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# COMMENTS OF THE AMERICAN ANTITRUST INSTITUTE

# WORKING GROUP ON REMEDIES

June 17, 2005

## INTRODUCTION

These are the comments of a Working Group on Remedies established by the American Antitrust Institute for purposes of responding to the AMC's request for public comments. These comments reflect a consensus of the Working Group, but it should not be assumed that all agree with every statement or position herein. The Working Group is chaired by Michael Freed (Much Shelist Freed) and the other members are Joseph Bauer (University of Notre Dame), Patricia Connors (Florida OAG), Eugene Crew (Townsend Townsend & Crew, Jonathan Cuneo (Cuneo, Waldman, Gilbert & LaDuca), Albert Foer (AAI), Robert Lande (University of Baltimore), James Langenfeld (LECG), Daniel Mogin (Mogin Law), Kevin O'Connor (Lafollette Godfrey & Kahn), and Bernard Persky (Goodkind, Labaton, Rudoff & Sucharow LLP), with additional assistance from Jean Janes (Much Shelist Freed), Daniel Small (Cohen Milstein Hausfeld & Toll), and Robert Wozniak (Much Shelist Freed). We also thank Eleanor Fox (NYU) and Paul Sirkis (NYU) for preparing an annotated bibliography on antitrust remedies (prepared for the AAI conference on "Thinking Creatively about Antitrust Remedies" on June 21, 2005) which we attach.

## A. TREBLE DAMAGES

1. *Are treble damage awards appropriate in civil antitrust cases?*

Yes. The antitrust remedies system must continue to promote the principal goals of antitrust: to deter anticompetitive conduct, adjusting for the fact that much illegal conduct is not detected, and to recover illegal gains from the violators and restore them to

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the victims.[1] Treble damage awards continue to serve these important goals, remain appropriate in civil antitrust cases, and should not be reduced.

Given the fact that cartels and other anticompetitive activities continue to occur, that recidivists are not uncommon, and that anticompetitive activities are becoming increasingly global in scope (perhaps in part to avoid penalties under U.S. law by facilitating conspiracies outside U.S. borders), it seems apparent that, in practice, the current treble-damages regime has actually resulted in sub-optimal deterrence. Indeed, some commentators argue persuasively that antitrust damage levels actually should be raised.[2]

The Working Group believes there should be no change in the availability of treble damages for civil antitrust cases. First, there is no evidence that overdeterrence is a problem. True treble damages awards are rare, even when all sources of damages and fine levels are combined.[3]

In reality, courts rarely, if ever, consider the numerous factors that should contribute to the damages calculation in order to achieve optimal deterrence for the damages from an antitrust violation. In addition to extracting the defendants' anticompetitive overcharge, the damages calculation also should include factors such as the "allocative inefficiency harms from market power," the "umbrella effects of market power" (where non-participants in the anticompetitive behavior nonetheless reap the benefits by being able to raise their prices right along with the violators), the reductive effects of the statute of limitations where illegal behavior is of long duration, uncompensated plaintiffs' attorneys' fees and costs, the uncompensated value of plaintiffs' time spent pursuing the case, the costs of the judicial system, and tax effects.[4] Damages also ought to reflect an adjustment for the time value of money (observing that the average cartel probably lasts 7-8 years, with an additional 4-plus-year lag before

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[1] Robert Pitofsky, *Antitrust at the Turn of the Twenty-First Century: The Matter of Remedies*, 91 GEO. L.J. 169, 170 (2002).

[2] *See* Robert H. Lande, *Why Antitrust Damage Levels Should Be Raised*, 16 LOY. CONSUMER L. REV. 329 (2004).

[3] *See id*. at 330-31 (stating that no one analyzing the decisions of neutral finders of fact has presented "a systematic pattern of evidence demonstrating that, overall, the current damage levels either constitute effective duplication or lead to overdeterrence.").

[4] *See id.* at 337-39 and n.37.

judgment),[5] and incorporate some multiple reflecting the probability of detection and proof.[6] As Judge Easterbrook wrote, "[M]ultiplication is essential to create optimal incentives for would-be violators when unlawful acts are not certain to be prosecuted successfully. Indeed, some multiplication is necessary even when most of the liability-creating acts are open and notorious. The defendants may be able to conceal facts that are essential to liability."[7] That damages awards typically omit these factors demonstrates that even supposed "treble damages" awards really are somewhat less.[8]

Second, a nominal "treble damages" award occurs only rarely, because most civil antitrust cases that survive summary judgment end in settlement. Settlement negotiations in such cases usually end up with plaintiffs asking for roughly single real damages and often settling for roughly nominal damages which are in reality one-third of true damages.[9] Thus, even with any criminal fines that might be added to the totals from private damages actions, defendants' total payouts rarely reach the true threefold level.[10] More typically, defendants might negotiate a settlement of nominal (as compared with actual) single damages with direct purchasers and negotiate a settlement of substantially less than actual nationwide damages with indirect purchasers. Add to this the fact that criminal fines often are negotiated down to 1 or 1 ½ times the supposed damages, and it is obvious that the damages awarded in antitrust cases neither duplicate remedies nor "overdeter" defendants, as critics of treble damages generally argue.[11]

The critics of treble damages awards in civil antitrust cases rely on a largely theoretical "piling on" argument that the availability of government fines, private direct purchaser litigation, and indirect purchaser litigation in states with Illinois Brick repealer statutes results in overdeterrence of potential antitrust violators. These critics view the treble damages regime from the wrong perspective, namely, that of the ex post liabilities

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[5] *See id*. at 337.

[6] *See* William M. Landes, *Optimal Sanctions for Antitrust Violations*, 50 U. CHI. L. REV. 652, 656-57 (1983).

[7] Frank Easterbrook, *Detrebling Antitrust Damages*, 28 J.L. ECON. 445, 455 (1985).

[8] *See* Robert H. Lande, *Are Antitrust "Treble" Damages Really Single Damages?*, 54 OHIO ST. L.J. 115 (1993).

[9] *See* Lande, *supra* note 2, at 339.

[10] *See id*. at 340.

[11] *See id*. at 342-43.

faced by discovered cartel members. If deterrence remains an important goal of the antitrust laws, as it must, the proper perspective from which to evaluate treble damages in the context of the entire antitrust remedial scheme is from the perspective of a company contemplating forming or joining a price-fixing conspiracy, not from the perspective of those that have been caught after years of collecting the illegal benefits of their cartel activity.[12] From this perspective, a company weighing the probable additional profits it would obtain from cartel participation against the probable costs of being discovered and prosecuted might well decide the risk of penalties such as treble damages is not worth it.[13] Viewed *ex ante*, the current remedies scheme is more likely to have the desired deterrent effect.

Rather than compounding the penalties defendants face, the treble damages civil remedy serves a complementary role in relation to government remedies by encouraging private litigants to investigate and prosecute illegal cartel behavior. Victims of cartel conduct can supplement government enforcement of the antitrust laws in several ways, and in such high-profile cases as the *Brand Name Prescription Drugs* and *NASDAQ* litigation, have led the way to enforcement of the antitrust laws.[14] Private victims are likely to be among the first to learn of violations and may have better access to the evidence of those violations. Private lawsuits increase the volume of enforcement, and also shift the expense of enforcement away from government agencies, thus conserving precious public resources.[15] Further, as noted, the potential of having to pay treble damages to private litigants, plus attorneys' fees and costs, enhances the deterrent component of the antitrust laws.

Class actions that represent consumers are unlikely to occur with any frequency except on a contingent fee basis. This requires attorneys to calculate risks and potential

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[12] *See* John M. Connor, *Optimal Deterrence and Private International Cartels*, at 10 (draft, May 2, 2005).
[13] *Id*.
[14] *See* Arthur M. Kaplan, *Antitrust as a Public-Private Partnership: A Case Study of the NASDAQ Litigation*, 52 CASE W. RES. L. REV. 111, 130 (2001) ("[P]rivate and government cooperation produced the largest antitrust recovery in history, and revolutionized the organization and operation of the NASD and the Nasdaq National Market. It directly benefited more than one million investors who filed claims and shared in the $1.027 billion recovery, and indirectly benefited all investors by permanently reducing trading costs.")

rewards; to eliminate trebling or even to make trebling dependent on an after-the-fact decision by a judge (as Professor Hovenkamp proposed recently) would result in a dramatic reduction in the number of victims who would find representation.

2. *Should other procedural changes be considered to address issues relating to treble damage awards, such as providing courts with discretion in awarding treble (or higher) damages, limiting the availability of treble damages to certain types of offenses, or imposing a heightened burden of proof?*

No. These procedural changes are unnecessary and undesirable. Making treble damages discretionary would only inject additional uncertainty into the antitrust remedy regime, as courts struggle with the correct standard to apply to determine whether they should impose treble damages. There is no clear line between hard core and other horizontal arrangements. We've tried to articulate the line for decades, without success. Increasing the uncertainty of the value of a case will also reduce the number of cases brought on contingency fee and will make settlements more difficult.

Detrebling of non-criminal cases or non-hard-core cartels would be counterproductive because there would be virtually no deterrence left in the system. Such cases are not "easy" to find and in fact are usually more difficult to prove than hard-core violations. If damages are not multiplied, then a putative violator would calculate a course of action on the assumption that he would either get away with the violation unscathed or would, at most, have to pay back some of the gains and attorneys fees. Thus, even substituting prejudgment interest for trebling in these cases would lead to significant underdeterrence. This is especially true because the damages from the violation include allocative inefficiency harm, umbrella effects, and other factors not reflected in damage awards.

Limiting treble damages to certain types of offenses also is unnecessary, particularly if the underlying rationale is to discourage non-meritorious actions. The courts already have the means to eliminate lawsuits that rest on marginal foundations through the Supreme Court's ruling in *Matsushita Electric Industrial Co. v. Zenith Radio*

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[15] *See* Joseph P. Bauer, *Reflections on the Manifold Means of Enforcing the Antitrust Laws: Too much, Too Little, or Just Right?*, 16 LOY. CONSUMER L. REV. 303, 310 (2004).

*Corp.*[16], which has resulted in increased willingness to grant summary judgment to defendants in antitrust cases.[17] With this mechanism, courts can dismiss non-meritorious lawsuits long before they even need to reach the question of treble damages. Given the difficulty in investigating and proving antitrust actions, any higher burden of proof will give defendants free rein to implement anticompetitive conduct.

## B. PREJUDGMENT INTEREST

1. *Should successful antitrust plaintiffs be awarded pre-complaint interest, cost of capital, or opportunity cost damages?*

The Working Group believes that optimal deterrence should be the ultimate goal of any antitrust remedy scheme. The correct perspective, again, is ex ante: a company contemplating an antitrust violation should assume that damages will accrue from the time the conspiracy is formed, *i.e.*, from the moment an intent to injure is put into play. Accordingly, damages awards for successful antitrust plaintiffs should be adjusted for inflation as a matter of course in order to achieve true treble damages and optimal deterrence.[18] Successful plaintiffs should also be awarded prejudgment interest, cost of capital or opportunity cost damages.[19]

2. *Are the factors used to determine when prejudgment interest is available set forth in 15 U.S.C. § 15(a) (1-3) appropriate? If not, how should they be changed?*

Under Section 4A of the Clayton Act, prejudgment interest may be awarded to a successful private plaintiff only where a defendant is guilty of bad faith delay. In view of this and because courts are reluctant to add interest on top of treble damages, it is not surprising that there are no reported cases where courts have awarded prejudgment interest applying the factors set forth in 15 U.S.C. § 15(a)(1-3). On the other hand, two

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[16] 475 U.S. 574 (1986).

[17] *See* Joseph P. Bauer, *The Stealth Assault on Antitrust Enforcement: Raising the Barriers for Antitrust Injury and Standing*, 62 U. PITT. L. REV. 437 (2001).

[18] *See* Lande, *supra* note 8, at 130-34 for a more complete discussion of why damages should be adjusted for the time value of money; *see also*, John M. Connor, *Optimal Deterrence and Private International Cartels* (May 2, 2005 Draft Paper); Lande, *supra* note 2, at 337.

district courts have adjusted antitrust damage awards to account for inflation, without requiring evidence of intentional delay, in order to properly compensate victims and promote deterrence, [20] but these unfortunately do not represent the norm.

The Working Group urges that Section 4A of the Clayton Act should be amended to require prejudgment interest starting from the time of the offense in addition to the trebling of damages. A less desirable result, but still an improvement, would be to follow the cases adjusting for inflation. As the court noted in *Law v. NCAA*, "[L]osses due to the decreased purchasing power of the dollar represent real losses to plaintiffs" and in antitrust cases, which can take many years to litigate, "[t]o deny a CPI adjustment would be to allow the [defendant] to profit from a wrong."[21]

Prejudgment interest on compensatory damages should remain available as an additional discretionary sanction to be applied where district courts find that a defendant has engaged in intentional delay. Without the threat of prejudgment interest, delaying judgment would in effect provide an antitrust defendant with an interest free loan and provide a strong incentive for the defendant to prolong litigation.[22]

## C. ATTORNEYS' FEES

1. *Should courts award attorneys' fees to successful antitrust plaintiffs?*

Yes. Like treble damages, attorneys' fees under 15 U.S.C. §15 are awarded for the salutary purpose which Congress envisioned back in 1890 when the Sherman Act was enacted with those remedies included, and is still valid today: our economy is one of the least government regulated based largely on the premise that a market economy governed by competition rather than government regulation is the best way to maximize innovation, output and efficiency for the benefit of consumers. But there must be some

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[19] The measures of damages we have been discussing are all similar, but there are differences that could be important in specific circumstances.

[20] *See* Law v. NCAA, 185 F.R.D. 324, 347 (D. Kan. 1999); Concord Boat Corp. v. Brunswick Corp., 21 F. Supp.2d 923, 936 (E.D. Ark. 1998), *rev'd on other grounds*, 207 F.3d 1039 (8th Cir. 2000).

[21] 185 F.R.D. at 347.

[22] *See* Michael S. Knoll, *A Primer on Prejudgment Interest*, 75 TEX. L. REV. 293, 297 (Dec. 1996).

regulation of competition for our market economy to thrive and the best regulation we have consists of our antitrust laws, principally the Sherman Act.

The antitrust laws would not be an effective method of regulating and thereby preserving competition in our market economy, however, unless they are vigorously enforced and they would not even be adequately enforced without the availability of strong private remedies, *i.e.*, the prospect of recovery of treble damages and attorneys' fees by the successful antitrust plaintiff. There is no way the antitrust laws can be enforced throughout one of the largest economies in the world by the Department of Justice and Federal Trade Commission alone. Combined, they are the antitrust lawyer workforce equivalent of just one law firm the size of Sullivan & Cromwell.(The states add something important to the balance, but it appears that the same forces seeking elimination or severe reduction of private actions are also seeking to cut back on state antitrust enforcement as well.) Moreover, the main relief those agencies seek and obtain is either criminal and/or injunctive in nature, in essence admonishing the antitrust violator to cease and desist – to "go and sin no more." The prospect of an injunction, without disgorgement of past illegal gains to the victim, does almost nothing to deter the violator from engaging in the lucrative violation at least until the Government finally discovers the violation and gets a court to stop it.

Private damage actions are thus critical to a successful enforcement regime. The fact that about 90% of antitrust litigation is prosecuted by private victims seeking monetary relief is surely not lost on the financially astute corporate executive contemplating a violation. Microsoft, through its antitrust economist (Professor Kevin Murphy of the University of Chicago), stressed under oath to the District Court and the Court of Appeals during the remedies phase of *United States v. Microsoft* that "we should also be concerned that the system of remedies provides appropriate deterrence" and that "monetary sanctions typically provide a better tool for deterring anticompetitive behavior and for denying an offender the fruits of such behavior" than do Government imposed "conduct or structural remedies."

This brings us to the reason the private remedy (treble damages and attorneys' fees) constitutes the best method we have of minimizing antitrust violations – a reason well understood by Congress when it enacted the private remedy over a century ago and

by the Chicago School economist of today who specializes in predicting rational economic responses to a set of incentives or disincentives: In short, "nothing concentrates the mind" of a potential antitrust miscreant like the prospect of a jury verdict that requires him to pay treble damages and a reasonable attorneys' fee to his victim and may additionally offer a term in prison.

But such a prospect will not serve to deter the "rational" antitrust violator unless the violator is convinced the prospect is real, *i.e.*, that his victim has (or can obtain through a contingent fee arrangement with antitrust counsel) the wherewithal needed to finance what may be a 5-10 year litigation war, or more, against a wealthy and powerful opponent (who may have already left the victim financially disabled by its violations). For the private remedy to deter the wrongdoer with the credible threat of a costly prosecution by his victim, it has to provide the victim with the necessary incentive and wherewithal to take defendant on. As far as we know, no one has suggested that private antitrust enforcement would be viable in the absence of contingent fees, or that statutory damages less certain than treble damages and attorneys fees for the victorious plaintiff would generate a reasonable likelihood that potential plaintiffs in putative antitrust cases would be able to obtain representation. Thus, any attack on attorneys fees or treble damages should be viewed as an attack on the fundamental idea of private enforcement of the antitrust laws.

2. *Are there circumstances in which a prevailing defendant should be awarded attorneys' fees?*

Yes, defendants fees should be potentially available in the limited case of a frivolous suit as a sanction. Some will suggest that a successful plaintiff's recovery of attorneys' fees (and treble damages) might constitute "over- deterrence" that inhibits a firm from engaging in aggressive but lawful competition because of the added cost of defending against plaintiff's charges. But plaintiff must win before defendant can be assessed plaintiffs' attorneys' fees and there is no evidence that a rational defendant would be deterred from engaging in lawful competition by the mere prospect that a jury might return a unanimous verdict (required by Fed. R. Civ. P. 48) that defendant engaged in unlawful competition. In any event, to the extent there could be "over deterrence" resulting from a defendant's fear of liability to a successful plaintiff for a reasonable

attorneys' fee, any such imbalance can be easily rectified by allowing defendant to recover its attorneys' fees if plaintiff's action is proven "frivolous" under Rule 11 of the Federal Rules of Civil Procedure.

3. *In areas of law other than antitrust, how effective is fee shifting as a tool to promote private enforcement?*

The Working Group did not address this question in detail, but state consumer fraud laws are certainly one area where fee shifting provisions are an effective tool in promoting private enforcement.

## D. JOINT AND SEVERAL LIABILITY, CONTRIBUTION, AND CLAIM REDUCTIONS

1. *Should Congress and/ or the courts change the current antitrust rules regarding joint and several liability, contribution, and claim reduction?*

No. Current antitrust law provides for joint and several liability for co-conspirators, bars contribution among defendants and provides for actual dollar claim reduction or judgment credit. The current rules thus promote the goals of deterrence, victim compensation, settlement, finality and judicial economy. There have been few, if any, reported instances of miscarriages of justice created by these rules. Further, the Supreme Court has determined that these issues are exclusively for Congress, not the courts to resolve.

As Judge Easterbrook wrote in *Paper Systems Inc. v. Nippon Paper Industries Co., Ltd.*,[23] "[j]oint and several liability is [a] vital instrument for maximizing deterrence." Further, Congress has neither expressly nor implicitly intended to create a right of contribution under the Sherman and Clayton Acts as neither those Acts nor their legislative history refers to contribution, and there is nothing to indicate any congressional concern with softening the blow on joint wrongdoers.[24] To the contrary, Congress has manifested its intent to punish past, and to deter future, unlawful conduct,

[23] 281 F.3d 629, 633 (7th Cir. 2002), (citing Lewis A. Kornhauser & Richard L. Revesz, *Sharing Damages Among Multiple Tortfeasors*, 98 YALE L.J. 831 (1989)).

[24] *See* Texas Indus., Inc. v. Radcliff Materials, Inc., 451 U.S. 630, 640 (1981).

not to ameliorate the liability of joint wrongdoers.[25] Further, the federal courts are not empowered to create a federal common-law rule of contribution among antitrust wrongdoers, as it does not implicate the type of "uniquely federal interests" that necessitate formulation of federal common law. While Congress may have intended to allow federal courts to develop governing principles of law in the common-law tradition with regard to substantive violations of the Sherman Act, Congress did not intend to give courts similarly wide discretion in formulating remedies to enforce the Act or the kind of relief sought through contribution.[26] Likewise, the common-law did not allow contribution among joint tortfeasors. The common-law rule rested on the idea that when several tortfeasors have caused damage, the law should not lend its aid to have one tortfeasor compel others to share in the sanctions imposed by way of damages intended to compensate the victim.[27] On the other hand, the courts have enforced judgment sharing agreements entered between alleged joint wrongdoers.[28]

If courts had to allocate damages among the various defendants, the complexity of litigation would be expanded and the settlement process would be made more difficult because of the added element of uncertainty.

The current rules promote the policies of deterrence and finality and to a lesser extent recompense for injured parties. Further, the law favors settlement. Working together, the current antitrust rules regarding joint and several liability, contribution, and claim reduction provide incentives for early settlement at non-coercive levels.

2. *Is the evolution of rules regarding joint and several liability, contribution, and claim reduction in other areas of the law instructive in the context of antitrust law?*

No. Each area of substantive law is under girded by unique policy determinations. In antitrust, the rules regarding joint and several liability, contribution, and claim reduction are most often applied in the context of concerted anticompetitive actions. In the case of cartels, the success of the cartel is dependent on the interdependent actions of the members that will result in higher prices throughout the market; it makes sense to hold each member responsible for all the price rises in the market. This might or

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[25] *See id.*

[26] *See id.* at 640-46.

[27] *Id.*

[28] *See, e.g.*, In re Brand Name Prescription Drugs Antitrust Litig., Nos. 94 C 897, MDL 997, 1995-2 Trade Cas. (CCH) ¶71,091, 1995 WL 234521 (N.D. Ill. April 18, 1995).

might not be present for violations involving other areas of the law. The damages jurisprudence under Section 1 of the Sherman Act is carefully balanced to deter, punish and compensate those injured by concerted activity. It would undermine those policy goals to offer relief to such joint violators by ameliorating their liability for joint wrongdoing or complicating victim compensation.

## E. REMEDIES AVAILABLE TO THE FEDERAL GOVERNMENT

1. *Should DOJ and/or the FTC have statutory authority to impose civil fines for substantive antitrust violations? If so, in what circumstances and what types of cases should such fines be available? If DOJ and/or the FTC are given such authority, how, if at all, should it affect the availability of damages awarded to private plaintiffs?*

No. The history and institutional structure of the DOJ and FTC, and the wide variety of anticompetitive behavior that they confront, both suggest that the addition of civil fines would be a complicated and unnecessary undertaking. The DOJ is mainly concerned with prosecuting civil and criminal antitrust violations in the courts. It would have to add an internal quasi-judicial function in order to determine violations and assess fines. The FTC arguably might be better suited than the DOJ to such a function, but the FTC's own statements about the limited circumstances in which it is institutionally suited to seek disgorgement, or other monetary remedies, suggests that the addition of administrative civil fines would not complement its primary purpose, which is to enjoin anticompetitive activity. Indeed, the FTC has endorsed the important complementary role that the private plaintiffs and state attorneys general serve in recovering damages, and has worked with them in many cases, including the recent Mylan litigation.[29]

Any discussion of change to available antitrust remedies must take into account the effect of that change on the other remedies available. Assuming that the DOJ and/or the FTC were given the authority to impose civil fines, any beneficial purposes of such

[29] *See* In re Lorazepam & Clorazepate Antitrust Litig., 202 F.R.D. 12, 17-21 (D.D.C. 2001) (holding that direct purchasers had standing to bring private treble damages action notwithstanding fact that FTC would recover overcharges on behalf of indirect purchasers).

civil fines would be vitiated by permitting the fine to offset damages awarded in other proceedings. The purpose of a fine is punitive, while the purpose of antitrust damages to private plaintiffs is primarily to compensate those injured by anticompetitive conduct.[30] The fine would have no punitive effect if it simply gave the violator a discount on its liability for civil damages.

In addition, the prospect that government intervention could affect the availability of damages awarded to private plaintiffs could significantly deter private actions, which are one of the primary means by which the antitrust laws are enforced. Congress clearly intended this important role for private litigants, providing treble damages and attorney fees so that aggrieved parties would serve as "private attorneys general" to protect the market from antitrust violations.[31] Federal agencies simply do not have the resources to litigate the large number of cases brought by the private bar.[32] It is highly unlikely that the FTC and DOJ would be allocated the additional resources necessary to take on the litigation that is handled by the private bar. Thus, any displacement of private remedies would reduce enforcement of the antitrust laws, and should be disfavored.

2. *Should Congress clarify, expand, or limit the FTC's authority to seek monetary relief under 15 U.S.C. § 53(b)?*

No. Important to the consideration of whether to clarify, expand, or limit the FTC's authority to seek monetary relief is the FTC's view that disgorgement is a tool it uses sparingly, and it does not have the resources or the institutional capability to seek redress in but a few cases. As the FTC has stated,

> The Commission continues to believe that disgorgement and restitution can play a useful role in some competition cases, complementing more familiar remedies such as divestiture, conduct remedies, private damages, and civil or criminal penalties. The competition enforcement regime in the United States is multifaceted, and it is important and beneficial that there

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[30] The argument that the trebling of antitrust damages is punitive is refuted by evidence showing that plaintiffs on average do not recover more than their actual damages. *See* Lande, supra note 8, at 118.

[31] *See* Hawaii v Standard Oil, 405 U.S. 251, 262 (1972).

[32] *See* Stephen Calkins, *Corporate Compliance and the Antitrust Agencies' Bi-modal Penalties*, 60 LAW & CONTEMP. PROBS. 127, 156 (1997) (finding only ten civil Antitrust Division decisions published from 1980 to 1996, and only eight administrative competition complaints filed in the last seven years).

be a number of flexible tools, as well as a number of potential enforcers, available to address competitive problems in a particular case."[33]

As is clear from this statement, the FTC does not itself see an expanded authority to seek monetary relief as central to its mission. For example, it is unlikely to seek monetary relief where the calculation of defendant's profits is complex, or would result in a complicated claims process; these tasks are better undertaken by the private bar. On the other hand, the disgorgement remedy is a beneficial tool that the FTC has used well in cases where private plaintiffs were unlikely to bring suit, whether because of problems with class certification or damages, or fears of retaliation. In addition, the FTC Act is broader than the Sherman Act and the Clayton Act, and disgorgement actions can, at least in theory, assure some level of deterrence in a wider range of cases.

Case law on the disgorgement remedy available to the FTC under 15 U.S.C. § 53(b) shows that it is a remedy that the FTC has used sparingly, and the equitable nature of the remedy is such that it is one better defined through case law than by additional legislation. It really does not merit review until there has been greater experience.

## F. PRIVATE INJUNCTIVE RELIEF

1. *Has the ability of states and private plaintiffs to seek injunctive relief under 15 U.S.C. 26 benefited consumers or caused harm to businesses or others? Please provide any specific examples, evidence, or analyses supporting this assessment. What would be the consequences if the availability of injunctive relief to states and private plaintiffs under 15 U.S.C. 26 were changed? Should standing to pursue injunctive relief under federal antitrust law be different for states than it is for private parties?*

Private enforcement of the antitrust laws serves a combination of purposes – it protects or compensates parties who have been injured by the antitrust violations of others; it serves to deter would-be violators, and thus importantly it serves the interests of consumers in maintaining vigorous competition and healthy markets; and it lessens the burdens and expenses that would otherwise be incurred by the federal enforcement agencies. The availability of preliminary and/or permanent injunctive relief under 15

[33] FTC, "Policy Statement on Monetary Equitable Remedies in Competition Cases," July 25, 2003, available at <http://www.ftc.gov/os/2003/07/disgorgementfrn.htm>.

U.S.C. § 26 is an important counterpart to the treble damages provision for the successful enforcement of the antitrust laws, Courts properly recognize that the proper application of injunctive relief will advance all of these objectives.

The availability of injunctive relief may well be essential for the firm whose competitive position, or indeed its very ability to stay in business, are threatened by unlawful, anticompetitive behavior. Limiting relief only to a later award of monetary relief does not adequately protect the public's interest in maintaining healthy competition. The interests of the business community and of consumers in safeguarding against the unduly expansive availability of injunctive relief are advanced by present-day standards for the grant of such relief. Because of the historically equitable history of injunctions, courts will grant preliminary injunctions only after balancing the harm to the defendant from the grant of the injunction against the harm that the plaintiff would suffer if the injunction were not granted, as well as the likelihood of the plaintiff's prevailing on the merits of the case and the public interest in the grant or denial of an injunction. Those business and consumer interests are further advanced by entrusting the grant of relief to the sound discretion of the district court, with appellate review for abuse of that discretion. Changes to the standards for the grant of injunctions, making them less freely available, would have a net adverse effect on consumer welfare.

2. *Are there currently sufficient safeguards (e.g., judicial discretion and the Cargill requirement that private plaintiffs establish antitrust injury) to limit injunctions to appropriate circumstances?*

The Commission should consider some relaxation in the antitrust injury and standing requirements for injunctive relief. While the Supreme Court suggested in *Hawaii v. Standard Oil* that somewhat more relaxed standards might be appropriate for injunctive relief, in *Cargill* the Court then limited any such differences. Standing rules in general have been animated in part by concerns for finding the "best plaintiff" or for protecting defendants against duplicative awards. But, as evidenced by the inapplicability of the Illinois Brick rule to indirect purchasers seeking only injunctive relief, these concerns are lessened, or even completely absent, in actions seeking injunctions.

## G. INDIRECT PURCHASER LITIGATION

1. *What are the costs and benefits of antitrust actions by indirect purchasers, including their role and significance in the U.S. antitrust enforcement system? Please be as specific as possible.*

2. *What burdens, if any, are imposed on courts and litigants by the difficulty of consolidating state court actions brought on behalf of indirect purchasers with actions brought on behalf of direct purchasers, and how have courts and litigants responded to them? What impact, if any, will the Class Action Fairness Act of 2005 have in this regard?*

3. *Does Illinois Brick's refusal to provide indirect purchasers with a right of recovery under federal antitrust law serve or disserve federal antitrust policies, such as promoting optimal enforcement, providing redress to victims of antitrust violations, preventing multiple awards against a defendant, and avoiding undue complexity in damage calculations?*

4. *What actions, if any, should Congress take to address the inconsistencies between state and federal rules on antitrust actions by indirect purchasers? For example, should Congress establish Illinois Brick as the uniform national rule by preempting Illinois Brick repealer statutes, or should it overrule Illinois Brick? If Congress were to overrule Illinois Brick, should it also overrule Hanover Shoe, so that recoveries by direct purchasers can be reduced to reflect recoveries by indirect purchasers (or vice versa)? Assuming both direct and indirect purchaser suits continue to exist, what procedural mechanisms should Congress and the courts adopt to facilitate consolidation of antitrust actions by indirect and direct purchasers?*

[The AAI has respectfully elected to provide a single response]

Since 1977, the only damages remedies available to indirect purchasers harmed by antitrust violations have been those provided by state law. State legislatures, not Congress, should decide whether and to what extent consumers and other indirect purchasers residing in their states should have a state law damages remedy. Congress should not prohibit states from exercising this authority, especially since state laws regulating competition actually preceded the Sherman Act.[34]

The Sherman Act was intended to supplement, not displace, state antitrust enforcement. Senator Sherman himself stated that the "single object" of the Act was "to arm the Federal Courts … that they may cooperate with the State courts in checking, curbing and controlling the most dangerous combinations …." [35]. The federal policy of

[34] *See* James May, *Antitrust Practice and Procedure in the Formative Era: The Constitutional and Conceptual Reach of State Antitrust La*w, 1880-1918, 135 U. PA. L. REV. 495 (1987).

[35] 21 CONG. REC. 2457 (1890) (statement of Sen. Sherman) (emphasis added).

working side-by-side with the states to promote competition has continued unabated for the 115 year life of the Sherman Act. Respect for state sovereignty, as well as the proven effectiveness of this dual antitrust enforcement, counsel strongly against any effort by Congress to eliminate an important area of state antitrust enforcement. Thus, the National Association of Attorneys General adopted a resolution this year in which, among other things, it expressed its opposition to federal preemption of any state antitrust laws, including indirect purchaser laws, because such preemption would "impair enforcement of the antitrust laws, harm consumers, and harm free competition." [36]

In fact, there exists a general division of labor somewhat similar to what the European Union nations are now attempting to develop, namely that matters of primarily local concern should be handled at the local level, whereas matters of a more regional or national concern should be handled at the federal level. Many antitrust violations are clearly local in nature and the central government should not generally have an interest in prosecuting such violations. This does not imply that the division of labor can be clear-cut. Very little occurs in the modern American economy that does not leak out beyond the boundaries of a single state, and a political system that assigns great value to decentralized government must provide state governments some flexibility in attempting to protect their own citizens from antitrust violations that have a significant impact within the state. All of this works in practice, most of the time. The federalism wheel is not broken.[37]

Preemption of state indirect purchaser remedies would also end doctrinal competition between federal and state governments, to the detriment of antitrust jurisprudence. Antitrust federalism:

> encourages diversity of thought, experimentation, and innovation in approaches. Such diversity and experimentation are especially important in the field of antitrust, where debate continues on how best to approach certain key issues and the laws' proper goals.[38]

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[36] NAAG Resolution, "Principles of State Antitrust Enforcement," adopted at Spring Meeting, March 14-16, 2005.

[37] E. Gellhorn, W. Kovacic, and S. Calkins, ANTITRUST LAW AND ECONOMICS IN A NUTSHELL 541 (5th ed. 2004) ("In fact, Microsoft is the aberrational state case. The vast majority of state antitrust cases reflect the states' consensus comparative advantages of familiarity with local markets, familiarity with local institutions, and possession of tools and expertise for compensating individuals.").

[38] J. W. Burns, *Symposium, Antitrust at the Millennium (Part I); Embracing Both Faces of Antitrust Federalism: Parker and ARC America*, 68 ANTITRUST L.J. 29 (2000).

This diversity and innovation, therefore, should not be terminated.

While someday a consensus may emerge on indirect purchaser issues, that day certainly has not arrived. Indeed, the American Bar Association Antitrust Task Force has observed the marked contrast between federal and state approaches, as well as the legitimacy of both:

> While it is difficult to draw any definitive conclusions about such a diverse body of law, it seems fair to say that federal antitrust policy, as embodied in Hanover Shoe and Illinois Brick, and state antitrust policy, as embodied in various indirect purchaser statutes, represent two legitimate but competing schemes of antitrust enforcement.[39]

Even within the realm of state antitrust law, diversity abounds. For example, more than half the states have some form of Illinois Brick repealer legislation, and half do not.[40]

Most Illinois Brick issues arise in the form of class actions on behalf of consumers. Congress has just passed major legislation, the Class Action Fairness Act, reforming the handling of class actions. Nearly all antitrust class actions (whether grounded in state or federal law) will be coordinated or consolidated in a single federal court. That should take care of many of the concerns relating to Illinois Brick, proliferation of duplicative state and federal suits and inconsistent adjudications. In view of this brand new and revolutionary change, which has not yet been given a chance to work itself out, it would be unwise to recommend additional reformation of the relationship between state and federal law for indirect purchasers at this time. Rather, Congress would benefit from a fuller opportunity to witness the actual (as opposed to theoretical) benefits and drawbacks of state indirect purchaser remedies and how in reality they interplay with federal remedies, under the new scheme.

