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Comparative Deterrence from Private Enforcement and Criminal Enforcement of the U.S. Antitrust Laws

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I. INTRODUCTION

The purpose of this article is to determine which type of antitrust enforcement deters more anticompetitive behavior: the U.S. Department of Justice ("DOJ") Antitrust Division's criminal anti-cartel enforcement program or private enforcement of U.S. antitrust laws. The answer to this question—and answers to related questions concerning deterrence and compensation issues—could have important implications for the United States, pertaining both to appropriate antitrust remedies and to the course of litigation of private antitrust cases. Those answers also could influence other nations considering either adopting or changing criminal penalties for competition law violations, or allowing private rights of action by the victims of competition law violations.

Anti-cartel enforcement by the DOJ long has been the gold standard of antitrust enforcement worldwide. If a country were to have only one type of antitrust violation, surely it would be against horizontal cartels, and surely this law would be enforced by that country's government officials. Even critics who believe that

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monopolization and vertical restraints never or rarely should be challenged almost always believe in strong anti-cartel enforcement.[1] People in the antitrust world disagree about many things, but it is extremely difficult to find responsible critics who do not applaud the U.S. government's anti-cartel program.[2] We strongly agree with this almost-unanimous consensus and are second to no one in our appreciation of the DOJ's anti-cartel activity. In terms of taxpayer dollars well spent, the program surely is one of the most outstanding in all of government.

By contrast, private antitrust enforcement under U.S. antitrust laws gets little respect and much criticism. Indeed, it is difficult to find many people other than members of the plaintiffs' bar willing to say much good about private enforcement. For example, even moderates like FTC Commissioner J. Thomas Rosch believe that treble damage class action cases "are almost as scandalous as the price-fixing cartels that are generally at issue . . . . The plaintiffs' lawyers . . . stand to win almost regardless of the merits of the case."[3] Due to these widespread beliefs, former FTC Chairman William E.

1. *See* ROBERT BORK, THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF 66–67 (2d ed. 1993); *see also id.* at 263 ("The law's oldest and, properly qualified, most valuable rule states that it is illegal per se for competitors to agree to limit rivalry among themselves. . . . Its contributions to consumer welfare over the decades have been enormous."); *id.* at 163–97 (Bork's analysis of monopolization and attempted monopolization); *id.* at 225–45 (Bork's analysis regarding conglomerate mergers); *id.* at 280–98 (Bork's analysis regarding price maintenance); Frank H. Easterbrook, *Treble What?*, 55 Antitrust L.J. 95 (1986).

2. Both Democratic and Republican administrations have made anti-cartel activity their highest priority. Both have succeeded wonderfully at this crucial task and for this they have been applauded widely. It is difficult to find many who have even questioned the DOJ's anti-cartel enforcement, except for small criticisms at the margins. If we may use the terms of professors, it is possible to find critics who give the DOJ anti-cartel programs an "A" instead of an "A+," but almost impossible to find responsible critics grading them lower than this. *See* AMERICAN ANTITRUST INSTITUTE, THE NEXT ANTITRUST AGENDA: THE AMERICAN ANTITRUST INSTITUTE'S TRANSITION REPORT ON COMPETITION POLICY TO THE 44TH PRESIDENT OF THE UNITED STATES 2–3 (2008), *available at* http://www.antitrustinstitute.org/node/11001 (describing "the resilience of antitrust"). By contrast, it is easy to find critics on both sides of the political aisle giving much lower grades, even failing grades, to other DOJ antitrust programs. For example, the AAI's report sharply criticized the DOJ's record in the Section 2 area. *See id.* at 55, 58–59.

3. J. Thomas Rosch, Fed. Trade Comm'n Comm'r, Remarks to the Antitrust Modernization Commission 9–10 (June 8, 2006), *available at* http://www.ftc.gov/speeches/rosch/Rosch-AMC%20Remarks.June8.final.pdf. Similarly, Steve Newborn, co-head of Weil, Gotshal & Manges' Antitrust/Competition practice, was asked which areas of antitrust need reform, and replied: "[c]lass actions: they are increasingly beneficial only to plaintiffs' law firms and not to consumers." *Q&A with Weil Gotshal's Steven A. Newborn*, LAW360 (June 1, 2009), http://law360.com/competition/articles/103359.

Kovacic recently summarized the conventional wisdom about private enforcement succinctly: "private rights of actions U.S. style are poison."[4]

Given these criticisms, it may come as a surprise—even a shock—that a quantitative analysis of the facts demonstrates that private antitrust enforcement probably deters more anticompetitive conduct than the DOJ's anti-cartel program.[5] This deterrence effect is, of course, in addition to its virtually unique compensation function.[6] If this article's conclusion about the importance of private enforcement for deterrence is true, private antitrust enforcement also should receive much of the praise given to DOJ anti-cartel efforts. Further, private enforcement should be encouraged in the United States rather than hampered through new legislation[7] or through restrictive judicial interpretation of existing law.[8] And the United States' version of private antitrust enforcement should be something for other countries to consider.[9]

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4. FTC: WATCH No. 708, Nov. 19, 2007, at 4 (quoting William E. Kovacic speaking at an ABA panel on Exemptions and Immunities where he summarized the conventional wisdom in the field but was not necessarily agreeing with it). For additional criticisms of private antitrust enforcement, see Lande & Davis, *Benefits*, *supra* note *, at 883–89.

5. We will not, however, attempt to compare private enforcement to FTC enforcement because, except for a few disgorgement cases, the FTC obtains only injunctive relief.

6. *See* Lande & Davis, *Benefits*, *supra* note *, at 881–83; Harry First, *Lost in Conversation: The Compensatory Function of Antitrust Law* (2009) (unpublished draft) (on file with author). Another goal of private enforcement is to restore competition to markets. *See* Lande & Davis, *Benefits*, *supra* note *, at 881.

7. *See, e.g.*, Class Action Fairness Act of 2005, Pub. L. No. 109-2, 119 Stat. 4 (codified throughout 28 U.S.C.). The Class Action Fairness Act ("CAFA") allows defendants to remove most class actions to federal court and, as a result, arguably makes class certification for state law claims more difficult. Stephen Burbank, *The Class Action Fairness Act of 2005 in Historical Context: A Preliminary View*, 156 U. PA. L. REV. 1439, 1530–31 (noting one goal of CAFA was to make class certification more difficult for plaintiffs).

8. *See, e.g.*, Bell Atl. Corp. v. Twombly, 550 U.S. 544 (2007) (overruling *Conley v. Gibson*, 355 U.S. 41 (1957), and applying heightened pleading standard to private antitrust cases).

9. In a thoughtful critique of this Article, John R. Woodbury suggests the possibility that private enforcement, even if more effective as a deterrent than DOJ criminal enforcement—indeed, particularly under those circumstances—may lead to over-deterrence. *See* John R. Woodbury, *Paper Trail: Working Papers and Recent Scholarship*, THE ANTITRUST SOURCE 3–4 (August 2010), http://www.abanet.org/antitrust/at-source/10/08/Aug10-pTrail8-2f.pdf. He rests this possibility in part on the reputational effects of litigation, offering as an "admittedly extreme example" BP's willingness to provide $20 billion in compensation for the Deepwater Horizon oil spill. *Id.* The choice of this example may be telling. There is little indication that antitrust defendants in private litigation suffer any significant cost in terms of their reputation, and so it is perhaps no accident that Woodbury did not offer a more

Part II of this Article analyzes the deterrence effects of DOJ anti-cartel efforts by studying DOJ cases filed from 1990 to 2007. Part III compares these results to the cumulative deterrence effects of a sample of forty large private cases that ended during this same period. (We do not compare the DOJ with the deterrence effects of every private case filed during this period, however, because we were unable to obtain this information).

Before coming to any policy conclusions based on this comparison, we address some criticisms of private enforcement. Few commentators dispute that most DOJ anti-cartel prosecutions involved anticompetitive conduct or that most DOJ cartel cases should have been brought. But are most private enforcement cases legitimate? Do most involve anticompetitive behavior? Considering the widespread criticism within the profession of private enforcement, and that most successful private cases result only in settlements, do these cases mostly involve underlying anticompetitive conduct? We address this topic in Part IV, concluding that the evidence suggests the legal actions on which we rely did indeed entail claims with merit. Part V then acknowledges some qualifications and caveats to the quantitative conclusions of this Article.

Finally, Part VI concludes by offering policy suggestions that follow from our analysis. Our results demonstrate that private enforcement most certainly has crucial deterrence effects. These effects are so important that U.S. courts should not continue their steps to curtail private enforcement, and foreign jurisdictions should consider permitting private enforcement of competition laws as a complement to government efforts.

