhancing behavior as horizontal collusion, thereby imposing some minimum enforcement costs that are impossible to reduce by trading higher penalties for lower enforcement efforts. If managers are risk averse, then even if the expected penalty for all antitrust enforcement is held constant, increasing the damage multiple while reducing enforcement efforts will always increase the cost of a given error rate.[35]

Obviously, the costs of deterring collusion would virtually disappear if judges and prosecutors stopped misinterpreting competitive or efficiency-creating horizontal behavior, but that answer begs the question. Although federal district court judges might begin to read Professors Posner, Bork, and Baxter,[36] judges' substantive mischaracterization of horizontal behavior will abate only as quickly and systematically as hard questions of law arise in actual litigation. Reducing error, whether judicial or prosecutorial, is costly. Consequently, the optimal degree of antitrust error becomes an element of the more general question of how many resources should be devoted to antitrust enforcement.

If judges and prosecutors can mischaracterize fewer and fewer cases as involving anticompetitive behavior,[37] policymakers will have a greater ability

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35. This situation raises an interesting complication. Commenting on a draft of this article, Schwartz observed that because of the risk aversion, an increase in the dispersion of the penalty might increase the amount defendants spend on litigation. He argued that one defendant facing a $1,000,000 penalty would spend more than 10 times the amount spent by 10 defendants each facing a $100,000 penalty. This increased investment in litigation might reduce the error rate in antitrust enforcement. Although an increased dispersion of antitrust penalties might reduce the error rate, it will not necessarily reduce the total cost of error, which includes both the misallocative costs of the error and the litigation costs incurred to avoid that error

36. *See* Guzzardi, *Judges Discover the World of Ecomomics*, FORTUNE, May 21, 1979, at 58 (judges attending seminars to learn about economic analysis of antitrust), Sullivan, *Antitrust, Microeconomics, and Politics: Reflections on Some Recent Relationships*, 68 CAL. L. REV. 1, 10 (1980) (courts likely to "use economics more and more" in antitrust cases).

For an example of a district court's sophisticated application of antitrust economics, see Judge Schnacke's opinion in Transamerica Computer Co. v. International Business Machs. Corp., 1979 TRADE CAS. 79,618 (N D. Cal. 1979).

37. When he was Deputy Attorney General, Attorney General Civiletti reported that

> [t]he Department does not—and will not—bring a case which is based on the following circumstances:
>
> Where the Department seeks to enforce a new theory of liability, a criminal case will not be recommended based on the principles of due notice and fairness which are the basis of our concept of due process of law.
>
> Where there is long-standing confusion in the law, the Department will similarly decline to prosecute criminally. An example of this type of conduct is an area where otherwise illegal

to trade smaller enforcement levels for higher penalties without also exposing managers of innocent firms to additional and costly risk bearing. Thus, the Antitrust Division of the Justice Department and the federal judiciary could unambiguously reduce the cost of deterring price fixing, and hence deter more price fixers, by improving the precision with which they characterize horizontal behavior. Until perfect characterization of horizontal behavior is possible, however, society cannot optimally allocate its enforcement resources by threatening price fixers with draconian sanctions.

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conduct may come under the mantle of government regulation or some other form of antitrust exemption.

The final area where the Department will not bring criminal action is a situation where confusion is based upon prior prosecutorial action—or inaction—by the Department.

Remarks by Deputy Attorney General Benjamin R. Civiletti, Rock-Tenn Company Annual Meeting (Vera Beach, Florida. Oct. 21, 1978) (copy on file at *Georgetown Law Journal*). In such instances, the Antitrust Division would file only a civil complaint. *See also* Baker, *To Indict Or Not To Indict: Prosecutorial Discretion In Sherman Act Enforcement*, 63 CORNELL L. REV. 405, 414-18 (1978) (as assistant attorney general author's policy was to consider absence of four factors before instituting prosecution: confusion of law, truly novel issues of law or fact, confusion caused by past prosecutorial decisions and clear evidence that defendants did not appreciate consequences of their actions).