Retaining state ability to provide for indirect purchaser claims is important. There are numerous instances, for example, where enforcement by purchasers occupying one or the other end of the distribution system is non-existent or de minimus, leaving only the

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[39] *ARC America Task Force Report: Report of the American Bar Association Section of Antitrust Law Task Force to Review the Supreme Court's Decision in California v. ARC America Corp.*, 59 ANTITRUST L.J. 217 (March 23, 1990).

[40] *See* D. R. Karon, *"Your Honor, Tear Down That Illinois Brick Wall!" The National Movement Toward Indirect Purchaser Antitrust Standing and Consumer Justice*, 30 WM. MITCHELL L. REV. 1351, 1361-62 (2004).

other end to provide adequate antitrust enforcement. In the Microsoft class action litigation, no significant direct purchaser class was ever certified, leaving the vast majority of direct purchases uncompensated.[41] Were it not for the recoveries by indirect purchasers under state law, Microsoft would have retained virtually all of the overcharge. Similarly, in *In re New Motor Vehicles Canadian Export Antitrust Litigation*,[42] currently pending in federal district court in Maine, no direct purchaser of motor vehicles has sued in the two years since the case was filed by indirect purchasers.[43] In all likelihood, the indirect purchasers, proceeding under state law, will be the sole antitrust enforcers in this litigation.

In sum, for many years the states have made a highly valuable contribution to the origination, development and enforcement of antitrust law in this country. They should be permitted to continue to protect their own consumers through indirect purchaser statutes, and to contribute to the ongoing development of indirect purchaser law. Congress, for its part, should continue to learn how indirect purchaser laws work in practice, including under the newly-enacted Class Action Fairness Act, and permit further study of whether or not in reality they lead to over-deterrence.

Additional Submissions:

Robert H. Lande, *Are Antitrust "Treble" Damages Really Single Damages?*, 54 OHIO ST. L.J. 115 (1993).

Paul Sirkis, Selected Bibliography, Antitrust Remedies.

Contact person for these comments:

Albert A. Foer, President, American Antitrust Institute, [redacted]

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[41] Only $10.5 million out of billions of dollars in estimated damages were recovered by direct purchasers.

[42] MDL No. 1532.

[43] These cases reflect one of the fundamental failings of the Supreme Court's *Illinois Brick* opinion, namely its assumption that direct purchasers will have the strongest incentive to sue antitrust violators. This ignores practical realities of business life in which direct purchasers most often pass on overcharges and in which direct purchasers have a strategic motivation not to antagonize their major suppliers. The current system helps ensure that at least one class of plaintiff will have both the incentive and the capability to sue the violator. This is a desirable state of affairs that would be called into question only if there were strong evidence of systematic overdeterrence – which evidence we have never seen.

DRAFT
June 2005

# American Antitrust Institute 6th Annual Conference
## Selected Bibliography– Antitrust Remedies

*Eleanor Fox and Paul Sirkis*

We initially approached the task of surveying the literature on antitrust remedies with a view towards identifying common themes or conclusions. In fact, the body of literature is noteworthy for the extent of general disagreement. For example, on the topic of the *Microsoft* case, some commentators opined that only a severe structural solution would remedy the monopolization violation, while others believed that robust remedial measures would ultimately harm consumers. Indeed, in an introduction to the 2004 ABA Antitrust Remedies Forum, Richard Steuer wrote "[some critics] have complained that the remedies are too severe, or not severe enough. Some have complained that remedies regulating conduct rather than requiring monetary payments are insufficient or too complex. Others have complained that there are too many enforcers and too many proceedings based on the same allegations."[1]

Some aspects of the remedies debate are even more contentious. For example, at the ABA Antitrust Remedies Forum, panelists agreed not to discuss *Illinois Brick*, fearing that debate regarding indirect purchaser suits would be so heated as to preempt debate on all other antitrust remedial issues.[2]

We have compiled a list of sources that we hope will be useful for those wishing to conduct further research on the issue of antitrust remedies. This is a work in progress. We welcome suggestions for additional materials that should be included.

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[1] R. Steuer, *Introduction*, ABA Section of Antitrust Law, Antitrust Remedies Forum, at 1, *available at* http://www.abanet.org/antitrust/remedies/remediesintro.doc.

[2] Edward D. Cavanagh, *Illinois Brick: A Look Back and a Look Ahead*, 17 LOY. CONSUMER L. REV. 1 (2004) at n.6.

## **Antitrust Remedies Generally**

*Books*

ABA Section of Antitrust Law, ANTITRUST LAW DEVELOPMENTS (FIFTH), Chaps. VIII D and E (ABA 2002), and supplemental annual reviews.

ABA Section of Antitrust Law, MERGERS AND ACQUISITIONS, UNDERSTANDING THE ANTITRUST ISSUES (SECOND), Chap. 13 (ABA 2004).

ABA Section of Antitrust Law, PROVING ANTITRUST DAMAGES, LEGAL AND ECONOMC ISSUES (ABA 1996).

Areeda, Philip & Turner, Donald, ANTITRUST LAW, vol. 2, Chap. 3 (Little, Brown & Co. 1978), and supplements.

Breit, William & Elzinga, Kenneth, ANTITRUST PENALTY REFORM: AN ECONOMIC ANALYSIS (AEI Press, 1986).

Hovenkamp, Herbert, FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE, Chap. 17 (3d ed., Thomson/West, 2005).

Posner, Richard, ANTITRUST LAW: AN ECONOMIC PERSPECTIVE, chaps. 5 and 10 (University of Chicago Press, 2d ed. 2001).

Sullivan, Lawrence & Grimes, Warren, THE LAW OF ANTITRUST: AN INTEGRATED HANDBOOK, Chaps. XVI and XVII (West 2000).

Sullivan, E. Thomas & Harrison, Jeffery L., UNDERSTANDING ANTITRUST AND ITS ECONOMIC IMPLICATIONS § 3.02 (4th ed. 2003).

Wils, Wouter P.J., THE OPTIMAL ENFORCEMENT OF EC ANTITRUST LAW, ESSAYS IN LAW AND ECONOMICS (Kluwer 2003).

*Articles*

Adams, Walter, *Dissolution, Divorcement, Divestiture: the Pyrrhic Victories of Antitrust*, 27 IND. L. J. 1 (1951) (analyzing past Section 2 antitrust cases and concluding that while the U.S. Department of Justice held an impressive record of legal victories, the remedial action approved by the courts in most of those cases failed to lessen concentration or restore effective competition).

Benston, George J., *Indirect Purchasers' Standing to Claim Damages in Price Fixing Antitrust Actions: A Benefit/Cost Analysis of Proposals to Change the Illinois Brick Rule*, 55 ANTITRUST L.J. 213 (1986).

Cavanagh, Edward D., *Illinois Brick: A Look Back and a Look Ahead*, 17 LOY. CONSUMER L. REV. 1 (2004) (reviewing the *Illinois Brick* decision and its impact on the evolution of antitrust doctrine and arguing in favor of legislative reform authorizing federal jurisdiction over multi-jurisdictional indirect purchaser suits brought in state court), *available at* http://www.luc.edu/law/academics/special/center/antitrust/illinois_brick.pdf.

Cavanagh, Edward D., *Detrebling Antitrust Damages: An Idea Whose Time Has Come?*, 61 TUL. L. REV. 777 (1987) (advocating detrebling, citing the risk of overdeterrence, unfairness, market distortions, and baseless lawsuits as arguments to abolish or at least limit the applicability of this provision).

Davis, Ronald W., *Indirect Purchaser Litigation: ARC America's Chickens Come Home to Roost on the Illinois Brick Wall*, 65 ANTITRUST L.J. 375 (1997).

Denger, Michael & Arp, D. Jarrett, *Does Our Multifaceted Enforcement System Promote Sound Competition Policy?*, 15 ANTITRUST 41 (2001) (arguing that the analysis of whether the multi-faceted system of remedies adequately deters cartel behavior should inquire whether it (1) provides compensation to those who are actually injured by cartel behavior; (2) avoids creating windfalls to those who are not injured; (3) generates excessive costs by giving rise to unnecessary legal fees and related expenses and imposing unjustified burdens on the judiciary and the parties through protracted, uncoordinated and duplicative litigation; and (4) furthers the fundamental policy of promoting a more competitive industry structure that furthers consumer welfare).

Gavil, Andrew, *Federal Judicial Power and the Challenges of Multijurisdictional Direct and Indirect Purchaser Antitrust Litigation*. 69 GEO. WASH. L. REV. 860 (2001) (arguing that the case management problems posed by the diffusion of private direct and indirect purchaser litigation among state and federal courts leads to unjustifiable systemic inefficiencies, and proposing a legislative solution that would allow easier removal and consolidation of indirect purchaser suits).

Hovenkamp, Herbert, *The Indirect-Purchaser Rule and Cost-Plus Sales*, 103 HARV. L. REV. 1717 (1990).

Joskow, Paul L., *Transaction Cost Economics, Antitrust Rules, and Remedies* 18 J. LAW, ECON. & ORG. 95 (2002) (arguing that antitrust rules should be sensitive to the attributes of enforcement institutions, the information and analytical capabilities these institutions possess, the uncertainties they must confront in the diagnosis and mitigation of anticompetitive behavior and market structures, and the associated costs of Type I and Type II errors implied by alternative legal rules and remedies).

Lande, Robert H., *Why Antitrust Damage Levels Should Be Raised*, 16 LOY. CONSUMER L. REV. 329 (2004) (asserting that current antitrust damage levels do not total treble damages and are not high enough overall to optimally deter antitrust violations), *available at* http://home.ubalt.edu/ntlaland/AntitrustDamageLevelsConsumerLRev2004.pdf.

Lande, Robert H., *Are Antitrust "Treble" Damages Really Single Damages?*, 54 OHIO ST. L. J. 115 (1993) (suggesting that treble damages amount to less than actual damages when factors such as lack of prejudgment interest, the time value of money, failure to account for societal welfare losses or umbrella effects, litigation costs, and tax effects are taken into account), *available at* http://home.ubalt.edu/ntlaland/TrebleDamages1993.doc.

Landes, William, *Optimal Sanctions For Antitrust Violations*, 50 U. CHI. LAW REV. 652 (1983) (demonstrating that to determine optimal deterrence, net harm by antitrust violations must first be calculated, then multiplied by the probability of detecting and proving the violation).

O'Connor, Kevin J., *Is the Illinois Brick Wall Crumbling?*, 15 ANTITRUST 34 (2001).

Page, William H., *The Limits of State Indirect Purchaser Suits: Class Certification in the Shadow of Illinois Brick*, 67 ANTITRUST L.J. 1 (1999) (surveying class certification decisions in cases that indirect purchasers had filed under state *Illinois Brick* repealer statutes and similar state laws and concluding that indirect purchasers suits were not effective in providing real compensation to the vast majority of indirect purchasers of price-fixed products).

Pitofsky, Robert, *Antitrust at the Turn of the Twenty-First Century: The Matter of Remedies*, 91 GEO. L. J. 169 (2002) (asserting that the organizing principle of the 1990s, both during the Bush I and Clinton Administrations, was to administer a moderately aggressive antitrust program, but combine it with a sensitivity to the values of preserving efficiencies and encouraging incentives to innovate and a recognition of economic changes resulting from globalization of competition; and arguing that while few, if any, new substantive antitrust rules were adopted during

the Clinton years, remedies during the 1990s were expanded and modified, however they still may not be fully adequate).

Polinsky, A. Mitchell & Rubinfeld, Daniel L., *Remedies for Price Overcharges: The Deadweight Loss of Coupons and Discounts*, John M. Olin Program in Law and Economics Working Paper No. 271 (November 2003) (evaluating coupon and discount remedies, and arguing that deadweight loss can be lower under the discount remedy), *available at* http://www.ftc.gov/be/seminardocs/04polinsky.pdf.

Posner Richard & Landes William, *Should Indirect Purchasers Have Standing to Sue Under the Antitrust Laws? An Economic Analysis of the Rule of Illinois Brick*, 46 U. CHI. L. REV. 602 (1979).

Salop, Steven & White, Lawrence J., *Treble Damages Reform: Implications of the Georgetown Project*, 55 ANTITRUST L. J. 73 (1986) (examining the antitrust remedial scheme through the use of a database containing information on over two thousand antitrust cases).

Sullivan, E. Thomas, *Antitrust Remedies in the U.S. and E.U.: Advancing a Standard of Proportionality*, 48 ANTITRUST BULL. 377 (2003) (comparing American and European approaches to antitrust remedies for merger and monopolization cases, and suggesting that American antitrust law should adopt a more focused, market-oriented remedial approach).

Waller, Spencer W., *Private Law, Punishment, and Disgorgement: The Incoherence of Punishment in Antitrust*, 78 CHI.-KENT L. REV. 207 (2003) (arguing that total punishment in any given antitrust case varies dramatically for offenses with identical or similar status under the law and there is no *a prioi* way to predict punishment levels for a particular case or a particular defendant), *available at* http://www.abanet.org/antitrust/remedies/waller.pdf.

Werden, Gregory J. & Schwartz, Marius, *Illinois Brick and the Deterrence of Antitrust Violations - An Economic Analysis*, 35 HASTINGS L.J. 629 (1984).

Symposium, *Indirect Purchaser Pot Keeps Boiling*, 15 ANTITRUST 28 (2001) (discussing the increasing incidence of indirect purchaser follow-on litigation).

Symposium, *Pyrrhic Victories? Reexamining the Effectiveness of Antitrust Remedies in Restoring Competition and Deterring Misconduct, The Adequacy of Civil Monetary Sanctions: Treble Damages and Restitution*, 69 GEO. WASH. L. REV. 1 (2001) (individual papers listed herein), *available at* http://www.law.gwu.edu/stdg/gwlr/issues/69-5-6.htm.

*Bar Association Reports and Fora*

ABA Section of Antitrust Law, *Antitrust Remedies Forum* (April 2, 2003) (The first roundtable addressed the adequacy of criminal and civil antitrust remedies in deterring cartel behavior; the second addressed non-monetary remedies, including both merger remedies and non-merger remedies; and the third addressed issues of access to courts and procedure), program, roundtable transcripts and papers *available at* http://www.abanet.org/antitrust/remedies/.

ABA Section of Antitrust Law, *Report on Remedies* (2004), *available at* http://www.abanet.org/antitrust/comments/2004/RemediesReportCouncil.doc.

ABA Section of Antitrust Law, The State of Federal Antitrust Enforcement – 2005, Report of the Task Force on the Federal Agencies at 43-45 (proposing remedial harmonization among the antitrust agencies, particularly with respect to the use of buyer up-front remedies by the FTC versus "fix-it first" remedies at the DOJ).

Panel Discussion, *Antitrust Remedies in the 21st Century: Too Many Actions? Too Much—or Still Too Little — Recovery?* Chair's Showcase Program, ABA Section of Antitrust Law 50th Annual Spring Meeting, 2002 (Chair Roxane Busey and panelists Michael Denger, Harry First, Robert Pitofsky, Susan Illston and Lewis Kaplan, considered whether the current structure of antitrust remedies strikes the right balance and achieves the goals of deterring antitrust violations, punishing wrongful conduct, and compensating injured parties), *available at* http://www.abanet.org/antitrust/source/07-02/chairprogram.pdf.

Report of the ABA Antitrust Law Section Task Force on Legislative Alternatives Concerning *Illinois Brick*, 46 ANTITRUST L.J. 1137 (1978).

Report of the ABA Section of Antitrust Law Task Force to Review Proposed Legislation to Repeal or Modify *Illinois Brick*, 52 ANTITRUST L.J. 841 (1984) (opposing proposed legislation designed to repeal in part *Hanover Shoe* and *Illinois Brick* because such legislation would permit indirect purchaser suits without solving the problems of dilution of the deterrent effect of treble damage recoveries, overcomplication of treble damage proceedings, introduction of unwieldy investigations to trace overcharges, and the possibility of double recoveries and inconsistent judgments).

Report of the ABA Section of Antitrust Law Task Force to Review the Supreme Court's Decision in *California v. ARC America Corp.*, 59 ANTITRUST L.J. 273 (1990) (setting forth an analysis of the legal issues and policy implications raised by *ARC America* and listing some alternatives available to federal and state antitrust policymakers in light of *ARC America*).

Report of the Indirect Purchaser Task Force, 63 ANTITRUST L.J. 993 (1995) (proposing a legislative change to the effect that each state attorney general would be authorized to bring indirect purchaser lawsuits as *parens patriae* for its own residents; such indirect purchaser lawsuits would be the *only* indirect purchaser lawsuits that could be brought under federal or comparable state law, i.e., *state* statutes would be pre-empted; in both direct and indirect purchaser cases there would be a presumption that any overcharge was passed on to the *ultimate* indirect purchaser; in both direct and indirect purchaser cases the amount of the overcharge would be calculated as if it occurred at the *direct* purchaser level; and in both direct and indirect purchaser cases duplicative amounts based on the same overcharge could not be awarded).

*Government Statements, Government Officials*

Delrahim, Makan**,** *Forcing Firms to Share the Sandbox: Compulsory Licensing of Intellectual Property Rights and Antitrust*, Speech delivered at the British Institute of International and Comparative Law London, England (May 10, 2004) (arguing that compulsory licensing is appropriate as an antitrust remedy so long as antitrust authorities carefully consider the potential harm to innovation, and draft the license as narrowly as reasonably possible), *available at* http://www.usdoj.gov/atr/public/speeches/203627.htm.

*FTC Policy Statement on Use of Monetary Remedies in Competition Cases* (July 25, 2003) (while disgorgement and restitution can complement more familiar remedies such as divestiture, conduct remedies, private damages, and civil or criminal penalties, the FTC will generally seek disgorgement and restitution only in exceptional cases: where the underlying violation is clear, *where there is* a reasonable basis for calculating the amount of a remedial payment and there is value in seeking monetary relief in light of any other remedies available, including private actions and criminal proceedings), *available at* www.ftc.gov/os/2003/07/disgorgementfrn.htm.

Majoras, Deborah P., *Antitrust Remedies in the United States: Adhering to Sound Principles in a Multi-Faceted Scheme*, Speech delivered at Canadian Bar Association Annual Fall Conference on Competition Law, 3-4 October 2002, *available at* http://www.usdoj.gov/atr/public/speeches/200354.pdf.

Muris, Timothy, *Merger Enforcement in a World of Multiple Arbiters*, Dec. 21, 2001, Prepared remarks before the Brookings Institution Roundtable on Trade & Investment, Washington, D.C., *available at* http://www.ftc.gov/speeches/muris/brookings/pdf.

Pitofsky, Robert, *The Nature and Limits of Restructuring in Merger Review*, Cutting Edge Antitrust Conference Law Seminars International (2000) (describing the various factors that influence the FTC's decisions to restructure and emphasizing the FTC's willingness to consider restructuring proposals, as long as the restructuring proposals are likely to preserve competition), *available at* http://www.ftc.gov/speeches/pitofsky/restruct.htm.

U. S. DEPARTMENT OF JUSTICE, ANTITRUST DIVISION, *Antitrust Division Policy Guide to Merger Remedies* (October 2004), *available at* http://www.usdoj.gov/atr/public/guidelines/205108.htm.

U. S. FEDERAL TRADE COMMISSION, *Statement of the Federal Trade Commission's Bureau of Competition on Negotiating Merger Remedies* (April 2, 2003) (addressing issues arising in the following areas: (1) the assets to be divested, (2) an acceptable buyer, (3) the divestiture agreement, (4) additional order provisions, (5) orders to hold separate and/or maintain assets, (6) divestiture applications, and (7) timing), available at http://www.ftc.gov/bc/bestpractices/bestpractices030401.pdf.

U.S. FEDERAL TRADE COMMISSION, BUREAU OF COMPETITION, *A Study of the Commission's Divestiture Process* (1999) (systematically reviewing orders requiring divestiture to determine how well buyers of divested assets have fared operating the assets they acquired, and recommending that the Commission include a variety of order provisions and divestiture procedures to correct informational and bargaining imbalances between respondents on the one hand and the staff and the buyers of divested assets on the other hand, particularly where the buyers have never operated in the industry and never operated the to-be divested business), *available at* http://www.ftc.gov/os/1999/08/divestiture.pdf.

U.S. FEDERAL TRADE COMMISSION, *A Workshop to Discuss the Federal Trade Commission's Remedies Process* (June 18, 2002) transcript *available at* http://www.ftc.gov/bc/bestpractices/020618trans.pdf.

U.S. FEDERAL TRADE COMMISSION, *Merger Remedies Best Practices Workshop* (October 23, 2002), transcript *available at* http://www.ftc.gov/bc/bestpractices/021023transcipt.pdf.

## Monopolization


Ayres, Ian & Nalebuff, Barry, *Going Soft on Microsoft? The EU's Antitrust Case and Remedy*, 2 THE ECONOMISTS' VOICE, art. 4 (2005) (arguing that the Commission's unbundling remedy was desirable, but a preferable remedy would have required, in addition to unbundling, a separate version of Windows with three competing media players as well as Windows Media Player built in), *available at* http://www.bepress.com/cgi/viewcontent.cgi?article=1045&context=ev.

Bresnahan, Timothy F., *A Remedy that Falls Short of Restoring Competition*, 16 ANTITRUST 67 (Fall 2001) (arguing that on the government's theory of the Microsoft case, the settlement fell far short of providing a remedy proportionate to the problem - it did not lower the entry barriers that protected the Windows monopoly, as was required to vindicate the problem that the government successfully demonstrated in court), *available at* http://www.stanford.edu/~tbres/Microsoft/anti-bre.pdf.

Cartensen, Peter C., *Remedying the Microsoft Monopoly: Monopoly Law, the Rights of Buyers and the Enclosure Movement in Intellectual Property*, 44 ANTITRUST BULL. 577 (1999).

Comanor, William S., *The Problem of Remedy in Monopolization Cases: The Microsoft Case as an Example*, 46 ANTITRUST BULL. 115 (2001) (arguing that an effective remedy in the Microsoft case required the "formation of competitive structure at the operating system level, where Microsoft's monopoly position was grounded," however, misplaced concerns about consumer welfare prevented the court from adopting remedies comprehensive enough to achieve this goal).

Crandall, Robert W., *The Failure of Structural Remedies in Sherman Act Monopolization Cases*, AEI-Brookings, Working Paper No. 01-05 (2001), *available at* http://www.aei.brookings.org/publications/working/working0105.pdf.

Elzinga, Kenneth, et al., *United States v. Microsoft: remedy or malady?*, 9 GEO. MASON L. REV. 633 (2001) (chronicling the Microsoft investigation and lawsuit, and concluding that the break-up remedy adopted by the district court is out of proportion to the court's findings of minimal consumer harm, will result in higher prices for consumers and may deter innovation, and is a remedy long sought by Microsoft's competitors and the one that benefits them most).

First, Harry, *Delivering Remedies: The Role of the States in Antitrust Enforcement*, 69 GEO. WASH. L. REV. 1004 (2001) (emphasizing the importance of state antitrust enforcement and arguing that state enforcers have some important advantages, including greater local knowledge and different policy perspectives).

Forrester, Ian S., *Article 82: Remedies in Search of Theories?*, *in* INTERNATIONAL ANTITRUST LAW & POLICY, 2004 FORDHAM CORP. L. INST. 167 (B. Hawk, Ed. 2005).

Goldman, Calvin et al., *A Canadian Perspective On Intellectual Property Rights And Competition Policy: Striving For Balance And Related Comity Considerations*, *in* INTERNATIONAL ANTITRUST LAW & POLICY, 2004 FORDHAM CORP. L. INST. CHAP. 11 (B. Hawk, Ed. 2005).

Himes, Jay, *Exploring the Antitrust Operating System: State Enforcement of Federal Antitrust Law in the Remedies Phase of the Microsoft Case*, 11 GEO. MASON L. REV. 37 (2002) (examining the role of state antitrust enforcement generally and defending state involvement in the *Microsoft* case).

James, Charles A., *The Real Microsoft Case and Settlement*, 16 ANTITRUST 58 (Fall 2001) (examining the legal allegations charged in the complaint and how those allegations were resolved in the courts, and defending the effectiveness of the remedies in the proposed Final Judgment).

Kovacic, William E., *Designing antitrust remedies for dominant firm misconduct*, 31 CONN. L. REV. 1285 (1999) (emphasizing the importance of remedies in antitrust cases, asserting that examining the effectiveness of past enforcement is essential to shed light on appropriate future solutions, and questioning the adequacy of traditional antitrust institutions to intervene in sectors defined by rapid technological or organizational change).

Lande, Robert H. & Langenfeld, James A., *The Perfect Caper? Private Damages and the Microsoft Case*, 69 GEO. WASH. L. REV. 902 (2001) (arguing that despite the difficulty of calculating damages in cases involving harm to innovation, various methods do exist, and that it is therefore possible for private plaintiffs to recover damages based on innovation harm).

Lande, Robert H., *Why Are We So Reluctant to 'Execute' Microsoft?*, 1 ANTITRUST SOUCE 1 (November 2001) (arguing that although courts are reluctant to impose structural remedies, divestiture should not be a remedy of last resort, rather, it should be a viable option that is considered logically on its legal, administrative and economic merits), *available at* http://www.abanet.org/antitrust/source/11-01/microsoft.pdf.

Lenard, Thomas M., *Creating competition in the market for operating systems: alternative structural remedies in the Microsoft case*, 9 GEO. MASON L. REV. 803 (2001) (arguing in favor of a "hybrid" structural remedy (*i.e.*, one that would separate Microsoft into an Applications company and three equally subdivided Operating System companies) on the basis that such a remedy would immediately introduce competition into the personal computer Operating Systems market, and

it would minimize ongoing government scrutiny of Microsoft's business and technical activities).

Lévêque, François, *The Conduct v. Structural Remedies Controversy: An Irrelevant Dichotomy of Antitrust Policy Instruments*, Working Paper, Cerna-2000-6, Paris, Cerna, 2000, *available at* http://www.cerna.ensmp.fr/Documents/FL-MSMay00.pdf.

Lévêque, François, *The controversial choice of remedies to cope with the anti-competitive behaviour of Microsoft*, Paper presented to the Law and Economics Workshop, Boalt School of Law, University of California at Berkeley, 6 November 2000, *available at* http://www.cerna.ensmp.fr/Documents/FL-MSBerkeley.pdf.

Levinson, Robert J. et al., *The flawed fragmentation critique of structural remedies in the Microsoft case*, 46 ANTITRUST BULL. 135 (2001).

Lopatka, John E. & Page, William H., *Who Suffered Antitrust Injury in the Microsoft Case?*, 69 GEO. WASH. L. REV. 829 (2001) (arguing that consumers, computer manufacturers, and competitors will face obstacles in proving that Microsoft's offenses caused them antitrust injury, because damages resulting from harms to innovation are difficult to quantify, and even if one could find some price effects from Microsoft's actions, these would be too difficult to disentangle from Microsoft's legitimate business practices).

Lopatka, John E., *Devising a Microsoft remedy that serves consumers*, 9 GEO. MASON L. REV. 691 (2001) (asserting that a structural remedy in Microsoft would destroy efficiencies and harm consumer welfare, and that conduct remedies may be a preferable solution).

Shelanski, Howard & Sidak, J. Gregory, *Antitrust Divestiture in Network Industries*, 68 U. CHI. L. REV. 1 (2001) (proposing a framework for assessing the costs and benefits of different remedies, particularly divestiture, in monopolization cases involving network industries).

Sullivan, E. Thomas, *The Jurisprudence of Antitrust Divestiture: The Path Less Traveled*, 86 MINN. L. REV. 565 (2002) (arguing that courts should exercise caution when considering divestiture remedies in technologically dynamic markets, and instead "should consider alternative, conduct-based remedies that will both remedy the antitrust harm and will promote the competitive process" because "the cost of correcting the market failure [should] not exceed the anticompetitive injury visited on consumers.")

Tom, Willard K. & Wells, Gregory F., *Raising Rivals' Costs: The Problem of Remedies*, 12 GEO. MASON L. REV. 389 (2003) (describing the difficulty of crafting

remedies in raising-rivals'-costs cases and describing approaches used by courts in past cases).

Zittrain, Jonathan, *The Un-Microsoft Un-Remedy: Law Can Prevent the Problem That It Can't Patch Later*, 31 CONN. L. REV. 1361 (1999) (identifying government action in granting excessive copyright protection as the problem and suggesting slashing the term of copyright for computer software from 95 years to five or ten years).

## Mergers

Baer, William & Redcay, Ronald C., *Solving Competition Problems in Merger Control: The Requirements For An Effective Divestiture Remedy*, 69 GEO. WASH. L. REV. 915 (2001) (examining divestiture policies of the enforcement agencies, and in particular, the FTC's preference for "up-front" acceptable buyers, for "as is" sales of an entire business, and for the inclusion of contingent requirements for divestiture of "crown jewel" assets as an incentive for completion of divestiture programs), *available at* http://www.cerna.ensmp.fr/cerna_regulation/Documents/ColloqueMetR/Baer.pdf.

Balto, David A., *Lessons from the Clinton Administration: The Evolving Approach To Merger Remedies*, 69 GEO. WASH. L. REV. 952 (2001).

Elzinga, Kenneth, *The Antimerger Law: Pyrrhic Victories?*, 12 J. LAW & ECON. 43 (1969) (surveying the remedies imposed in a sample of thirty-nine merger cases, and concluding that they were ineffective because they were too timid and not sufficiently structural, and arguing that complete divestiture and reestablishment of the acquired firm was necessary).

Foer, Albert A., *Towards Guidelines for Merger Remedies*, 52 CASE W. RES. L. REV. 211 (2001) (suggesting guidelines for merger remedies with a view towards ensuring that competition is not diminished).

Holmes, Simon & Turnbull, Sarah, *Remedies in merger cases: recent developments*, 23 EUR. COMPETITION L. REV. 499 (2002).

Loftis, James R. III & Moskowitz, Danielle K, *United States Federal Antitrust Merger "Solutions," not "Remedies"*, *in* INTERNATIONAL ANTITRUST LAW & POLICY, 2004 FORDHAM CORP. L. INST. 387 (B. Hawk, Ed. 2005).

Reynolds, Michael J. & Burnley, Richard, *Merger Remedies in a New Era of EC Merger Control*, *in* INTERNATIONAL ANTITRUST LAW & POLICY, 2004 FORDHAM CORP. L. INST. 397 (B. Hawk, Ed. 2005).

Sims, Joe & McFalls, Michael, *Negotiated Merger Remedies: How Well Do They Solve Competition Problems?*, 69 GEO. WASH. L. REV. 932 (2001) (arguing that the HSR framework for negotiation of remedies to address perceived competitive problems in proposed mergers often does not produce optimal remedial packages).

Roundtable, *Merger Remedies Roundtable*, *in* INTERNATIONAL ANTITRUST LAW & POLICY, 2004 FORDHAM CORP. L. INST. 451 (B. Hawk, Ed. 2005) (participants included presider Frederic Jenny and panel members Gotz Drauz, Daniel Ducore, Eleanor Fox, George Lipimile, James Loftis and Michael Reynolds).

## Cartels

Baker, Donald, *The Use of Criminal Law Remedies to Deter and Punish Cartels and Bid-Rigging*, 69 GEO. WASH. L. REV. 693 (2001) (reviewing the history of criminal enforcement in the U.S. against both corporate and individual defendants and highlighting the large increase in fines and jail time imposed in the few years since the adoption of the 1991 Sentencing Guidelines; contrasting the present U.S. regime with that of the EU and Canada, whose only large fines appear to have occurred in cases that followed on successful American prosecutions; arguing that the effectiveness of the U.S. system flows in large part from its unique emphasis on individual, in addition to corporate, liability).

Bloom, Margaret, *A Significant Step Forward, the UK Criminalization Initiative*, 17 ANTITRUST (Fall 2002).

Camilli, Enrico Leonardo, *Optimal and Actual Fines in Cartel Cases: The European Challenge*, Paper presented at the Amsterdam Center for Law and Economics Conference *Remedies and Sanctions in Competition Policy*, Amsterdam, 17-18 February 2005.

Cohen, Mark & Scheffman, David T., *The Antitrust Sentencing Guidelines*: *Is the Punishment Worth The Cost?*, 27 AM. CRIM. L. REV. 331, (1989) (arguing against the twenty percent presumed loss or ten percent presumed gain in the U.S. Sentencing Guidelines).

Connor, John M. & Lande, Robert, *How High Do Cartels Raise Prices? Implications for Reform of Antitrust Sentencing Guidelines*. Working Paper 04-01, American Antitrust Institute (August 2004), *available at* http://www.antitrustinstitute.org/.

Connor, John M., *Extraterritoriality of the Sherman Act and Deterrence of Private International Cartels*, Staff Paper 04-08, Department of Agricultural Economics, Purdue University (April 2004) (arguing in favor of extraterritorial expansion of

U.S. antitrust law in cartel cases on the basis that: (1) conduct relating to "wholly foreign" purchases *necessarily* affects domestic commerce, and (2) extraterritorial expansion will increase the probability of discovery of clandestine cartels and increase the overall level of deterrence).

Connor, John M., *Optimal Deterrence and Private International Cartels*, Draft May 2, 2005 (reviewing international cartels that have been uncovered by one or more antitrust authorities since January 1990 and concluding that total financial sanctions in all geographic regions should be four times the expected global cartel profits in order to ensure absolute deterrence of cartel "leaders" and eight times the expected global cartel profits in order to ensure absolute deterrence of "followers").

Connor, John M., *Price-Fixing Overcharges: Legal And Economic Evidence*, Antitrust Institute Working Paper #04-05 (2004) (surveying hundreds of published social-science studies of hard-core cartels and 24 final verdicts in decided U.S. horizontal collusion cases and concluding that U.S. and non-U.S. cartel penalties ought to be increased to achieve deterrence), *available at* http://www.antitrustinstitute.org/recent2/355.pdf.

Joshua, Julian M. & Klawiter, Donald C., *The UK "Criminalization" Initiative: Step Forward or Another Complication?*, 17 ANTITRUST (Fall 2002) (arguing that the UK's Enterprise Bill proposing criminal penalties for individuals involved in antitrust cartel agreements will face several obstacles, including the concurrent jurisdiction of the EC through its administrative proceedings and the UK's dual enforcement responsibilities in EC law and UK criminal law, the possibility of prosecuting criminally non-UK citizens for cartel offenses, the impact on enforcement activities by other jurisdictions, specifically, the impact on the U.S. and other jurisdictions' leniency policies, and the piling on effect of yet another serious antitrust sanction beyond the present multiple jurisdictional enforcement and more aggressive civil enforcement), *available at* http://www.morganlewis.com/pubs/02E7FE2A-466A-410C-B488015B2DEAEA8C_Publication.pdf.

Klawiter, Donald C., *After The Deluge: The Powerful Effect of Substantial Criminal Fines, Imprisonment, and Other Penalties in The Age of International Cartel Enforcement*, 69 GEO. WASH. L. REV. 745 (2001) (arguing that the level of deterrence in international cartel cases has substantially increased since 1996 due to the combination of blockbuster fines, serious jail sentences, aggressive private damage actions (i.e. direct action, class action, and indirect purchaser), aggressive enforcement actions by other jurisdictions, shareholder actions, and corporate governance consequences for corporate executives).

Kobayashi, Bruce, *Antitrust, Agency, and Amnesty: An Economic Analysis of the Criminal Enforcement of the Antitrust Laws Against Corporations*, 69 GEO. WASH. L. REV. 715 (2001) (reviewing economic literature relating to price-fixing

gains and arguing that arbitrarily large fines may be less than optimal if firms and individuals make costly expenditures or avoid productive activities because of fear of being held liable).