II. DETERRENCE FROM DOJ ANTI-CARTEL CASES

The DOJ Antitrust Division can attempt to deter illegal cartel activity in several ways. First, it can request that courts fine the corporations involved. Second, it can request that the most culpable

directly relevant example to make his point. More generally, however, in this Article we do not attempt to determine whether antitrust violations on the whole are insufficiently or excessively deterred. Our aim is to establish a proposition that is more limited, although one that still defies conventional wisdom: that private enforcement probably serves as a greater deterrent to antitrust violations than criminal enforcement by the DOJ. A demonstration that private enforcement helps the law to more closely approximate optimal deterrence is a project for another day.

individuals be fined. Third, it can and occasionally does ask for restitution. Fourth, it can request that some of the individuals involved be imprisoned or placed under house arrest.[10] The Division also can secure injunctions to restore competition to the affected markets. Since we know of no way to value these injunctions, however, or to compare them to injunctions secured by private parties, we have omitted them from our analysis.[11]

A. Optimal Deterrence of Cartels

The most generally accepted approach to optimally deterring antitrust violations was developed by Professor William Landes,[12] who convincingly showed that to achieve optimal[13] deterrence,[14] the total amount of the sanctions imposed against an antitrust violator

10. U.S. DEP'T OF JUSTICE, ANTITRUST DIVISION WORKLOAD STATISTICS FY 1999–2008, 13 n.14, http://www.justice.gov/atr/public/242359.pdf (last visited Jan. 25, 2010) (The term other confinement "[i]ncludes house arrest or confinement to a halfway house or community treatment center.").

11. Additionally, DOJ cases often set important legal precedents that can deter anticompetitive conduct significantly. We do not know how to value these precedents, however, or to compare their value to the value of precedents established through private enforcement. For an excellent analysis of this topic, see Stephen Calkins, *Coming to Praise Criminal Antitrust Enforcement*, EUROPEAN UNIVERSITY INSTITUTE (June 2006), http://www.eui.eu/RSCAS/Research/Competition/2006(pdf)/200610-COMPedCalkins.pdf. Calkins found that of leading antitrust cases decided before 1977, twelve were private and twenty-seven were government. Of the leading cases decided in 1977 or later, however, he found thirty private cases and only fifteen government cases. *Id.* at 12, 14 (sample taken from the leading cases printed in the leading antitrust casebook). Calkins concluded:

> Today what is known as U.S. antitrust law no longer is exclusively or even principally the consequence of Justice Department [or FTC or State] enforcement. The leading modern cases on monopolization, attempted monopolization, joint ventures, proof of agreement; boycott; other horizontal restraints of trade, resale price maintenance, territorial restraints, vertical boycott claims, tying, price discrimination, jurisdiction, and exemptions are almost all the result of litigation brought by someone other than the Justice Department [or the FTC or the States].

Id. at 13 (citations omitted).

12. William M. Landes, *Optimal Sanctions for Antitrust Violations*, 50 U. CHI. L. REV. 652 (1983). Landes built upon concepts developed in Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169 (1968), by applying them to the antitrust field.

13. The goal is optimal deterrence, not complete deterrence, because enforcement aggressive enough to deter all cartels is likely to unduly penalize honest business conduct. Therefore a proper balance must be struck to achieve optimal deterrence.

14. Professor Landes was not concerned with compensating victims. For an analysis that takes victim compensation into account, see Robert H. Lande, *Are Antitrust "Treble" Damages Really Single Damages?*, 54 OHIO ST. L.J. 115, 161–68 (1993), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1134822.

should be equal to the violation's expected "net harm to others," divided by the probability of detection and proof of the violation.[15] Moreover, because not every cartel is detected or successfully sanctioned, the "net harm to others" from cartels should be multiplied by a number that is larger than one (the multiplier should be the inverse of the probability of detection and proof).[16] In other words, the optimal penalty = (harms) ÷ (probability of detection x probability of proof).

In applying Landes's model, we will undertake several important steps that warrant noting. First, we will attempt to compare financial penalties imposed on corporations with similar penalties imposed on the individual corporate actors who are personally responsible for an antitrust violation. Second, we will attempt to compare financial penalties with time in prison (or time spent under house arrest).

Of course, making these comparisons in an objective, accurate, and non-controversial manner is not possible. The conventional wisdom seems to be that fines are superior to prison as a way to

15. *See* Landes, *supra* note 12, at 657. If the harm was ten and the probability of detection and proof .333, since (10/.333 = 30), the optimal penalty for this violation would be 30. This ignores risk aversion and other factors. *See id.* Analysts of both the Chicago and post-Chicago schools of antitrust have almost universally accepted these principles. *See* Lande, *supra* note 14, at 125–26. Despite the general acknowledgement of the superiority of the Landes approach, however, many respected scholars and enforcers instead focus upon the gain to the lawbreaker, perhaps because it is simpler to calculate. For an insightful analysis, see Wouter P.J. Wils, *Optimal Antitrust Fines: Theory and Practice*, 29 WORLD COMPETITION 183, 190–93 (2006).

16. Unfortunately, this is often difficult to determine:

> Of course, no one knows the percentage of cartels that are detected and proven. In 1986, the Assistant Attorney General for Antitrust, Douglas Ginsburg (AAG Ginsburg), estimated that the enforcers detected no more than 10% of all cartels. There are reasons to believe that the Antitrust Division's amnesty program has resulted in a larger percentage of cartels detected and proven today, but there is anecdotal evidence that, despite the enforcers' superb efforts, many cartels still operate. From an optimal deterrence perspective it would be necessary to know the percentage of cartels that are detected and proven to know what number to multiply the "net harms to others" by. At a minimum, however, we know that if the combined antitrust sanctions only total the actual damages, firms would be significantly undeterred from committing antitrust violations.
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> Ideally, optimal deterrence should be based upon the expectations of potential price fixers, not the results of their price-fixing or the actual fines imposed. To ascertain this, however, we would have to interview a random sample of potential price fixers and discern their expectations. In reality, however, it would be impossible to assemble a proper random sample or to get them to respond candidly.

John M. Connor & Robert H. Lande, *How High Do Cartels Raise Prices? Implications for Optimal Cartel Fines*, 80 TUL. L. REV. 513, 519–20 (2005) (citations omitted).

secure optimal deterrence.[17] However, one might argue, to put the points in their strongest form, that corporate actors care only about their own financial well-being and that prison sentences are so abhorrent[18] that no corporate actor would be willing to risk prison, no matter how large the financial gain (or, to put the point somewhat differently, that a corporate actor would be willing to pay virtually any amount of money to avoid the risk of prison).[19]

17. The conventional wisdom in the field was well summarized by V.S. Khanna, *Corporate Criminal Liability: What Purpose Does it Serve*, 109 HARV. L. REV. 1477, 1534 (1996) ("Thus, some justification for corporate criminal liability may have existed in the past, when civil enforcement techniques were not well developed, but from a deterrence perspective, very little now supports the continued imposition of criminal rather than civil liability on corporations.").

18. *See* Gregory J. Werden, *Sanctioning Cartel Activity: Let the Punishment Fit the Crime*, 5 EUR. COMPETITION J. 19, 31 (2009); Donald I. Baker & Barbara A. Reeves, *The Paper Label Sentences: Critiques*, 86 YALE L.J. 619, 621 (1977) ("Experience supports the conclusion that businessmen view prison as uniquely unpleasant and that therefore incarceration is a uniquely effective deterrent."); Arthur L. Liman, *The Paper Label Sentences: Critiques*, 86 YALE L.J. 630, 630–31 (1977) ("To the businessman . . . prison is the inferno, and conventional risk-reward analysis breaks down when the risk is jail.").

19. Baker & Reeves, *supra* note 18, at 621–22. Note the important difference in these two baselines: a corporate actor might demand a different sum to risk prison than they would be willing to pay to avoid the risk of prison. For example, suppose someone would rather pay a $2 million fine than be imprisoned for one year. How would that person react to the question of whether they would accept $2 million in return to going to prison for one year? They might not agree to this deal. Part of the difference is the relative wealth of the actor in the two situations. A corporate actor can demand an unlimited amount to accept the risk of prison. And any such payment increases his or her wealth. But the same person cannot pay an unlimited amount to avoid the risk of prison. She can only spend as much money as she has or can borrow. *See* David Cohen & Jack L. Knetsch, *Judicial Choice and Disparities Between Measures of Economic Values*, *in* CHOICES, VALUES AND FRAMES 424, 428 (Daniel Kahneman & Amos Tversky eds., 2000). But there is another element at play here as well. Empirical evidence shows that people's attitudes toward costs and benefits depend on their perception of the status quo. *Id.* at 428–29. A person who accepts prison as the status quo may be willing to pay less to avoid it than a person who sees prison as a deviation from the status quo. A corollary is that, depending on the odds and stakes, people value avoiding losses—and are willing to take risks to do so—far more than they value gains—which they generally will not take risks to obtain (although, oddly, this principle may vary depending on the odds of the risk and the size of the gain or loss). *See* Daniel Kahneman & Amos Tversky, *Prospect Theory: An Analysis of Decision under Risk*, *in* CHOICES, VALUES AND FRAMES 35–36 (Daniel Kahneman & Amos Tversky eds., 2000). This psychological phenomenon—and others—greatly complicates an economic analysis of behavior. So, for example, a corporate actor who perceives herself as taking steps that violate the antitrust law to return to the status quo (perhaps because she thinks her corporation is suffering from unfair competition) may be far more tolerant of risk than the same corporate actor who contemplates the same measure as a means of obtaining a perceived economic advantage. Even for a single corporate actor, then, there may be no single correct amount that represents her willingness to trade off between gain for her corporation and the risk of prison for herself.