Kovacic, William E., *Private Monitoring and Antitrust Enforcement: Paying Informants to Reveal Cartels*, 69 GEO. WASH. L. REV. 766 (2001) (proposing incentives such as a "whistleblower" or *qui tam* statutes, which would allow individuals reporting clandestine cartel activity to obtain a portion of any fines collected by the Department of Justice).

Schoneveld, Frank, *Cartel Sanctions and International Competition Policy: Cross-Border Cooperation and Appropriate Forums for Cooperation*, WORLD

COMPETITION LAW & ECONOMICS REVIEW, 2003-9, vol. 26, issue 3, p 433 (2003) (arguing that international cooperation with respect to sanctions in cartel enforcement raises difficult and complex issues, and concluding that the WTO should establish competition policy rules and provide a dispute settlement mechanism, while the ICN should set benchmarks for compliance with WTO competition rules).

Spagnolo, Giancarlo, *Self-Defeating Antitrust Laws: How Leniency Programs Solve Bertrand's Paradox and Enforce Collusion in Auctions*, Fondazione Eni Enrico Mattei, Milan, Working Paper No. 52.2000 (arguing that because the existing sanctions are too low to deter price-fixing and comparable hard-core violations, leniency programs may actually be counterproductive in that they may provide cartel members with an otherwise missing credible threat to punish cheaters).

Wils, Wouter, P.J., *Is Criminalization of EU Competition Law the Answer?*, Paper presented at the Amsterdam Center for Law and Economics Conference *Remedies and Sanctions in Competition Policy*, Amsterdam, 17-18 February 2005.

## OECD Materials

OECD Directorate For Financial, Fiscal And Enterprise Affairs, Competition Committee, *Cartels: Sanctions Against Individuals*, DAF/COMP(2004)39 (arguing that sanctions against individuals, in addition to corporate fines, provide a more effective remedy against hard-core cartels and strengthen the incentives in leniency programs; and arguing that while international law does not recognize the principle of double jeopardy that would prevent authorities in different countries from prosecuting the same person for participation in the same cartel, authorities in different countries nonetheless may benefit from cooperation such that only one jurisdiction prosecutes the individual), *available at* http://www.oecd.org/dataoecd/61/46/34306028.pdf.

OECD Directorate For Financial, Fiscal And Enterprise Affairs, Competition Committee, *Merger Remedies*, DAF/COMP(2004)21, *available at* http://www.oecd.org/dataoecd/61/45/34305995.pdf.

OECD Directorate For Financial, Fiscal And Enterprise Affairs, Competition Committee, *Report On The Nature And Impact Of Hard Core Cartels And Sanctions Against Cartels Under National Competition Laws*, DAFFE/COMP(2002)7 (examining the nature and impact of cartels, the sanctions against cartels that are available under national competition laws and that are imposed by national competition agencies and the optimal use of sanctions for achieving the deterrence of cartel activity), *available at* http://www.oecd.org/dataoecd/16/20/2081831.pdf.

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# ***115** ARE ANTITRUST "TREBLE" DAMAGES REALLY SINGLE DAMAGES?

Robert H. Lande [FNa1]



## I. INTRODUCTION

Everbody "knows" that antitrust violations lead to mandatory treble damages and attorneys' fees. This provision appears to constitute automatic punitive damages, and would seem large enough both to discourage most defendants from violating the antitrust laws and to over-compensate injured plaintiffs. The assumption that antitrust damages are trebled has given rise to several controversies that would be dramatically affected if this assumption were false.

First, many believe that automatic trebling should not apply to all types of antitrust violations. The difficulty in detecting and proving many types of violations has led most analysts to conclude that awards of substantially more than single damages are often sensible. [FN1] Price fixing and bid rigging, for example, are difficult to detect and unquestionably anticompetitive, so few ***116** advocate lower penalties for these offenses. Other antitrust violations, however, including those associated with large mergers and joint ventures, are relatively simple to detect. Moreover, those offenses judged under the rule of reason are less likely to be anticompetitive. [FN2] Many in the antitrust community believe that treble damages should be reserved for per se, "hard core," hard-to-detect offenses, while penalties for other types of offenses should be reduced to the single level. [FN3]

Second, there is a controversy over whether indirect purchasers should be given standing to sue for damages. As a result of Illinois Brick [FN4] only direct purchasers can now recover treble damages under the federal antitrust laws. Many states, however, have passed "Illinois Brick repealers" that allow certain indirect purchasers to sue, [FN5] and federal repeal legislation has been repeatedly introduced. [FN6] One argument repeatedly raised against Illinois Brick repealers is that they can result in sixfold or greater damages because treble damages might ***117** be awarded to two or more levels of plaintiffs. [FN7] Violations of state antitrust [FN8] or business tort [FN9] law can lead to the same consequences. [FN10]

Third, there is controversy over whether the recovery statute's provision for treble damages systematically biases anaitrust litigation. Some argue that the automatic nature of the treble damages multiplier might cause some judges to favor defendants when they formulate substantive antitrust rules, measure ambiguous factual situations against these rules, devise appropriate standing rules, or compute damages. [FN11] Some courts might be reluctant to "trebly" ***118** penalize defendant(s) or "overreward" plaintiff(s) unless the activity at issue was outrageous. For this reason the automatic trebling feature, designed to encourage plaintiffs to bring suit and to discourage defendants from engaging in anticompetitive behavior, might have the opposite of its intended effect. [FN12]

These heated controversies are all built upon a false foundation, for they are all predicated upon the assumption that antitrust damages are currently at the threefold level. This Article will establish that this assumption is mistaken, and in so doing will help decide the controversies premised upon it. This Article will show that, when viewed correctly, antitrust damages awards are approximately equal to, or less than, the actual damages caused by antitrust violations.

Part II of this Article will analyze the relatively quantifiable harms from antitrust violations, modeling the

issues under both deterrence and compensation frameworks. Part III will calculate rough estimates of those factors that affect the magnitude of the antitrust damages multiplier actually awarded. These adjustments to the "treble" damages multiplier arise from: (1) the lack of prejudgment interest; (2) the effects of the statute of limitations; (3) plaintiffs' attorneys' fees and costs; (4) other costs to plaintiffs pursuing cases; (5) costs to the judicial system in handling antitrust cases; (6) umbrella effects of market power; (7) allocative inefficiency effects of market power; and (8) tax effects. [FN13] Part IV will combine these adjustments using both deterrence and ***119** compensation frameworks. [FN14] It will compare the sum of the damages caused by antitrust violations to the typical amounts awarded to successful plaintiffs to determine, on average, the true effective ratio of recovery to damage. This analysis will show that when all the appropriate adjustments are considered together, awarded damages are, at most, probably at the single level. From either a deterrence or compensation perspective, the actual damages awarded in civil antitrust cases are therefore, on average, probably only at most equal to the actual damages caused by the violations. Part V will briefly discuss some implications of this finding in light of the consensus that antitrust damages generally should be substantially higher than singlefold to account for detection problems, proof problems, and risk aversion.

## II. THE DAMAGES FROM ANTITRUST VIOLATIONS

Before the actual magnitude of the "treble damages" remedy can be calculated, it is necessary to determine which antitrust violation effects should be considered "damages." Then the effective payouts under the "treble damages" remedy can be compared to the effects that should be termed "damages." This methodology can determine whether damages are really trebled.

Figure I illustrates (1) allocative inefficiency; and (2) the transfer of wealth from victims to the firm(s) with market power, the two most well-known effects of the market power associated with most antitrust violations.

Figure I [FN15]

***120** Allocative Inefficiency and Wealth Transfer Effects of Market Power

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Triangle DER in Figure I represents the allocative inefficiency effects of monopoly power. Rectangle $P_{1DRP0}$ represents the transfer of wealth from consumers of the product to the firm with monopoly power. Allocative inefficiency represents suboptimal use of societal resources as a result of market power. [FN16] While there is controversy over whether the transfer of wealth from consumers to firms with market power constitutes a harm that the antitrust laws were enacted to prevent, [FN17] there is consensus in the courts and ***121** the remainder of the antitrust community that allocative inefficiency (sometimes termed "deadweight welfare loss") is undesirable. [FN18] Moreover, some or all of the transfer, instead of becoming monopoly profits, may be consumed by inefficient rent-seeking behavior. [FN19]

Market power also can lead to higher prices (and the resulting wealth transfers and allocative inefficiency) for goods or services not sold by the violator(s). Significant monetary damages generally arise only in cases in which market power is required [FN20] or presumed, [FN21] so many violators in these cases [FN22] also affect the prices of their competitors. These "umbrella" effects of antitrust violations can be significant. [FN23] By analogy, OPEC never produced or sold as much as seventy percent of the free world's oil supply, yet it affected oil prices throughout the world. [FN24] This cartel even affected the prices of fuels that could substitute for oil to a degree, such as coal and natural gas. [FN25]

***122** Not only does the antitrust violation itself produce various damage effects, but so too does the litigation necessary to recover damages and prevent future occurrences. Attorneys' fees, [FN26] other costs in pursuing and defending the litigation (including the value of corporate employees' time), and the litigation's inevitable costs to the judicial system can also be considered damages from the violation. Moreover, each factor can affect income taxes paid and can therefore affect American taxpayers.

Which of these effects should be considered "damages arising from an antitrust violation"? The answer depends on whether the purpose of the remedy is compensation or deterrence.

A. Using a Compensation Framework

The legislative history [FN27] and case law [FN28] indicate that compensation is a goal, perhaps even the dominant goal, of antitrust's damages remedy. ***123** Moreover, the underlying substantive provision's primary aim was to prevent wealth transfers from victims to firms with market power [FN29]--a concept analogous to that of compensating victims. [FN30] The decision of Congress to award "treble damages" might suggest that at least two- thirds of damages were intended to be for punitive purposes or deterrence. It is possible, however, that even this portion was intended to compensate plaintiffs for such unawarded harms as the lack of prejudgment interest and such difficult to quantify damage elements as the value of plaintiff's time expended pursuing the case. [FN31]

***124** If the purpose of the remedy is compensation, the "damages" caused by an antitrust violation should consist of the sum of all relatively predictable harms caused by that violation affecting anyone other than the defendants. Damages should include the wealth transferred from consumers to the violator(s), as well as the allocative inefficiency effects felt by society, whether caused directly, or indirectly via "umbrella" effects. Plaintiffs' attorneys' fees, the value of plaintiffs' time spent pursuing the case, and the cost to the American taxpayer of administering the judicial system should also be included. [FN32] Attorneys' fees, corporate time and other costs spent defending the case are not, of course, harms to others and should not be a concern if the goal of the damages provision is compensation to victims.

A compensation model should also consider the effects of federal and state income taxes. Tax effects ameliorate some harms to potential plaintiffs from antitrust violations and deprive them of some benefits of these violations. As subpart III(H) will demonstrate, these effects do not always cancel one another. They will, therefore, be accounted for.

B. Using an Optimal Deterrence Framework

Virtually every analysis of antitrust damages issues assumes that the entire purpose of the remedy provision is deterrence. [FN33] This view finds support in the relevant legislative history [FN34] and case law, [FN35] and draws support from the belief ***125** that the major, [FN36] or the exclusive, [FN37] purpose of the underlying substantive provisions is to enhance economic efficiency, the goal of optimal deterrence models. [FN38] Congress's decision to award treble damages could also imply that at least part of their purpose is the deterrence of undesirable behavior. [FN39]

The issue of what should count as harm from an antitrust violation under an optimal deterrence standard was once the subject of spirited debate within the antitrust community. For example, Professor William Page concluded that the transfer effects of market power should be the optimal measure for calculating damages, [FN40] while Professor Warren Schwartz concluded that the allocative inefficiency caused by a violation should be its measure. [FN41] But in ***126** recent years the antitrust community has generally accepted [FN42] a standard proposed by Professor William Landes of "the net harm to persons other than the offender," [FN43] a standard similar or identical to one proposed by (then) Professors Posner and Easterbrook of the monopoly profit rectangle plus the allocative inefficiency (deadweight loss). A full explanation of why antitrust damages should consist of "the net harm to persons other than the offender" (adjusted by such factors as risk aversion and the probabilities of detection and conviction) is complex, [FN44] but the underlying intuition is relatively straightforward.

***127** Optimal deterrence models are founded upon the assumption that the sole goal of antitrust is to enhance economic efficiency. [FN45] A horizontal restraint producing market power, for example, would not be permitted if its cost savings were less than the resulting allocative inefficiency. Defendants will only be deterred from undertaking inefficient conduct if the cost of their conduct is greater than the gain, the transfer due to the effects of market power plus any cost savings from the venture. For example, if the arrangement produced one dollar in transfer plus fifty cents in allocative inefficiency, it should only be allowed if its cost savings exceeded fifty cents. Thus, the optimal fine would be the sum of the transfer and the allocative inefficiency, [FN46] or one dollar and fifty cents. If the arrangement produces more than fifty cents in cost savings, it is net efficient [FN47] and society wants it to proceed. Because the venture can pay the fine out of its profits (the transfer plus the cost savings), it will do so and the venture will continue. If the arrangement produces less than fifty cents in cost savings, however, it is not net efficient [FN48] and society does not want it to proceed. Because the one-and-a-half dollar fine exceeds the venture's total expected gain, the venture cannot afford the fine and so will not proceed. Thus, the optimal fine is equal to the sum of the damages to others caused by the arrangement. [FN49]

***128** Interestingly, Landes's focus upon net harm to others differs in only two minor respects from the standard that should be employed under a compensation approach. First, as noted earlier, an antitrust offense can give rise to "umbrella" effects when, for example, a cartel raises prices throughout an industry. [FN50] If the cartel's competitors charge higher prices, allocative inefficiency results--a harm to society undesirable under either a compensation or deterrence perspective. These higher prices also cause a transfer of wealth from consumers to the cartel's competitors. This transfer is not a net harm to others, so Landes does not believe it should be included as a factor in an optimal deterrence approach. [FN51] Yet, these consumers are victims because they are forced to pay prices elevated as an indirect result of the cartel. Their welfare should, therefore, count under a compensation perspective.

In addition, the overcharge, lost time value of money and any resulting damages award might have tax effects. [FN52] Optimal deterrence's net harm to ***129** others standard does not care how these losses or gains are shared between the victims and the Treasury. Regardless who pays or obtains them, they should be counted. Thus it is unnecessary to determine tax effects under an optimal deterrence standard. If the concern is determining how much to compensate injured victims, however, it does matter whether the Treasury pays part of the victim's initial losses or removes some of their "treble" damages.

In summary, the "harms" from antitrust violations are only slightly different regardless of whether the analysis employs a deterrence or compensation perspective. This Article will not attempt to determine which approach better reflects the intent of Congress or which approach is superior; [FN53] it will instead attempt to calculate estimates of the total harms caused by antitrust violations from both perspectives. As the calculations in Part IV will show, the results do not differ substantially. In either case, the "treble damages" actually awarded are probably at most as large as the damages caused by the violation.

## III. FACTORS NECESSITATING ADJUSTMENTS TO THE "TREBLE" DAMAGES MULTIPLIER

This Part will calculate estimates for a number of types of disparities between actual and awarded damages. [FN54] Each is highly uncertain and subject to many contingencies and caveats. [FN55] To help account for some of this ***130** uncertainty, and to rebut any inadvertent implication that the following figures are precise, ranges, rather than point estimates, will generally be utilized. [FN56]

### A. The Absence of Prejudgment Interest

Automatic interest on antitrust damages only accrues after judgment for plaintiff. [FN57] While the same is true for common-law suits, [FN58] it has a greater effect in the antitrust area because these cases usually take longer to resolve than most others. [FN59] During the period between the violation and judgment, the victims of antitrust violations are deprived of this money while defendants enjoy its use. The two sections in this subpart will attempt to calculate the approximate average time lag involved and the time value of this money.

#### 1. The Time Lag

The time lag consists of three possibly overlapping periods: (1) the duration of the violation; (2) any delay between detection and filing; and (3) the litigation period. These lags will be considered separately and then in combination.

***131** First, (then) Professor Posner found that during the 1960s the average private antitrust conspiracy lasted approximately six years. [FN60] Blackstone and Bowman, analyzing Department of Justice Sherman Act Section 1 cases filed during the 1970s, found that the average case lasted eight years. [FN61] Professors Gallo, Daw-Schmidt, Craycraft and Parker analyzed all Department of Justice cases filed from 1963 to 1990 and found that the average duration of civil antitrust violations was 8.4 years. [FN62] The average of these three estimates suggests that the true average is probably between seven and eight years. [FN63]

Second, Professor Joseph Brodley, using data contained in the Georgetown study of private antitrust litigation filed between 1973 and 1983, concluded that on average two years pass from the time of injury to the filing of suit. [FN64] The Gallo et al. study noted above found that the average time between the discovery of the violation and the filing of a criminal antitrust suit was twenty-seven months. [FN65] Blackstone and Bowman found that private "follow on" cases were instituted two years after the government case ended. [FN66]

The length of the delay between a violation and its discovery and the filing of suit is likely to depend upon many factors, including the type of case involved and the looming of the statute of limitations. [FN67] Because an experienced ***132** antitrust lawyer can usually file many types of cases within a few weeks, [FN68] it is probable that most of the "two-year delay" is caused by the victim not knowing about the violation or hesitating to contact a lawyer. It is difficult to know how long most violations continue while the potential plaintiff hesitated or before the violation was discovered. Because much of the "two-year delay" would be likely to overlap the violation period, a much shorter period is more appropriate to use as a "net delay" estimate; a range from zero to six months seems a more reasonable estimate.

Third, Professor Brodley further analyzed the data in the Georgetown study and concluded that, on average, a private antitrust case lasted 4.5 years from filing to judgment. [FN69] Elzinga and Wood arrived at 4.3-year estimate. [FN70] Blackstone and Bowman analyzed the 165 Department of Justice Section 1 antitrust cases filed during the 1970s in which the government prevailed and found that the "average interval between the reported violation and the case's outcome was 8.6 years." [FN71] Posner, analyzing private antitrust cases that went to judgment during the 1960s, found average durations of 3.1 years for cases that were disposed of in 1964, and 3.9 years for cases disposed of in 1969. [FN72] The average of these five figures is 4.9 years, but because the Blackstone and ***133** Bowman estimate of 8.6 years seems anomalous, a 4.5-year estimate probably would be more likely to be correct. [FN73]

Some cartels and other violations might fit an "average" sequential pattern suggested by this data. [FN74] A "typical" cartel might persist for seven to eight years (ending either because it collapsed or was detected), followed by a lawsuit filed an average of zero to one-half years later, followed by a judgment four-and-one-half years later. The damages generated by this cartel might be delayed for some eight to nine years prior to judgment. [FN75] Other scenarios consistent with the existing data also are reasonable, [FN76] and the parameters for other types of violations could be very different. [FN77] Although the available data ***134** are incomplete and imprecise, they do suggest an average delay between damages and judgment of between eight and nine years.

#### 2. The Time Value of Money

The next issue is the appropriate rate to be used to account for the lost time value of damages. [FN78] If compensation is the goal of antitrust, damages should

place the victims in the same position they would have occupied had no violation occured. It is difficult to know, however, what would have happened had the violation not occurred. For example, the victim might have invested the money that it was forced to pay to the antitrust violator. [FN79] Because the transaction was involuntary, to be fair we should resolve doubts in favor of the victim--perhaps using a figure equal to, or in excess of, the rate for new three-month Treasury bills. Alternatively, suppose a victim had been harmed and knew with certainty [FN80] that it would recover from defendant in eight years. A reasonable course of action for that victim might be to obtain an eight-year loan [FN81] for the amount of the damages. [FN82] Thus, under a compensation ***135** perspective, an appropriate discount rate probably should equal or exceed the prime interest rate. [FN83]

If optimal deterrence is the goal of the remedy provision, the discount rate should be viewed from defendant's perspective to focus on the gain to the defendant from undertaking the violation. This analysis would again attempt to ascertain whether the money that the violator gained was invested or whether it enabled the violator to forego obtaining a loan. Defendants might otherwise have foregone a loan at the prime interest rate or higher, or invested the money in such items as risk-free Treasury bonds. [FN84]

In light of this uncertainty, in subsequent calculations this Article will use a range of figures ranging from the three-month Treasury bill rate to the prime interest rate. Because interest rates have varied considerably in recent years, [FN85] this section will use the average rate of the last twenty years. The average three month Treasury bill rate for the last twenty years has been 7.69%. [FN86] This section will tentatively assume a low estimate of the effects of lost prejudgment interest for a hypothetical overcharge of one dollar, delayed an average of eight years, compounded at 7.69% per year (which yields $1.81). Alternatively, the prime interest rate for the last twenty years has averaged 10.22%. [FN87] This section will tentatively assume a high estimate of the actual value of a ***136** hypothetical overcharge of one dollar compounded at the rate of 10.22% per year for nine years (which yields $2.40).

There is, however, an important reason why this range might be inappropriate. As the next subpart shows, some of the early years of an antitrust violation are often immunized from damage payouts by the four-year statute of limitations for private damage actions. For this reason, the actual period between damages and judgment is on average probably lower than eight to nine years. The next subpart will take the statue of limitations into account and make appropriate adjustments. [FN88]

B. Effects of the Statute of Limitations

Section 4 (b) of the Clayton Act provides that "[a]ny action to enforce any cause of action under sections [4 and 4(a)] of this title shall be forever barred unless [it commences] within four years after the cause of the action accrued." [FN89] Because cartels probably last an average of seven to eight years, [FN90] many violations that are detected [FN91] run longer than the statute of limitations and are therefore detected too late for recovery of damages.

If, as the previous subpart estimated, a conspiracy lasted for seven to eight years and was followed by a zero to one-half year delay before suit was filed, the four-year statute of limitations would immunize the first 3 to 4.5 years of damages caused by the violation. [FN92] The statute of limitations might immunize an average of thirty-eight to sixty-four percent of the damages caused by the conspiracy. [FN93]

The actual percentage of damages immunized by the statute of limitations is, however, likely to be less than this range. The four-year statute of limitations starts to run at the occurrence of every act that violates the antitrust laws, such as an agreement to fix prices, but is not generally affected by subsequent "routine" activities that the violators undertake to carry out their ***137** illegal agreements, such as charging supracompetitive prices, cashing checks, or delivering goods or services. [FN94] Nor is there a federal exception for continuing conspiracies. [FN95] The statute of limitations can, however, be tolled in two relevant ways. [FN96]

First, government antitrust proceedings can toll the statute of limitations. [FN97] Kauper and Snyder reported that nine percent of the cases studied in the Georgetown sample were follow-on cases to government actions [FN98] and that more recently this figure dropped to six percent. [FN99] Follow-on cases were dismissed less frequently, however, and twelve percent of the cases in the Georgetown sample that were litigated to a conclusion were follow-up cases. [FN100] Perhaps this factor should cause no adjustment to the percentage of damages immunized by the statute of limitations. [FN101] Alternately, if twelve percent of the cases in which damages are obtained followed government cases, the damages lost to plaintiffs because of the statute of limitations should be reduced, so only thirty-three to fifty-six percent of damages would be lost because of the statute of limitations. [FN102]

The second major exception to the statute of limitations arises when an antitrust violation is fraudently concealed. Although the parameters of this doctrine are unclear and vary among circuits, [FN103] generally silence by the ***138** defendant is not enough to show fraud. Most courts have held that affirmative acts of concealment by the defendant must be shown for the plaintiff to invoke the doctrine successfully. [FN104]

It might be impossible to determine how often this doctrine plays a role in antitrust damages actions. [FN105] Fraudulent concealment claims do not appear to be raised in the vast majority of antitrust cases when the statute of limitations might be an issue, [FN106] but such claims appear to be successful approximately sixty percent of the time they are decided on the merits. [FN107] If fraudulent concealment applied in sixty percent of the relevant cases, [FN108] only from thirteen to twenty-six percent [FN109] of antitrust damages would be lost because of statute of limitations problems. [FN110] This range roughly corresponds to the first one to two years of a violation's damages. [FN111]

***139** Because of the uncertainty involved, this subpart will expand this range slightly and assume that approximately ten to thirty percent of the damages are immunized by the statute of limitations. It will also assume that the remainder of the damages are recoverable, but are delayed for seven to eight years [FN112] prior to judgment instead of the eight to nine years calculated in subpart III(A). Because $1.00 compounded annually at 7.69% for seven years yields $1.68 and $1.00 compounded annually at 10.22% for eight years yields $2.18, this subpart will assume that lost damages should be increased to a range of $1.68 to $2.18 to account for lost prejudgment interest.

C. Plaintiffs' Attorneys' Fees and Costs

Salop and White's analysis of the Georgetown data sample concluded that awarded attorneys' fees were, on average, the equivalent of approximately ten to twenty percent of the monetary awards (that is, roughly thirty to sixty percent of the untrebled transfer). [FN113] Elzinga and Wood's analysis produced a significantly higher range. [FN114] Because plaintiff and defendant attorneys' fees for each party are approximately equal, [FN115] it probably is appropriate to assume that plaintiffs pay their lawyers at least an average [FN116] of thirty to sixty cents to bring a lawsuit in which one dollar in transfer is obtained (and trebled). [FN117]

***140** Most of these fees are likely to be paid years before the date of judgment. Although the judgment may reimburse a successful plaintiff the nominal dollars paid to counsel, plaintiff nevertheless will lose the time value of this money during the lag between the payment of the fees and the date of judgment because plaintiffs are not awarded interest on their attorneys' fees. [FN118] It is difficult to ascertain whether plaintiffs or their lawyers lose as a result of this effect. Fee arrangements providing that plaintiffs' attorneys will get a contingent fee in addition to the court- awarded "reasonable" attorneys' fees can mean that plaintiffs, not their attorneys, will absorb this loss. [FN119] For deterrence purposes, this division is unimportant because in either case it is an unrecovered loss resulting from the antitrust violation. If we are interested in compensating victimized plaintiffs, however, this division becomes important. Because this author was unable to estimate how much of the recovery plaintiffs' attorneys typically receive in addition to their court-awarded attorneys' fees, this Article's decision not to adjust for this factor might have the effect of over- estimating the effective recovery to plaintiffs. [FN120]

Because the average time lag until judgment is substantial, it should be taken into account. Using the estimates of the average time lags and interest rates calculated in subpart III(A) above, the approximate expected cost to plaintiffs of their legal fees increases to between thirty-five (low estimate) and seventy-four (high estimate) percent of the untrebled transfer. [FN121] Thus, if ***141** plaintiffs paid their attorneys thirty to sixty cents times the transfer in attorneys' fees and were later awarded this nominal amount by the court, they would be short .05 to .14 times the transfer because of the lost time value of their money.

This difference is undoubtedly not the only one between court-awarded attorneys' fees and costs and the actual attorneys' fees and costs that plaintiffs must expend. Other differences can arise from statutory expert witness and other cost-fixing provisions, [FN122] and contingent fee agreements requiring plaintiffs to pay their lawyers fees beyond those awarded by the court so that plaintiffs can obtain effective counsel. [FN123] Moreover, the .05 to .14 gap was calculated using Salop and White's relatively low estimates of the probable range of attorneys' fees; Elzinga and Wood's larger estimates would produce a significantly larger discrepancy. [FN124] To account somewhat for these factors, the gap will be widened to .05 to .20, a range that could well be low.

In summary, it seems likely that plaintiffs are not fully reimbursed for all their legal expenses. This subpart will assume that, on the average, court- awarded attorneys' fees and costs are thirty to sixty percent of the transfer effects of market power, but that actual plaintiff's attorneys' fees and costs are approximately thirty-five to eighty percent of the transfer. This assumption means that plaintiffs on average pay as attorneys' fees and costs a net unreimbursed amount equivalent to between five and twenty percent of the transfer.

***142** D. Other Plaintiff Costs of Pursuing the Case

In addition to the actual victory or defeat, a corporation's involvement in an antitrust action is likely to affect it in other ways, usually for the worse. For example, the prospect of supracompetitive profits gives plaintiffs and defendants an incentive to engage in wasteful offensive or defensive "rent seeking" behavior, [FN125] and it is possible that victims or potential victims of antitrust actions will become unduly risk averse. [FN126] Most of these potential costs of antitrust violations are extremely difficult to measure.

There is, however, one effect of a violation and its subsequent litigation that lends itself to rough partial quantification. It is common for corporate employees to spend significant amounts of time pursuing antitrust litigation. [FN127] This investment includes time spent conferring with lawyers, assembling necessary documentation, testifying, and responding to the inevitable requests from the other parties. [FN128]

The Georgetown private damages study asked a sample of corporate officials how long they spent pursuing their antitrust cases. The 225 officials who responded reported spending an average of 203 hours of executive time per case. [FN129] This figure does not include administrative or nonexecutive time, ***143** corporate overhead or direct expenses, Board of Directors time, in-house counsel time, time wasted because of disruption of employees routine, or time spent by employees discussing the case. [FN130] If the executive time is valued at $100.00 per hour [FN131] and the result is doubled or tripled to account for the omitted corporate time, overhead, and expenses, the "average" lawsuit would cost the corporation $40,600 to $60,900. [FN132] Because the average litigation cost for this same sample of cases was $77,000, [FN133] the lost corporate time and expenses might cost the corporation approximately fifty-three to seventy-nine percent as much

as the attorneys' fees. Subpart III(C), above, calculated that attorneys' fees cost approximately thirty-five to eighty percent of the "average" transfer effects of market power. [FN134] Under these assumptions the lost corporate time and expenses would constitute from nineteen to sixty-three percent of the transfer. [FN135]

This range is uncertain for many reasons, [FN136] including its reliance upon a relatively small and possibly atypical sample of cases reporting corporate time ***144** spent on antitrust cases. [FN137] It surely does not apply to consumer class action suits, because the total value of lost consumer time from an antitrust violation would usually be de minimis. [FN138] Nevertheless, for the reasons given at the beginning of this subpart, this range probably includes only a small portion of the noncompensable time and expenses consumed by the prospect of an antitrust violation, the violation itself, and the subsequent litigation. This Article will round these estimates and, to account for uncompensated victim time and expenses, assume a low adjustment of twenty percent of the transfer and a high adjustment of sixty- five percent. This range will be used in the subsequent calculations.

E. The Costs of the Judicial System

Every antitrust case entails unreimbursed costs to the judicial system that directly harm the taxpayer and society as a whole. Although every party is entitled to a fair trial, and it would be unfair to consider defendants "responsible" for the costs in cases in which they ultimately prevail, the judicial costs involved in obtaining an award for the victorious plaintiff are as necessary and inevitable as attorneys' fees, and should therefore be considered another damage from antitrust violations. [FN139]

A 1979 Federal Judicial Center study (the most recent available) indicated that federal district court judges spent approximately 4.1% of their time on civil antitrust cases not involving the federal government. [FN140] There is no ***145** comparable data available for federal court of appeals judges or magistrates, but it is not unreasonable to expect at least a comparable figure. [FN141] Under this approach the average total cost to the judicial system of handling antitrust cases would be approximately $40,000. [FN142]

This approach, however, includes certain fixed and indirect costs of maintaining the judiciary that would remain even if the antitrust laws were repealed, so it might be more appropriate to figure the judicial cost per antitrust case on more of an incremental basis. This method yields $21,000 per case. [FN143]

***146** This estimate of $21,000 per case would, according to the Georgetown study, [FN144] represent 5.5% of the average plaintiff award. Because these awards trebled the transfer effects of market power, the cost of judicial administration is approximately sixteen percent of the transfer effects of market power. [FN145]

There is, however, one reason why this estimate might understate the average judicial cost associated with a plaintiff victory. Significantly more defendant victories than plaintiff victories are achieved early, [FN146] and the judicial costs for the average plaintiff victory may well be closer to those for the average antitrust case that reaches judgment. This figure can also be approximated as forty percent of the transfer effects of antitrust violations. [FN147]

There are other reasons, however, why this estimate may be too high. While it is probably irrelevant that the total number of antitrust cases has dropped dramatically since 1979, [FN148] it is significant that the average amount of judicial time spent per antitrust case probably has dropped in recent years. In many areas, including monopolization [FN149] and RPM, [FN150] summary judgment motions are more likely to be granted against antitrust plaintiffs, and in general criminal cases involving illegal drugs are tending to crowd civil cases off of ***147** judicial calendars. [FN151] Antitrust settlements, moreover, often involve little court time.

Nevertheless, huge antitrust cases continue to be litigated, [FN152] and some areas of antitrust have become more complex. [FN153] For all these reasons, it seems reasonable to construct a range for the judicial costs of handling antitrust cases that is both relatively large and lower than the sixteen percent figure presented above. This Article will assume a range of five to twenty percent of the transfer effects of market power, a range of course subject to the same uncertainty present throughout this analysis.

F. Umbrella Effects of Market Power

Courts are split over whether customers of the violator's competitors can successfully sue the offenders on the theory that the offenders were responsible for "umbrella" effects. [FN154] As a practical matter, however, umbrella effect damages are rarely awarded against an offending cartel or monopoly, [FN155] largely because of proof problems. [FN156]

It is difficult to estimate how large an adjustment should be made for these uncompensated consequences of market power. [FN157] There are severe problems ***148** in using cartel [FN158] or merger [FN159] cases to arrive at even rough estimates of possible umbrella effects. Monopolization cases, however, are relatively suitable; monopoly power is required, market shares are often reported, and markets are defined with relative care. This subpart contains the analysis of three groups of monopolization cases (one collected by Koller that encompasses cases from 1907 to 1965, [FN160] one collected by Zerbe and Cooper that encompasses cases from 1944 to 1981, [FN161] and one consisting of every plaintiff victory at the court of appeals level from 1980 through 1991) that, together, should constitute a good sample. [FN162] Attempted monopolization cases were excluded because umbrella effects are far less likely in these situations.

The firms judged by the courts to be monopolists in Koller's sample [FN163] were found to have had an average market share of approximately eighty-two ***149** percent by the courts and eighty percent by Koller. [FN164] The Zerbe and Cooper sample (excluding cases also reported by Koller) yields an average market share of seventy-nine percent, [FN165] while the more recent sample (excluding cases ***150** also reported by Zerbe and Cooper) produces an average market share of seventy-six percent. [FN166] These results imply an "average" monopolist market ***151** share of between seventy-five and eighty-five percent, and thus an average share of the nonmonopolistic fringe of fifteen to twenty-five percent [FN167]

This does not, of course, necessarily mean that the umbrella effects of monopoly power can safely be assumed to apply to a fifteen to twenty-five percent market share. Actual umbrella effects can be larger or smaller for many reasons. Some antitrust violators can, like OPEC, cause umbrella effects in related markets for substitute or complementary products; activities that raise rivals' costs also can give rise to a type of umbrella effect. [FN168] Umbrella effects can also be magnified if they are marked up and passed to another level in a distribution chain. [FN169] Alternatively, some fringe firms might choose to maintain a sub-monopoly price to gain market share. Many types of behavior are possible, and it is may be nearly impossible to determine what generally occurs in either monopolization or collusion cases. To account for this uncertainty, the range over which umbrella effects are likely to occur will be expanded to ten to thirty percent of a defendant's market. This range means that a relatively low adjustment for unreimbursed umbrella effects of monopoly power would increase the effects of market power by eleven percent, [FN170] while a relatively high adjustment would increase the effects by forty-three percent. [FN171] As with other figures in this Article, the umbrella effects estimates must be regarded as approximations made with incomplete data over which reasonable people can differ.

***152** G. Allocative Inefficiency

Market power almost always results in allocative inefficiency (as well as a transfer of wealth from the victim(s) to the firm(s) with market power). [FN172] The only violations that would not give rise to allocative inefficiency would be in those rare situations in which demand for a product is completely inelastic. [FN173]

Despite allocative inefficiency's virtual ubiquity, there does not appear to have been even a single instance in which a plaintiff has recovered for any allocative inefficiency effects of market power. [FN174] Instead, the awarded "treble damages" treble only the transfer effects of market power. [FN175]

It is extremely difficult to determine how large, on average, the allocative inefficiency effects of market power are likely to be. Thoughtful antitrust analysts discussing the average ratio of the wealth transfer effects of market power to its allocative inefficiency effects typically assume a two-to-one ratio, [FN176] which follows from the use of a number of standard assumptions. [FN177] Some thoughtful antitrust analysts predict an average ratio lower than two to one, [FN178] while others predict that the ratio will usually be four to one or higher, at least under specified conditions. [FN179] All of these assessments are partly ***153** theoretical because the actual ratio depends upon such factors as the actual average amounts of price increases caused by market power and the average demand elasticity in specific situations. [FN180] The crucial questions involve the typical nature of specific underlying real-world parameters, and no one knows what these actually are. The only empirical estimate of the relative sizes of the allocative inefficiency and transfer effects appears to be that by Professors F.M. Scherer and David Ross. They reviewed the empirical literature on the size of the two effects and concluded that the best evidence suggests the wealth transfer effects of market power might approximate two to three percent of our nation's GNP, while the allocative inefficiency effects might range from one-half to two percent of GNP. [FN181] The averages of these figures yield a ratio of transfer to allocative inefficiency of 2/1; the highs a ratio of 1.5/1; and the lows a ratio of 4/1. [FN182]

If a ratio of 2/1 is assumed, market power resulting in one dollar in transfer effects would also result in another fifty cents in allocative inefficiency. [FN183] A more conservative approach would use a ratio of 4/1; that is, each dollar in transfer is accompanied by only twenty-five cents in allocative inefficiency. This Article will use these ranges in subsequent calculations: it will assume that every dollar in transferred wealth produces an additional twenty-five to fifty cents in allocative inefficiency. [FN184]

***154** H. Tax Effects [FN185]

1. Defendants' Perspective

Tax considerations normally would not affect the corporate defendant's relative gains and losses. The gain, payout, [FN186] attorneys' fees, and time spent pursuing the case would normally affect corporate income or constitute a deductible business expense. These effects would normally cancel one another so that there would be no relative tax effect upon defendants.

2. Business Plaintiffs' Perspective

With one important exception, normally the effects of taxes on the actual magnitude of the gains and losses from antitrust violations should cancel one another for business plaintiffs. A business victim would have less profit, for example, as a result of being forced to pay overcharges resulting from price fixing. [FN187] With one crucial exception, the recovery would be taxed as ordinary income, [FN188] so the victim normally [FN189] would be in the same relative position ***155** both before and after taxes. Attorneys' fees would be deductible business expenses [FN190] and lost corporate employees' time or expenses would diminish overall

corporate income.

The important exception comes from section 186 of the Internal Revenue Code, which has a major effect on the relative status of business plaintiffs. This section provides that compensatory antitrust damages included in gross income [FN191] (reduced by amounts paid in securing the award) shall in turn be allowed as a deduction. [FN192] This provision conveys a significant advantage upon business plaintiffs who recover lost income in antitrust cases.

To illustrate (putting aside for simplicity the issue of legal fees), suppose a plaintiff pays one dollar extra for its products because of price fixing and receives three dollars after the judgment. Assume that the effective corporate income tax rate is forty percent [FN193] The prejudgment loss to the plaintiff would only be sixty cents. [FN194] The taxable postjudgment gain would be two dollars (three dollars less one dollar). Thus, the plaintiff would be left in the year of judgment, after taxes, with $2.20. [FN195]

An example incorporating the effects of legal fees would be slightly more complex. Assume that a plaintiff initially pays an additional one dollar because of a cartel and also incurs thirty-five to eighty cents in legal fees. Suppose that plaintiff later recovers three dollars plus thirty to sixty cents in legal fees. [FN196] Assume that the effective corporate tax rate is forty percent. [FN197] As a result of tax savings, the prejudgment loss to the plaintiff would only be between $.81 ***156** and $1.08, rather than $1.35 and $1.80. [FN198] The postjudgment taxable gain would range from $2.30 to $2.60. [FN199] Because this amount would be taxable at the forty percent rate, and because the one dollar deduction would not be taxable at all, the plaintiff would be left with $2.38 to $2.56. [FN200]

3. Consumer Plaintiffs' Perspective

The effects of taxation on consumer plaintiffs are also significant because consumers buy supracompetitively priced goods with after-tax dollars. While they would not be required to pay income tax on the portion of their recovery that compensated them for the extra amount they paid when the violation occurred [FN201] or for the attorneys' fees that the court awarded, [FN202] the "punitive double damages" portion of the award would be taxable as ordinary income. [FN203]

The average marginal tax rate for consumers is approximately thirty percent, roughly twenty-five percent for federal tax [FN204] plus another five percent ***157** for state tax. [FN205] This means that a one dollar overcharge actually would cost consumers one dollar, but they probably will pay thirty percent income tax on two dollars of their recovery. Thus, the total recovery they would actually receive would be reduced to $2.40. [FN206]

Another issue involves interest consumers might have lost because of the violation. [FN207] Absent the violation, consumers might have earned some $.60 to $1.18 in interest on every dollar in overcharges during the period between the occurrence of overcharges and judgment. [FN208] Because consumers would have had to pay tax on this interest had it been earned, it seems reasonable to consider their loss as reduced by approximately thirty percent because of the tax they would have had to pay on this interest. [FN209] Thus, a tentative loss ranging from $.68 to $1.18 because of the lack of prejudgment interest would be reduced by thirty percent, down to only a loss of forty-eight to eighty-three cents. Consumers of fringe firms able to price higher because of the violator(s) actions would be similarly affected, so the reduction actually would be greater, ***158** perhaps by a factor of 1.25. [FN210] The total tax savings to consumers would range from twenty-five cents to forty-four cents. [FN211]

In sum, there are no significant net tax effects for defendants. If consumers are plaintiffs, however, all interest they would have earned on the money they were wrongfully deprived of, and two-thirds of their recovery, would have been taxed at approximately thirty percent. [FN212] If plaintiffs are corporations, the section 186 deduction for compensatory damages would significantly improve their status as noted above. This Article, therefore, will use these different adjustments to account for tax effects in subsequent calculations depending upon whether corporate plaintiffs, consumer plaintiffs, or defendants are involved.

IV. COMBINING THE ADJUSTMENTS

Each of the preceding adjustments is, as has been noted, subject to a host of uncertainties. While it would be possible to arrive at and combine a "best estimate" for each factor, this approach could inadvertently convey the impression that any number so generated was very likely to be accurate. Accordingly, this Article has constructed a range of estimates for each factor to raise the probability that the true adjustments will be encompassed within this Article's analysis. A "low adjustment" uses the extreme of each range that would least tend to change the nominal "trebling" multiplier, while a "high adjustment" uses the extreme that produces the greatest change. The high and low estimates are then averaged to produce a mean estimate. [FN213]

***159** A. Under an Optimal Deterrence Framework

Subpart II(B) shows, under an optimal deterrence perspective, that an antitrust violation's "damages" should consist of its net harm to others. Damages calculated under this approach should include an adjustment for the direct transfer and inefficiency effects of market power, lack of prejudgment interest, effects of the statute of limitations, plaintiffs' attorneys' fees and other costs of bringing suit, and court costs. [FN214] It should include the inefficiency results of umbrella effects of market power, [FN215] but not the wealth transfer effects. [FN216] Nor should it consider income tax effects. [FN217]

Table 1 contains the results of combining the appropriate adjustments. Stage I presumes an initial overcharge of one dollar and incorporates the effects of a range

of adjustments that should be made even if no litigation were filed. These changes compensate for the effects of the lack of prejudgment interest, [FN218] directly-caused allocative inefficiency, [FN219] and the allocative inefficiency aspects of the umbrella effects of monopoly power. [FN220] Stage II incorporates the effects of antitrust litigation, adjusting for attorneys' fees, [FN221] other plaintiff costs of pursuing the case, [FN222] and court costs. [FN223] Stage III incorporates the effects of an award of three dollars (the one dollar overcharge trebled) plus "reasonable" attorneys' fees, [FN224] less the damages not awarded because of the statute of limitations. [FN225]

Table I shows that the effects of the low adjustments indicate that awarded damages are approximately equal to actual damages (they are 1.09 times as large), while the high estimate for the adjustments yields awarded damages of forty-eight percent, or approximately half of actual damages. The mean of the high and low damages and awards calculations produces an estimate--sixty-eight percent--that is less than actual damages

***160** Estimates of the Actual Magnitude of the "Treble" Damages Remedy

Table 1: Deterrence Perspective

| | Range of Adjustments | Effects of Low Adjustments | Effects of High Adjustments |
|---|---|---|---|
| I. Initial overchage of $1.00 | | | |
| A. No prejudgment interest | 7.69% for 7 yrs. = 1.68; to 10.22% for 8 yrs. = 2.18 | -1.00 x 1.68 = -1.68 | -1.00 x 2.18 = -2.18 |
| B. Allocative inefficiency | 25% to 50% of the transfer | -1.68 x 1.25 = -2.10 | -2.18 x 1.50 = -3.27 |
| C. Umbrella effects' allocative inefficiency | effects on 10% to 30% of market times (25% to 50%) | -2.10 x 1.03 = -2.16 | -3.27 x 1.22 = -3.99 |
| II. Litigation effects | | | |
| D. Attorneys' fees | 35% to 80% of the transfer | -2.16 - .35 = -2.51 | -3.99 - .80 =-4.79 |
| E. Other costs of pursuing case | 20% to 65% of the transfer | -2.51 - .20 = -2.71 | -4.79 - .65 = -5.44 |
| F. Court costs | 5% to 20% of the transfer | -2.71 - 0.05 = -2.76 | -5.44 - .20 = -5.64 |
| III. Effects of tentative award of $3.00 plus 'reasonable' | | | |

| | | | |
|---|---|---|---|
| attorneys' fees | | | |
| G. Tentative award | $3.00 plus (.30 to .60) | 3.30 | 3.60 |
| H. After effects of the statute of limitations | unrecoverable 10% to 30% of $3.00 | 3.30 - .30 = 3.00 | 3.60 - .90 = 2.70 |
| I. Net effects of award | | 3.00 - 2.76 = .26 | 2.70 - 5.64 = -2.94 |

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Actual Magnitude of the 'Treble' Damages Remedy:

Low Adjustments - Awarded damages are approximately actual damages; 3.00/2.76 = 1.09 times actual damages.

High Adjustments - Awarded damages are significantly less than actual damages; 2.70/5.64 = 48% times actual damages.

Mean Adjustment - Mean value of the ratio of awarded damages to actual damages; (3.00 + 2.70)/2 = 2.85; (2.76 + 5.64)/2 = 4.20; 2.85/4.20 = 68% of actual damages.

***161** B. Under a Compensation Framework

If compensating those harmed by violations is a purpose of antitrust damages provisions, it is necessary to calculate all reasonably foreseeable damages to others caused by a violation. [FN226] The appropriate adjustments will be performed for three different groups of victims. The first will consider all victims--all purchasers, whether consumers or businesses, and society as a whole; the second will focus only upon consumer victims; and the last will focus upon businesses victimized by antitrust violations.

1. Compensating All Victims--Purchasers, Taxpayers and Society

The broadest compensation approach would compensate all reasonably foreseeable victims of antitrust violations. It would account for such damages to purchasers as overcharges, lack of prejudgment interest, [FN227] effects of the statute of limitations, [FN228] and plaintiffs' attorneys' fees. [FN229] It also would consider damages caused to society from allocative inefficiency and the costs to the judicial system. It would adjust for the umbrella effects of market power's allocative inefficiency results and (unlike the deterrence perspective) also its transfer results. [FN230]

A total compensation approach need not, however, consider tax effects, for it is concerned only with the total potentially compensable damage caused by antitrust violations. Tax effects merely shift some of the loss or recovery between direct victims and the taxpayers; they do not affect total damages caused by the violation. (The next two subparts, however, will reconsider the analysis from the perspective of consumer-plaintiffs and business-plaintiffs. Each will consider tax effects.).

One additional complexity must be incorporated. Subpart III(D) calculated the value of plaintiffs' time spent pursuing the case to be between twenty and sixty-five percent of the transfer effects of market power. A consumer class action, however, probably would involve negligible amounts of consumer time. Because some plaintiffs are consumers, the low estimate used in this subpart to account for the value of lost plaintiff time will be lowered to zero.

***162** Table 2: Compensation Perspective: Compensating All Victims

| | Range of Adjustments | Effects of Low Adjustments on All Victims | Effects of High Adjustments on All Victims |
|---|---|---|---|
| I. Initial overcharge of $1.00 | | | |
| A. No prejudgment interest | 7.69% for 7 yrs. = 1.68; to 10.22% for 8 yrs. = 2.18 | -1.00 x 1.68 = -1.68 | -1.00 x 2.18 = -2.18 |
| B. Umbrella effects' allocative inefficiency | effects on 10% to 30% of market | -1.68 x 1.11 = -1.86 | -2.18 x 1.43 = -3.12 |
| C. Allocative inefficiency | 25% to 50% of the transfer | -1.86 x 1.25 = -2.32 | -3.12 x 1.50 = -4.68 |
| II. Litigation effects | | | |
| D. Attorneys' fees | 35% to 80% | -2.32 - .35 = -2.67 | -4.68 - .80 = -5.48 |
| E. Other costs of pursuing case | 0 to 65% of the transfer | no change | -5.48 - .65 = -6.13 |
| F. Court costs | 5% to 20% of the transfer | -2.67 - .05 = -2.72 | -6.13 - .20 = -6.33 |
| III. Effects of tentative award of $3.00 plus 'reasonable' attorneys' fees | | | |
| G. Tentative award | $3.00 plus (.30 to .60) | 3.30 | 3.60 |
| H. After effects of the statute of | unrecoverable 10% to 30% of $3.00 | 3.30 - .30 = 3.00 | 3.60 - .90 = 2.70 |

| | | |
|---|---|---|
| limitations | | |
| I. Net effects of | 3.00 - 2.72 = .28 | 2.70 - 6.33 = |
| award | | -3.63 |

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Actual Magnitude of the 'Treble' Damages Remedy:

Low Adjustments - Awarded damages are approximately actual damages;

3.00/2.72 = 1.10 times actual damages.

High Adjustments - Awarded damages are significantly less than actual

damages; 2.70/6.33 = .43 times actual damages.

Mean Adjustments - Mean value of the ratio of awarded damages to actual

damages; (3.00 + 2.70)/2 = 2.85; (2.72 + 6.33)/2 = 4.52;

2.85/4.52 = .63 times actual damages.

***163** Table 2 combines the appropriate adjustments. Stage I assumes an initial overcharge of one dollar, and adjusts for three factors: lack of prejudgment interest, [FN231] umbrella effects of monopoly power, [FN232] and allocative inefficiency. [FN233] These adjustments would apply even if no litigation occurred.

Stage II builds in the effects of antitrust litigation. It adjusts for attorneys' fees, [FN234] corporate costs of pursuing the case, [FN235] and court costs. [FN236] Stage III incorporates the effects of an award of three dollars (the dollar overcharge trebled) plus "reasonable" attorneys' fees, [FN237] and also the effects of the statute of limitations. [FN238]

As Table 2 shows, the effects of the low adjustments demonstrate that awarded damages are approximately equal to actual damages (they are actually ten percent larger), while the high estimate shows that awarded damages are nearly half of actual damages (forty-three percent). The mean of the high and low damage awards produces an estimate that is less than actual damages (sixty- three percent).

2. Compensating Consumer Plaintiffs

This section focuses solely upon consumers for two reasons. First, the net effect on consumers is of interest if the primary purpose of antitrust law is to protect consumers. [FN239] Second, in close cases judges sometimes decline to impose liability out of a reluctance to "over-reward" consumer- plaintiffs. [FN240] For both reasons, this Article will attempt to determine the size of consumers' actual damages compared with their eventual recovery.

Some of the damages calculated in subpart IV(B)(1)--the allocative- inefficiency effects of market power--were losses to society in general, not ***164** specifically to consumers of the products in question. [FN241] Moreover, some of the damages to consumers, and some of the recovery, might be shifted to taxpayers through the tax laws, but this effect was ignored because subpart IV(B)(1) was concerned only with calculating total damages to all victims of the violation.

Table 3 assumes an initial overcharge of one dollar, and in Stage I adjusts for the transfers from consumers to violators caused by umbrella effects of market power, [FN242] lack of prejudgment interest, [FN243] and taxes saved by the consumers on the interest they would have earned absent the violation. [FN244] Stage II, litigation effects, does not adjust for attorneys' fees because the analysis assumes that plaintiffs' attorneys will fund the lawsuit themselves in the hope that the court will award them reasonable attorneys' fees. [FN245] Nor does the analysis adjust for consumer time spent pursuing the case, for this time is likely to be negligible. Stage III considers the effect of a tentative award of threedollars to the consumers plus "reasonable" attorneys' fees to the attorneys, adjusting for effects of the statute of limitations and taxes. [FN246]

The net effect of the low adjustments is that consumers receive compensation approximating 132 percent of their losses. The high adjustments imply that consumers are only compensated for sixty-four percent of their losses. The mean of these figures shows that successful plaintiffs receive ninety percent of their losses; that is, approximately single damages.

***165** Table 3: Compensation Perspective: Compensating Consumer Plaintiffs

| | Range of Adjustments | Effects of Low Adjustments on Consumers | Effects of High Adjustments on Consumers |
|---|---|---|---|
| I. Initial overcharge of $1.00 | | | |
| A. No prejudgment interest | 7.69% for 7 yrs. = 1.68; to 10.08% for 8 yrs. = 2.18 | -1.00 x 1.68 = -1.68 | -1.00 x 2.18 -2.18 |
| B. Tax savings on interest | .68 to 1.18 interest would have been taxed at 30% | .68 x .30 = .20; 1.18 x .30 = -1.68 + .20 = -1.48 | .35; -2.18 + .35 = -1.83 |
| C. Umbrella effects | Effects on 10% to 30% of market | -1.48 x 1.11 = -1.64 | -1.83 x 1.43 = -2.62 |
| II. Litigation effects | | | |
| D. Attorneys' fees | None because assume paid by plaintiffs' attorneys | -1.64 | -2.62 |
| E. Other costs of pursuing case | Negligible cost to customers | -1.64 | -2.62 |
| III. Effects on consumers of tentative award of $3.00 plus 'reasonable' attorneys' fees | | | |
| F. Tentative award | $3.00 (plus attorney fees to plaintiffs' attorneys) | 3.00 | 3.00 |
| G. After effects of statute of limitations | unrecoverable 10% to 30% of $3.00 | 3.00 - .30 = 2.70 | 3.00 - .90 = 2.10 |

H. Tax effects on $2.00 - (.20 to .60 2.70 - (1.80 x 2.10 - (1.40 x

award unrecoverable) taxable .30) = 2.16 .30) = 1.68

at 30%

I. Net effects of 2.16 - 1.64 = 1.68 - 2.62 =

award .52 -.94

---

Actual Magnitude of the 'Treble' Damages Remedy:

Low Adjustments - Awarded damages are 2.16/1.64 = 1.32; this is slightly

more than actual damages.

High Adjustments - Awarded damages are 1.68/2.62 = .64; this is slightly less

than actual damages.

Mean Adjustment - Awarded damages are (2.16 + 1.68)/(1.64 + 2.62) = .90;

this is approximately actual damages.

***166** 3. Compensating Business Plaintiffs

The preceding analysis can be adapted to business plaintiffs by making two modifications. First, an adjustment should be made for plaintiffs' costs spent pursuing the case. Second, an adjustment should be made for different tax effects.

Table 4 combines adjustments appropriate from the perspective of business plaintiffs. Stage I presumes a dollar overcharge and adjusts for lack of prejudgment interest, [FN247] transfers caused by market power's umbrella effects, [FN248] and tax savings on foregone prejudgment interest. [FN249] Stage II considers litigation effects, including attorneys' fees [FN250] and the costs to the corporation pursuing the case, [FN251] on an after-tax basis. [FN252] Stage III incorporates the effects of a tentative award of three dollars plus "reasonable" attorneys' fees, [FN253] the statute of limitations, [FN254] and taxes. [FN255]

The results of Table 4 show that business plaintiffs who sue successfully probably receive an award that is approximately equal to their actual damages. The high adjustments (.69), the low adjustments (1.49), and the mean adjustments (.97) are much closer to single damages than to treble damages.

Table 4 might be misleading, however. It only considers the direct effects of the damages and subsequent recovery. Business plaintiffs are likely to pass on most of the overcharges to the products' ultimate consumers. [FN256] Plausible assumptions suggest that they might pass on the entire overcharge, [FN257] and it is possible that the direct purchasers will "mark up" the overcharge and pass on this mark-up as well. [FN258] Thus, business plaintiffs will usually be harmed by

***167** Table 4: Compensation Perspective: Compensating Business Plaintiffs

Range of Adjustments Effects of Low Effects of High

Adjustments on Adjustments on

Business Business

Plaintiffs Plaintiffs

I. Initial overcharge of $1.00

A. No prejudgment 7.69 for 7 yrs. = 1.68; -1.00 x 1.68 = -1.00 x 2.18

interest to 10.22% for 8 yrs. -1.68 =-2.18

= 2.18

B. Umbrella effects on 10% to 30% -1.68 x 1.11 -2.18 x 1.43

effects of market =-1.86 =-3.12

C. Tax savings 1.86 to 3.12 would have -1.86 x .40 = -3.12 x .40 =

been taxed at 40% .74; -1.86 + -1.25; -3.12 +

.74 = -1.12 1.25 = -1.87

II. Litigation

effects

D. Attorneys' 35% to 80% of the -1.12 - .35 = -1.87 - .80

fees transfer -1.47 =-2.67

E. Other costs of 20% to 65% of the -1.47 - .20 = -2.67 - .65 =

pursuing case transfer -1.67 -3.32

F. Tax savings on 40% of (.35 + .20) or -1.67 + (.40 x -3.32 + (.40 x

litigation (.80 + .65) saved .55) = -1.67 + 1.45) = -3.32

effects .22 = -1.45 + .58 = -2.74

III. Effects of tentative award of $3.00 plus 'reasonable'

attorneys' fees

G. Tentative $3.00 plus (.30 to .60) 3.30 3.60

award

H. After effects unrecoverable 10% to 3.30 - .30 = 3.00 3.60 - .90 =

of the statute 30% of $3.00 2.70

of limitations

I. Tax effects on $2.00 + (.30 to .60) - 3.00 - (2.10 x 2.70 - (2.00 x

award (10% to 30% of $2.00 .40 in tax) = .40 in tax)=

unrecoverable) 2.16 1.90

taxable at 40%

| | | |
|---|---|---|
| J. Net effects of | -1.45 + 2.16 = | -2.74 + 1.90 = |
| award | .71 | -.84 |

---

Actual Magnitude of the 'Treble' Damages

Remedy:

Low Adjustments - Awarded damages are approximately 2.16/1.45 = 1.49 times actual damages.

High Adjustments - Awarded damages are approximately 1.90/2.74 = .69 times actual damages.

Mean Adjustments - Awarded damages are approximately (1.90 + 2.16)/(2.74 + 1.45) = .97 times actual damages.

***168** less than the overcharge, and could remain completely unharmed. [FN259] Yet they probably will not pass any of their subsequent recovery to consumers, [FN260] so the "treble damages" recovery can be a complete windfall. Unharmed business plaintiffs might receive infinite damages, not treble or single damages.

The ultimate consumers, by contrast, will receive no recovery. They will pay most or all of the initial overcharge (or even a greater amount) and receive none of the fruits of the business plaintiffs' suit. Moreover, as a result of Illinois Brick v. Illinois, [FN261] they have no standing to sue because they are not direct purchasers. They would not even be helped by raising the nominal damages multiplier or awarding prejudgment interest; so long as Illinois Brick prevails, consumers will be undercompensated.

C. Defendants' Perspective

The optimal deterrence model discussed in subpart II(B) focused upon the defendant's perspective. The analysis attempted to determine the set of activity society wishes to prevent, and then calculated the penalty necessary to accomplish this task. The optimal penalty standard is different from defendant's gain (Landes's optimal penalty consists of all net losses to others caused by the action) for all of the reasons given in subpart II(B). [FN262]

Nevertheless, Professor Calkins and others persuasively demonstrate that the possibility of "overpunishing" defendants for conduct just below the standards of legality causes some judges to fail to declare such conduct illegal ***169** and might also affect some judges' decisions on the size of the damages. [FN263] It therefore becomes important to ascertain two quantities: (1) how much did the defendant "try to get away with" and (2) how much will defendant actually have to pay out?

If defendant overcharged by one dollar, defendant would gain more than a dollar because of the time value of money. [FN264] The defendant would have to incur attorneys' fees [FN265] and utilize corporate time [FN266] to defend itself. It would have to pay plaintiff three dollars plus "reasonable" attorneys' fees, except for that portion of the damages immunized by the statute of limitations. [FN267] There would be no net tax considerations. [FN268]

Table 5 performs the appropriate adjustments. The low range of adjustments [FN269] indicate that defendant must pay 201 percent of its attempted gains, [FN270] the high adjustments [FN271] indicate that defendant must pay 35 percent of its attempted gains, [FN272] and the mean figures imply that defendant must pay 107 percent of its attempted gains (rather than 300 percent, or "treble" damages).

***170** Table 5: Effects on Defendants

| Range of Adjustments | Effects of Low Adjustments on | Effects of High Adjustments |
|---|---|---|

| | | | |
|---|---|---|---|
| | | Defendants | on Defendants |
| I. Initial overcharge of $1.00 | | | |
| A. No prejudgment interest | 7.64% for 7 yrs. = 1.67; to 10.22% for 8 yrs. = 2.18 | 1.00 x 1.68 = 1.68 | 1.00 x 2.18 = 2.18 |
| II. Litigation effects | | | |
| B. Attorneys' fees | .35% to .80% of the transfer | 1.68 - .80 = .88 | 2.18 - .35 = 1.83 |
| C. Other costs of pursuing case | .20% to .65% of the transfer | .88 - .65 = .23 | 1.83 - .20 = 1.63 |
| III. Effects of tentative award of $3.00 plus 'reasonable' attorneys' fees | | | |
| D. Tentative award | $3.00 plus (.30 to .60) | 3.60 | 3.30 |
| E. After effects of the statute of limitations | unrecoverable 10% to 30% of $3.00 | 3.60 - (10% of 3.00) = 3.30 | 3.30 - (30% of 3.00) = 2.40 |
| F. Net effects of award | | .23 - 3.60 = -3.37 | 1.63 - 2.40 = -.77 |

---

Ratio of Defendant's Total Expenditures to Attempted Gain:

Low Adjustments - Defendant is forced to pay 3.37/1.68 = 2.01 times its attempted gain.

High Adjustments - Defendant is forced to pay .77/2.18 = .35 times its attempted gain.

Mean Adjustment - Defendant is forced to pay (3.37 + .77)/(1.68 + 2.18) = 1.07 times its attempted gain.

***171** V. CONCLUSIONS

Antitrust damage awards should be significantly greater than the actual damages caused by these violations to account for detection problems, proof problems, and risk aversion. It is difficult to determine what this multiplier should be because, as Judge Easterbrook has observed, "there is no right answer to the sanctions problem." [FN273]

Judge Easterbrook might have added, "We do not know the actual level of the current multiplier." Despite the apparent precision of some of the calculations in this Article, all of its estimates should be regarded only as first approximations. Additional research undoubtedly will refine these estimates by finding more precise approximations for quantities this Article has attempted to specify, and also for those that were omitted. [FN274] Each of this Article's estimates must be approached with extreme caution. For example, subpart IV(A) used a deterrence model to calculate a mean estimate that awarded damages are only sixty-eight percent of actual damages. This figure should not, however, lead one confidently to conclude that the "true" mean is sixty-eight percent, as opposed to forty-eight percent or eighty-eight percent. The data are far too uncertain to permit such precision. But even the rough data presented in this Article should lead one safely to conclude that awarded damages are much more likely to be the equivalent of actual damages than treble damages. This conclusion, moreover, is relatively robust. [FN275]

***172** One could ask the significance of this Article's conclusion that antitrust damages are not currently trebled from plaintiff's or defendant's perspective. Surely few potential or actual plaintiffs or defendants ever perform a significant part of the analysis presented in this Article. [FN276] Because perceptions can be crucial if plaintiffs and defendants believe, contrary to the results of this Article, that damages actually are trebled, they probably behave accordingly a great deal of the time. Furthermore, the most important attribute of antitrust damages could be their uncertainty rather than their actual level or even the perception of their average level. The uncertainty could be more important to many plaintiffs and defendants than a damage claim's expected value. [FN277]

The level and nature of the discussion of antitrust damages in recent years [FN278] implies, however, that many do care about the "actual" overall level of damages. Important policy analysis is predicated in part upon the assumption that antitrust damages currently are, on the whole, at the threefold level. This Article's conclusion that this assumption is at best unproven and most likely is significantly in error, has several important implications.

First, some treble damage reform proposals of recent years are misguided. Because damages levels appear to be at most singlefold, Congress should not pass legislation that would lower the damages awarded for rule of reason or relatively public antitrust violations. Instead, a crucial question is whether ***173** "hardcore" violations are adequately deterred by criminal penalties. If not, Congress should consider raising the damages levels for these offenses. Moreover, even relatively public rule of reason violations often are difficult to prove, so all antitrust violations should give rise to awards that really are in excess of actual damages. Higher awards might be appropriate for all types of antitrust cases. A relatively noncontroversial first step that almost certainly would lead to the imposition of more nearly optimal damages would be for Congress to pass a law awarding prejudgment interest for antitrust violations.

Second, Illinois Brick repealers make more sense. The specter of sixfold or higher damages for civil antitrust violations seems remote. If federal or state Illinois Brick repealers led to effective double damages for antitrust violations, this would almost certainly more nearly be optimal than the current situation. Moreover, Illinois Brick repealers are almost certainly the best way to compensate consumers who are indirect purchasers of supracompetitively priced items. Potentially overlapping state antitrust and tort laws are also more likely to be in the public interest because their combined effects are likely only to increase awarded damages to the twofold level, rather than the sixfold level.

Third, judges should realize that awarded antitrust damages probably are at most equivalent to the single damages level. Judges should fight any conscious or unconscious tendency to award defendants close decisions out of a reluctance to "over-punish" defendants or "over-reward" plaintiffs. Because awarded damages are not as severe as some might believe, judges should also be more generous when they decide standing issues or compute the amount of damages to award.

Finally, even if antitrust damages levels should be raised so that they do result in the effective treble damages necessary to insure optimal deterrence of anticompetitive conduct, one could ask whether the existing situation is significantly worse than that involving many other areas of law. While some of the factors this Article has analyzed are relatively unique to antitrust, [FN279] others are not, including the adjustments for lack of prejudgment interest, statute of limitations problems, attorneys' fees, corporate costs for plaintiffs to pursue the case, and costs to the judicial system. [FN280] This Article's analysis shows that antitrust violations probably give rise to single damages at most, but an analysis of tort and contract cases might show that tort and contract suits produce even ***174** less recovery on the average. Even if true, such a showing is no reason not to correct the antitrust damages multiplier.

This Article does not assert that the antitrust damages situation is unique, or even that it is more egregious than that involving other areas of the law. The primary purpose of this Article has been to advance the discussion within the antitrust community about the true relative levels of damages and recovery. Scholars in other fields should undertake a similar inquiry.

[FNa1]. Associate Professor, University of Baltimore School of Law. An oral version of this Article was presented in the Antitrust Section program at the 1991 ABA Annual Meeting. The author would like to thank William Blumenthal, Michael Brockmeyer, Joseph Brodley, Douglas Ginsburg, Herbert Hovenkamp, Steven Kalos,

William Kovacic, Howard Marvel, Stephen Nagin, Steven Salop and Walter Schwidetzky for extremely useful comments and suggestions, and William Atkins and Jack Merritt for excellent research assistance. All opinions and remaining mistakes are those of the author.

[FN1]. Damages for "hard core" offenses should be much greater than singlefold to account for detection problems, proof problems, and risk aversion. See Gary S. Becker, Crime and Punishment: An Economic Approach, 76 J. POL. ECON. 169, 199 (1968); see also sources cited infra note 3. The presence of these considerations does not necessarily mean that three is the correct multiplier. If only 20% of existing cartels are detected, for example, a multiplier of five would be more appropriate. (Then) Assistant Attorney General Douglas H. Ginsburg, in testimony before the U.S. Sentencing Commission, July 15, 1986, stated his belief that the probability that price fixing would be detected, indicted, and convicted was less than one in ten. See Need to Deter Offenses Is Stressed by Ginsberg Before Sentencing Commission, 51 Antitrust & Trade Reg. Rep. (BNA) No. 1274, at 92 (July 17, 1986). Peter G. Bryant and E. Woodrow Eckard estimate that between 13% and 17% of price fixing conspiracies are successfully prosecuted. Peter G. Bryant & E. Woodrow Eckard, Price Fixing: The Probability of Getting Caught, 48 REV. ECON. & STAT. 531, 531-36 (1991). This Article will not attempt to ascertain whether three is the optimal multiplier to account for detection problems, proof problems and risk aversion. It will, however, assume that a large multiplier is appropriate.

[FN2]. See Thomas G. Krattenmaker, Per Se Violations in Antitrust Law: Confusing Offenses with Defenses, 77 GEO. L.J. 165 (1988).

[FN3]. For analysis and citations to additional discussions, see ABA ANTITRUST SECTION, MONOGRAPH NO. 13, TREBLE-DAMAGES REMEDY 48-65 (1986) [[[hereinafter TREBLE-DAMAGES REMEDY]; 2 PHILIP AREEDA & DONALD F. TURNER, ANTITRUST LAW § 331 (1978) (multiple damages could be awarded at the discretion of the court); WILLIAM BREIT & KENNETH G. ELZINGA, ANTITRUST PENALTY REFORM 4, 44-46 (1986); RICHARD A. POSNER, ANTITRUST LAW: AN ECONOMIC PERSPECTIVE 231 (1976) (calling for single damages for such readily identifiable violations as anticompetitive mergers); William Baumol and Janusz Ordover, Use of Antitrust to Subvert Competition, 28 J.L. & ECON. 247, 263 (1985) ("One should consider both the use of a multiple smaller than three, at least in those types of cases, such as predatory pricing . . . and in some types of cases one might even consider [single damages]."); Frank Easterbrook, Detrebling Antitrust Damages, 28 J.L. & ECON. 445, 447-48 (1985) (discussing various types of legislative detrebling proposals); Ira M. Millstein, The Georgetown Study of Private Antitrust Litigation: Some Policy Implications, in PRIVATE ANTITRUST LITIGATION 399, 404 (Lawrence White ed., 1988).

[FN4]. Illinois Brick Co. v. Illinois, 431 U.S. 720 (1977).

[FN5]. "Illinois Brick repealers" have been enacted in 14 states and the District of Columbia. See Thomas Greene, State Indirect Purchaser Remedies Should Be Preserved, 5 ANTITRUST 25 (1990).