The extreme form of these arguments is unpersuasive. Corporate actors do in fact risk their own prison time for the financial benefit of their employers when they violate the antitrust laws—by, for example, participating in price fixing. Moreover, the literature on antitrust law generally assumes that corporations maximize profits, which means that it also assumes the interests of corporate representatives and corporations generally align.[20] Any other approach would greatly complicate antitrust analysis, requiring an inquiry not only into the market and its participants but also into the internal workings of particular corporations. Indeed, there is an odd—and usually unexplained—inconsistency when proponents of the free market claim that corporations should not be subject to civil liability for the wrongdoing of their representatives: if the free market works in the sense that corporations respond in an efficient manner to market incentives, including by encouraging corporate representatives to act for the benefit of the corporation, why shouldn't the same be true of legal sanctions?[21]

The work of Richard Posner provides a useful illustration. He addresses—and rejects—the twin concerns about correlating financial penalties to corporations with prison terms for corporate representatives: (1) that corporate representatives have different interests than corporations and (2) that prison time cannot be equated with a monetary sum. The first issue involves a potential

20. *See, e.g.*, RICHARD A. POSNER, ANTITRUST LAW ix (2d ed. 2001) [hereinafter, POSNER, ANTITRUST LAW] (arguing that his brand of economic analysis of antitrust law has come to predominate judicial doctrine, with a consensus that "business firms should be assumed to be rational profit maximizers, so that the issue in evaluating the antitrust significance of a particular business practice should be whether it is a means by which a rational profit maximizer can increase its profits at the expense of efficiency"). *See also* Richard A. Posner, *Optimal Sentences for White-Collar Crime*, 17 AM. CRIM. L. REV. 409, 417–18 & n.27 (1980) [hereinafter Posner, *Optimal Sentences*] (acknowledging that he has made "an argument . . . in the antitrust context for confining criminal (or civil-penalty) liability to the corporation, on the theory that if it is liable it will find adequate ways of imposing on its employees the costs to it of violating the law") (citing RICHARD A. POSNER, ANTITRUST LAW: AN ECONOMIC PERSPECTIVE 225–26 (1976)). The same is true for scholars of a similar ilk in the field of securities. *See, e.g.*, EASTERBROOK & FISCHEL, THE ECONOMIC STRUCTURE OF CORPORATE LAW 4 (1996) ("Managers may do their best to take advantage of their investors, but they find that the dynamics of the market drive them to act as if they had investors' interests at heart. It is almost as if there were an invisible hand.").

21. *See, e.g.*, Christopher D. Stone, *Sentencing the Corporation*, 71 B.U. L. REV. 383, 385 (1991) ("While it is true that managers have a hard time getting the rank and file to adapt to market threats, no one suggests that corporations are so hidebound or so buffered from their capital environments that market penalties must be ruinously high before the company will respond. Why should it be otherwise with legal penalties?").

divergence of interests between principal and agent, which economists tend to call agency costs. Posner's response:

> A corporation has effective methods of preventing its employees from committing acts that impose huge [antitrust] liabilities on it. A sales manager whose unauthorized participation in a paltry price-fixing scheme resulted in the imposition of a $1 million fine on his employer would thereafter, I predict, have great difficulty finding responsible employment, and this prospect should be sufficient to deter.[22]

In other words, corporations can and will impose incentives that align their interests and the interests of their representatives.

Posner has also addressed the second issue—the concern that prison time cannot be correlated to financial penalties. He has argued for "the substitution, whenever possible, of the fine (or civil penalty) for the prison sentence as the punishment for crime."[23] His contention is, particularly in cases of "white collar" crime,[24] that "fining the affluent offender is preferable to imprisoning him from society's standpoint because it is less costly and no less efficacious."[25] As he notes, "The fine [or civil liability] for a white-collar crime can be set at whatever level imposes the same disutility on the defendant, and thus yield the same deterrence, as the prison sentence that would have been imposed instead."[26]

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22. POSNER, ANTITRUST LAW, *supra* note 20, at 271. *But see* John Collins Coffee, Jr., *Corporate Crime and Punishment: A Non-Chicago View of the Economics of Criminal Sanctions*, 17 AM. CRIM. L. REV. 419, 458–59 (1980) (noting examples of limited internal sanctions imposed against individuals responsible for antitrust violations).

23. Posner, *Optimal Sentences*, *supra* note 20, at 409.

24. *Id.* at 409–10 (defining "white collar" crime).

25. *Id.* at 410.

26. *Id.* Posner is familiar with resistance to this claim—indeed, his article responds in part to a sophisticated criticism by John Coffee that contends that "the threat of imprisonment is inherently greater than that of a fine," *id.* at 413 (citing Coffee, *supra* note 22), or, presumably, civil liability. Posner usefully distills Coffee's argument to three points: (1) financial penalties work only if the culpable party has the means to pay them; (2) fines themselves work only if backed by a sufficient penalty for non-payment (otherwise they will not be paid); and (3) culpable parties are likely to experience an increasing marginal loss of utility as fines get larger (at least up until the point that they have no money left), but a decreasing marginal loss of utility as prison sentences grow in length. *Id.* at 413–14. The first two points have only limited significance for our Article: corporations generally can pay the damages they owe and courts have methods of making them do so, including mulcting them with sanctions for contempt. But Coffee's point about the potentially complicated relationship between financial penalties and prison time does suggest that any ratio between prison time and money will be an imperfect approximation.

Thus skeptics of private enforcement with a Chicago school orientation—including Posner himself[27]—should not rely on agency costs or the inherent superiority of prison as a deterrent to reject an effort to compare the deterrence effects of private enforcement and criminal prosecutions.[28]

More plausible points are that a financial penalty against an individual has more of an impact than a similar penalty against a corporation and that one year of prison time is equivalent to a relatively large financial penalty. We make accommodations for these plausible assumptions in our analysis *infra* by tripling the disvalue or deterrence effects of individual sanctions relative to corporate sanctions.[29]

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27. *See, e.g.*, POSNER, ANTITRUST LAW, *supra* note 20, at 274–75. Posner's concern about antitrust class actions is particularly curious. He levels two criticisms: first, that class action lawyers have incentive to settle cases for relatively small amounts compared to their actual worth and, second, that risk-averse corporations may settle claims for too much because of an unlikely possibility of an extraordinarily large loss. *Id.* at 275. Posner does not address the fact that these tendencies—if real—are off-setting.

28. Indeed, Posner even suggests what he believes to be a feasible method for estimating the trade-off between years in prison and monetary sanctions:

> [A] promising method would be to infer statistically the relative deterrent effect of fine and prison. Suppose that in one federal district the average fine for a federal white-collar offense is $1,000 and the average prison term 30 days, and in another district it is $800 and 40 days, and so forth. Then, by comparing the incidence of the offenses across districts, we should be able to infer the rate of exchange at which days in jail translate into dollars of fine with no loss of deterrence. (A study of state white-collar prosecutions, conducted along similar lines, might also be feasible.) Since no such study has been attempted, I cannot evaluate the difficulties it might encounter arising, for example, because the incidence of many white-collar crimes (e.g., price-fixing conspiracies) is unknown, or the gravity of the crime may vary across districts or states, which affects the optimal sentence. Such a study might not produce results entitled to great confidence. Nevertheless, supplemented by the intuition that guides judges today in devising fine-prison "packages" to impose on white collar offenders, such a study should provide a close enough approximation of the actual fine-prison trade-off that we need not fear that by substituting fines for prison sentences in white-collar cases we would be drastically altering the expected punishment cost, and hence the level, of white-collar crime.

Posner, *Optimal Sentences*, *supra* note 20, at 413. We know of no study along these lines. And, of course, the analysis assumes that compliance with antitrust law depends primarily, perhaps even exclusively, on the incentives created by money or prison. *Cf.* Stone, *supra* note 21, at 389 (arguing that the "moral responsibility" to obey the law explains the compliance of many corporate actors).

29. We readily acknowledge that our decision to triple the deterrence effects of the individual penalties relative to corporate penalties was arbitrary.