[FN6]. See Thomas B. Leary, State Indirect Purchaser Laws Should Be Preempted, 5 ANTITRUST 25, 26 (1990).

[FN7]. See sources cited supra notes 5 and 6.

[FN8]. See California v. ARC Am. Corp., 490 U.S. 93 (1989).

[FN9]. The same actions can sometimes violate federal antitrust laws as well as state tort laws or "baby FTC Acts." See, e.g., Multiple Damages Are Awarded in Suit Against Waste Management Firm, 58 Antitrust & Trade Reg. Rep. (BNA) No. 1458, at 415 (Mar. 22, 1990).

[FN10]. Discussing the Supreme Court's decision in California v. ARC Am. Corp., 490 U.S. 93 (1989), which held that state Illinois Brick repealers are not preempted by Section 4 of the Clayton Act, Thomas Wilson notes:

> [T]he Court's rationale, which makes clear that states are generally free to fashion their own remedies for antitrust violations, seems quite hospitable to the concept of one plaintiff recovering treble damages (one- third actual and two-thirds punitive) under federal law and double damages (punitive only) under state law (or vice versa) from the same defendant for the same conduct. But because the decision does not address the distinction, if any, between state and federal antitrust injury, it does not shed any light on the question whether actual damages are recoverable twice--once under state law and once under federal law--by the same plaintiff, from the same defendant, and for the same conduct.

See Thomas Wilson, The Spectre of Double Recovery in Antitrust Federalism, 58 ANTITRUST L.J. 201, 206 (1989).

[FN11]. See Stephen Calkins, Equilibrating Tendencies in the Antitrust System, with Special Attention to Summary Judgment and to Motions to Dismiss, in PRIVATE ANTITRUST LITIGATION, supra note 3, at 185 and the sources cited therein, particularly the reference to a similar analysis by Areeda and Turner at 191. Professor Calkins discusses how the law of monopolization, horizontal restraints and vertical restraints might have developed more narrowly because of the effects of damages awards that the courts believed were treble. Id. at 191-95. He concludes that "class actions probably would be more easily certified were there no trebling." Id. at 197. Professor Calkins also marshals support by demonstrating why "it seems probable that trebling is a factor" in causing courts to scrutinize damage claims more rigorously than they once did." Id. at 198. "Plaintiffs would find standing rules more hospitable in a single damage world." Id. See also Stephen Calkins, Summary Judgment, Motions to Dismiss, and Other Examples of Equilibrating Tendencies in the Antitrust System, 74 GEO. L.J. 1065 (1986); Homer Clark, The Treble Damage Bonanza: New Doctrines of Damages in Private Antitrust Suits, 52 MICH. L. REV. 363, 363 (1954) ("[T]he mandatory trebling of any recovery has generated a natural reluctance in the courts to impose prodigious damages upon violators of the act . . . . "); John F. Hart, Standing Doctrine in

Antitrust Damage Suits, 1890-1975, 59 TENN. L. REV. 191, 241-2 (1992).

[FN12]. "[A]n award of treble damages for violating section 2's proscription of 'monopolization' in some cases might appear to be unpredictable, capricious and thus, unfair [because] . . . the line between permissible and impermissible conduct for a monopolist is too imprecise and unpredictable a basis on which to impose punitive damages." Joseph L. McEntee, Jr. & Robert C. Kahrl, Damages Caused by the Acquisition and Use of Monopoly Power, 49 ANTITRUST L.J. 165, 167-68 (1980).

[FN13]. This Article's analysis omits relatively nonquantifiable factors that also could affect the true magnitude of the damages multiplier. For example, plaintiffs desiring competent counsel might have to pay their lawyers more than the attorneys' fees awarded against defendant by the court. Also, juries might over- or under-award damages depending, respectively, on whether or not they are unaware of the trebling. See Note, Controlling Jury Damage Awards in Private Antitrust Suits, 81 MICH. L. REV. 693, 694-96 (1983). Third, because members of a conspiracy are responsible for the damages caused by their co-conspirators, it can be argued that the amount paid by one conspirator might sometimes be disproportionate because it encompasses all damages caused by the cartel. Because each cartel member helped cause all of the damages attributable to the cartel, however, such damages seem generally to be appropriate.

This Article's analysis does not consider claims not brought because of Illinois Brick problems, effects of undue plaintiff risk aversion caused by illegal activity, or free rider problems that prevent antitrust suits from being filed. Nor does this Article attempt to incorporate the effects of antitrust violations on corporate reputations. This Article's scope is also limited to civil antitrust violations; the effects of criminal antitrust provisions are omitted. Finally, this Article assumes that the underlying substantive antitrust provisions are sound. To the extent these factors could be proven, clarified, rebutted, or quantified, the adjustments could, of course, affect this Article's conclusions significantly.

[FN14]. Part IV will utilize the deterrence and compensation frameworks modeled in Part II.

[FN15]. Figure I is taken from BREIT & ELZINGA, supra note 3, at 10.

[FN16]. The reason why monopoly power causes a suboptimal use of societal resources is relatively straightforward:

To raise prices a monopoly reduces output from the competitive level. The goods no longer sold are worth more to would-be purchasers than they would cost society to produce. This foregone production of goods worth more than their cost is pure social loss and constitutes the "allocative inefficiency" of monopoly. For example, suppose that widgets cost $1.00 in a competitive market (their cost of production plus a competitive profit). Suppose a monopolist would sell them for $2.00. A potential purchaser who would have been willing to pay up to $1.50 will not purchase at the $2.00 level. Because a competitive market would have sold the widgets for less than they were worth to him, the monopolist's reduced production has decreased the consumer's satisfaction without producing any countervailing benefits for anyone. This pure loss is termed "allocative inefficiency." For an extended discussion and formal proof that monopoly pricing creates allocative inefficiency, see E. MANSFIELD, MICROECONOMICS: THEORY AND APPLICATIONS 277- 92 (4th ed. 1982).

Robert H. Lande, The Rise and (Coming) Fall of Efficiency as the Ruler of Antitrust, 33 ANTITRUST BULL. 429, 433-34 n.17 (1988).

[FN17]. For the contrasting sides, see Lande, supra note 16, at 458-65.

[FN18]. Id.

[FN19]. See, e.g., Posner, supra note 3, at 11-12. Monopoly power can also lead to suboptimal quality, variety, and choice. See Alan Fisher & Robert H. Lande, Efficiency Considerations in Merger Enforcement, 71 CAL. L. REV. 1580, 1634-35 (1983). It also can permit firms to raise rivals' costs. See Thomas Krattenmaker et al., Monopoly Power and Market Power in Antitrust Law, 76 GEO. L.J. 241 (1987).

[FN20]. Monopolization cases, for example, require market power. See infra notes 160-66.

[FN21]. Many violations not requiring proof of market power, such as cartelization, lack this requirement because market power is almost always present and its proof would be wasteful.

[FN22]. Some violations, such as mergers, require only incipient market power. See Fisher & Lande, supra note 19, at 1591. These cases are less likely to give rise to significant monetary damages.

[FN23]. For an excellent discussion of umbrella effects and a sophisticated argument that they should be counted as antitrust damages, see William H. Page, The Scope of Liability for Antitrust Violations, 37 STAN. L. REV. 1445, 1465-67 (1985).

[FN24]. See MOHAMMED E. AHRARI, OPEC: THE FAILING GIANT 203 (1986) (maximum OPEC share of noncommunist world production was 68% in 1974; maximum OPEC share of world production was 55.5% in 1973).

[FN25]. One author described this impact as follows:

The depressing effects of the oil crisis on the economy are underestimated in the projections to the extent that they make no allowance for price increases in other fuels that are competitive with oil. Prices of coal and natural gas have risen with oil prices. While on a BTU equivalent basis, the importance of these two fuels is comparable to that of oil, the aggregate importance of increases in their prices has not been nearly so great. Much of natural gas production is price-controlled, and both coal and gas are generally sold under long-term contracts. As time passes, price increases for these two alternative fuels will become increasingly significant to the aggregate economy. For the future, the extent to which they rise will depend in part on policies still to be made, particularly in the case of natural gas.

George L. Perry, The United States, in HIGHER OIL PRICES AND THE WORLD ECONOMY: THE ADJUSTMENT PROBLEM 102 (Edward R. Fried & Charles L. Schultze eds., 1975).

[FN26]. Theoretically, one could distinguish between attorneys' fees spent on antitrust litigation in good faith from those spent unethically. Further, the existence of some actual examples of anticompetitive conduct caused the antitrust laws to be enacted, thus opening the way for erroneous suits by unharmed plaintiffs. Arguably, it would be fair to hold the actual violators responsible for the attorneys' fees paid by the innocent defendants.

[FN27]. Senator Coke complained about a bill that would have provided only for double damages:

How would a citizen who has been plundered in his family consumption of sugar by the sugar trust recover his damages under that clause? It is simply an impossible remedy offered him . . . . [H]ow could the consumers of the articles produced by these trusts, the great mass of our people--the individuals--go about showing the damages they had suffered? How would they establish the damage which they had sustained so as to get a judgment under this bill? I do not believe they could do it.

21 Cong. Rec. 2615 (1890).

Representative Webb stated that the damages provision "opens the door of justice in every man whenever he may be injured by those who violate the antitrust laws and gives the injured party ample damages for the wrong suffered." 51 Cong. Rec. 9073 (1914). He also stated that "we are liberalizing the procedure in the courts in order to give the individual who is damaged the right to get his damages anywhere--anywhere you can catch the offender . . . . " 51 Cong. Rec. 16274 (1914). See also the discussion in Herbert Hovenkamp, Antitrust's Protected Classes, 88 MICH. L. REV. 1, 21-30 (1989).

[FN28]. See, e.g., Reiter v. Sonotone Corp., 442 U.S. 330, 343 (1979) ( "[The treble damages remedy was passed] as a means of protecting consumers from overcharges resulting from price fixing."). A large number of Supreme Court cases hold that both deterrence and compensation are purposes of the treble damages remedy. See, e.g., Atlantic Richfield Co. v. USA Petroleum, 495 U.S. 328, 330 (1990); California v. ARC Am. Corp., 490 U.S. 93, 102 (1989); American Soc'y of Mechanical Eng'rs, Inc. v. Hydrolevel Corp., 456 U.S. 556, 557 (1982); Pfizer, Inc. v. India, 434 U.S. 308, 314 (1978); Illinois Brick Co. v. Illinois, 431 U.S. 720, 746, 748, 749 (1977); Fortner Enters. v. United States Steel Corp., 394 U.S. 495, 502 (1969).

[FN29]. A summary of comments by legislators suggests congressional intent:

Congress was well aware . . . that higher prices transfer wealth from consumers to firms with market power. The debates strongly suggest that Congress condemned trusts and monopolies for exactly this reason. For example, Senator Sherman termed monopolistic overcharges "extortion which makes the people poor," and "extorted wealth." Congressman Coke referred to the overcharges as "robbery." Representative Heard declared that the trusts, "without rendering the slightest equivalent," have "stolen untold millions from the people." Congressman Wilson complained that a particular trust "robs the farmer on the one hand and the consumer on the other." Representative Fithian declared that the trusts were "impoverishing" the people through "robbery." Senator Hoar declared that monopolistic pricing was "a transaction the direct purpose of which is to extort from the community . . . wealth which ought to be generally diffused over the whole community." Senator George complained: They aggregate to themselves great enormous wealth by extortion which makes the people poor.

Lande, supra note 16, at 449-50 (footnotes omitted).

[FN30]. See generally BREIT & ELZINGA, supra note 3.

[FN31]. Professor Vold explored this possibility:

In other words, closely analyzed, the threefold damage provision is remedial to the plaintiff, compensatory in its nature in liquidating compensation for accumulative intangible harm incurred outside of and beyond the ordinarily recoverable legal damages to the business or property. It is a penalty upon the defendant only in the loose sense of penalty as signifying a burden encountered by the defendant as a consequence of his wrongdoing. In that broad sense of penalty this provision of course is a burden to the defendant in requiring him to make compensation for damage wrongfully caused, comparable to the burden that is imposed by every provision which imposes legal liability to make compensation to the injured party. The three-fold damage provision is a provision for liquidated compensation for accumulative harm, largely intangible in its nature, which is so conspicuous part of the loss suffered when a going business is destroyed in violation of the anti- trust act.

Lawrence Vold, Are Threefold Damages Under the Antitrust Act Penal or Compensatory? 28 KY. L.J. 117, 157-58 (1940).

Criminal penalties, including fines and prison, probably are better at deterrence. Thus Congress's decision to award to plaintiffs the relief obtained could imply a compensation goal.

[FN32]. See TREBLE-DAMAGES REMEDY, supra note 3, at 48-65.

[FN33]. For citations, see BREIT & ELZINGA, supra note 3, at 3-28.

[FN34]. Senator Sherman observed that "the measure of damages, whether merely compensatory, putative [sic], or vindictive, is a matter of detail depending upon the judgment of Congress. My own opinion is that the damages should be commensurate with the difficulty of maintaining a private suit against a combination such as is described." 21 Cong. Rec. 2456 (1890). Representative Webb stated, "[u]nder the civil remedies any man throughout the United States, hundreds and thousands, can bring suit in the various jurisdictions and thus the offender will begin to open his eyes because you are threatening to take money out of his pocket." 51 Cong. Rec. 16,275 (1914)

[FN35]. See cases cited supra note 28.

[FN36]. See Lande, supra note 16.

[FN37]. Robert Bork analyzed the relevant legislative history and concluded that "[t]he whole task of antitrust can be summed up as the effort to improve allocative efficiency without impairing productive efficiency so greatly as to produce either no gain or a net loss in consumer welfare." ROBERT BORK, THE ANTITRUST PARADOX 91 (1978). Bork further asserted that there was "not a scintilla of support" in the Act's legislative history for "broad social, political, and ethical mandates." Id. at 10. Bork explicitly rejected distributive issues as a possible area of congressional concern: "[I]t seems clear the income distribution effects of economic activity should be completely excluded from the determination of the antitrust legality of the activity. It may be sufficient to note that the shift in income distribution does not lessen total wealth . . . . " Id. at 111.

[FN38]. See BREIT & ELZINGA, supra note 3.

[FN39]. Compare, however, the discussion accompanying notes 29-31.

[FN40]. See William H. Page, Antitrust Damages and Economic Efficiency: An Approach to Antitrust Injury, 47 U. CHI. L. REV. 467, 479 (1980). Professors Breit and Elzinga explain, as follows:

> [T]his is clearly wrong since . . . the profit rectangle P1DRP0 would be the incorrect measure on which to base the damage judgment. This is true because of the possibility that the cartel would generate cost savings. That is, the agreement among the firms to collude might cause the firms to take into account technical diseconomies they impose on each other. If so, the firm would not be deterred from engaging in the cartel activity even when it imposes a deadweight loss on society in an amount greater than the allocative efficiencies generated by the cartel. Thus a fine in the amount of the profit rectangle P1DRP0 would lead to under-deterrence.

BREIT & ELZINGA, supra note 3, at 9-10 (footnote omitted).

[FN41]. Warren F. Schwartz, An Overview of the Economics of Antitrust Enforcement, 68 GEO. L.J. 1075, 1081-85 (1980). Breit and Elzinga explain as follows:

> [Professor Schwartz] suggests that the imposition of such a fine would be optimal since it would require the offender to pay the complete social costs of his offense. If the offender pays the amount DER back to society, and that is the full amount of its inefficiency, how could there be any objection? Even if the profit rectangle P1DRP0 is greater than the deadweight loss DER, and the cartel continues to operate, society is recompensed for any losses imposed on it. If the profit rectangle is less than the deadweight loss, the firm will be deterred from the illegal activity.
>
> But Schwartz's rule would be incorrect if the cartelist's monopoly profits plus any cost savings from cartelization are greater than the deadweight loss while the cost savings alone are smaller than the deadweight loss. For in that case the cartelist would continue to engage in collusive behavior. Yet the gain to society in savings would be smaller than the deadweight loss. Once again there would be under-deterrence.

BREIT & ELZINGA, supra note 3, at 10-11 (footnote omitted).

[FN42]. See BREIT & ELZINGA, supra note 3, at 3-28 for citations.

[FN43]. William M. Landes, Optimal Sanctions for Antitrust Violations, 50 U. CHI. L. REV. 652, 656 (1983).

[FN44]. See id. Breit and Elzinga, referring to the diagram reprinted in this Article as Figure I, explain as follows:

> The trick to discovering the optimal sanction is to find a rule that will force the potential cartelist to compare any cost saving from his activity with the deadweight loss triangle. If the cost saving were larger than the deadweight loss, it would be in his (and society's) interest to undertake the illegal activity. So after he deducts the monopoly profit rectangle (which is only part of the fine to be paid under the Posner-Easterbrook rule), the cartelist will examine the deadweight loss (the remainder of the fine to be paid) and compare it with the value of the cost saving. The fine that is the sum of the deadweight triangle plus the profit rectangle is the correct sanction since it will encourage the "right" amount of illegal antitrust activity. Damages larger than this (that is, a fine larger than the area DER plus P1DRP0) could lead to over-deterrence, for in that case the potential offender would be comparing the wrong magnitudes. After paying the trapezoid P1DEP0, the remaining part of the fine to be paid would be compared with the cost saving from the illegal activity. If it is larger than that amount, the potential cartelist would be deterred from forming the cartel. But this would be incorrect from a social standpoint if the deadweight loss triangle were in fact less than the cost saving . . . .
>
> Therefore, the Posner-Easterbrook penalty causes the antitrust violator to compare any efficiency gains of the violation to the deadweight loss to society. The

antitrust violator must be made to forgo his monopoly overcharge (rectangle P1DRP0) in order to give him the proper incentives to make the correct comparison. Only a fine equal to the total loss in consumers' surplus brings about this result.
BREIT & ELZINGA, supra note 3, at 11-12.

[FN45]. See BREIT & ELZINGA, supra note 3. All the standard optimal deterrence models assume that efficiency is the only legitimate goal of antitrust. Id. If one believes that another purpose of antitrust is to prevent wealth transfers from consumers to firms with market power (see Lande, supra note 16), then the transfer effects of market power, in addition to the inefficiency effects, should be deterred. This type of deterrence model would be the equivalent of the compensation model described in subpart II.A.

[FN46]. This fine must, of course, be adjusted for risk and the probability of detection and conviction.

[FN47]. It is net efficient because the cost savings exceeds the $.50 in allocative inefficiency.

[FN48]. It is not net efficient because the allocative inefficiency of $.50 exceeds the cost savings.

[FN49]. Breit and Elzinga explain further:

A numerical example may help to clarify the concept of the optimal antitrust sanction. Assume that a potential cartelist calculates that joining a horizontal price-fixing conspiracy will increase his profits by $100 million. He also is aware that the deadweight loss imposed on society by his activity is $50 million. If the expected value of the fine imposed is the entire amount of consumers' surplus ($150 million) would he enter the cartel? He would do so if he believed that the cartel would be accompanied by cost reductions to him greater than $50 million. If the cost saving were, say, $60 million, he would still enter the price-fixing conspiracy because he would know that his fine would be $100 million (his cartel profits) plus $50 million (the deadweight loss), leaving him $10 million more revenue than would be the case if he did not enter the cartel. In this case the cartel is accompanied by cost reductions greater than the deadweight loss it imposes on society. On efficiency grounds, it should be permitted.
BREIT & ELZINGA, supra note 3, at 12.

[FN50]. See text accompanying notes 23-25.

[FN51]. See Landes, supra note 43, at 666-68. Landes's decision to omit these umbrella effects from factoring into an optimal deterrence calculation has been insightfully and thoughtfully criticized. See William H. Page, Optimal Sanctions for Antitrust Violations, 37 STAN. L. REV. 1445, 1490 (1985). Moreover, Landes notes that it might sometimes be appropriate to count these transfers:

Although the net benefit rule is perfectly general, the conclusion that the cartel should not be liable for any overcharges on units sold by the competitive fringe holds only under the cost conditions [described earlier]. If the fringe's marginal cost were to exceed the previous competitive price, then their rents or benefits would be less than the harm to consumers on the units purchased from the fringe. In the limit, if the fringe's marginal cost were constant and equal to the cartel price, optimal damages would equal . . . the entire overcharge plus the deadweight loss.
Landes, supra note 43, at 668.

[FN52]. See infra subpart III.H.

[FN53]. It is unclear, moreover, whether we can fully separate deterrence and compensation effects. If we do not adequately compensate plaintiffs, they might not bring enough suits to deter violations optimally.

[FN54]. There are two general types of disparities between the damages caused by antitrust violations and the damages typically awarded for them. The first consists of factors that apply, to varying degrees, to most civil violations: the lack of prejudgment interest; statute of limitations issues; the costs to the judicial system of handling the case; and the lack of compensation for nonattorney time and expenses incurred as plaintiffs' employees pursue the case. The second consists of factors relatively unique to antitrust offenses: the resulting allocative inefficiency; the resulting umbrella effects; and, of course, the "treble" damages plus "reasonable" attorneys' fees that are awarded.

[FN55]. The existing data do not, for example, allow us to know precisely such required quantities as the length of the "average" antitrust case or the effect of the "average" cartel or monopoly on the prices of other firms in its industry.

This Article, moreover, implicitly assumes that courts decide most cases correctly. If Section 2 of the Sherman Act actually does more harm than good by discouraging hard competition, single damages would certainly be more appropriate than treble damages for these violations.

[FN56]. The author believes that these ranges are reasonably suggested by the existing data and that they encompass the "true" figures. It must be stressed that every estimate that follows is a "first cut" approximation without claim to scientific precision. The results of this analysis should cast doubt on the assumption that damages are currently treble. The analysis does not establish their "actual" level. The purpose of this exercise is to advance the discussion over the "true" level of damages, not to end it.

[FN57]. 15 U.S.C. § 15 does provide that interest can be awarded on untrebled damages prior to judgment if the court finds the award to be just, considering such factors as delay and violation of the rules. See generally Antitrust Procedural Improvements Act of 1980, Pub. L. No. 96-349, 1980 U.S.C.C.A.N. (94 Stat.) 2716. Such awards are rarely made.

Even though prejudgment interest is almost never explicitly awarded, it can sometimes be awarded implicitly as part of destroyed goodwill or the value of a business. It is possible that a business destroyed through predation, for example, might be able to recover the expected value of the business at the time of judgment, thus implicitly recovering a form of prejudgment interest. Successful plaintiffs in suits involving cartel overcharges, however, which are much more common than successful claims in monopolization cases, are much less likely to be able to capitalize or figure out some other indirect method of recovering lost prejudgment interest.

[FN58]. Pierce v. United States, 255 U.S. 398, 406 (1921) (holding that even judgments bear interest only if there is an appropriate statute).

[FN59]. Joseph F. Brodley, Comment: Critical Factual Assumptions Underlying Public Policy, in PRIVATE ANTITRUST LITIGATION, supra note 3, at 253, 260-61.

[FN60]. Richard Posner, A Statistical Study of Antitrust Enforcement, 13 J.L. & ECON. 365, 401 (1970). Posner cautioned that not every conspiracy had the power to affect prices during its entire length, and that some lapsed or collapsed and regrouped. Posner also found an eleven year average for cases filed from 1950-54 and a seven year average for cases filed from 1955-59. Id.

[FN61]. Edwin A. Blackstone & Gary W. Bowman, Antitrust Damages: The Loss from Delay, 32 ANTITRUST BULL. 93, 95 (1987). The Sherman Act is codified at 15 U.S.C. §§ 1-7 (Supp. 1992).

[FN62]. See Joseph Gallo et al., A Preliminary Investigation of the First Century of Department of Justice Antitrust Enforcement (1991) (unpublished manuscript, on file with the author; relevant statistics calculated by Dr. Gallo for author, letter on file with author) (average duration of civil antitrust violation is 101 months (8.4 years)). There were 302 civil cases in this sample. I am grateful to Professor Gallo et al. for providing this information and allowing me to use it.

[FN63]. (6+8+8.4)/3 = 7.5 years.

[FN64]. See Brodley, supra note 59.

[FN65]. See Gallo et al., supra note 62. The sample contained 378 cases. A comparable figure for civil cases is not available.

[FN66]. See Blackstone & Bowman, supra note 61.

[FN67]. The statute of limitations will be discussed infra at subpart III.B.

[FN68]. An experienced lawyer might be able to assemble the information necessary to file suit against a relatively straightforward cartel in a few weeks. The lawyer would be unlikely, however, to file a monopolization case so quickly.

[FN69]. See generally Brodley, supra note 59. Settlements took less time on average, but the correct figure should be the interval between filing and judgement because the parties' knowledge that judgment will probably take years is likely to influence the settlement. A comparable figure for class action cases was not available because most settled, but it is interesting to note that these cases took four years from filing until settlement. See id.

[FN70]. Kenneth G. Elzinga & William C. Wood, The Costs of the Legal System in Private Antitrust Enforcement, in PRIVATE ANTITRUST LITIGATION, supra note 3, at 111 (Table 3.4). Kauper and Snyder found that the average time between the filing of the first case in a multidistrict litigation and the termination of the proceeding was 6.1 years. For multidistrict litigations that were follow-ups to government cases the average elapsed time was 5.7 years; for other cases it was 6.4 years. Thomas E. Kauper & Edward A. Snyder, Private Antitrust Cases that Follow On Government Cases, in PRIVATE ANTITRUST LITIGATION, supra note 3, at 357.

[FN71]. See Blackstone & Bowman, supra note 61, at 95.

[FN72]. Richard Posner, A Statistical Study of Antitrust Enforcement, 13 J.L. & ECON. 363, 381 (1970). Different types of cases required different lengths of time. Monopolization cases, for example, required an average of 7.0 years. Id. at 406.

[FN73]. Another reason why a slightly shorter average might be appropriate is that in recent years courts appear to have been increasingly dismissing cases pursuant to summary judgment motions.

[FN74]. Some violations might be less likely to fit this sequential pattern. A monopoly achieved through predatory pricing or by activities that raise rivals' costs is, in contrast to a cartel, much less likely to be judged illegal. Whereas naked cartels usually end upon detection or the filing of suit, monopolies or more complex horizontal arrangements might well continue until judgment (or appeal), especially if the owners are risk-seeking or confident of final victory. Because some monopoly profits could be earned right up until judgment in these cases, on average the damages caused by these violations would have occurred closer to the date of judgment. Consider, for example, a monopolization scheme that lasted seven years before detection. Suppose suit were filed two years thereafter, followed by the average seven years of litigation until judgment, as calculated by Posner (supra note 72, at 406) for monopolization cases. If the violator continued its practices until judgment, the damages it caused would only be distanced from the judgment by approximately half of the period over which the violation occurred, or 1/2 x (7 + 2 + 7) = 8 years on average.

[FN75]. That is, approximately [1/2 x (7 to 8)] + (0 to .5) + 4.5 = 8 to 9 years. A mathematical complication arises because damages occurring throughout a 14-year period, for example, are not precisely the equivalent of damages delayed for 7 years. For example, $1.00 in damages per year during each of 14 years, increased at 7.69% per year, would yield $25.38 by the end of the fourteenth year, an increase of 81% on average. By contrast, $1.00 increased at 7.69% per year for 7 years would increase by only 68%. The methodology that this Article has chosen to use is relatively simple, but probably underestimates the lost time value of money. It therefore might slightly overestimate the final ratio of paid to actual damages.

[FN76]. For example, many cartels might be strongest nearer their beginning, causing fewer damages towards their end. This could mean that the "average" damages caused by the cartel would be more than halfway from judgment, and so should be adjusted more for the lost time value of money.

[FN77]. See supra note 72.

[FN78]. The timing issue was less significant in the past, when interest rates were low. The maximum rate for three-month U.S. Treasury bills, for example, was 1.1% during the 1940s and 3.4% during the 1950s. COUNCIL OF ECONOMIC ADVISORS, ECONOMIC REPORT OF THE PRESIDENT 368 (1991).

[FN79]. A victimized individual, for example, might have invested in particular types of assets. Alternatively, a victimized business might have done the same, or might have undertaken projects yielding even higher expected rates of return.

[FN80]. Lawyers rarely give antitrust advice with such certainty. See Harvey J. Goldschmid, Comment on the Policy Implications of the Georgetown Study, in PRIVATE ANTITRUST LITIGATION, supra note 3, at 412.

[FN81]. A zero coupon bond would also be a good analogy.

[FN82]. If information were perfect, plaintiffs could go to their bankers and convince them that, because the recovery in eight years was assured, the bank should extend an eight-year loan at its most favorable rate. Because plaintiff or defendant bankruptcy during those eight years for unrelated reasons would always be a possibility, however, the banker might not be repaid even if plaintiff were guaranteed to prevail. And, of course, information is not perfect, and no banker could be expected to believe plaintiff had a 100% chance of recovery (even if this actually was warranted). The banker would likely extend the loan at a rate that considered the particular plaintiff's and defendant's financial conditions at the time, incorporating some probability (in the banker's opinion) that the plaintiff would not recover treble damages in approximately eight years.

[FN83]. An even higher interest rate would be appropriate if the plaintiff were financially less secure. Some believe that the defendant's payout should not depend upon the financial condition of its victims. Franklin M. Fisher & R. Craig Romaine, Janis Joplin's Yearbook and the Theory of Damages, 5 J. ACCT., AUDITING, & FIN. 145, 146-48 (1990). In tort litigation, however, defendants "take the victims as they find them," and might pay more if the victim is relatively vulnerable. See EDWARD J. KIONKA, TORTS: INJURIES TO PERSONS AND PROPERTY 359 (1977). It seems reasonable to make antitrust damages paid depend upon actual damages caused.

[FN84]. This Article's use of the three-month Treasury bill rate is conservative because it includes no risk premium. An important reason why actual damages should be trebled is to take all risks of noncollection into account, including the risk of defendant bankruptcy and the risk that the violation will go undetected. Risk should already be accounted for in the "trebling" aspect of the multiplier; whether it actually does so is open to dispute. Because risk arguably should not affect the interest rate, the virtually risk-free three-month Treasury bill rate might be an appropriate yardstick for the time value of money.

[FN85]. The prime interest rate during recent years has ranged, for example, from 18.87% (1981) to 6.83% (1977). See COUNCIL OF ECONOMIC ADVISORS, ECONOMIC REPORT OF THE PRESIDENT 378 (1992) (Table B-71).

[FN86]. Id. This figure is an average of the average yearly rates for 1972 through 1991. The most recent ten-year period average is 7.59%. Id.

[FN87]. Id.

[FN88]. Tax considerations also affect the actual amount of the interest that plaintiffs or defendants will be able to keep. See supra subpart III.H.

[FN89]. 15 U.S.C. § 15b (Supp. 1992).

[FN90]. See supra subpart III.A.

[FN91]. Many violations are not detected at all, so their perpetrators pay no damages. This Article will make no attempt to account for this fact, other than to note that a primary reason why antitrust damages are automatically trebled is that the violations are frequently difficult to detect. See supra note 1 for rough estimates of the percentage of certain violations that are detected.

[FN92]. Calculated as follows: (7 to 8) + (0.0 to 0.5) - 4 = 3 to 4.5.

[FN93]. Calculated as follows: (3 to 4.5) / (7 to 8) = 38% to 64%.

[FN94]. See Robert Brina, Comment, Complexities of Accrual: The Antitrust Statute of Limitations in a Contractual Context, 31 UCLA L. REV. 1061, 1073-74 (1983); see also ABA ANTITRUST SECTION, ANTITRUST L. DEV. 682-83 (3d ed. 1992).

[FN95]. Brina, supra note 94.

[FN96]. For other relatively minor exceptions, see A.B.A. ANTITRUST SECTION, supra note 94, at 680-97. For example, some state antitrust laws have no statute of limitations. See, e.g., Ohio ex rel. Brown v. Klosterman French Baking Co., 1977-1 Trade Cas. (CCH) ¶ 61,361 (S.D. Ohio 1976) (Ohio antitrust law has no statute of limitations).

[FN97]. For a discussion, see A.B.A. ANTITRUST SECTION, supra note 94, at 683-88; see also 15 U.S.C. § 16 (i) (1976) (statute of limitations tolled by filing of certain government suits and for one year thereafter).

[FN98]. Thomas E. Kauper & Edward A. Snyder, Private Antitrust Cases that Follow on Government Cases, in PRIVATE ANTITRUST LITIGATION, supra note 3, at 329, 333.

[FN99]. Id. at 332.

[FN100]. Id. at 343.

[FN101]. Cartels stop for many reasons, including the filing of a government suit. This fact should be reflected in the 7.5-year average cartel duration calculated in subpart III.A.1, and there is no reason to believe that cartels persist once a government suit is filed.

[FN102]. Calculated as follows: (38% to 64%) x .88 = (33% to 56%).

[FN103]. See W. Glenn Opel, Note, A Reevaluation of Fraudulent Concealment and Section 4B of the Clayton Act, 68 TEX. L. REV. 649 (1990); see also ABA ANTITRUST SECTION, supra note 94, at 689-93.

[FN104]. See generally A.B.A. ANTITRUST SECTION, supra note 94, at 689-90.

[FN105]. See generally PHILIP C. JONES, LITIGATING PRIVATE ANTITRUST ACTIONS 385 (1984).

[FN106]. A computer-assisted search of all U.S. district court cases mentioning "Clayton Act" and "statute of limitations" found that 179 out of 764, or 23%, also mentioned "fraudulent concealment." The comparable figure for courts of appeals cases was 58 out of 333, or 17%. Of course the mere mention of the term does not make the case a "fraudulent concealment" case or "statute of limitations" case. Nor does it mean that either doctrine was successfully invoked.

[FN107]. Of the 58 appellate court cases (see supra note 106), only 35 decided whether the doctrine was applicable in an antitrust case. Fraudulent concealment was found to exist in 21, or 60%, of the cases that decided the issue.

[FN108]. This estimate is probably conservative. Although fraudulent concealment claims appear to be successful 60% of the time the issue was decided, they were only mentioned in 23% of cases discussing the statute of limitations. See supra note 106. Some of the 77% of the cases mentioning "statute of limitations" but not "fraudulent concealment" undoubtedly did not discuss fraudulent concealment because plaintiff had no reasonable basis for alleging the issue.

[FN109]. This range is based upon the high and low figures calculated earlier in this subpart.

[FN110]. Calculated as follows: .40 x (33% to 64%) = 13% to 26%. It matters relatively little whether the first year or two of damages is viewed as immunized by the statute of limitations or merely delayed, because these damages accrue so many years prior to judgment that they are worth little by the time judgment is rendered. The estimates in this Article show that the initial year of damages might be removed from judgment by roughly 8 + .5 + 4.5 = 13 years. Using the prime interest rate as a discount rate, the initial year's damages of $1.00 would be worth only $.28 at judgment.

[FN111]. Subpart III.A calculated an average delay of eight to nine years from the imposition of antitrust damages to judgment, and the earliest period of damages is of course more likely to be barred by the statute of limitations. If we assume that the first one to two years of damages typically are lost because of the statute of limitations, this assumption would imply a (1 to 2)/ (7 to 8) (the average length of a cartel) = a 12% to 29% reduction in damages attributable to the statute of limitations--virtually identical to the 13% to 26% range calculated earlier. This immunization of the first one to two years of damages means that the average delay between the imposition of recognizable damages and judgment would be less than the eight to nine-year estimate calculated in subpart III.A. A net figure for the life of an average cartel that would give rise to recognizable antitrust damages would only be (7 to 8) - (1 to 2) = 5 to 7 years. This calculation suggests that the average delay between the imposition of damages and judgment would be (5 to 7)/2 + (0 to .5) (filing lag) + 4.5 (litigation duration) = 7 to 8.5 years on average.

[FN112]. The high estimate of 8.5 years, supra note 111, was reduced to eight to be conservative, because it seems unlikely that all of the factors implying a long time lag would occur.

[FN113]. See Steven C. Salop & Lawrence J. White, Private Antitrust Litigation: Introduction and Framework, in PRIVATE ANTITRUST LITIGATION, supra note 3, at 13 (using court data and a confidential data set).

[FN114]. Elzinga and Wood estimated a range of .58 to 1.02 times the recovery. Elzinga & Wood, supra note 70, at 107, 126 (using a confidential data set).

[FN115]. Salop & White, supra note 113, at 15.

[FN116]. Of course, this average range includes radically different cases. One extreme can be illustrated by United States Football League v. National Football League, 887 F.2d 408 (2d Cir. 1989), cert. denied, 493 U.S. 1071 (1990). Although plaintiff received only $1.00 before trebling, it also received over $5,000,000 in attorneys' fees. The other extreme is illustrated by an unidentified cash settlement in favor of plaintiffs of $50,000,000, which required only $150,000 in plaintiff attorneys' fees (a 0.003 ratio of fees to settlement). See Elzinga & Wood, supra note 70, at 123.

[FN117]. This range is, of course, subject to great uncertainty. As Elzinga and Wood caution: "It is unlikely . . . that any one figure characterizing the distributional efficiency of private antitrust could emerge unchallenged because the calculations are senstive to the method of computation." Elzinga & Wood, supra note 70, at 126.

[FN118]. "Reasonable" attorneys' fees are normally set using a variation of the "lodestar" approach, which does not include any compensation for the lost time value of paid attorneys' fees. See JONES, supra note 105, at 548-54.

[FN119]. See Kevin F. Kelly, Note, Attorneys' Fees in Individual and Class Action Antitrust Litigation, 60 CAL. L. REV. 1656, 1658-59 (1972) (discussing cases holding that such contracts are legal). See generally John Leubsdorf, The Contingency Factor in Attorney Fee Awards, 90 YALE L.J. 473 (1981).

[FN120]. If the courts typically fix attorneys' fees that were reasonable at the time they accrued, it is reasonable to assume that plaintiffs' attorneys would protect themselves from the lost time value of their fees through mechanisms such as contingent fee arrangements.

[FN121]. Section III.A.1 concluded that on the average there was as much as a .5 year gap between detection and filing, and another 4 or 4.5 years of litigation. If 1/3 of the attorneys' fees were incurred 4 years before judgment, 1/3 were incurred 2 years before judgment, and 1/3 immediately before judgment, and if a low estimate of a 7.69% annual interest rate is used (see supra notes 78-86 and accompanying text), on average the legal fees should be increased by 17% to account for the lost time value of money. Legal fees of .30 times the transfer would be increased to .35 times the transfer. A higher estimated adjustment, using the 10.22% annual interest rate calculated supra in section III.A.2, would mean that the fees should be increased by 23%, from .60 up to .74 times the transfer. See supra notes 79-87 and accompanying text.

[FN122]. See generally Note, Redefining the "Cost of Suit" Under Section Four of the Clayton Act, 82 MICH. L. REV. 1905 (1984).

[FN123]. Some of these adjustments are more likely to apply to suits by consumers, others to suits by businesses. Another complication arises because Section 4 of the Clayton Act mandates the award of attorneys' fees for successful civil antitrust judgments, but not for settlements. Thus, the "only basis for awarding an attorney's fee in such cases is the equitable fund theory doctrine, which may be used to 'make fair and just allowances for expenses and counsel fees to [those] parties promoting litigation. . . . '" City of Detroit v. Grinnell Corp., 495 F.2d 448, 469 (2d Cir. 1974) (quoting Trustees v. Greenough, 105 U.S. 527, 537 (1881)). In

other words, plaintiffs' attorneys obtain part of the settlement.

[FN124]. See supra notes 113-14.

[FN125]. See Richard Posner, The Social Costs of Monopoly and Regulation, 83 J. Pol. Econ. 807 (1975); Posner, supra note 3, at 4-11. Similarly, a cartel or monopoly often must expend resources to protect its position. Id.

[FN126]. Many also believe that organizational slack, or X-inefficiency, often results from monopoly power. See Harvey Liebenstein, Allocative Efficiency vs. "X-Efficiency," 56 AM. ECON. REV. 392 (1966). To the extent that plaintiffs are awarded three times defendants' supracompetitive profits, monopolies and cartels have an incentive to be lazy or inefficient. Lower supracompetitive profits could mean a lower eventual payout, so victims could end up paying threefold for defendants' laziness and inefficiency.

[FN127]. Individual cases vary remarkably for many reasons, including the fact that corporate time spent on a case can often substitute for attorney time.

[FN128]. Antitrust cases often require the attention of top corporate executives who are prevented from exploiting other corporate opportunities or formulating or carrying out strategic plans. Several clients have told the author that, when they are deciding whether to file an antitrust suit, these corporate costs are a larger impediment than the cost of their attorneys' fees. Moreover, plaintiffs are required to mitigate damages, and these efforts are not compensated by the judgment.

[FN129]. This figure was calculated from the material presented in Paul V. Teplitz, The Georgetown Project: An Overview of the Data Set and its Collection, in PRIVATE ANTITRUST LITIGATION, supra note 3, at 73. Only a small percentage of lawyers responded to the survey, so this data set must be used with more caution than most of the data relied upon in this Article.

[FN130]. Id. Nor does it include the "water cooler" effects of significant antitrust cases. Corporate personnel often spend considerable time speculating about the course of a case and its effects upon the company's future and their careers.

[FN131]. In 1979 the average attorney fee awarded in antitrust class actions was calculated to be $115.00 per hour. Robert B. Reich, The Antitrust Industry, 68 GEO. L.J. 1053, 1069 n.42 (1980).

[FN132]. Calculated as follows: $100 x 203 x (2 or 3) = $40,600 to $60,900.

[FN133]. Teplitz, supra note 129, at 71 (average of $45,000 and $109,000).

[FN134]. This calculation uses attorney fee estimates increased to adjust for the lost time value of money. The lost corporate time and expenses should be similarly adjusted.

[FN135]. Calculated as follows: (53% to 79%) x (35% to 80%) = 19% to 63%.

[FN136]. Stephen Susman cautions that the complexities involved are enormous:

My experience has been that there is a certain "fixed cost" of pursuing just about any lawsuit, regardless of the amount in controversy or the size of the company. To that extent, the amount of company investment is disproportionately large in small cases, but becomes less and less significant as the amount of actual damages increases, even on a single damage measure. At the same time, this factor changes with a number of random variables, including the executive's commitment to the lawsuit (something that often has nothing to do with the merits); the involvement of the company's law department in the litigation; whether the officers are named individually; the ratio of the damages sought to the net worth of the company; whether the charges outrage the executives (for instance, in an antitrust lawsuit with RICO claims)--and I am sure there are other factors.

Letter from Stephen Susman, an extremely experienced antitrust attorney, to Robert Lande (April 30, 1987) (on file with author).

[FN137]. See Elzinga & Wood, supra note 70, at 110. This Article's analysis assumes that defendant's expenses are the same as those of the plaintiff; the Georgetown study does not specify whether the responses are from plaintiffs or defendants. Teplitz, supra note 129, at 73. No losses are assumed for the fringe firms or the allocative inefficiency multiplier.

[FN138]. If these calculations were performed solely for consumers, an estimate of zero would be appropriate. A separate analysis of consumer class action suits could reveal other differences.

[FN139]. Even if we assume that all defendant losses were "close calls" contested in good faith, the court costs are nevertheless damages from the violation. The taxpayers, through their representatives who established the court system, have decided to absorb this cost rather than assess it against the losing party. Nevertheless, if the violation had not occurred, taxpayers would not have incurred these costs. Professor Landes believes that optimal deterrence requires that all

enforcement costs that are a net damage to others, such as costs of judicial administration, should be considered as damages from antitrust violations. Landes, supra note 43, at 653, 657

[FN140]. See STEVEN FLANDERS, 1979 DISTRICT COURT TIME STUDY (1980), cited in Reich, supra note 131, at 1069, and Brodley, supra note 59, at 261. Table 16 of the Flanders study reports that judges spent 5.4% of their time on civil antitrust cases. John Shapard, Project Director, Research Division, Federal Judicial Center, in a telephone conversation with the author on July 29, 1992, stated that an in-progress study showed that federal district judges spent a much smaller percentage of their time on antitrust cases, although the sample size probably was too small to have statistical significance.

[FN141]. It certainly is possible that circuit courts devote a higher percentage of their time to antitrust. In 1991, 20.2% of all civil cases in federal courts were appealed. Of the 681 antitrust cases, 190, or 27.9%, were appealed. L. RALPH MECHAM, ADMIN. OFFICE OF THE U.S. COURTS, JUDICIAL BUSINESS OF THE UNITED STATES COURTS, 1 ANNUAL REPORT OF THE DIRECTOR 56, App. I at 16 (1991) [hereinafter 1991 ANNUAL REPORT]. Moreover, Shapard, supra note 140, reports that the ongoing Federal Judicial Center Study shows that federal magistrates spend more time on antitrust cases than federal district court judges.

[FN142]. The total cost to the taxpayers of administering these courts in 1990 (the 1990 cost rather than the 1979 cost is used to take account of inflation) was $1.361 billion. L. RALPH MECHAM, ADMIN. OFFICE OF THE U.S. COURTS, ACTIVITIES OF THE ADMINISTRATIVE OFFICE, REPORT OF THE DIRECTOR 3 (1990) [hereinafter 1990 REPORT]. These costs should be allocated to the 1,234 private antitrust actions filed in 1979. See Brodley, supra note 59, for citations. Cases usually last for more than one year, but their judicial costs are incurred over several years. Thus, (4.1% x $1,361 billion) / 1,234 cases would equal an average cost to the taxpayer per antitrust case of some $45,000. However, the size of the federal judiciary has grown by approximately 10% during the last decade. 1991 ANNUAL REPORT, supra note 141, at 3, 7 and 43. Accordingly, an estimate 10% lower, $40,000 per case, would probably be more appropriate.

[FN143]. The direct recurring costs of maintaining federal judgeships as of January 1, 1991 is an estimated $641,000 for circuit court judges, $605,000 for district court judges, $428,000 for federal magistrates, and $334,000 for senior status district court judges (a comparable figure for senior status circuit court judges is not available; it will be assumed to be equal to that for senior status district court judges) (figures supplied by the Administrative Office of the United States Courts, Budget Division, on file with the author). In 1990 these positions were occupied by approximately 158, 531, 484, 201, and 63 people respectively, producing a total cost to the U.S. taxpayer of $718 million. 1990 REPORT, supra note 142, at 8, 9. The federal judiciary has grown by approximately 10% during the past decade, 1991 ANNUAL REPORT, supra note 141, at 3, 7, 43, so it might be appropriate to reduce the cost per case comparably. Thus, (4.1% x $718 million x 90%) / 1234 = $21,000 per case.

[FN144]. The average plaintiff award was $380,903 for the Georgetown sample's 1973-83 cases. Teplitz, supra note 129, at 77. The median plaintiff award was $153,416. Id.

[FN145]. This figure only includes judicial costs as a percentage of plaintiff awards. It omits consideration of judicial costs in cases in which the defendant wins.

[FN146]. Teplitz, supra note 129, at 74.

[FN147]. The average trial length of 11.4 days, Brodley, supra note 59, at 260, x $605,000 ($605,000 is the average recurring annual cost of a federal district court judgeship; see supra note 143) /135 (the average number of trial days per judge per year; id.) = $51,000 per case. $51,000 divided by $380,903 (see supra note 144 for the average award in an antitrust case) = 13.4%; trebled, this figure is 40%. Alternatively, the approximate cost of a day of a civil jury trial is $2,711. (Figure supplied by Budget Development Branch, Administrative Office of the United States Courts, dated Feb. 12, 1992, on file with author). 135 (average number of trial days per judge per year) / 11.4 (average number of trial days per antitrust case) = 11.8. Average recurring cost of a federal district court judgeship is $605,000/11.8 = $51,000 per case.

[FN148]. In 1979, 1,234 civil antitrust cases were filed. See supra note 142. In 1991, 681 civil antitrust cases were filed. 1991 ANNUAL REPORT, supra note 141, at 56. This decrease probably is not relevant, however, because this section is ultimately concerned with average judicial resources per antitrust case, not total judicial resources spent on antitrust.

[FN149]. See, e.g., Matsushita Elec. Indus. Corp. v. Zenith Radio Corp., 475 U.S. 574 (1986).

[FN150]. See, e.g., Monsanto Co. v. Spray-Rite Serv. Corp., 465 U.S. 752 (1984).

[FN151]. See, e.g., 1991 ANNUAL REPORT, supra note 141, at 2-10.

[FN152]. Of the 56 civil cases in district courts requiring more than 25 trial days during the 12-month period ending June 30, 1990, 8 were antitrust cases. 1990 ANNUAL REPORT, supra note 142, at 165-66 (Table C-9).

[FN153]. For example, vertical nonprice cases today probably use more judicial resources on the average than they did 20 years ago.

[FN154]. Compare Mid-West Paper Prods. Co. v. Continental Group, Inc., 596 F.2d 573 (3rd Cir. 1979) (no standing granted to customers of competitors of violators to sue violator for these damages) with Beef Indus. Antitrust Litig., 600 F.2d 1148 (5th Cir. 1979), cert. denied, 449 U.S. 905 (1980) (standing allowed for umbrella claims); see also discussion in PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 337.3 (Supp. 1992) (making a persuasive argument that such plaintiffs should have standing).

[FN155]. See sources cited in AREEDA & HOVENKAMP, supra note 154 (citations to, and analysis of, many of the relatively few cases that discuss the issue); see also State of Wash. v. American Pipe & Constr. Co., 280 F. Supp. 802 (S.D. Cal. 1968), cert. denied, 393 U.S. 842 (1968) (umbrella claims allowed; proof problems discussed).

[FN156]. Practical proof problems include causation complexities, confidentiality issues, and coordination difficulties. See Page, supra note 23, at 1490-92.

[FN157]. Umbrella effects are less likely when a cartel or monopoly has a smaller market share. Landes and Posner conclude that market power is unlikely to occur when a firm has less than a 40% market share. See Landes & Posner, Market Power in Antitrust Cases, 94 HARV. L. REV. 937, 944 n.15 (1981) (citing F.M. SCHERER, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 232 (2d ed. 1980)). Professor Weiss's massive study of the relationship between concentration and price concludes that there rarely is any relationship if the four leading firms in a market have less than a combined 50% share, but that industry concentrations above this critical level frequently lead to supracompetitive pricing for an industry. Leonard W. Weiss, A Review of Concentration-Price Studies in Banking, in CONCENTRATION AND PRICE 272-74, 283 (Leonard W. Weiss ed., 1989) (volume includes other pertinent studies by Marvel, Berger, and Hannan). These data suggest that the largest fringe in which umbrella effects could occur normally would consist of 50% of a market.

[FN158]. It is exceedingly difficult to determine the average market share of cartels because courts do not routinely report cartels' market shares or devote a great deal of effort to accurately defining the relevant market for these per se offenses. Nor does every illegal cartel possess market power. See generally A.B.A. ANTITRUST SECTION, supra note 94, at 33-41.

[FN159]. Merger cases usually report market shares and give careful attention to market definition, although the prophylactic nature of the antimerger statutes makes it uncertain that illegal mergers would often give rise to significant umbrella effects. See Fisher & Lande, supra note 19, at 1591.

[FN160]. See ROLAND H. KOLLER, PREDATORY PRICING IN A MARKET ECONOMY (1969).

[FN161]. See Richard O. Zerbe & Donald S. Cooper, An Empirical and Theoretical Comparison of Alternative Predation Rules, 61 TEX. L. REV. 655 (1982).

[FN162]. I am grateful to William Atkins for assistance with this analysis.

[FN163]. Many of the cases in Koller's sample were attempted monopolization cases or cases that did not give usable market share statistics. KOLLER, supra note 160, at 45-47. There were many "close calls" that arguably could have been included, such as Forster Mfg. Co. v. F.T.C., 335 F.2d 47, 49-52 (1st Cir. 1964), cert. denied, 380 U.S. 906 (1965) ("effect of . . . [company's price] discriminations . . . has resulted in a tendency toward monopoly . . . " with 58% of the market); Union Leader Corp. v. Newspapers of New England, Inc., 284 F.2d 582, 584 (1st Cir. 1960), cert. denied, 365 U.S. 833 (1961) (newspaper enjoyed what might be termed a "'natural' monopoly" by employing practices that eventually gave it a 100% market share; average share over time not reported).

[FN164]. KOLLER, supra note 160. These unweighted averages were derived from the following plaintiff victories holding that the firm with the stated market share possessed monopoly power: (1) United States v. American Tobacco Co., 328 U.S. 781, 795-97 (1946) (averaging cigarette market shares of 90.7%, 73.3%, 71%, and 68%, or an average share of 75.8%, with a "10 cent cigarette" market share of 80%, for an average of 77.9%; averaging this 77.9% figure, in turn, with 75.3% (from shares of 83.6%, 84.7%, 85.8%, 76.4%, 79.7%, 74.9%, 72.8%, 71.6%, 68.8%, 66.4%, and 63.2% in KOLLER, supra note 160, at 142), for a combined two sample average of 76.6%); (2) United States v. American Tobacco Co., 221 U.S. 106, 157, 159, 176 (1911) (cartel with "96 or 97"% market share in 1890, 88.9% in 1891, for an average share of 92.7%; figures for 6 different markets in KOLLER, supra note 160, at 75, averaging 85.8%; combined average (of 92.7% and 85.8%) of 89.3%); (3) United States v. Standard Oil Co. of N.J., 221 U.S. 1 (1911) (averaging 90% (See Standard Oil, 221 U.S. at 33) with 75.8% (an average based on shares of 80% (transportation), 75% (refining), 50% (tank cars), 80% (illuminating oil), 80% (naphta), and 90% (lubricating oil) reported in the decision below at 173 F. 177, 178, 192 (C.C.E.D. Mo. 1909)) for an average of 82.9%; Koller reports shares of 90% (refining) and 80% (pipelines), or an average of 85% (KOLLER, supra note 160, at 55-56; combined average of 82.9% and 85% is 84%); (4) United States v. E.I. DuPont de Nemours & Co., 188 F. 127, 145, 154 (C.C.D. Del. 1911) (defendant with shares of 64%, 72%, 72%, 73%, 64%, and 100%, for an average of 74.2%; same estimates in KOLLER, supra note 160, at 98).

[FN165]. Zerbe & Cooper, supra note 161. There were 40 cases in the Zerbe & Cooper article, of which 18 were also analyzed in the Koller study, supra note 160, and therefore are not analyzed in this footnote. Only the following cases had specific language holding that the firm possessed monopoly power and reported usable market share statistics: Borden, Inc. v. F.T.C., 674 F.2d 498, 511 (6th Cir. 1982), vacated and remanded because of settlement, 461 U.S. 940 (1983) (Borden possessed 75.3% to 88% on a volume basis and 88.9% to 91.8% on a dollar basis. These average to 86%, and the court held that "these market shares

are more than sufficient to infer monopoly power . . . . " Borden, 674 F.2d at 511.); Columbia Metal Culvert Co. v. Kaiser Aluminum & Chem. Corp., 579 F.2d 20, 23, 31 (3d Cir.), cert. denied, 439 U.S. 876 (1978) ("an entity controlling more than 80% of the market, would be sufficient to allow the jury to find" monopoly power; the court used 80%); Greyhound Computer Corp. v. International Bus. Machs. Corp., 559 F.2d 488, 496-97 (9th Cir. 1977), cert. denied, 434 U.S. 1040 (1978) ("[t]here was evidence from which the jury could reasonably infer that IBM possessed monopoly power" with market shares of 82.5% in 1964, 75.1% in 1967, and 64.68% in 1970, for an average of 74.1%); Weber v. Wynne, 431 F. Supp. 1048, 1054-55 (D.N.J. 1977) (average of four year market share (77.4% in 1971, 78.6% in 1972, 77.5% in 1973 and 1974) is 77.75%. This market share level created a "presumption of monopoly power" found to be attributable to skill, efficiency and foresight.).

[FN166]. The USAPP file of the Lexis GENFED library was searched in August 1992 with the term "Antitrust and Sherman Act and Monopoly and Section Two or Section 2 and Date (Aft 1979)." This search produced 461 cases that were decided in the years 1980 to 1991 by the U.S. Courts of Appeals. The following plaintiff victories reported usable market share statistics and contained specific language supporting a conclusion that the firm possessed monopoly power: Reazin v. Blue Cross & Blue Shield of Kan., 899 F.2d 951, 969 (10th Cir.), cert. denied, 497 U.S. 1005 (1990) ("we hold that sufficient evidence supports the jury's findings of market and monopoly power" with market control of 47% to 62%; this averages to 54.5%); United States v. Rockford Memorial Corp., 898 F.2d 1278, 1283-85 (7th Cir.), cert. denied, 111 S. Ct. 295 (1990) (although not a § 2 case, postmerger share of 64% to 72% "would create a firm having a market share approaching, perhaps exceeding, a common threshold of monopoly power--two thirds . . . . "); Omni Outdoor Advertising Inc. v. Columbia Outdoor Advertising, Inc., 891 F.2d 1127, 1142 (4th Cir. 1989), rev'd on other grounds, 111 S. Ct. 1344 (1991) ("a case of retention and solidification of monopoly power" with market control of 95%); U.S. Philips Corp. v. Windmere Corp., 861 F.2d 695, 704 (Fed. Cir. 1988), cert. denied, 490 U.S. 1068 (1989) ("[e]vidence that a firm holding 90% of a market that has substantial entry barriers drastically slashes its prices in response to the competition of a new entrant . . . is sufficient to show monopolization . . . . "); Oahu Gas Serv. v. Pacific Resources, Inc., 838 F.2d 360, 366-67 (9th Cir.), cert. denied, 488 U.S. 870 (1988) (affirmed a jury finding that the defendant possessed monopoly power with 100%, 95.5%, 89.7%, 69.6%, 68.2% market shares in different years, which averages to 84.6%); Syufy Enters. v. American Multicinema, Inc., 793 F.2d 990, 996 (9th Cir. 1986) ("market share of 60% to 69%, when coupled with other evidence of additional factors, is adequate" to support a jury finding of monopoly power; average is 64.5%); Bonjorno v. Kaiser Aluminum & Chem., 752 F.2d 802, 809, 811 (3d Cir. 1984), cert. denied, 477 U.S. 908 (1986) ("sufficient evidence to permit the monopolization claim to go to the jury" with 80% of the market); United States v. American Airlines, Inc., 743 F.2d 1114, 1115-16, 1118 (5th Cir. 1984), cert. dismissed, 474 U.S. 1001 (1985) ("would have acquired monopoly power" with 76% overall market share); Aspen Highlands Skiing Corp. v. Aspen Skiing Co., 738 F.2d 1509, 1520, 1525 (10th Cir. 1984), aff'd, 472 U.S. 585 (1985) (market share every year but one between 81.5% and 83.2% supported finding of monopoly power); Reid Bros. Logging Co. v. Ketchikan Pulp Co., 699 F.2d 1292, 1299 (9th Cir.), cert. denied, 464 U.S. 916 (1983) (over 90% market share shows sufficient monopoly power for § 2 violation); Associated Radio Serv. Co. v. Page Airways, Inc., 624 F.2d 1342, 1357 (5th Cir. 1980), cert. denied, 450 U.S. 1030 (1981) (50% to 64% enough for monopolization in light of the small number of competitors, high entry barriers, limited products, and the defendant's power over price); Hunt- Wesson Foods, Inc. v. Ragu Foods, Inc., 627 F.2d 919, 924-25 (9th Cir. 1980), cert. denied, 450 U.S. 921 (1981) (65% market share was sufficient basis for a finding of market power to support monopolization claim).

[FN167]. The sample sizes are small, and there is no guarantee that this range also would apply to collusion cases. Umbrella effects of cartels might be higher or lower for many reasons. Successful bid rigging conspiracies, for example, must include all potentially successful bidders or the conspirators would have to limit price to the level of the excluded firms.

[FN168]. Violators that monopolize by raising rivals' costs are likely to cause strong umbrella effects because the higher prices charged by rivals are the lever that allows the violator to increase its prices. See Krattenmaker et al., supra note 19. For an analysis of the raising rivals' costs phenomena in a damages context, see Hovenkamp, supra note 27, at 12-21.

[FN169]. See generally infra notes 256-61 and accompanying text.

[FN170]. Calculated from a 10/90 ratio between the market share of the fringe and the monopolist.

[FN171]. Calculated from a 30/70 ratio between the market share of the fringe and the monopolist.

[FN172]. See supra notes 16-19 and accompanying text.

[FN173]. An example of a product that could rise significantly in price without suffering a measurable decrease in quantity demanded might be insulin.

[FN174]. The practical proof problems involved would make this a formidable task. See Page, supra note 23, at 1489-90.

[FN175]. Id. See generally Charles C. Van Cott, Note, Standing at the Fringe: Antitrust Damages and the Fringe Producer, 35 STAN. L. REV. 763 (1983).

[FN176]. See, e.g., Frank H. Easterbrook, Panel Discussion, 55 ANTITRUST L.J. 123, 126 (1986); Frank H. Easterbook, Predatory Strategies and Counterstrategies, 48 U. CHI. L. REV. 263, 330 n.144 (1981); Richard Schmalensee, Another Look at Market Power, 95 HARV. L. REV. 1789, 1812 (1982).

[FN177]. See HERBERT HOVENKAMP, ECONOMICS AND FEDERAL ANTITRUST LAW 401 (1985). As Judge Easterbrook observed, the two to one ratio depends upon the assumption of linear demand and supply curves, and "[t]hese curves doubtless are not linear, but legal rules must be derived from empirical guesses rather than exhaustive investigation." Easterbrook, supra note 3, at 455.

[FN178]. See Herbert Hovenkamp, Treble Damages Reform, 33 ANTITRUST BULL. 233, 249 (1988) (citing for support JOAN ROBINSON, THE ECONOMICS OF IMPERFECT COMPETITION 144 (2d ed. 1969)). Concave demand curves imply a lower ratio, and Hovenkamp believes that demand curves are more likely to be concave than convex.

[FN179]. See Fisher & Lande, supra note 19, at 1645. Fisher and Lande show how a ratio ranging from 4/1 to 40/1 might arise from an anticompetitive merger under specified circumstances. The analysis assumes, inter alia, a price rise that would not exceed 30%; because mergers likely to give rise to larger increases probably would be prevented, they are unlikely ever to be attempted. A cartel or monopoly would be more likely to lead to a larger increase, however, and larger increases usually result in dramatically lower ratios of transfer to allocative inefficiency. Id. at 1644-50. Thus, the ratios calculated in the Fisher & Lande article would be less likely to generalize to market power created by antitrust violations other than mergers. For additional qualifications and insights, see Laura B. Peterson, Comment on Antitrust Remedies, 28 J.L. & ECON. 483, 486 (1985).

[FN180]. Fisher & Lande, supra note 19.

[FN181]. F.M. SCHERER & DAVID ROSS, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 661-67 (3d ed. 1990).

[FN182]. Calculated as follows:

(2 + 3/(.5 + 2.0) = 2.5/1.25 = 2.0 (using averages)

3/2 = 1.5 (using highs)

2/.5 = 4.0 (using lows)

[FN183]. Judge Easterbrook points out that this factor alone reduces damages so that "[f]rom the violators perspective, 'treble' damages really are double the starting point of overcharge plus allocative loss . . . . " Easterbrook, supra note 3, at 455.

[FN184]. This assumes that allocative inefficiency also results from the fringe's price increases. The monopoly or cartel would have to take the fringe's reaction, whether cooperative or competitive, into account in fixing the final supracompetitive price. Afterwards, allocative inefficiency should result from the entire industry's subcompetitive output.

[FN185]. The author is grateful to his colleagues Fred Brown, Walter Schwidetzky and Wendy Shaller for assistance on this subpart.

[FN186]. See Rev. Rul. 80-211, 1980-2 C.B. 57. The defendant's payment is only one-third deductible, however, if the civil suit is a follow-on to a criminal conviction or nolo contendere plea. See I.R.C. § 162 (West Supp. 1992); see Federal Paper Bd. Co. v. Commissioner, 90 T.C. 1011 (1988). Kauper and Snyder, however, reported that only 9% of all cases filed in the Georgetown sample were follow-on cases. Kauper & Snyder, supra note 98, at 329, 333. In recent years, moreover, this figure was only 6%. Id. at 332. However, the follow-on cases were dismissed less frequently, and 16% of the cases in the Georgetown sample that were litigated to a conclusion were follow- on cases. Calculated from id. at 344.

This Article is only focusing on civil cases. An entirely different set of considerations apply to criminal antitrust actions.

[FN187]. If we assume an average marginal federal corporate income tax rate of approximately 34% (I.R.C. § 11 (West Supp. 1992) (provides that, at least after the phaseout of the benefits attributable to low initial corporate tax rates, corporations with taxable income exceeding $75,000 pay a marginal tax rate of 34%) and an assumed average state corporate tax rate of approximately 6%, then the victim's lost profit would be reduced by 40%.

[FN188]. I.R.C. § 61 (West Supp. 1992); see also infra note 191.

[FN189]. If the recovery is for destroyed goodwill, however, the analysis is more complex. Such a recovery would be nontaxable to the extent it does not exceed the corporation's basis in the goodwill. Ad Visor, Inc. v. Commissioner, 47 T.C.M. (P-H) 141 (1978); State Fish Corp. v. Commissioner, 48 T.C. 465 (1967). The recovery would be treated as a capital gain to the extent it exceeded the corporation's basis. Rev. Proc. 67-33, 1967-2 C.B. 659.

[FN190]. I.R.C. § 162 (West Supp. 1992).

[FN191]. Typically the full $3.00 would be included in income subject to the I.R.C. § 186 deduction. Portions of some awards, however, will not be included in gross income to the extent they compensate the victim for destroyed goodwill. The plaintiff's basis in its goodwill is decreased to the extent of the nontaxable compensatory recovery when the recovery is less than the basis. Awards in excess of basis generate gain. I.R.C. § 1001 (West Supp. 1992).

[FN192]. I.R.C. § 186 (a) (West Supp. 1992).

[FN193]. See supra note 187.

[FN194]. Calculated as follows: $1.00 x .60 = .60. This calculation assumes that the $1.00 diminished plaintiff's income.

[FN195]. Calculated as follows: ($2.00 x .60) + $1.00 = $2.20.

[FN196]. This hypothetical assumes that the plaintiff will obtain less in legal fees than it paid because of the reasons given supra in subpart III.C. It also assumes, for simplicity, that the legal fees were incurred in an earlier year than the year of judgment.

[FN197]. See supra note 187 for the underlying rationale.

[FN198]. ($1.00 + (.35 to .80) x .60) = $.81 to $1.08.

[FN199]. Calculated as follows: $3.00 + (.30 + .60) - $1.00 = $2.30 to $2.60. The $1.00 is excluded from income under § 186. Because the .30 to .60 attorneys' fees were deducted in the year they were paid to the attorneys they cannot be deducted again.

[FN200]. Calculated as follows ($2.30 to $2.60) x .60 + 1.00 = $2.38 to $2.56.

[FN201]. Any increase in wealth is taxable if it is received in lieu of taxable income. Commissioner v. Glenshaw Glass Co., 348 U.S. 426 (1955); Hort v. Commissioner, 313 U.S. 28 (1941); Raytheon Prod. Corp v. Commissioner, 144 F.2d 110 (1st Cir.), cert. denied, 323 U.S. 779 (1944); Clark v. Commissioner, 40 B.T.A. 333 (1939), acq., 1957-1 C.B. 4 holds that damages paid to compensate for nondeductible economic losses are not includible in income.

[FN202]. Technically, it is possible that only two-thirds of the attorneys' fees could be considered as an expenditure to produce income, I.R.C. § 212(1) (West Supp. 1992), because one-third could be attributable to recovery of the overcharge, and therefore only two-thirds of the attorneys' fees might be deductible as an expense for the production of income. It seems unlikely as a practical matter, however, that consumers would have to pay tax on the remainder, because as a matter of administrative convenience, the I.R.S. would be unlikely to attempt to collect the tax on this one-third of the imputed attorneys' fees, an amount that is likely to be trivial for virtually every consumer. Another complication could arise from the fact that deductions for production of income, such as attorneys' fees, are only deductible to the extent they exceed 2% of adjusted gross income. I.R.C. § 67 (West Supp. 1992).

[FN203]. Glenshaw Glass, 348 U.S. at 431-33.

[FN204]. The current federal marginal tax rates for individuals are 15%, 28% and 31%. The 28% marginal tax bracket starts at a high of $32,450 (for married individuals filing joint returns) and a low of $16,225 (for married individuals filing separate returns). I.R.C. § 1 (West Supp. 1992). Taxable income falls into these brackets as follows:

| A | B | C | A x C |
|---|---|---|---|
| Income Tax Rate | Total Taxable Income | | % of Total |
| 15% | $729,421,936 | 32% | 5% |
| 28% | $942,204,831 | 42% | 12% |
| 31% | $592,034,469 | 26% | 8% |
| | | --- | |
| | | 25% | |

Thus, the weighted average personal income tax rate is 25% at the margin. These figures are for the 1990 tax year. See IRS, 12 STAT. OF INCOME BULL. 154 (1992).

[FN205]. The average state income tax rate, for low to high tax brackets, was between 2.07% and 5.11%. Many states also have local "piggyback" provisions. For

example, Maryland permits counties to charge up to 50% of the state's maximum rate of 5%. See THE WORLD ALMANAC AND BOOK OF FACTS 188-89 (Mark S. Hoffman et al. eds., 1992).

[FN206]. Calculated as follows: 30% x 2.00 = 60¢ tax; $3.00 - .60 = $2.40. Section 212 would not apply.

[FN207]. "Consumer surplus" is essentially an after-tax concept, so no tax effect will be calculated on the allocative inefficiency effects of market price.

[FN208]. This calculation assumes the 7.69% to 10.22% rates of return computed in subpart III.A.

[FN209]. Alternately, if they had been able to deposit the overcharge in an interest bearing account, they would have been required to pay tax on the interest. The amount the consumers actually receive therefore should be calculated after tax.

[FN210]. See subpart III.F for a range of possibilities.

[FN211]. (.20 to .35) x 1.25 = .25 to .44.

[FN212]. This assumption may slightly overstate consumers' actual recovery. See supra note 202.

[FN213]. A potential problem with the approach used in this Article is that when all the low adjustments (i.e., estimates that would not change the nominal "trebling" factor very much) are combined to produce a low estimate, and all the high adjustments (i.e., estimates that tend to reduce the nominal "trebling" factor a great deal) are combined, the result might be an unrealistically wide range. It seems unlikely that all of either the high or the low estimates are correct. Hopefully, the errors offset one another to a significant degree. A figure close to the mean of all the adjustments might be justified not only because it represents the mean estimate for the adjustments, but also because of this offsetting tendency.

[FN214]. See supra subparts III.A-E.

[FN215]. See supra subpart III.F.

[FN216]. See supra subpart III.G.