A critic of private enforcement could argue that even a very large amount of money paid by the corporation is meaningless from a deterrence perspective—that managers could care less how much money their corporations pay. *See, e.g.*, John C. Coffee, Jr., "*No Soul to*

Perhaps optimal deterrence can only be secured by a mix of corporate and individual sanctions. If only corporations were subject to penalties, individuals might be unduly tempted to form cartels if, as has been suggested by some research,[30] they did not face significant internal sanctions for their illegal behavior[31] or an appropriate diminution of their future income. On the other hand, if only individual penalties existed, it could be in the interests of some corporations to establish internal incentives that failed to discourage, rewarded, or even coerced employees into engaging in illegal behavior.[32] Some corporations might prefer to offer up a few executives for multi-year prison terms rather than pay $100 million or more in a criminal fine or payout in private litigation.[33] In light of these complexities, this Article will use a total deterrence approach and will determine the sum of individual and corporate deterrence. As noted earlier, our analysis will make accommodations for these complexities and agency-principal problems by tripling the disvalue or deterrence effects of individual sanctions relative to corporate sanctions. With these qualifications in place, we can begin our

Damn, No Body to Kick": An Unscandalized Inquiry into the Problem of Corporate Punishment, 79 MICH. L. REV. 386, 393 (1981). They could argue that only individual fines and prison matter at all from a deterrence perspective, so private enforcement does not deter anything. Of course, this view contradicts the basic assumption that corporations are profit maximizers. Surely corporations do not like paying millions or billions of dollars, so there must be some deterrence from private cases. Moreover, the individuals responsible for this liability are likely to have their careers detrimentally affected when their actions require their corporation to pay large sums in private cases. *See* POSNER, ANTITRUST LAW, *supra* note 20, at 271 (arguing that causing a corporation to suffer financial losses will harm careers of employees); *cf.* Coffee, *supra* note 22, at 458–59 (providing examples of corporate representatives violating the law to the detriment of the corporation but not suffering adverse consequences). For these reasons, while correlating financial penalties to corporations with prison time to corporate representatives is tricky, it seems to overstate the case to suggest there is no correlation whatsoever.

30. *See* Coffee, *supra* note 22, at 458–59.

31. Greg Werden suggests additional reasons: "This can occur as a result of defects in the design of compensation schemes, especially if the executives have short time horizons or are more willing than business enterprises to take risks. Consequently, business enterprises can incur substantial costs in monitoring their executives and complying with the law." *See* Werden, *supra* note 18, at 32–33 (footnotes omitted).

32. *Id.* at 32.

33. Suppose that, instead of a corporate fine or payouts in private cases, a corporation could offer up to the Department of Justice five executives who would each be sentenced to three years in prison. Suppose the corporation could pay each of the individuals involved $2 million per executive per year by depositing the appropriate sums in Swiss bank accounts. This would only cost the corporation $30 million, far less than many of the larger fines that have been imposed in recent years, and less than the private payouts in every one of the cases studied by the authors in their sample of private cases.

analysis by addressing the deterrence effect of the DOJ's enforcement of the antitrust laws.

B. Deterrence from DOJ Cartel Fines and Restitution

The Antitrust Division has successfully prosecuted hundreds of cartels. While it is of course impossible to determine how many cartels were never formed due to the prospect of penalties resulting from investigations (i.e., how much deterrence the Antitrust Division's cases were responsible for), surely it is significant. We are of course unable to quantify the actual deterrence from the DOJ's efforts. We can, however, quantify various DOJ remedies—corporate fines, individual fines, restitution, and imprisonment—out of our belief that on average the corporations and individuals involved will tend to respond rationally to these sanctions, and that heavy sanctions will tend to discourage cartel formation.

The total of the corporate fines imposed in every DOJ criminal antitrust case from 1990 to 2007 has been $4.167 billion.[34] The total of the individual fines imposed in these cases has been $67 million.[35]

During this same period, the Antitrust Division has also secured restitution of $118 million in conjunction with criminal antitrust cases.[36] This largely or totally consists of restitution to the federal government for the overcharges it paid to price fixers. As the Division's Workload Statistics notes with considerable understatement, "[f]requently restitution is not sought in criminal antitrust cases, as damages are obtained through treble damage actions filed by the victims."[37]

C. Deterrence Effects of Prison and House Arrest

DOJ prosecutions also result in prison sentences and house arrests, which significantly deter illegal activity as well. From 1990 to 2007 criminal prosecutions by the DOJ Antitrust Division resulted in sentences that total 330.24 years in prison.[38] In addition, Antitrust Division activity also led to another 96.85 years of "house arrest or

34. *See infra* Table 1.
35. *See infra* Table 2.
36. *See infra* Table 3.
37. U.S. DEP'T OF JUSTICE, *supra* note 10, at 12 n.13.
38. *See infra* Table 4. We define one year as equal to 365.25 days.

confinement to a halfway house or community treatment center."[39] However, these figures might be somewhat inaccurate for the purposes at hand for two reasons.

First, these figures are for time sentenced, not time served. We were unable to determine how much of this time actually was served or how often sentences were reduced.

Second, sometimes an investigation by the Antitrust Division results in a sentence for an unrelated or marginally related crime, regardless of whether an antitrust violation was uncovered. Unrelated crimes can include perjury, mail fraud, contempt, obstruction of justice, and false statements.[40] Since the Antitrust Division uncovered these crimes, often Antitrust Division investigators are in the best position to pursue these issues, even though they are not antitrust violations. They often do so but, unfortunately, we have not been able to find out how frequently this occurs.[41]

For simplicity, we are ignoring these issues. The figures reported above for prison time and house arrest therefore will be used in our subsequent analysis even though they are larger than they should be. As such, these unadjusted estimates will overestimate the probable deterrence effect of the DOJ anti-cartel program to some extent.

Using these figures, how could we fairly value—or disvalue—time spent in prison or under house arrest? Since no one wants to spend any time in prison or under house arrest, should we disvalue it infinitely and assume that even a small probability of spending any time in prison or under house arrest has an infinite deterrence value?

No. People do not act as if they infinitely disvalue the risk of getting put into prison or placed under house arrest for an antitrust offense. If they did, they would never try to form a cartel because this would put them at risk of getting caught and sentenced. Rather, potential offenders appear to tolerate the risk of prison. Perhaps they calculate, at least to some very rough degree, their apparent chances of getting caught and the prison sentence, house arrest, or fine they

39. U.S. DEP'T OF JUSTICE, *supra* note 10, at 13; *see also infra* Table 5.

40. U.S. DEP'T OF JUSTICE, *supra* note 10, at 8 (listing these crimes under the header "Other Criminal Cases").

41. Sometimes these other crimes are related to an antitrust offense—such as when a cartel bribes a federal purchasing agent. Other times they are not. Often they are very difficult to classify. According to the DOJ, "Other Federal Crimes such as Perjury, Mail Fraud, Contempt, Obstruction of Justice, or False Statements" have constituted 16% of their criminal convictions since 1990 (23% in recent years, when prison sentences have been longer). *Id.*

are likely to face. They then balance this chance of a penalty, again in an extremely rough way, against the rewards of cartelization. In any case, they often decide to form cartels. We know they often make this decision because cartelists surely know cartels are illegal, yet the number of cartels caught in recent years has been quite significant and does not seem to be decreasing.[42] From 1990–2007, 550 people were sentenced to prison or house arrest as a result of 958 successful Antitrust Division cases.[43] Moreover, the large number of cartels

42. The continued high number of DOJ grand juries, and the recent DOJ success rate in the courts, is evidence that many cartels still exist. As of the close of FY 2007, the DOJ had approximately 135 pending grand jury investigations. Scott D. Hammond, Deputy Assistant Attorney Gen. for Criminal Enforcement, U.S. Dep't of Justice, Address at the 56th Annual Spring Meeting of the Dep't of Justice: Recent Developments, Trends, and Milestones In the Antitrust Division's Criminal Enforcement Program 2 (Mar. 26, 2008), *available at* http://www.justice.gov/atr/public /speeches/232716.pdf. Between 2000 and 2009, the DOJ filed anywhere from thirty-two to seventy-two criminal cases per year, most of which resulted in convictions. U.S. DEP'T OF JUSTICE, ANTITRUST DIVISION, WORKLOAD STATISTICS FY 2000–2009 4, 9 (2010), *available at* http://www.justice.gov/atr/public/workload-statistics.pdf (last visited Feb. 24, 2011). The following table, extracted from this data, shows the DOJ's success in prosecuting antitrust violations:

Total Criminal Cases	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09
Filed	63	44	33	41	42	32	34	40	54	72
Won	52	38	37	32	35	36	31	31	47	67
Lost	-	2	1	1	1	1	-	1	4	2
Pending	35	39	34	42	48	43	44	54	57	60
Appeal Decisions	-	5	1	2	7	4	5	1	4	2
Grand Juries Initiated	26	26	26	48	21	38	38	34	32	38

It seems clear that, in the opinion of a large number of judges, grand juries, and juries, the DOJ Antitrust Division has been bringing a large number of meritorious anti-cartel cases in recent years. Note that in some years the DOJ won more cases than it filed because the cases the DOJ won in any given year were often filed in an earlier year.