[FN217]. See supra subpart III.H.

[FN218]. See supra subpart III.A.

[FN219]. See supra subpart III.G.

[FN220]. See supra subparts III.F and III.G.

[FN221]. See supra subpart III.C. Of course, attorneys' fees will be awarded to a victorious plaintiff, and these will be accounted for appropriately.

[FN222]. See supra subpart III.D.

[FN223]. See supra subpart III.E.

[FN224]. See supra subpart III.C.

[FN225]. See supra subpart III.B.

[FN226]. See supra subpart II.A.

[FN227]. See supra subpart III.A.

[FN228]. See supra subpart III.B.

[FN229]. See supra subpart III.C. Attorneys' fees awarded as part of the recovery will also be factored into the analysis.

[FN230]. See supra subpart III.F and III.G. Many antitrust violations are undetectable or cannot be proven. Victims of these violations will not, of course, be compensated.

[FN231]. See supra subpart III.A.

[FN232]. See supra subpart III.F.

[FN233]. See supra subpart III.G.

[FN234]. See supra subpart III.C. Of course, attorneys' fees will be awarded to a victorious plaintiff, and these will be accounted for appropriately.

[FN235]. See supra subpart III.D.

[FN236]. See supra subpart III.E.

[FN237]. See supra subpart III.C.

[FN238]. See supra subpart III.B.

[FN239]. See Lande, supra note 16.

[FN240]. See supra note 11 and accompanying text.

[FN241]. The term "consumers" is used in this subpart to include only those individuals who actually purchased the product(s) or service(s) at issue, not those who would have purchased at the competitive level but declined to do so at the supracompetitive level.

[FN242]. See supra note subpart III.F. This section will include an adjustment for umbrella effects' transfer effects, but not their allocative inefficiency effects. One could eliminate the adjustment for the transfers caused by the umbrella effects because they victimize consumers not involved in the lawsuit, but this Article will include these effects because they do victimize consumers.

[FN243]. See supra subpart III.A.

[FN244]. See supra subpart III.H.

[FN245]. This assumption could overstate the amount that consumers actually recover because of the reasons given supra in subpart III.C.

[FN246]. Interest that consumers would have earned absent the violation would have been taxed. While tax will be computed for consumers' recovery, this Article will assume that a winning consumer's attorneys' fees will not be taxed. As a matter of administrative discretion and convenience, it seems unlikely that the I.R.S. will attempt to make consumers receiving a $10.00 antitrust award pay tax on the attorneys' fees used to secure two-thirds of this award, especially because these fees are paid directly to the attorneys. See supra subparts III.B, III.C, and III.H.

[FN247]. See supra subpart III.A.

[FN248]. See supra subpart III.F.

[FN249]. See supra subpart III.H.

[FN250]. See supra subpart III.C.

[FN251]. See supra subpart III.D.

[FN252]. See supra subpart III.H.

[FN253]. See supra subpart III.C.

[FN254]. See supra subpart III.B.

[FN255]. See supra subpart III.H.

[FN256]. See Herbert Hovenkamp, The Indirect-Purchaser Rule and Cost-Plus Sales, 103 HARV. L. REV. 1719, 1726-27 (1990) (citing HAL VARIAN, INTERMEDIATE MICROECONOMICS § 17.7 (1987). Business plaintiffs would nevertheless be harmed to the extent that higher prices decreased the quantity of goods sold.

[FN257]. These assumptions include a competitive direct-purchaser market and constant returns to scale. Id.

[FN258]. Id. The necessary assumptions include a competitive direct- purchaser market and increasing returns to scale. Id.

[FN259]. Business plaintiffs could suffer even if they pass on all of the overcharge because they might have to make an adjustment to the supracompetitive pricings output reduction that will give them a one-time loss. Id. Moreover, antitrust actions can affect firms in a variety of ways, such as making them unduly risk averse, that cannot readily be passed to consumers.

[FN260]. The recovery would be a lump sum expense rather than a change in the firm's marginal costs, so it should not affect the firm's pricing or output decisions. See id. at 1727.

[FN261]. 431 U.S. 720 (1977).

[FN262]. This standard should not be surprising because a similar result would arise concerning much undesirable activity. For example, suppose a thief stole a television that had just been purchased for $300.00. Society does not hesitate to fine the thief $300.00 (or more, to account for defendant's risk preference and the low probability of detection and deterrence) even if the thief could show that he or she had immediately fenced the stolen television for $50.00. Our concern would in effect be Landes's standard of net harm to others, the $300.00 loss to the victim, not the $50.00 gain to the thief. If the probability of detecting the crime and convicting the thief were 1/3, we would treble $300.00, not $50.00. (Landes's proposed standard is analogous to requiring people to internalize their externalities).

[FN263]. See Calkins, supra note 11. We might hesitate to impose a fine of $900.00 unless we were virtually certain that the conduct described in the preceding footnote was undesirable. If the conduct were questionable we might focus upon the gain to defendant and hesitate to impose a fine of $900.00 for activity that only benefited defendant by $50.00.

[FN264]. See supra subpart III.A.

[FN265]. See supra subpart III.C. Defendants should take the possibility of attorneys' fees into account when they decide whether to undertake ventures of uncertain legality. Whether they often do so is problematic.

[FN266]. See supra subpart III.D.

[FN267]. See supra subpart III.B. Insurance could be another complication because defendants can sometimes insure themselves against the financial losses from antitrust actions. See Insurance Policy Covers Legal Expenses Incurred by University in Antitrust Suit, 61 Antitrust Trade Reg. Rep. (BNA) No. 1527, at 156 (Aug. 1, 1991).

[FN268]. See supra subpart III.H.

[FN269]. These adjustments minimize the defendant's attempted gains and maximize the defendant's payouts, thereby tending to produce a high ratio.

[FN270]. This result is almost exactly equivalent to treble damages. If defendant simply overcharged by $1.00 and had to pay a total of $3.00, defendant would find itself with a net loss of $2.00. The $2.00/$1.00 ratio is essentially equivalent to the 2.01 calculated using the high range of adjustments. Lawyers can advise their clients that they might have to pay treble damages after all.

[FN271]. These adjustments maximize the defendant's attempted gains and minimize the defendant's payouts, thereby tending to produce a low ratio.

[FN272]. Even under this scenario crime does not pay. Under these assumptions a defendant that tried to overcharge by a dollar would have to pay back that dollar and also another 51 cents.

[FN273]. Easterbrook, supra note 3, at 448.

[FN274]. For example, this Article has not separately analyzed the damages associated with different types of antitrust violations. Nor has it attempted to explore related issues such as the effects of the criminal antitrust provisions, or of various standing and contribution issues. Nor has it attempted to compare the net deterrence or compensation effects of antitrust damages with those for violations of other laws. See also supra notes 13, 75, 76, 82-84, 108, 114, 128, 130 and text accompanying notes 122-26 for reasons why this Article's analysis has generally been conservative and has overstated the apparent damages multiplier.

[FN275]. Because this Article's analysis depends upon the cumulative effects of a large number of adjustments, even if a reasonable reader disagrees somewhat with one or two of the adjustments, this disagreement is unlikely to have a significant effect on the final conclusion. Suppose, for example, that one believed that while most of this Article's estimates were reasonable, the range for umbrella effects should be changed from an assumption of effects on a 10% to 30% fringe, to effects on a fringe of zero to 10%, and also that allocative inefficiency was probably 10% to 25% as large as the transfer, not 25% to 50%. The final mean estimate would change from average awarded damages of 75% of actual damages, to a revised figure of 95%. The Article's basic conclusion, that antitrust damages are currently not trebled, would still be true.

[FN276]. Each party might have a rough idea of the probable length of its antitrust case, so each might adjust somewhat for the lack of prejudgment interest, and perhaps for the value of lost corporate time and attorneys' fees as well. The other factors, however, are less likely to be considered.

[FN277]. Suppose a firm is contemplating participation in an undertaking that could be considered either an illegal horizontal arrangement or a desirable joint venture, and that legality is a close question. Suppose the firm's CEO asks his or her lawyers to describe the possible damages that could flow from the arrangement. The lawyer might say that, because legality is highly uncertain and depends upon many factors at present unknown, damages could be zero or enormous. The contribution rules, moreover, mean that if the arrangement is judged to be illegal, the firm could be liable for all of the resulting damages, or few, or anywhere in-between. Just as the CEO starts to become exasperated, the lawyer adds that all antitrust damages are automatically trebled. What does this last piece of news add to the CEO's analysis?

Potential plaintiffs would hear similar advice, along with war stories about unpredictable and biased judges and juries. Are plaintiffs' decisions to spend enough money to enable them to "roll the dice" affected significantly by their belief that damages are trebled? If the damages in a specific instance had an expected value of $1,000,000 before trebling, the fact that an irrational jury could award nothing or $10,000,000 might be more important than the trebling factor.

[FN278]. See supra notes 3, 5, 6, 10, 11 and 12 and the sources cited therein.

[FN279]. Umbrella effects of monopoly power, for example, would not occur for most other types of violations.

[FN280]. Violations of other laws could also give rise to adjustments not relevant to antitrust that were not considered in this Article.

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# Optimal Deterrence and Private International Cartels

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## Introduction

The focus of this paper is on international cartels that have been uncovered by one or more of the world's antitrust authorities since January 1990.[1] In this Introduction, I show that deterrence of recidivism is the underlying objective of the world's leading antitrust regimes and I sketch the theory of optimal deterrence in the context of market collusion. I highlight two paradoxical trends in anticartel enforcement: enhanced use of monetary penalties to punish convicted cartelists and, notwithstanding contrary voices, an increasing awareness that the higher penalties are below socially optimal levels to ensure deterrence.

### Objective

In this paper, a model of optimal deterrence will be developed for the case of companies[2] that form global cartels. Previous attempts to analyze optimal cartel fines have generally remained at a theoretical level (Camilli 2005). In the few cases where optimal fines have been empirically estimated, the studies have relied on broad point estimates of key parameters, the fines considered have been those of only one jurisdiction, and the scenarios have been generic cartel situations (Wils 2005:30).[3] In this paper a formula is presented that takes into

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[1] This starting date marks the beginning of the present U.S. antitrust enforcement era. The maximum statutory corporate fine for Sherman Act violations was raised from $1 million to $10 million in 1990. Perhaps more importantly, a new Presidential administration in 1991 made appointments of individuals in the Antitrust Division of the U.S. Department of Justice (DOJ) who implemented an array of policies that raised anticartel enforcement to a significantly higher level of effectiveness (Connor 2001). Three important innovations were the unleashing of mafia-style investigations by the FBI in 1992, a new more effective Corporate Leniency Program in 1993, and use of the felony-conviction standard for setting fines ("twice the harm") that began in 1995 and resulted in a series of corporate price-fixing fines *above* the $10-million statutory cap.

[2] Optimal deterrence theory is based on the balance between the present value of expected future corporate profits from the conduct and the present value of expected future monetary sanctions. If the firm is a proprietorship, considering only company rewards and punishment makes eminent sense, but if there is a separation between ownership and management, then the personal motives of managers will be pertinent in evaluating the effectiveness of sanctions. The simpler versions of optimal deterrence theory assume that there are no principal-agent divergences and that the managers are risk-neutral. In fact, it is generally the case that the reward structures of executive compensation contracts typically give short-term personal enrichment a greater weight in executive decisions than the long-run interests of stockholders. If the profits generated by price fixing generate personal rewards for such managers, then the optimal ratio of sanctions to illegal profits must be higher than for a proprietorship. Similarly, a higher ratio will be required if managers are risk-loving in their corporate decision making rather than risk-averse. For these reasons, the focus on corporate-level performance in the present paper is at best a rather imperfect surrogate for stockholder control, managerial risk aversion, and other factors that a more complete model should incorporate.

[3] Wils assumes a 20% cartel overcharge, a five-year duration, and a 33% probability of detection. His rough estimate of an optimal fine is 150% of affected sales. If overcharges are typically 20% to 30% of affected sales, then Wils' reasoning suggests that optimal fines on average ought to lie within the range of 5.0 to 7.5 times the overcharge.

account the special characteristics of contemporary cartels that operate across multiple antitrust jurisdictions with varying levels of sanctions. Recent empirical data on international cartels are used to estimate parameters needed to operationalize the formula.[4] A range of optimal fines is presented as a function of damages. This exercise results in practical guidelines for imposing optimal cartel sanctions.

## Deterrence Undergirds Anticartel Policy

A rational policy with respect to the design of legal sanctions would follow two principal objectives: deterrence and compensation of victims.[5] Different schools of antitrust give different weights to the two aims. Where the efficient operation of markets is uppermost in the minds of the analyst, deterrence plays the starring role (Landes 1983, Breit and Elzinga 1987, Posner 2001, Baker 2004). From this Chicago-School perspective, the identity of the recipients of monetary sanctions is irrelevant, so long as the income is not transferred to the violator itself. If the victims happen to be among the recipients, that is simply a felicitous accident.[6] Giving short shrift to compensating those injured by collusive conduct is justified by arguing that optimal deterrence would produce such low overcharges that there would be little compensation necessary.[7] Moreover, it is argued that a system of dual uncoordinated public-private enforcement could achieve optimal sanctions only accidentally. Legal scholars often prefer that the maximization of consumer welfare be the sole goal of antitrust laws because of the messiness that attends dealing with multiple policy goals (Hovenkamp 1999:70-76). At worst, Breit and Elzinga (1974) present scenarios in which treble damages could promote frivolous law suits or other inefficient or perverse behavior by plaintiffs. Finally, Chicagoans take the view that if altering the distribution of wealth is a social goal, tax or other policies are instruments superior to compensatory suits.

However, dismissing concerns about the income-transfer effects of horizontal price fixing is a minority view that seems to be driven by an

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[4] Appropriate data to evaluate the effects of antitrust sanctions are difficult to find and to collect. The U.S. Sentencing Commission is charged with compiling such data; its public data is maintained by the Inter-University Consortium for Political and Social Research (ICPSR) at the University of Michigan [www.icpsr.umich.edu]. However, these data are woefully incomplete and cannot be defended as a representative sample (Alexander *et al.* 2000). For example, ICPSR data showed a decline of 59% in median sentences for the most serious corporate crimes from 1988-89 to 1992-96; however, public data gathered by Alexander *et al*. (2000: Table 2) found an increase of 389%.

[5] A third motivation is sometimes mentioned, viz., funding the costs of detection and prosecution. In U.S. law, these costs are borne by both the government and by plaintiffs' lawyers. To the extent that these costs are incurred by plaintiffs, they may be regarded as compensatory. These costs serve to increase the probability of discovery and conviction of secret cartels beyond the level that only public enforcement can provide; thus, they serve the goal of deterrence as well.

[6] Earlier Becker and Stigler (1974) argued that the individuals or firms that discovered the violation (most of them buyers from cartels) would be the ideal recipients of the fine, but their view seems no longer to have broad acceptance among Chicago-oriented writers.

[7] Under the optimal sanctions model, there is always a positive "efficient" amount of crime.

assumption that private treble-damage suits are too numerous and too lucrative for plaintiffs. U.S. laws and legislative intent tend to support the compensation of victims and other goals of antitrust (Sullivan and Grimes 2000: 12-16).[8] In the context of horizontal price-fixing conduct the allocative inefficiency generated (i.e., the dead-weight loss) is inextricably bound up with the quantitatively larger income transfer from buyers to sellers (i.e., the overcharge). Private antitrust suits were infrequent in the United States prior to 1950, but since the 1970s have accounted for more than 90% of all federal antitrust suits.[9] More than 95% of private antitrust suits are resolved through settlements rather than final decisions, making them a small drain on federal judicial resources. In the context of international cartels that operated globally, out of 36 cases during 1990-2003 in only 5 or 14% have corporate defendants gone to a full-blown trial (Connor 2003: 39-40).[10] Concerns about the perverse incentives for private plaintiffs that treble damages provide have not been supported by subsequent research. In response to Breit and Elzinga (1974, 1985), Besanko and Spulber (1990) developed a game-theoretic model that demonstrates that under a couple of reasonable assumptions[11] the perverse incentives disappear and multiple damages result in welfare improvements.

The EC's cartel decisions are explicit in mentioning deterrence as the main objective[12] of its determination of fine levels; to the extent that these fines are used to defray the EU budget, European consumers are at least indirectly compensated through a net reduction in EU tax revenues.[13] In the United States, treble damages (i.e., judicial awards following from final decisions at trial equal to three times the victims' economic losses plus reasonable legal fees) were explicitly instituted in the 1914 Clayton Act to compensate buyers from cartels as

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[8] Section 7 of the 1890 Sherman Act explicitly authorizes private parties the right to seek treble damages generated by a cartel through civil law suits. This right was clarified and reinforced by Section 4 of the 1914 Clayton Act ("Any person injured … by reason of anything forbidden in the antitrust laws may sue…and shall recover three-fold the damages…sustained and…a reasonable attorney's fee" 15 U.S.C.A. §15). At the time the Clayton Act was passed, the maximum criminal fine was $5,000, so it is reasonable to infer that Congress intended private treble-damage suits to be the primary mechanisms of cartel deterrence. Other goals include promoting technological progress, protecting business targets of market power (especially or possibly only if such harm is a side-effect of harm to consumer welfare), and decentralized economic power.

[9] A defining event was the launching in 1960-1961 of at least 1800 private suits by electric power companies against General Electric et al. for price fixing in the markets for heavy electrical equipment. Soon thereafter, a 1966 changes in federal court rules permitted greater use of more efficient class-action suits.

[10] The cases with trials are *Aluminum Phosphide* (case filed 1993), *Fax Thermal Paper* (1994), *Choline Chloride* (1999), *Graphite Electrodes* (1998), *and USAID Wastewater Plant Construction* (2000). Usually only one member of the cartel went to trial, so the proportion of all defendants is less than 5%.

[11] The cartel has better information about its own costs of production than do its customers. The welfare benefits increase with the probability of cartel detection and the number of multiples.

[12] Article 81 (3) explicitly recognizes that competition law should promote the benefits of technological progress for consumers, but innovation is rarely an issue in cartel cases.

[13] In the peak year of 2001, EU antitrust fines amounted to 2 percent of its annual budget.

well as to deter firms from forming cartels *ex ante*.[14] That is, in principle treble-damage awards include a compensatory portion of single damages and a punitive portion of double damages. In practice, it appears that historically private plaintiffs typically have received less than single damages (Lande 1974).[15] More recent empirical research by Connor (2005) shows that public and private sanctions on international cartels have ranged from 0 to 263% of affected sales. The mean sanction for 23 non-global EU cartels was about 22.5% of affected commerce; for 46 sanctioned in other jurisdictions, the mean was 18.4%. However, because of their larger sales, global cartels have received more lenient treatment: the mean sanction in 26 cases was 13.0% of sales.

## Optimal Deterrence Theory

The theory of optimal deterrence in antitrust law enforcement has become nearly universally accepted in the legal-economic literature since a classic article by Landes (1983). Quick to be accepted among North American scholars as the most appropriate framework for analyzing cartel enforcement, in more recent years optimal deterrence theory has become unexceptional among Western European scholars as well (Harding and Joshua 2004, Wils 2005, Camilli 2005, Baks *et al.* 2005). A more recent exegesis is given by Polinsky and Shavell (2000).[16] The triumph of optimal-deterrence thinking in criminal-law scholarship is an outstanding example of the imperialist tendencies of economics in related fields.[17]

In the version of the deterrence model presented below, I assume that only corporate costs and benefits drive cartel decisions. This assumption seems reasonable because the involvement of top officers in these cartels suggests no principal-agent problem. Moreover, in recent decades many companies linked managerial rewards closely to corporate financial performance. Many cartels had weak boards of directors, as their restructurings after price-fixing episodes

[14] Most private price-fixing suits are resolved prior to trial or prior to a final decision at trial through negotiated settlements between plaintiffs and defendants. This is true even in "follow-on" cases in which a prior criminal guilty plea by the defendants is by law *prima facie* evidence of the fact of injury.

[15] There are several reasons for this claim: the absence of prejudgment interest, the four-year statute of limitations, plaintiffs' lawyers' contingency fees, the umbrella effects of cartel overcharges, and the inability to recover allocative efficiency losses.

[16] Polinsky and Shavell (2000) survey more than 200 academic papers. Most of their examples are drawn from individual criminal acts. The model presented immediately below has two features not mentioned in the survey: the probability of conviction after apprehension and consideration of violations that inherently involve multiple geographic jurisdictions with varying sanctions and multiple geographic harms caused.

[17] In the Preface to Posner (2001), the author explains that the subtitle of the book's first edition ("An Economic Perspective") is no longer necessary because "In the intervening years, the other perspectives have largely fallen away" (p. vii). However, Jacobs (1995) takes the view that the Post-Chicago school of antitrust economics has restored some elements of populism.

demonstrate. Personal fines are very low in the United States, and practically nonexistent elsewhere. Prison sentences are difficult to monetize.[18]

Case evidence supports the view that potential conspirators are adept at calculating the quarterly or annual profits from an effective cartel, though they might have uncertainty about the scheme's longevity.[19] As to the probability p that a cartel will be discovered, most evidence seems to suggest a 10- to 20-percent chance (Bryant and Eckard 1991, Feinberg 1985, Connor 2001, Cohen and Scheffman 2000, Adams 2002, Werden and Simon 1987).[20] Levenstein and Suslow (2002) note that government anticartel actions accounted for only 10% of some of the best documented cartels operating in the interwar period (p.16). Moreover, even if cartelists are indicted by the U.S. DOJ, the chances of being convicted are less than 100 percent. The DOJ likes to boast that more than 80 percent of its indictments end in guilty pleas, which is true because the *per se* evidence is so damning in most cases that defendants usually negotiate a guilty plea. On the other hand, when accused price fixers choose to litigate a criminal price-fixing case, the government wins their cases less than half the time. Thus, cartelists adept at covering up their clandestine meetings or able to afford the best legal defense teams might well judge their chances of conviction to be in the 50 to 75 percent range.[21]

The decision facing a firm trying to decide whether to form a cartel or join an existing cartel may be explained using a benefit-cost framework. Let E(B) be the expected financial benefits, that is, the net present value of the expected monopoly profits accruing to the firm from an effective cartel. Let E(C) be the expected monetary costs of forming or joining the cartel, where the managerial costs are assumed to be negligible. Then the firm will opt to enter an existing cartel or create a new cartel agreement if

[1] $$E(C) < E(B) ,$$

[18] Focusing solely on corporate benefits and costs runs counter to repeated public statements of DOJ officials, who assert the primacy of prison sentences in deterrence of cartels (e.g., Pate 2003). If individual sentences are important, then the fines on companies for optimal deterrence will be lower. Ignoring individual fines and prison sentences is controversial. The standard optimal-deterrence approach recommends only personal fines (Shavell 2003). However, Werden and Simon (1997) offer strong views on the necessity of imprisonment for price fixers. They argue that imprisonment is even justified by the Beckerian theory of deterrence because the optimal fines for price fixing, using 1975-1980 data in 1981 dollars, are about $1 billion. When individuals are too poor to pay fines, Becker seems to favor imprisonment. They also argue that optimal deterrence theory is inappropriate for price fixing.

[19] Historically the average global cartel lasted about eight years, with a range of two to 18 years.

[20] The highest rate is suggested to be 0.33 by Cohen and Scheffman (1989). The lowest rate of less than 10% is suggested by Werden and Simon (1987). The most rigorous study of this issue, Bryant and Eckard (1991), find in the 1980s in the United States that the rate of discovery is between 13% and 17%. Polinsky and Shavell (2000) note that for some of the most common felonious property crimes (burglary, auto theft, and arson), U.S. arrest rates vary from 13.8% to 16.5%, well within the range adopted here.

[21] Connor (2001: 60-61, 68-69).

but will opt to stay out if the inequality sign in equation [1] is reversed. If E(C) = E(B), then the costs are deemed privately optimal.

In the simplest version of this decision model, one used by Richard Posner (2001),

[2] $$E(C) = p \cdot F,$$

where p = the probability of antitrust-authority discovery and conviction and the only sanction is F, the fine imposed for the violation.[22] An optimal fine is F = E(C)/p.

A more complete version of this model is

[3] $$E(C) = p \cdot c \cdot E(F),$$

where p is the probability of detection and c is the probability of conviction or settlement. E(F) depends on the culpability factors and the size of the affected sales or overcharge (a range known with near certainty from the U.S. Sentencing Guidelines) and the firm's timing in applying for leniency. E(F) could be zero if the firm is granted amnesty, but even then the expected private settlement costs, E(S), are not zero. Moreover, the firm may incur significant legal defense costs and related managerial time losses as well as post-indictment reputational costs, E(R). Thus, in the case of a domestic conspiracy,

[4] $$E(C) = p_g \cdot c_g \cdot E(F) + p_p \cdot c_p \cdot E(S) + E(R),$$

where subscripts g and p refer to *government* and *private* legal actions. In the usual follow-on suit, $p_p = 1$ and $c_p$ will be very high (close to 1), but in some cases where the government does not indict, $p_p$ and $c_p$ are low positive numbers, much closer to zero than to 1.

## Penalties on the Rise

The corporate fines and personal sanctions handed out to global price fixers in the past decade were far above historical levels. Cohen and Scheffman (1989) provide a useful historical benchmark for U.S. price-fixing fines. From 1955 to 1974, the average fines amounted to only 0.4% of the cartel's affected

[22] Posner (2001: 47). This formulation assumes that the justice system is costless and errorless, that offenders and victims are risk-neutral, and that the conspiracy was condoned by the company's top managers.

commerce.[23] During 1974-1980, when the maximum corporate fine was raised to $1 million, the average price-fixing fines rose to 1.4% of affected commerce. A comparable survey of 1988 fines reported that average U.S. price-fixing fines were only 0.36% of the overcharges (Sheer and Ho 1989: 34).[24] In the United States, criminal penalties were increased significantly in 1987 and 1990.[25] The promulgation of stiffer new federal guidelines for price fixing in 1987 seems to have been one of the principal causes of a five-fold increase in median corporate fines in the United States from the late 1980s to the mid 1990s (Alexander *et al.* 2000: Table 2). Another change that may account for the increase in U.S. cartel fines is that prior to the mid 1990s nearly all prosecuted cartels were domestic affairs, whereas after 1995 convicted cartels were mostly international [26] conspiracies (Connor 2001). International cartels typically achieve long-run price effects that are much higher than national cartels (Connor and Lande 2004). Moreover, international cartels that are global[27] in geographic scope display even greater effectiveness in raising prices (*ibid.).*

In the European Union (EU), fines for cartel infringements also increased. The first 15 cartels to be sanctioned by the European Commission (EC) during 1969-1984 paid on average fines of € 2.4 million; during 1998-2002 the EC fined 32 cartels an average of €117 per cartel (Burnside 2003:Annex 1). Moreover, EC cartel fines rose in terms of the sales involved. Prior to 1979, EC fines were invariably below 2% of one recent year's total sales of the infringing firms (Geradin and Henry 2005:4). From 1979 to 1998 EC fines of 2% to 4% of one year's sales in the European Economic Community of the cartelized product (*ibid. p. 5).*[28] The latter sales definition is more restrictive than global company

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[23] "Affected commerce" is the amount of sales revenues during the admitted conspiracy period received by the members of a cartel in the geographic region over which the antitrust prosecutors have authority. This is a conservative notion of such commerce, because nonmembers may engage in umbrella pricing, lagged price effects may persist after a cartel is formally disbanded, and price effects may spill over into adjacent regions.

[24] Sheer and Ho (1989) was an internal DOJ study whose methods of calculating the overcharges are not known; the study's five cases were the only ones with such data available. Cohen (1989) also studied corporate fines imposed in U.S. federal courts in the late 1980s and found a much higher level. He concluded that the fines alone equaled 33% of the harm caused by the companies. His analysis predates the U.S. Sentencing Guidelines (USSG 1997) and ignores nonmonetary penalties, restitution, civil penalties, and tort suits. Even with certainty of discovery, such fines cannot deter price fixing.

[25] In 1974, price fixing violations became a felony under federal law, and in 1987 the U.S. Sentencing Commission issued mandatory guidelines that permitted prosecutors to propose corporate fines up to twice the harm caused (double damages); in 1990, the maximum statutory sanctions for Sherman Act violations became $10 million for companies (up from $1 million) and $350,000 for individuals (Connor 1994).

[26] By international, I mean cartels with corporate participants from two or more nations; this is the DOJ's definition. Most international cartels are also international in a geographic sense, but a minority operated solely within the borders of a singe country.

[27] Global cartels fix prices in at least two continents, and most operated in all three of the industrialized regions that marketing specialists call the "triad" (viz., North America, Western Europe, and Eastern Asia).

[28] I have seen reference to only one EC decision, *Eurocheque – Helsinki Agreement (1992),* that claimed to base the fine on the harm caused rather than sales or some other proxy (Geradin and

sales except for the smallest specialized firms. Similar upward trends in cartel fines can be observed in Canada, Australia, and Korea.[29] Although the laws authorizing cartel fines in these jurisdictions did not change in the 1990s, the proportion of international cartels sanctioned did rise.

Anticartel enforcement toughened in the 1990s. Beginning in the early 1990s North American and European[30] antitrust authorities adopted more effective enforcement techniques and displayed a growing impatience with price fixers, particularly those engaged in international conspiracies (Connor 2004, Joshua 2004: 677-679, and Low 2004). A remarkable convergence of enforcement practices can be observed: unannounced raids on suspects' offices[31], information sharing between antitrust authorities, and the adoption of corporate leniency programs that effectively exploit the Prisoners' Dilemma. Corporate cartelists, when they are unmasked by antitrust investigators, are now routinely paying fines that exceed their monopoly profits earned in North America and in Western Europe. Indeed, in North America, when the private treble-damages suits of buyers or the state attorneys general are factored in, prosecuted price fixers are nowadays normally disgorging close to double their illegal "earnings" (Connor 2001:469-476).

## Cartel Penalties are Supra Deterrent

The advent in 1987 of the double-the-harm standard for setting U.S. government price-fixing fines has led some legal writers to criticize cartel sanctions as having reached *supra deterrent* levels (Easterbrook 1986, Kelley and Savyed 2000, Cohen and Scheffman 2000, Kobayashi 2001, Baker 2004).[32] In fact few, if any U. S. sentencing memoranda that are submitted to judges when a company

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Henry 2005: note 20). In 1998 the EC issued new fining guidelines for cartel infractions (EC 1998). Using sales as the basis of fine calculations is sometimes justified as a proxy for harm. In what Joshua and Camesasca (2004:5) call a "doctrinal shift of massive proportions," the new guidelines purport to sever any link between any concept of sales and the size of fines.

[29] In Canada the absolute size of fines has risen mainly because of the increasing volume of affected sales, because Canada's Competition Bureau for the past two decades has recommended fines equal to about 20% of sales.

[30] Joshua and Jordan (2004) chart how the Anglo-Saxon common law concept of conspiracy began to take hold in decisions of the European courts (i.e., the Court of First Instance and the European Court of Justice) around 1975 but was solidified by the 1993 *Woodpulp* decision. These authors also cite (in footnote 2) five EC cartel decisions in 1985, 1986, 1989, 1989, and 1994 that showed a willingness to impose cartel fines on companies above $10 million. See also note 1 above.

[31] In the United States, the FBI can interview suspects in their homes and can obtain warrants to search homes. Canadian law is similar. However, until 2003 EU "dawn raids" were restricted to offices.

[32] Supradeterrence is frequently alleged in the context of treble damages. However, some legal commentators have specifically cited the increased global cartel fines and penalties as excessive. Some also argue that the first U.S. sentencing guidelines caused a serious overdeterrence problem. For an economics-and-law model suggesting supradeterrence of government cartel fines, see Kobayashi (2001).

accused of criminal price fixing registers its guilty plea cite the double-the-harm law. On the contrary, these memoranda inevitably use the "20% rule" contained in the U.S. Sentencing Guidelines.[33] Large monetary awards and settlements since the late 1990s to private direct buyers in a few high profile international cartel cases have added to the charges of overdeterrence. For example, in 2003-2004, buyers of bulk vitamins settled for more than $2 billion. Defendants' lawyers have expressed alarm about these trends: were even more alarmed.

> "What is….troubling is that the company fines...have risen astronomically – to levels far higher than the fines for other serious economic crimes and in amounts that can be unrelated to the economic harm caused by the violations (Adler and Laing 1999:1)."

More recently, Denger (2003) too decries the prevalence of excessive price-fixing fines and private settlements. He places the blame for excessive fines on the Corporate Guidelines base fine calculation, which is 20% of the volume of affected commerce (p. 3).

It is true that the *theoretical* maximum fines and private settlements faced by prosecuted cartelists have reached surprisingly high multiples of cartel overcharges in the U.S. legal system. A domestic cartel successfully prosecuted in the United States is liable to pay up to *double* the cartel's overcharge to the federal government and *triple* the overcharge to direct buyers who file civil suits. In addition, the cartel can be sued by the state attorneys general for another set of *treble* damages incurred by indirect buyers.[34] Thus, domestic cartels are liable to pay as much as *six or seven* times their illegal monopoly profits if they are found guilty. Moreover, suppose the cartel is a global one with a typical one-third of its sales in the United States. Then, the U.S. DOJ has the option of calculating its fine on the basis of global overcharges (which are likely to be three times the domestic overcharges). In this case the federal fine could rise to *six* times a cartel's U.S. overcharges. It is the possibility of fines and settlements totaling *six to ten times* a cartel's U.S. monopoly profits that leads critics to make claims of overdeterrence.

However, these criticisms seem to confuse the *ex post* liabilities faced by discovered cartel members with the *ex ante* decision making process that deterrence-fines are supposed to affect. Deterrence effects of anticartel policies must be evaluated *ex ante*, that is, from the perspective of a company considering forming or joining a global price-fixing conspiracy. Such a company

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[33] Many of these sentencing memoranda are searchable on www.usdoj.gov.

[34] These are called *parens patriae* actions. Indirect buyers include both corporate and consumer purchasers. In 2000, 45 states joined together to sue the six largest companies in the vitamins cartels. Indirect buyers may also sue in about 24 state courts that represent about half of the U.S. population and economic activity. Pass-on by direct buyers is no defense for these actions.

must evaluate the probable additional profits from the cartel relative to the *probable costs* associated with being discovered and prosecuted.

## Deterrence is Sub Optimal

Despite the evident rise in cartel sanctions, serious doubts remain that even the heightened penalties observed since 1995 are sufficient to reduce cartel recidivism. There are at least eight reasons why current practices regarding the imposition of corporate monetary penalties imposed on international cartels can result in sub optimal deterrence.[35]

First of all, nearly all the government fines imposed on international cartels have been confined to only three competition-law jurisdictions. U.S., EU, and Canadian fines accounted for 81% of all corporate monetary sanctions imposed on international cartels during 1990-2003 (Connor 2004: Table1). Of the remaining fines, nearly all were imposed by *national* antitrust authorities of the Member states of the EU. Thus, cartel violations in Asia, Africa, and South America go unpunished.[36] It is reasonable to assume that when global cartels are formed, the conspirators expect negligible fines in three large continents

Second, the guidelines that the world's antitrust authorities use for cartels are either unrelated to cartel damages or are based on flawed damages assumptions. The 1987 U.S. Sentencing Guidelines assume that the mean cartel overcharge is 10% of affected sales and to achieve deterrence double it to start with a base fine of 20% of affected U.S. sales. While this assumption may be based on a small sample of actual cartel overcharges in the years before 1987. Connor and Lande (2004) show that the true historical overcharges are several times higher than 10%. Canadian fines also seem to assume a mean 10% overcharge. In the EU and most of its Member States, the fine guidelines have been excoriated as "linguistically vague" (Geradin and Henry 2005:12) and the sum that is the "start point" for cartels fines has been termed arbitrary and random figure (*ibid.,* Joshua and Camesasca 2004:7).

Legal and economic scholars tend to agree that in an ideal regulatory world, cartel fines should be computed as a function of damages rather than proxies like sales. Indeed, Wehmhöner (2005) and Giudici (2004) specifically recommend the establishment of damages-based fine guidelines. The failure of antitrust fines to be tied closely to damages seems to be rooted in a preference for the administrative convenience of a "one size fits all" guidelines policy. In

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[35] In this paper the effects of imprisonment are ignored, primarily because it is difficult to monetize the opportunity cost of a felony conviction and the typical 4 to 15 months of incarceration meted out to senior executives of major violators.

[36] Australia has fined members of half a dozen international cartels, and Mexico, Korea, Taiwan, and, Japan two or three each. However, these agencies overwhelmingly concentrate their enforcement resources on local price-fixing violations.

particular, the perceived difficulty of calculating damages on a case-by-case basis is frequently mentioned as a stumbling block. Outside the United States and Canada, enforcement agencies tend to be staffed almost exclusively with legal experts rather than economists. However, the fact that hundreds of private price-fixing cases – in which the main issue is the size of damages -- are filed and resolved each year in the United States tends to suggest that the claim of insufficient economic expertise is not a valid argument.

It is true that both the USSGs and the EC (1998) pay lip service to *company-specific* deterrence, but it is also true that adjustments in fines to capture differences demanded by the principles of optimal deterrence are crude at best.[37] However, in both jurisdictions, the *total* fines paid by members of the cartel are in principle unrelated to the damages caused by the cartel as a whole.[38]

Third, the leading antitrust agencies tend to offer large concessions on the fines that could be sought in litigation to cartelists that agree to plead guilty, fail to oppose administrative proceedings, offer inculpatory information their fellow conspirators, or cooperate in other ways with prosecutors. This practice, which often results in quick bargains to plead guilty and eliminates the costs and uncertainty of a litigated outcome, is an old habit of the U.S. DOJ. On average, corporations received 86% discounts from the base fine in 1974-1980 (Cohen and Scheffman 1989). Even more recently in the case of U.S. fines on high profile global cartels, there is evidence that the DOJ negotiated large discounts from the maximum fines specified by Sentencing Guidelines. The government settled for fines that were 75% to 85% below the maximum possible in the lysine, citric acid, and vitamins cartels (Connor 2001: 360-373). Similar but smaller discounts were awarded by the European Commission in the same cases. Corporate leniency programs now in force in a dozen jurisdictions exacerbate the tendency of governments to offer fine discounts to guilty parties.[39]

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[37] The USSGs calculate a company's base fine using its U.S. affected sales, which effectively makes U.S. fines closely correlated with a violator's U.S. market share. The European Commission's 1998 fine guidelines have a provision for applying a "deterrence multiplier" of up to 2.5 to specific companies (Geradin and Henry 2005: 9). In the *Carbonless Paper* decision, for example, the 3 largest of the 11 companies fined had their fines doubled for "deterrence" purposes (*ibid.* p. 11). However, the deterrence multiplier is explained to be based on the company's "size and resources," and the EC already takes size into account by sorting the participants in a cartel into up to 5 size groups; in *Carbonless Paper* the top company's start point was 100 larger than the 3 smallest participants. In some important decisions such as *Lysine* the EC has been criticized for imposing no deterrence multiplier on ADM (Joshua and Camesasca 2004: 7).

[38] The USSGs specifically permit prosecutors to apply the "alternative sentencing statute" (fines up to double damages) if they have reason to believe that the overcharge is significantly higher than 10%, but I know of no cartel cases that have used the alternative statute. It may well be the case that during plea-bargain negotiations the DOJ mentions its resolve to litigate under the alternative sentencing provision; this was the only way to obtain a fine above $10 million during 1990 to 2004.

[39] Corporate leniency policies give automatic amnesty (a 100% fine waiver) to the first company (and its officers) to apply that meets certain objective conditions (Connor 2004). These programs

Fourth, the availability of treble damages suits is confined to purchases made by buyers in the United States, actual payouts are well below three times the harm (Lande 1993, Connor 2004). Outside the United States private compensatory suits for single damages have been brought by injured parties in Canada and Australia since the mid 1990s (Goldman *et al.* 3003). In Europe and elsewhere private damages suits are rare or not permitted as a matter of law. As a result, significant private sanctions on cartels cover only a minor portion of the affected sales of non-U.S. and global cartels.

Fifth, it is widely acknowledged that p, the probability of secretive price-fixing agreements being discovered by antitrust authorities or private parties, is quite low. There is only one economic study of the probability of detection of cartel activity, a widely cited paper by Bryant and Eckard (1991). This study concludes that the probability is between 13% and 17%, but is based on U.S. domestic cartels convicted in the 1960s and 1970s. Other subjective and survey evidence has the probability ranging from less than 10% to 33%. Most analysts have assumed that the probability of cartel detection is a parameter, but some theorists have suggested that p is a positive function of the changes in price level and in price dispersion that accompany the formation of a successful cartel; also, if the increase in p is large, cartel stability will increase (Hinloopen 2004). The lower the probability p, the higher the expected fine must be to deter optimally cartel formation.

Sixth, in most jurisdictions fines and private settlements are paid without regard to pre-judgment interest.[40] If fines are related to damages or affected sales, the amount of the fine is based on nominal values that have become debased by the passage of time. That is, when general inflation is eroding the purchasing power of money, it is in the interest of fined defendants to employ tactics to delay payment. An ideal antitrust policy would convert affected sales or damages to present value, i.e., the value of money at the time the government or private plaintiffs receive payment. Deterrence is subverted by legal systems that allow violators to expect to pay monetary penalties in depreciated currency.

Seventh, even if government fines were, like private damages suits, based on the overcharges caused by a cartel and its corporate members, other types of social harm are generated by collusive conduct. When demand is normal, an overcharge is always accompanied by deadweight social losses. Neither fines nor damage suits can recoup these losses.[41] It is this reasoning that has justified

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are available to any participant that was not the "mastermind," "ringleader," or principal enforcer of a cartel agreement.

[40] After a fine is levied, most jurisdictions require payment within about three months. In the case of private settlements, the courts impose payment schedules that add interest from the day the settlement amount is approved. The lack of prejudgment interest is a factor that reduces the value of treble damages in private U.S. suits (Lande 1993).

[41] Deadweight loses can be equal to as much as 50% of the overcharge, but empirical studies tend to find that deadweight losses are from 10% to 20% of the overcharge (Peterson and

both the *per se* rule for price fixing under U.S. law and the application of multiple damages for fines and private settlements. In addition, if a cartel does not corral every supplier into its ranks, outside firms can engage in umbrella pricing, which generates damages and deadweight losses. However, these losses cannot be recouped through monetary penalties, because under the conspiracy-based legal theory of price fixing the fringe firms did not actively conspire with members of the cartel.

Finally, many jurisdictions have official fining guidelines or juridical practices that place upper limits of the size of fines. The 1987 U.S. Sentencing Guidelines (USSGs) for criminal price fixing have an upper limit of 80% of the guilty firm's U.S. affected sales. Although at first blush 80% sounds harsh enough to punish the most flagrant violators, under the simplest models[42] of *ex ante* cartel deterrence only national cartels with overcharges below 15% to 25% will be deterred. However, a significant body of evidence suggests that half or less of all historical cartels exhibit long run price effects below 25% (Connor and Lande 2004). The proportion of global cartels below the 25% threshold is even smaller. Moreover, the upper bounds on government cartel fines are more restrictive outside the United States. Canadian courts only rarely permit fines to exceed 20% of Canadian affected sales (Low 2004). In Japan, the JFTC is limited to 6% of Japanese affected commerce in the few cases where cartels are fined (First 1995).

The lowest fine limit is found in the EU and many of its Member States. After a corporate fine is calculated, the amount must be shown to be less than 10% of the global sales of the company in the year before the decision is rendered.[43] The obscurity of the rule's origins and its conflict with the deterrence objective of the EU's antitrust policy are matters of concern to legal-economic analysts.[44] Moreover, the upper limits on fines are unjust because they violate the juridical principles of equivalence and proportionality (Maks *et al.* 2005:2). In

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Connor 1995). Legal reasoning for excluding deadweight losses is based on two grounds: that the victims are difficult to identify (e.g., consumers that stopped buying the cartelized product because of the price increase) and that calculating the loss is even more difficult because one must have estimates of own-price elasticity of demand. A minor exception to the rule that deadweight losses cannot be compensated is whistle-blower suits.

[42] The simplest models, as in Landes (1983) and Posner (2001), assume that the criminals are risk-neutral. As elaborated by Polinsky and Shavell (2000), a more comprehensive approach to optimal deterrence requires attention to the risk attitudes of perpetrators. Baks *et al.* (2005) argue convincingly that cartelists are risk-loving (p.8). If so, then the ratio of expected penalties to the expected monopoly profits must be higher. Present systems of calculating monetary penalties do not take into account the risk attitudes of defendants.

Another simplifying assumption concerns Type II error in adjudication, i.e., the probability that the innocent are convicted Giudici (2005:3). Direct harm to the innocent increases with the harshness of penalties (Bebchuck and Kaplow 1992).

[43] EC decisions take about three years after a formal investigation is opened by the commission or typically two years after a cartel agreement is abandoned.

[44] The 10% limit was issued without explanation in 1962 as Commission Regulation 17 after years of secret political discussions.

particular, when the 10%-of-sales limit is invoked violators with small sales in a single line of business are more likely to pay fines that are a larger proportion of the harm they caused than are large diversified firms. The degree of discrimination increases with the duration of the cartel. This upper bound has in fact reduced some cartel fines in recent years.

Upper limits on fines of any kind (except those tied to the size of damages) can actually *induce* behavior that will increase cartel formation, stability, and endurance.[45] As soon as a cartel participant calculates that the upper limit of a fine has been reached, then all future gains from collusion will be fully appropriated by the company. Moreover, even if an antitrust regime increases fines for recidivism, after passing the upper limit a firm can enter into as many new cartel agreements as it likes without fear of increased liability. To draw an analogy, mandatory sentences for a first murder mean that serial killers will not be deterred.

On the whole, the arguments that present cartels fines are sub optimal seem to me to be more persuasive than the reverse. The remaining empirical part of this paper supports the sub optimal view.[46]

## A Formula for Global Cartels

In the context of global cartels, the decision-making model shown in Equation [3] above has added geographical components:

[5] $$E(C) = p_{gu}\cdot c_{gu}\cdot E(F_u) + p_{pu}\cdot c_{pu}\cdot E(S_u) + p_{ge}\cdot c_{ge}\cdot E(F_e) + p_{ga}\cdot c_{ga}\cdot E(F_a) + E(R),$$

where u = U.S. and Canada, e = EU and a = Asia.[47] Because of the absence of effective private damages suits outside of North America, it is not necessary to include $E(S_e)$ or $E(S_a)$ (First 1995, Harding and Joshua 2003).

Several simplifications can be made to Equation [5]. Because most companies are listed on at most one stock exchange, E(R) refers to stock-price effects in the firm's home country. Unlisted cartel members suffer little E(R), and in my view the reputational effects for public companies, if any, are very small and seem to dissipate within five years or less (Alexander 1999).[48] Thus, from a

[45] Obviously this point does not apply to antitrust environments with private damage suits.
[46] Another empirical approach is taken in Connor (2005).
[47] Equation [5] ignores the possibility of government antitrust fines in Mexico, South America, Africa, and Europe outside the EU. These areas could be added if anticartel sanctions become more severe.
[48] Reputational effects may be nonlinearly related to the size of a fine, especially if the fine represented a new record amount. ADM's $100-million fine assessed in October 1996 certainly fits this description. It was only beginning in 2000 or 2001 that financial profiles of ADM or its top

long-run perspective, E(R) = 0, and because of weak enforcement in Asia, $E(F_a) = 0$ and [5] becomes

[6] $E(C) = p_{gu} \cdot c_{gu} \cdot E(F_u) + p_{pu} \cdot c_{pu} \cdot E(S_u) + p_{ge} \cdot c_{ge} \cdot E(F_e)$.

An important step in this analysis is to convert the right side terms into functions of B. When that is done, the algebraic expression can be solved for E(C). It is true that most DOJ fines are based on "20% of sales" base fine together with culpability multipliers, but as Tables 13.1 to 13.3 of Connor (2001) show, the difference in dollar fines are small between that method and the double-harm approach. Therefore, the maximum U.S. corporate fine is double the cartel's U.S. overcharges.

Given the standards that have evolved for corporate sanctions for global cartels, E(C) can be converted to a function of the private financial "benefit" of price fixing, where B is the global overcharge paid by direct buyers during the conspiracy period. For simplicity, the overcharge rate is assumed to be equal in all regions of the world. For a convicted cartelist, the actual *maximum ex post* costs C of global collusion will be

[7] $C = E(F_u) + E(S_u) + E(F_e)$.

**Estimating the Parameters**

Now with the facts in this paper on the actual fines and settlements applied to global cartels since the late 1990s, one can calculate the three expected costs in [7] in terms of B, where the firm assumes the most pessimistic legal outcomes. Because this analysis is *ex post*, p = c = 1. The U.S. DOJ imposes the maximum double-the-overcharge (2B) fine on domestic sales with no leniency discounts, but the DOJ bases the fine on only the 25% of the typical cartel's U.S. affected sales. Then the CCB adds its 6% to the U.S. fines. Thus, $E(F_u) = (1.06)(.25)(2B) = 0.53B$. Similarly, EC fines are 72% of the U.S. (Connor 2003: Table 16). Therefore, $(F_e) = (0.72)(0.53B) = 0.38B$. If direct buyers in the U.S. and Canada won full treble damages and legal costs of 25%, then $E(S_u) = (0.25)(1.25)(3B) = 0.94B$.

Substituting these conversions into equation [7], one obtains

[8] $C = 0.53B + 0.38B + 0.94B = 1.85B$.

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executives failed to include references to ADM's 1996 price-fixing convictions. Alexander's empirical study finds, for five publicized price-fixing convictions between 1984 and 1990, no reputational effects for the corporate defendants.

On the basis of equation [8], a firm might expect to pay as much as 1.85 times its global monopoly profits in fines and settlements.[49] Because C>B, one might expect that cartels will be deterred.

In the case of a more appropriate *ex ante* analysis, F(C) will be considerably lower than 1.85B because p and c are less than unity. In this analysis it is appropriate to use a range of likely parameters rather than point estimates. As discussed above, a consensus estimate for $p_{gu}$ is a value between 0.10 and 0.33, with the higher value due to the recent success of the leniency programs adopted by most antitrust agencies. Given the improved degree of international cooperation in anticartel enforcement, it is reasonable to assume $p_{gu} = p_{ge} = p_{ga}$. For conviction, the DOJ's conviction record suggests that $0.5 < c_{gu} < 0.9$ is a reasonable range, and because most U.S. treble-damages suits are follow-on actions, $c_{pu} = 1$ is not unreasonable. Actual fines paid in the United States and EU can be used to derive expected fines, and these can be converted to an overcharge basis (B).[50] DOJ practice suggests that for the *average* cartel participant $F_u$ = 0.18B to 0.64B; in the EU, $F_e$ = 0.2B to 0.7B. Ringleaders of cartels have paid relatively high U.S. fines per dollar of overcharge (.6B to .7B), and small followers low fines (.2B to .3B). In North America, private suits against global cartels have yielded settlements of from 1.0 to 2.0 overcharges

The range of expected antitrust costs using realistic, historical enforcement practices results in a range that is far below the theoretical maximum costs calculated in Equation [8]. Thus, highly cooperative follower-participants in global cartels can reasonably expect to incur fines and settlements far below their expected cartel profits. Even under the most optimistic assumptions about discovery, lenience, and prosecution rates, the average conspirator can reasonably expect to make a profit on the typical global price-fixing scheme. Only ringleaders of cartels that resist cooperating with prosecutors risk financial costs in excess of their expected profits. One example is ADM's participation in the lysine cartel.[51]

## Caveats

This analysis has a number of limitations. First, optimal deterrence theory is based on the balance between the present value of expected future corporate

[49] In certain cases, the U.S. DOJ can calculate its *base* fines on a world-wide sales basis; as the typical global cartel makes one-fourth of its revenues in North America, assuming that overcharge rates are equal in all regions, E(Fu) = (1.06)(2B), then E(C) = 2.12B+ (1.06)(1.25)(3B) + 1.44B = 7.5B. In fact, the DOJ has never exercised this authority, though global sales have been used to adjust culpability factors (Kovacic 2002).

[50] U.S fine practices can be found in Tables 13.1 to 13.3 of Connor (2001), and for the EU Table 14.1 (*ibid.*) suggests that $F_u$ = 0.35B to 0.74B. For the U.S., $F_u$ was 0.33B for lysine, 0.30B to 0.64B for citric acid, and 0.18B to 0.44B for vitamins.

[51] See Connor (2001: Table 19.4). ADM probably profited from its role in the citric acid cartel.

profits from the conduct and the present value of expected future monetary sanctions. If the firm is a proprietorship, considering only company rewards and punishment makes eminent sense, but if there is a separation between ownership and management, then the personal motives of managers will be pertinent in evaluating the effectiveness of sanctions. The simpler versions of optimal deterrence theory assume that there are no principal-agent problems. In fact, it is generally the case that the reward structures of executive compensation contracts typically give short-term personal enrichment a greater weight in executive decisions than the long-run interests of stockholders. If the profits generated by price fixing generate personal rewards for such managers, then the optimal ratio of sanctions to illegal profits must be higher for large corporations than for proprietorships.

Second, the straightforward versions of optimal deterrence theory also assume that the managers or firms are risk-neutral. Similarly, a higher ratio will be required if managers are risk-loving in their corporate decision making rather than risk-averse. For these reasons, our focus on corporate-level performance in the present paper is at best a rather imperfect surrogate for stockholder control, managerial risk aversion, and other factors that we would like to incorporate.

Third, this paper ignores all nonmonetary corporate antitrust sanctions. Other possible corporate sanctions not included in the model are restructuring, restitution, injunctive relief, legal defense costs, and reputational losses. Although omission of the factors could lead to overdeterrence if there are also fines and settlements, in practice these sanctions are either small or rarely imposed in the United States and are almost unheard of abroad. Thus, ignoring them has a negligible effect on this paper's analysis.

Fourth, the model ignores the expected sanctions that may be imposed on individual managers of cartels. Criminal punishments for executives include imprisonment and personal fines. Laws permitting individual convictions of price fixers are on the books of nearly a dozen jurisdictions, but enforcement of these laws remains spotty outside the United States.[52] From 1990 to 2004 the Sherman Act authorized maximum individual penalties of $350,000 and three years' imprisonment; in April 2004 the maximum penalties were raised to $10 million. Monetary fines imposed by the U.S. Government on executives convicted in international price-fixing cases have a median average of $50,000, which is negligible in comparison to the violators' incomes or assets. Among the international cartels that have involved U.S. fines during 1990-2003, the personal fines amounted to less than 1% of the corporate fines (Connor 2003). Moreover,

[52] The EU has no power to sanction individuals. Imprisonment is possible in France, Norway, the UK, and Japan but has not occurred in modern times. Israeli courts have sent a few cartelists to jail, but none so far involved in international conspiracies. Canada convicted the ringleader of the international choline chloride cartel, but his prison sentence was served doing community service. However, Australia and Canada regularly fine cartel managers in amounts ranging from US$25,000 to $100,000.

non-U.S. companies regularly pay these fines for their employees.[53] Therefore, omitting *individual* monetary fines from the deterrence equation seems to be justified as a *de minimus* exclusion.

That leaves U.S. imprisonment.[54] In repeated public pronouncements, DOJ officials have asserted that this particular sanction weighs more heavily in deterring cartels than the sum total of the corporate sanctions (e.g., Hammond 2001). While it is perilous to ignore the statements of experienced antitrust officials, these assertions seem to be of the nature of anecdotal evidence. Nevertheless, an ideal sanctions analysis would incorporate prison time by amplifying the corporate deterrence equation. The most satisfactory step may be to monetize executive prison time. Years ago Gallo (19XX?) placed a value of about $2 million per year on the opportunity cost of a year in prison. This estimate is woefully out of date today because the real earnings of cartel leaders have risen significantly. In one cartel case, the German CEO of the largest member of the cartel paid $10 million to avoid what would probably been 6 to 12 months in prison. Trade-offs of this kind are the surest indicator of the opportunity cost of prison time.

## Policy Conclusions

Given the rational expectations about the certainty of punishment just mentioned, what is an appropriate level of financial sanctions to deter price fixing before it starts? At a minimum, to ensure absolute deterrence of a global cartel, total financial sanctions should be *four times* the expected global cartel profits (the overcharge); this level of sanctions would deter the "leaders" that initiate and provide most of the discipline for cartels. In the case of followers, deterrence would require penalties in all geographic regions to be equal to *eight times* overcharges.[55] These extraordinary multiples demonstrate that, from a purely benefit/cost approach, even the theoretical maximum U.S. legal sanctions of eight times U.S. overcharges is insufficient to deter recidivism in global cartels.[56]

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[53] Unless they are fined or imprisoned, the fate of most cartelists is not known publicly. However, out of about 200 executives mentioned in the press as personally involved in international schemes, fewer than a dozen have been identified as fired or forced to resign. Perhaps many more have suffered blows to their careers. One might think that employers serious about their antitrust training programs would want to include such information in the reassuring press releases they put out when concluding a guilty plea or paying a civil fine..

[54] The United States is virtually the Global Jailor for Antitrust Criminals. Except for Israel and the UK, which have rigorous prison statutes on the books, other jurisdictions seem content to make extradition of international cartel managers to the United States easier.

[55] These estimates assume that a global cartel's U.S. profit comprise one-third of its total monopoly profits worldwide. Strictly national cartels would require seven- to 20-times penalties. These estimates ignore the legal fees paid by defendants. If legal fees are substantial, the required multiple to deter would be somewhat lower.

[56] It also shows that the full force of U.S. law is quite capable of deterring purely domestic cartels.

An issue that should be addressed is the practical implementation of the fine-setting standards just proposed. In particular, the legal-economic literature is split on whether to base fines on damages calculations or surrogates like affected jurisdictional sales.

This study is hardly the first to conclude that current fine structures are suboptimal. Cohen (1989) studied corporate fines handed down in U.S. federal courts in the late 1980s. He concluded that the fines alone equaled only 33% of the harm caused by the companies.[57] Even with certainty of discovery, such fines cannot optimally deter.

## References


Adams, Kenneth L. Address, Antitrust Section of the American Bar Association, Washington, D.C., March 29, 2002.

Adler, Howard and David J. Laing. As Corporate Fines Skyrocket. *Business Crimes Bulletin 6* (1999):1.

Alexander, Cindy R. On the Nature of the Reputational Penalty for Corporate Crime: Evidence, *Journal of Law and Economics*, 42: 489 (1999)

Alexander, Cindy R., Jennifer Arlen, and Mark A. Cohen. *Toward an Empirical Foundation for Federal Sentencing Practice: An Evaluation of Corporate Sentencing Data: Economic Analysis Discussion Paper EAG 00-12.* Washington, DC: Antitrust Division, U.S. Department of Justice (December 29, 2000).

Aubert, Cecile, Patrick Rey, and William E. Kovacic. The Impact of Leniency and Whistleblowing Programs on Cartels. . Paper presented at the Amsterdam Center for Law and Economics Conference *Remedies and Sanctions in Competition Policy,* Amsterdam, 17-18 February 2005. [http://www.kernbureau.uva.nl/acle/object.cfm/objectid=F07DE744-C1D1-4F2E-876EEB31F7FA5B9F]

Baker, Donald I. The Use of Criminal Law Remedies to Deter and Punish Cartels and Bid-Rigging. *George Washington Law Review* 69 (2001): 693-720.

_____. Revisiting history – What We Have Learned about private Antitrust Enforcement that We Would Recommend to Others. (Feb. 26, 2004) [[redacted]]


[57] His analysis predates the U.S. Sentencing Guidelines (USSG 1997) and ignores nonmonetary penalties, restitution, civil penalties, and tort suits.

Bebchuck, L. A. and L. Kaplow. Optimal Sanctions when Individuals Are Imperfectly Informed about the Probability of Apprehension. Journal of Legal Studies 21 (1992): 365-370.

Becker, Gary S. Crime and Punishment: An Economic Approach. *Journal of Political Economy* 76 (1968): 169-.

Becker, S. Gary and George J. Stigler. Law Enforcement, Malfeasance, and the Compensation of Enforcers. *Journal of Legal Studies* 3 (1974): 1- .

Besanko, David and Daniel F. Sperber. Are Treble Damages Neutral? *American Economic Review* 80 (1990): 870-887.

Breit, William and Kenneth G. Elzinga. Antitrust Enforcement and Economic Efficiency: The Uneasy Case for Treble Damages. J*ournal of Law and Economics* 17 (1974):329- .

_____. Private Antitrust Enforcement: The New Learning. *Journal of Law and Economics* 28 (1985): 405-445.

Bryant, Peter G. and E. Woodrow Eckard. Price Fixing: The Probability of Getting Caught. *Review of Economics and Statistics* 73 (1991):531-540.

Burnside, Alec. European Cartel Enforcement and Investigations. Address at the annual Spring Meeting of the Antitrust Section of the American Bar Association, Washington, DC (April 2-4, 2003).

Camilli, Enrico Leonardo. Optimal and Actual Fines in Cartel Cases: The European Challenge. Paper presented at the Amsterdam Center for Law and Economics Conference *Remedies and Sanctions in Competition Policy,* Amsterdam, 17-18 February 2005. [http://www.kernbureau.uva.nl/acle/object.cfm/objectid=F07DE744-C1D1-4F2E-876EEB31F7FA5B9F]

Cohen, Mark A. "Corporate Crime and Punishment: A Study of Social Harm and Sentencing Practice in the Federal Courts, 1984-1987." *American Criminal Law Rev.* 26 (1989): 605-660.

Cohen, Mark A. and David T. Scheffman. The Antitrust Sentencing Guideline: Is the Punishment Worth the Costs? *Journal of Criminal Law* 27 (1989): 331-366.

Connor, John M. *Global Price Fixing: "Our Customers are the Enemy*." Boston: Kluwer Academic (2001a).

_____. Global Antitrust Prosecutions of Modern International Cartels. *Journal of International Competition and Trade* 4 (September 2004): 239- 267.

_____. Effectiveness of Sanctions on Modern International Cartels. Manuscript in journal review *(*March 2005).

Connor, John M. and Robert H. Lande. How High Do Cartels Raise Prices? Implications for Reform of Antitrust Sentencing Guidelines. Working Paper 04-01, American Antitrust Institute (August 2004), 94 pp. [http://www.antitrustinstitute.org/]

Denger, Michael L. Denger. Remarks. ABA Section of Antitrust Law Spring Meeting, Chair's Program, "A New Approach To Cartel Enforcement Remedies Is Needed" (April 24-26, 2002).

Easterbrook, Frank H. Treble What? *Antitrust Law Journal* 95 (1986): 55-.

EC. Guidelines on the Method of Setting Fines. *Official Journal* C 9/3 (1998).

Feinberg, R.M. The Enforcement and Effects of European Antitrust Policy: A Survey of Legal Opinion. *Journal of Common Market Studies* 23 (1985): 373-384.

First, Harry. Antitrust Enforcement in Japan. *Antitrust Law Journal*, 64 (Fall 1995): 137-.

_____. The Vitamins Case: Cartel Prosecutions and the Coming of International Competition Law. *Antitrust Law Journal* 68 (2001): 711-733.

Gallo, Joseph C. *et al*. Guess Who Came to Dinner: An Empirical Study of Federal Antitrust Enforcement for the Period 1963-1984. *Review of Industrial Organization* 2 (1985):106-131.

Gallo, Joseph C. Department of Justice Antitrust Enforcement 1955-1997. *Review of Industrial Organization* 17 (2000): 75-133.

Giradin, Damien and David Henry. The EC Fining Policy for Violations of Competition Law: An Empirical Review of the Commission's Decisional Practice and the Community Courts' Judgments. Paper presented at the Amsterdam Center for Law and Economics Conference *Remedies and Sanctions in Competition Policy,* Amsterdam, 17-18 February 2005. [http://www.kernbureau.uva.nl/acle/object.cfm/objectid=F07DE744-C1D1-4F2E-876EEB31F7FA5B9F]

Goldman, C.S. *et al.* Private Access to Antitrust Remedies: The Canadian Experience, address before the Section of Antitrust law, American Bar Association spring meeting, Washington, DC, April 2-4, 2003.

Graubert, John D. Too Much or Too Little: A Summary of Discussion. American Bar Association's Antitrust Remedies Forum, Washington, DC (April 2003).

Giudici, Paulo. Private Antitrust Law Enforcement in Italy. *The Competition Law Review* 1 (August 2004):61-85.

Hammond, Scott D. When Calculating the Costs and Benefits of Applying for Corporate Amnesty, How Do You Put a Price Tag on an Individual's Freedom?, speech at the 15th Annual National Institute on White Collar Crime, San Francisco, California, March 8, 2001.

Harding, Christopher and Julian Joshua. *Regulating Cartels in Europe: A Study of Legal control of Corporate Delinquency.* Oxford: Oxford University Press (2003).

Hinloopen, Jeroen. The Pro-Collusive Effect of Increased Cartel Detection Probabilities. University of Amsterdam unpublished paper (November 2004).

_____. Internal Cartel Stability with Time-Dependent Detectection Probabilities. Paper at the Amsterdam Center for Law and Economics Conference *Remedies and Sanctions in Competition Policy,* Amsterdam, 17-18 February 2005.

Hovenkamp, Herbert. *Federal Antitrust Policy: Second Edition.* St. Paul, Minn.: West Group (1999).

Jacobs, Michael S. An Essay on the Normative foundations of of Antitrust Economics. *North Carolina Law Review* 74 (1995): 219- .

Joshua, Julian. Combinations, Concerted Practices and Cartels: Adopting the Concept of Conspiracy in European Community Competition Law. *Journal of International Law and Business* 29 (2004): 647-681.

Joshua, Julian M. and Peter D. Camesasca. EC Fining Policy against Cartels after the Lysine Rulings: The Subtle Secrets of X. *Global Competition Review* 5 (2004): 5-10.

Kelley, Michael S. and Bilal Sayyed. Treble for You, for Me: Rethinking the Clayton Act's Damage Provisions. *New Jersey Law Journal 59*, 33 (2000).

Klawiter, Donald. After the Deluge: The Powerful Effect of Substantial Criminal Fines, Imprisonment, and Other Penalties in the Age of International Criminal Enforcement. *George Washington Law Review* 69 (2001): 745-765.

Kobayashi, Bruce H. Antitrust, Agency, and Amnesty: An Economic Analysis of Criminal Enforcement of the Antitrust Laws against Corporations. *George Washington Law Review* 69 (2001): 715- .

Lande, Robert H. Are Antitrust "Treble" Damages Really Single Damages? *Ohio State Law Journal* 54 (1993):117-174).

Landes, William M. Optimal Sanctions for Antitrust Violations. *Journal of Law and Economics* 50 (1983): 652-678.

Levenstein, Margaret and Valerie Suslow. *What Determines Cartel Success?* Working Paper 02-001. Ann Arbor, Michigan, University of Michigan Business School (January 2002).

Low, D. Martin. Cartel Enforcement, Immunity, and Jurisdiction: Some Recent Canadian Developments, speech at the International Bar Association, Rome, Italy (May 17-18, 2004).

Maks, J.A.H., M.P. Schinkel, and I.A.M. Bos. Perverse Incentive Effects on Bounding Fines for Infringements of Competition Law: the Dutch Case. Paper presented at the Amsterdam Center for Law and Economics Conference *Remedies and Sanctions in Competition Policy,* Amsterdam, 17-18 February 2005. [http://www.kernbureau.uva.nl/acle/object.cfm/objectid=F07DE744-C1D1-4F2E-876EEB31F7FA5B9F]

Marcos, Francisco. The Enforcement of Spanish Antitrust Law: Critical Assessment of the Fines-Setting Policy and of the Legal Framework for Private Enforcement Actios. Paper presented at the Amsterdam Center for Law and Economics Conference *Remedies and Sanctions in Competition Policy,* Amsterdam, 17-18 February 2005. [http://www.kernbureau.uva.nl/acle/object.cfm/objectid=F07DE744-C1D1-4F2E-876EEB31F7FA5B9F]

Mehra, Salil K. More is Less: A Law-and-Economics Approach to the International Scope of Private Antitrust Enforcement. *Temple Law Review* 77 (2004):47-70.

Peterson, Everett B. and John M. Connor. A Comparison of Welfare Loss Estimates for U.S. Food Manufacturing. *American Journal of Agricultural Economics* 77 (May 1995): 300-308.

Polinsky, A. Mitchell and Steven Shavell. The Optimal Tradeoff Between the Probability and Magnitude of Fines. *American Economic Review* 69 (1979) 880-91.

_____. The Economic Theory of Public Enforcement of the Law. *J. Economic Literature* 38 (March 2000): 45-76.

Posner, Richard A. *Antitrust Law: Second Edition*. Chicago: University of Chicago Press (2001).

Shavell, Steven. *Economic Analysis of Public Law Enforcement, Discussion Paper No. 405.* Cambridge: Harvard Law School (February 2003).

Smith, W. James and Michael B. Vaughan. Economic Welfare, Price, and Profit. *Economic Inquiry* (October 1986): 985 – 996.

Smith, W. James, Michael B. Vaughan, and John B. Formby. Cartels and Antitrust: The Role of Fines in Deterring Violations at the Margin. *Southern Economic Journal* 53 (1987): 985-996.

Spratling, Gary R. Detection and Deterrence: Rewarding Informants for Reporting Violations. *George Washington Law Review,* 69 (December 2001): 798-823.

Thistle, Paul D. Durable Goods cartels and Antitrust Deterrence, working paper, University of Alabama (1986).

USSG. *Guidelines Manual.* Washington, DC: U.S. Sentencing Commission (1987, updated frequently).

Warren-Boulton, Richard. Private communication (2000).

Wehmhöner, Nonthika. Optimal Fining Policies. . Paper presented at the Amsterdam Center for Law and Economics Conference *Remedies and Sanctions in Competition Policy,* Amsterdam, 17-18 February 2005. [http://www.kernbureau.uva.nl/acle/object.cfm/objectid=F07DE744-C1D1-4F2E-876EEB31F7FA5B9F]

Werden, Gregory J. and Marilyn J. Simon. Why Price Fixers Should Go to Prison. *Antitrust Bulletin* (Winter 1987): 917-937.

Wils, Wouter P.J. The Commission's New Method for Calculating Fines in Antitrust Cases. *European Law Review* 23 (1998): 252-263.

Wils, Wouter P. J. Is Criminalization of EU Competition Law the Answer? Paper presented at the Amsterdam Center for Law and Economics Conference *Remedies and Sanctions in Competition Policy,* Amsterdam, 17-18 February 2005. [http://www.kernbureau.uva.nl/acle/object.cfm/objectid=F07DE744-C1D1-4F2E-876EEB31F7FA5B9F]