43. These 958 cases could be the total for both individual and corporate cases. If so, this figure would be significantly overcounting the "true" number of cartel offenses. According to the DOJ's statistics, during this period 864 individuals were charged, as were 678

discovered in recent years may be evidence that the current overall level of cartel sanctions is too low.

Thus, in theory we can establish a non-infinite value for the disutility of prison time. To do this in practice is, of course, extremely difficult and speculative. There is no one objective way to compare the deterrence effect of time spent in prison to the deterrence effect of a criminal fine because different people would trade off jail versus fines in different ways. Any "average" figure used to equate the two is necessarily imprecise and arbitrary.

We will undertake three different approaches to this issue. We hope that this Article's use of three approaches will increase the reliability of its results.

1. Valuations of lives and years of life for other regulatory, public policy purposes

The valuation of one year of life "loss" in prison, or due to house arrest, is similar to one that, regrettably, society often must undertake for any number of public policy purposes. Sometimes a life must even be valued at an amount that is less than infinity. For example, our nation cannot afford perfect safety and we do not want every automobile to be built as safely as possible because society cannot afford this. Similarly, even though a life is beyond value and society does not want people to drive negligently, courts do not award infinite damages for the loss of life in car crashes.

On average, studies that value lives in the United States for public policy purposes—e.g., when agencies set product safety, transportation, safety, or environmental requirements—typically arrive at values between $3 million and $10 million per life.[44] By contrast, lower figures, on average between $1.4 million and $3.8

corporations. All totals for the years 1990–2007 were calculated by adding the yearly totals as reported in the U.S. DEP'T OF JUSTICE, ANTITRUST DIVISION WORKLOAD STATISTICS FY 1990–1998 (on file with author) and the U.S. DEP'T OF JUSTICE, *supra* note 10.

44. *See* Joseph E. Aldy & W. Kip Viscusi, *Adjusting the Value of a Statistical Life for Age and Cohort Effects*, 90 REV. ECON & STAT. 573, 579 (2008). Recently the Department of Transportation has used $5.8 million for the value of a life. Memorandum from Tyler D. Duvall, Assistant Sec'y for Transp. Policy, U.S. Dep't of Transp. & D. J. Gribbin, Gen. Counsel, U.S. Dep't of Transp. to Secretarial Officers & Modal Adm'rs, U.S. Dep't of Transp., *available at* http://ostpxweb.ost.dot.gov/policy/reports/080205.htm (last visited Feb. 25, 2011). The Environmental Protection Agency currently uses $6.9 million. *All Things Considered: Value on Life 11 Percent Lower Than 5 Years Ago* (NPR radio broadcast July 11, 2008), *available at* http:// www.npr.org/templates/story/story.php?storyId=92470116.

million, are awarded in wrongful death cases.[45] Other studies analyze the data slightly differently by attempting to place a value on one year of life. They calculate figures in the range of an average of $300,000 to $500,000 per person per year of life (depending upon a number of variables).[46] It is likely that most people would prefer the prospect of spending one year in prison to the prospect of losing one year of life; after all, many prisoners with no chance at parole still resist the death penalty.

Thus, in theory we can establish a non-infinite value for the disutility of prison time. To do this in practice is extremely difficult and speculative. While there is no way to directly value the deterrence effect of prison time, a conservative alternative is to assume that people would disvalue one year in prison the same as they would disvalue one year's worth of life. This means the above results, which calculated the average value of one year of life to be worth $300,000 to $500,000 per year, should be assumed to be roughly equal to the average disvalue of one year in prison. Moreover, one year of house arrest should be disvalued at a significantly lower figure.

2. Awards made by the September 11th Victims Compensation Fund

Following the September 11th tragedy, Congress created the September 11th Victim Compensation Fund ("the Fund") to award compensation to victims' families.[47] Kenneth Feinberg was appointed Special Master and charged with deciding the appropriate amounts of compensation.[48] The Fund sought to avoid a "complex adversarial process" while still honoring fairness and consistency.[49] The Fund's

45. *See* Mark A. Cohen & Ted R. Miller, *"Willingness to Award" Nonmonetary Damages and the Implied Value of Life from Jury Awards*, 23 INT'L REV. L. & ECON. 165, 166, 179 (2003) (calculations made in 1995 dollars).

46. *See* Aldy & Viscusi, *supra* note 44, at 4. These figures are lower for older people. *Id.* A study by Stanford researchers calculated only $129,000 per year. Kathleen Kingsbury, *The Value of Human Life: $129,000*, TIME.COM (May 20, 2008), http://www.time.com/time/health/article/0,8599,1808049,00.html.

47. *See* Air Transportation Safety and Stabilization Act, 49 U.S.C. § 40101 (2006) [hereinafter "the Act"] (we are grateful to Thomas Weaver for his research involving the September 11th Victim Compensation Fund).

48. *See generally* 1 KENNETH R. FEINBERG ET AL., FINAL REPORT OF THE SPECIAL MASTER FOR THE SEPTEMBER 11TH VICTIM COMPENSATION FUND OF 2001 1–4 (2004) [hereinafter "FEINBERG REPORT"], *available at* http://www.usdoj.gov/final_report.pdf.

49. *See id.* at 6. Congress mandated a "hybrid" compensation system. Like the tort system, Congress required the Special Master to consider economic and non-economic loss.

payments thus constitute a prominent reflection of the monetary value our society places on innocent human life, even though these payouts were made under unique circumstances.[50] Significantly, the victims include a large number of middle class and upper class people who, at least in terms of their income and status as corporate executives, are likely to be roughly comparable to incarcerated price fixers.

The Fund's average award was $2,082,035 for damages to the direct victims of the terrorist attack, plus an average offset for collateral payments (damages to family members) of $855,826, for a total average award of $2,937,861. The median award was $1,677,632. The maximum award was $7,100,000, and the minimum award was $250,000.[51]

Many of the September 11th victims had been quite affluent, including eighty-nine whose annual income had been between $500,000 and $1,000,000 per year (their estates were given average awards of $4,749,654), and eight victims whose annual income exceeded $4,000,000 per year (their estates were given average awards of $6,379,287).[52] Although we do not know the average or typical pre-conviction annual incomes of imprisoned price fixers, we would not be surprised if the amounts were comparable.

3. Awards in wrongful imprisonment cases

Another approach to approximating the disutility of prison or house arrest time imposed for antitrust violations comes from examining the disvalue society places on prison time in a very

However, unlike the tort system, the Special Master could not consider issues of liability or punitive damages, and the Special Master was required to reduce awards by payments from certain collateral sources. *Id.* A larger purpose of the Act was to save the airline industry from collapse and to protect the American economy from the consequences of that collapse by creating an alternative to direct litigation against the airlines. *See id.* at 3; *see also generally* Air Transportation Safety and Stabilization Act, 49 U.S.C. § 40101 (2000).

50. The Special Master extensively researched "theories of compensation and methodologies for the calculation of economic loss, as well as the various state laws governing wrongful death actions," and met with "numerous economists, experts and actuaries, both in the private sector and in the federal government" as to the calculation of economic loss and determinations on collateral sources. Between issuing its interim and final regulations, the Fund reviewed and sought to integrate "2,687 timely comments" on issues that ranged from the technical and specific, to fundamental questions regarding the larger purpose and policy of the Fund. *See* FEINBERG, *supra* note 48, at 4–5.

51. *Id.* at 110 tbl.12.

52. *See infra* Table 6.

different context: the compensation provided to people who have been wrongly imprisoned. Sometimes people are wrongly sentenced to prison in a miscarriage of justice by, for example, perjured testimony.[53] The victims potentially can recover for a variety of torts, depending upon the jurisdiction.[54] They can receive compensatory damages, emotional damages, punitive damages, or some combination thereof.[55] Many of these situations involve suits against governmental actors, and sometimes the maximum awards in these cases are fixed by statute.[56] Other times a suit is brought as a common law tort case. Often no award will be given for imprisonment due to a simple, albeit tragic, error; some type of intentional act, malice, or malfeasance is required.[57]

We have located payments made in a total of nineteen wrongful imprisonment cases.[58] The highest payment we found for a case involving at least one year of prison was $1.165 million per year, for

53. *See* Limone v. United States, 497 F. Supp. 2d. 143, 152 (D. Mass. 2007) (FBI was aware chief witness would perjure himself); *see also* Newsome v. McCabe 319 F.3d 301, 304–05 (7th Cir. 2003) (officers induced eyewitnesses to falsely identify plaintiff); Bravo v. Giblin, No. B125242, 2002 WL 31547001 (Cal. Ct. App. Nov. 18, 2002) (investigating officer fabricated evidence). The authors are grateful to Thomas Weaver for locating and analyzing these cases, and for performing research on this subject. *See* Thomas Weaver, The Part That Counts: Wrongful Incarceration Awards and the Value of Human Life (unpublished manuscript) (May 2010) (on file with the authors).

54. These torts include wrongful imprisonment, wrongful conviction, wrongful confinement, malicious prosecution, abuse of process, intentional or negligent infliction of emotional distress, false arrest, or an unconstitutional depravation of their civil rights. *See infra* Appendix II, Table A.

55. "Losses of this magnitude are almost impossible to catalogue. The loss of liberty. The loss of the enjoyment of their families. The loss of the ability to care for and nurture their children. The loss of intimacy and closeness with their spouses. Indeed, the task of quantifying these losses—which I am obliged to do—is among the most difficult this Court has ever had to undertake. Where triers of fact must assign values to the intangible and invaluable, they may look to the values assigned by other fact-finders in the past. I do not blindly follow other awards, but I do look to them for perspective and as an indication of how society has valued these harms. I note also that damage and suffering do not accrue smoothly and proportionally on a monthly or annual basis. Some injury occurs all in a rush at the start—the shock and horror of arrest and conviction—while other injury only begins to compound after a significant period of time has passed—the setting in of despair, or the withering of relationships. I consider the particular story of this case and these plaintiffs' suffering." *Limone*, 497 F. Supp. 2d at 243.

56. *See, e.g.*, 42 U.S.C.A. § 2513 (West 2010).

57. *See, e.g.*, *supra* examples accompanying note 55.

58. *See infra* Appendix II, Table A.

three years of wrongful confinement for a false conviction.[59] However, when shorter imprisonments are annualized, significantly higher figures sometimes resulted.[60] By contrast, the lowest payment we found compensated the wrongfully imprisoned person at the rate of only $23,529 per year.[61] The 75th percentile of these nineteen awards is approximately $1,000,000 per year; the 25th percentile is approximately $140,000 per year.[62] We should note, however, that these results are complicated and may be ambiguous because the cases often also involved allegations of, and sometimes specific awards for, false arrest, false conviction, overly harsh interrogation techniques, malicious prosecution, and other factors.[63] Rarely are these awards unambiguously and solely for false imprisonment.

In addition to the nineteen final awards, we found many others that were not included in our study because the false imprisonment awards were too confounded with compensation for the initial arrest

59. Bravo v. Giblin, No. B125242, 2002 WL 31547001 (Cal. Ct. App. Nov. 18, 2002). Suit filed under 42 U.S.C. § 1983 yielded "damages in the amount of $221,976 for his economic losses, $3,537,000 to compensate him for 1,179 days of incarceration at the rate of $3,000 per day, and $1 million to compensate him for emotional distress suffered between the date of the incident and the date of his sentencing." *Id.* at *24. We arrived at the award per year of imprisonment of $1,138,951.77 in this case by multiplying $3,000 a day by 365.25 to arrive at $1,095,750. The lost earnings of $221,976, divided by 1,179 days in prison and multiplied by 365.25 days, comes to $188.28 per day and adds another $68,767.37 per year. The total award per year of imprisonment thus comes to $1,164,517.37.

60. *See id.* (investigating officer fabricated evidence) (10-month sentence led to a $9 million settlement; this is an annual rate of $10,800,000). Because the emotional stress and discomfort could be disproportionately greater at the beginning of a prison sentence, it is unclear whether the award would have been increased proportionately if the victim had been imprisoned for one year, or for multiple years. As noted, in these cases it is difficult to segregate the amounts awarded for false imprisonment from the amounts awarded for onetime events or other torts. "Where the period of incarceration is shorter (*e.g.*, less than one year), proportionately larger awards (measured by annualizing the award) have been rendered, presumably reflecting *Limone*'s observation that the injury from incarceration may be more intense towards the beginning." Smith v. City of Oakland, 538 F. Supp. 2d 1217, 1242 (N.D. Cal. 2008); *see also* John C. Coffee, Jr., *Corporate Crime and Punishment: A Non-Chicago View of the Economics of Criminal Sanctions*, 17 AM. CRIM. L. REV. 419, 431 (1980) (noting that "the declining marginal utility of imprisonment means that each increment of incarceration increases the perceived penalty by a less than proportionate amount; or, reduced to its simplest terms, a two-year prison term is not twice as bad as a one-year term").

61. *See* Avery v. Manitowoc Co., 428 F. Supp. 2d 891, 893 (E.D. Wis. 2006).

62. *See infra* Appendix II, Table A.

63. For example, one case involved a month in jail and an award of $355,500 for false imprisonment, as well as "$71,100 for false arrest; $71,100 for intentional infliction of emotional distress . . . and $213,300 for malicious prosecution." Jones v. City of Chicago, No. 83C2430, 1987 WL 19800, *1 (N.D. Ill. 1987), *aff'd in part, rev'd in part*, 856 F.2d 985 (7th Cir. 1988).

or were not yet final.[64] For a variety of reasons, including our small sample size, the near certainty that our research failed to uncover many cases, the existence of secret settlements, and the confounding of awards for false imprisonment with awards for related torts such as intentional infliction of emotional distress, we present the mean ($1,267,369, which was significantly affected by two very high annualized awards for imprisonment of less than one year) and median ($214,286) of these results with great reluctance. One reason for our hesitation concerns the income levels of the people involved. We have not been able to ascertain any of the falsely imprisoned defendants' incomes, but we suspect most had a low income. Although some were middle class,[65] few or none of the wrongfully imprisoned people appear to have been corporate executives or upper-class professionals.[66] It is possible that a jury or judge would award a corporate executive wrongfully imprisoned for price fixing a larger than average amount for their suffering.[67] Still, these results do tend to show that figures in the neighborhood of $1 million per year appear generally to be the practical maximum that society is willing to award for one year wrongfully spent in prison.

4. Estimates by antitrust scholars

A fourth approach is to assemble and analyze similar estimates by scholars. We have been able to find only two estimates for the disutility of one year in prison for an antitrust offense that seem plausible in this context.[68] Both were made by extremely reputable scholars. Both are roughly consistent with the estimates above.

First, an article by Professors Howard P. Marvel and others equated one year in jail for price fixing to approximately $600,000 in

64. For examples, see Weaver, *supra* note 53.

65. For example, see *Newsome v. McCabe*, 319 F.3d 301, 307 (7th Cir. 2003). Plaintiff was an unemployed paralegal, although he testified at trial that he was employed at the time incarceration began.

66. *See* Appendix II, Table A.

67. It is possible, however, that a jury might react in the opposite direction. A jury might be less sympathetic to imprisoned upper-class corporate executives.

68. We have found one other estimate, but it seems to value prison time at an unduly low level for white-collar criminals. *See* Tonja Jacobi & Gwendolyn Carroll, *Acknowledging Guilt: Forcing Self-Identification in Post-Conviction DNA Testing*, 102 NW. U. L. REV. 263, 283 & n. 52 (2008) (estimating value of prison at approximately $200 per day, which amounts to slightly more than $70,000 per year).

2010 dollars.[69] Another study by Professor Kenneth Glenn Dau-Schmidt and others equated one year in jail for price fixing with a fine of $1.5 million today.[70] These figures are higher than the average valuations for one year of life noted earlier, perhaps because price fixers are wealthier on average and can afford to disvalue prison time much more than most people can, or perhaps because price fixers' time is more valuable on average.[71]

5. A conservative resolution of the issue

These four approaches yield estimates that are broadly consistent with one another. To be conservative, we have taken the highest of these estimates for the disvalue of one year in prison, $1,500,000 per year, and arbitrarily increased it to $2 million.[72] We will use this as the disvalue or deterrence equivalent of one year in prison. We will use $1 million for the disvalue or deterrence equivalent of one year of house arrest. We note that $2 million is as much as the lowest estimates for the value of a human life noted earlier. We believe these figures are significantly more than the average deterrence effect of one year in prison (or, a fortiori, of one year of house arrest, but we

69. *See* Howard P. Marvel et al., *Price Fixing and Civil Damages: An Economic Analysis*, 40 STAN. L. REV. 561, 573 (1988). The authors equated one year in prison with a $300,000 fine. The article appeared in the February 1988 issue, so we assume they were using 1987 dollars. The Bureau of Labor Statistics Consumer Price Index inflation calculator equates $300,000 in 1987 to $577,825 in 2010. *See* CPI INFLATION CALCULATOR, http://data.bls.gov/cgi-bin/cpicalc.pl (last visited Mar. 17, 2011).

70. Kenneth Glenn Dau-Schmidt et al., *Criminal Penalties Under the Sherman Act: A Study of Law and Economics*, *in* 16 RESEARCH IN LAW AND ECONOMICS 25 (Richard O. Zerbe, Jr. ed., 1994) *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=712721. This article equated one year in jail with a fine of $1 million. The Bureau of Labor Statistics Consumer Price Index inflation calculator equates $1,000,000 in 1994 and $1,431,802 in 2010. *See* CPI INFLATION CALCULATOR, *supra* note 69. Professors Dau-Schmidt et al. were using 1982 data for much of their paper's analysis. If they meant their valuation of one year in jail to be expressed in 1982 dollars, then their $1,000,000 estimate would be the equivalent of $2,198,891 in 2010. *Id.*

71. Whether the time or the life of a price fixer is more, or less, valuable than that of an average person is an interesting philosophical question that this Article will not explore.

72. We do not believe $2 million is the true cost or deterrent value of one year in prison. We nevertheless decided to use this figure, which we believe to be unduly high, in our subsequent analysis in order to take a conservative and relative non-controversial approach to the issue.

are selecting them so that our methodology will be conservative and as non-controversial as possible).[73]

Using the assumption that a sentence of one year of incarceration has the same deterrence effect as a $2 million fine, the collective 330.24 years of prison sentences received by antitrust defendants from 1990 to 2007 would be the equivalent of about $660 million in criminal fines. Using the assumption that a sentence of one year of house arrest has the same deterrence effect as a $1 million fine, the collective 96.85 years of house arrest received by antitrust defendants from 1990 to 2007 would be the equivalent of nearly $97 million in criminal fines. These figures total about $757 million.

As noted earlier, however, penalties directed against the individuals involved might well have more of a deterrence effect than penalties directed against the corporations. To illustrate how this could affect our analysis, we have trebled the deterrence effect of every individual penalty before adding them to the corporate penalties. This means using $6 million for the deterrence value of one year in prison[74] and $3 million for the deterrence value of one year of house arrest, and also trebling the $67 million in individual penalties.[75] Thus, the $757 million calculated earlier would be increased to $2.271 billion, and the $67 million in individual fines would be increased to $201 million. Add to these figures the $4.166 billion in corporate fines and $118 million in restitution, and the quantifiable deterrence effect of the Antitrust Division's remedies from 1990 to 2007 totals $6.756 billion. If the corporate fines, individual fines, and restitution figures are converted to 2010 dollars

73. We note that valuing one year's worth of life at $2 million would mean that a twenty year prison sentence would be valued at $40 million, a figure far in excess of the amount that society places on an individual's life.

74. We note that valuing one year's worth of life at $6 million would mean that a twenty year prison sentence would be valued at $120 million, a figure far in excess of the amount that society places on an individual's life.

75. This assumes that the individuals actually pay their own fines. It is, however, difficult to determine whether the antitrust fines imposed on corporate employees are ultimately paid by the employees, or are often, or usually, directly or indirectly paid by their employer. This area of law is exceedingly complex, and, of course, even if indemnification is illegal, this does not mean that it does not occur regularly. *See* 1 ROGER MAGNUSON, SHAREHOLDER LITIGATION § 9:37 (West November 2009); Pamela H. Bucey, *Corporate Executives Who Have Been Convicted of Crimes: An Assessment and Proposal*, 24 IND. L. REV. 279 (1991); Note, *Indemnification of Directors: The Problems Posed By Federal Securities and Antitrust Legislation*, 76 HARV. L. REV. 1403 (1963).

and added to the $2.271 billion equivalent for prison time and house arrest,[76] the total would be $7.737 billion.

One final note about DOJ enforcement is appropriate. Its record of overwhelming success suggests the government pursues only very strong cases. Note, for example, that for the years 1992 to 2008, the DOJ filed 699 cases and won 645 cases.[77] This would appear to translate to a winning rate of over 92%. To be sure, this percentage may be misleading because the DOJ's win rate in court is significantly lower.[78] Moreover, the cases filed in a given year generally are not the ones resolved in that year. Still, such a high success rate demonstrates that the DOJ does not like to lose. We do not mean this point as a criticism. It may well be appropriate for the government to bring litigation only if it is very confident it will win. But that comes at a cost. The DOJ appears much more willing to tolerate a false negative (a failure to prosecute a violation of the antitrust laws) than a false positive (litigating a case when in fact there was no violation). In other words, it appears the DOJ chooses not to pursue litigation in many meritorious cases, perhaps at least in part because it lacks the necessary resources. This may well create a need for private litigation as a complement to government enforcement of the antitrust laws.[79]

III. DETERRENCE EFFECTS OF PRIVATE LITIGATION

We know of no information concerning how much defendants have paid in total as a result of private antitrust litigation during this same or any other period. We do not even know of extraordinarily rough estimates.

One extremely low floor on this amount, however, can be obtained from the Lande/Davis study of forty of the largest private antitrust cases that ended between 1990 and 2007.[80] Our primary

76. *See infra* Table 15.

77. U.S. DEP'T OF JUSTICE, *supra* note 10.

78. *See* John M. Connor, *Problems with Prison in International Cartel Cases*, 56 ANTITRUST BULL. (forthcoming Spring 2011).

79. The ideal proportion of success to failure will depend on a number of variables, including the relative harms from false negatives and false positives and the likelihood of false negatives to false positives. A full discussion of this issue is beyond the scope of this Article.

80. This was not a cost/benefit analysis of private enforcement. We made no attempt to assess any of its costs, or all of its benefits. Rather, the main point of this project was to assess those benefits that easily could be quantified. We did not select a random sample of private cases and follow them cradle to grave, assessing the merits or lack of merits of each. This would

screen was that each case must have returned $50 million or more to victims of antitrust violations. Actually, they were "alleged" victims because almost all the cases settled with no finding that defendants had violated the antitrust laws.[81] We did not want to make subjective judgments over whether to value products at their retail value, their wholesale value, or defendants' cost. We counted all products as being worth nothing. We did the same thing for coupons or for discounts because they all have uncertain redemption rates: all discounts and coupons were counted as zero.[82]

This study documents between $18 and $19.6 billion in cash paid by defendants in these forty cases alone. In 2010 dollars, these totals would be $21.9 billion to $23.9 billion.[83] Since this total does not include any value for the products, discounts, or coupons received in these cases, and also leaves out defendants' attorneys' fees and other litigation costs (including expert witness fees) and the disruptive effects of the litigation on corporate efficiency, it understates the actual deterrence from these cases because all these omitted factors also have deterrence effects.[84]

In terms of overall deterrence, therefore, these forty private cases resulted in approximately three times the deterrence of the $7.737 billion in deterrence produced by every criminal case brought by the

be difficult to do since almost every private case is dismissed or settled, and for this reason it would be hard to find out the relevant information about each case. We did not limit ourselves to cases where the Court found an antitrust violation because these are rare. Only twenty-four final cartel cases calculated an overcharge since 1890. *See* Connor & Lande, *supra* note 16. For a list of cases and their recoveries see *infra* Table 7.

81. *See* Lande & Davis, *Benefits*, *supra* note *, at 891 n.46.

82. We eliminated many cases because they were too difficult to value, even cases valued in the press at more than $1 billion. Moreover, sometimes it was just not possible to get the necessary information out of old files or from the preoccupied lawyers possessing the necessary information.

We did not adjust the settlements for inflation by raising them to their present value. Nor did we subtract attorneys' fees or other claims administration expenses because, for deterrence purposes, it does not matter what happened to the money paid by Defendants.

We did not attempt to value injunctive relief, even for those cases where a Court characterized this relief as being very important. Although injunctions can greatly benefit both victims and the economy as a whole, we were unable to ascertain an objective and reliable way to quantify the value of injunctive relief. Neither did we attempt to value the injunctive relief secured by the DOJ. For more on our methodology, see Lande & Davis, *Benefits*, *supra* note *, at 889–91.

83. *See infra* Table 14.

84. As noted earlier, injunctive relief secured by these forty cases also was omitted, further understating the deterrence value of these cases. However, the effects of injunctive relief secured by DOJ cases were also excluded.

DOJ during this same period in 2010 dollars. As noted earlier, this comparison is not just to DOJ actions involving these forty private cases; the DOJ total is for every cartel sanction secured by the Division between 1990 and 2007.

In addition to comparing the probable amount of deterrence from the recoveries in the forty large private cases to the likely deterrence from the DOJ sanctions, there are a number of other comparisons that could be made, such as deterrence from all the DOJ cartel cases to the subsamples of the forty private cases that were against cartels, or where the DOJ also obtained relief, or where the DOJ also received a criminal penalty. For each comparison, the private deterrence is at least as large as the DOJ deterrence.[85]

Alternatively, one could redo this analysis using different values for the disincentive effect of one year in jail. For example, instead of

85. For example, not all of these forty cases were against cartels; some were against monopolies (although none of the many class actions against Microsoft were included due to data problems). Using nominal dollars, of the total recoveries of $18 to 19.6 billion, $9.2 to $10.6 billion was paid in twenty-five cases that were litigated under the per se approach. This sample of twenty-five cases thus excludes payouts by monopolies. Comparing this $9.2 to $10.6 billion to the $6.756 billion in DOJ deterrence calculated earlier shows that these twenty-five private cases alone probably deterred more anticompetitive behavior than the entire DOJ criminal antitrust enforcement.

Another comparison involves only cases in which the government obtained some sort of relief. This comparison might appeal to those who praise government action and are skeptical of private enforcement. They might doubt whether the purely private cases were meritorious. (It is important to note that, for the reasons discussed in Part III, *infra*, almost all of the private cases we included have strong indicia of being meritorious.) As Table 8 reflects, *see infra*, the plaintiffs in the twenty-four cases validated by some sort of successful government action recovered between $10.34 and $11.973 billion in nominal dollars. Even the lower of these amounts is over 150% of the $6.756 billion in nominal dollars in deterrence produced by every criminal case brought by DOJ during the same period.

Yet another interesting comparison is to the thirteen cases in the Lande/Davis sample that also involved a DOJ action that resulted in a criminal penalty. These thirteen private cases yielded $5.6 to $7.0 billion in nominal dollar payments, roughly the same as the $6.756 billion DOJ nominal dollar total. Of course, it could be argued that a better comparison might be limited to the deterrence effect of the DOJ action in those thirteen cases, rather than *all* of the DOJ cases from the same time frame.

Further, the larger, per se sample surely includes some cases that could not have resulted in criminal penalties, so one could argue that the comparison to only those cases involving criminal penalties is the fairer one. However, criminal conduct is not the only anticompetitive conduct; so too is all per se illegal conduct. We should be grateful to the private cases for discouraging any per se illegal conduct. Finally, DOJ fines must be proven to a criminal standard, while private cases operate under a civil standard. Perhaps the fairer comparison is, after all, to the deterrence from the sample of twenty-five per se cases, or to the deterrence from all forty cases. DOJ did little or nothing to discourage the conduct in many of these non-criminal cases. The only deterrence came from the private actions.

our assumed disvalue of $6 million for one year in prison, one could use a low estimate of $3 million or a high estimate of $12 million for the disvalue of one year in prison (i.e., $1 million per month).[86] Similarly, one could use $1.5 million and $6 million estimates for the deterrence effects of one year of house arrest instead of our $3 million assumption. Doing this would of course change the total estimated deterrence effects of the DOJ criminal enforcement program. Using 2010 dollars, the low estimates would decrease the $7.737 billion DOJ deterrence estimate to $5.571 billion. The high estimates would increase the DOJ deterrence estimate to $8.689 billion.[87] These are still much lower than the recovery totals in (and resulting deterrence from) the private cases.[88]

Alternatively, one could ask how much one year in prison and one year of house arrest have to be disvalued on average for the deterrence effects of the Antitrust Division's entire criminal anti-cartel program from 1990 to 2007 to equal the deterrence value of the forty large private cases from the same period (and, of course, also considering the corporate fines, individual fines, and restitution that the DOJ secured). Only if the deterrence effects of prison time was $43–48 million per year on average (i.e., slightly more than $3.5 to $4.0 million per month), and the deterrence effects of house arrest was $21.5–24 million per year on average, would the entire DOJ anti-cartel program produce as much deterrence as these forty cases.[89]

86. Even the $3 million estimate for the disutility associated with one year in prison is as large as some of the estimates of the value of a life according to some of the studies cited earlier. *See supra* notes 27–29. The $12 million estimate would be at the upper end of the range of estimates of the value of a human life calculated by these studies. *See supra* notes 27–29. (From a philosophical perspective, is one year of the life of a price fixer really "worth" the same as an average human life?)

87. If we were to use the $12 million figure for the value of one year in prison and $6 million for one year of house arrest, the deterrence value of all the DOJ anti-cartel programs since 1990 would rise significantly. Using 2010 dollars, the total DOJ deterrence figure would rise from $7.731 billion to $8.136 billion, more than the amounts that defendants paid in the thirteen private cases that also had a criminal penalty, but less than the deterrence value of the twenty-five per se cases in the sample, and less than half of the more than $21billion paid in all 40 cases in the sample. *See infra* Tables 9 & 10.

88. Even these larger nominal figures yield results that are less than the nominal $9.2 to $10.6 billion secured by the twenty-five private per se cases, or the nominal $10.34 to $11.973 billion paid in the twenty-four cases that also resulted in government relief, much less the nominal $18 billion or more from all forty cases.

89. 330.24 years in prison disvalued at $43–48million per year plus 96.85 years of house arrest disvalued at $21.5–24 million per year, plus the $5.466 billion total for corporate,

IV. WERE THE PRIVATE CASES MERITORIOUS?

If the criticisms of private antitrust enforcement noted earlier are correct and private actions often obtain results in cases that lack merit, not only might they fail to discourage anticompetitive behavior, they might discourage legal—and beneficial—conduct. In other words, they might have the opposite of a beneficial deterrence effect! For several reasons, however, this concern is likely misplaced, at least with respect to most of the forty cases we studied.

First, even though almost all of the forty cases were only settlements, it should be recalled that a federal judge approved these settlements. While this certainly is not the same as a verdict, a diverse and generally conservative group of federal judges did ratify that the settlements were fair to members of the plaintiff classes. We note that of the forty-five federal judges who approved the settlements or otherwise presided over part or all of the cases we studied, twenty-seven were appointed by a Republican president.[90] We also note that these judges approved these cases during an era where every Supreme Court antitrust decision has been decided in favor of the defendant. Each of the last fifteen antitrust decisions, made by a court rated by Judge Posner as the most conservative since 1930,[91] including every case decided after 1992 through 2009, went against plaintiffs.[92] Given that this tide of pro-defendant instruction

individual fines and restitution, equals $21.7 to $23.6 billion. This is roughly the same as the private totals of $21.9–$23.9 billion. All figures are calculated using 2010 dollars

90. *See infra* Table 11.

91. *See* William M. Landes & Richard A. Posner, *Rational Judicial Behavior: A Statistical Study*, 6–7, 18, 46 tbl.3 (Univ. Chi. Law & Econ., Olin Working Paper No. 404, 2009), 1 J. LEGAL ANALYSIS 775 (2009) *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1126403.

92. Pac. Bell Tel. Co. v. Linkline Commc'ns, Inc., 129 S. Ct. 1109 (2009) (9–0 in the judgment, 5–4 in regard to the Court's opinion); Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 127 S. Ct. 2705 (2007) (5–4 decision); Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co., 127 S. Ct. 1069 (2007) (9–0); Bell Atl. Corp. v. Twombly, 127 S. Ct. 1955 (2007) (7–2); Credit Suisse Sec. (USA) LLC v. Billing, 127 S. Ct. 2383 (2007) (7–1); Volvo Trucks N. Am., Inc. v. Reeder-Simco GMC, Inc., 546 U.S. 164 (2006) (7–2); Texaco Inc. v. Dagher, 547 U.S. 1 (2006) (8–0); Ill. Tool Works Inc. v. Indep. Ink, Inc., 547 U.S. 28 (2006) (8–0); Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398 (2004) (9–0); U.S. Postal Serv. v. Flamingo Indus. (USA) Ltd., 540 U.S. 736 (2004) (9–0); F. Hoffman-La Roche Ltd. v. Empagran S.A., 542 U.S. 155 (2004) (8–0); California Dental Ass'n v. FTC, 526 U.S. 756 (1998); Nynex Corp. v. Discon, Inc., 525 U.S. 128 (1998); State Oil Co. v. Khan, 522 U.S. 3 (1997); Brown v. Pro Football, Inc., 518 U.S. 231 (1996); *see* Andrew I. Gavil, *Antitrust Book Ends: The 2006 Supreme Court Term in Historical Context*, 22 ANTITRUST 21, 22 (2007) ("The last clear plaintiffs' victories in the

effectively tells the lower courts how to decide close cases, and given that the high percentage of judges presiding in the litigation we studied were appointed by Republican presidents, one would not expect that approval of the class action settlements would be based on any pre-existing excessive sympathy for plaintiffs' attorneys.[93]

Second, a large number of the opinions in the forty cases contain generous and gratuitous praise for the plaintiffs' counsel handling the case.[94] Of the eight judges from whom we were able to discover explicit and generous praise for the conduct of plaintiffs' attorneys (in none of the cases did we discover criticism), five were appointed by a Republican president.[95] This too helps give assurance that the cases brought by private counsel generally were in the public interest.

Third, an advantage of our selecting only cases that returned more than $50 million in cash benefits to victims is that this screens out nuisance settlements. We are very skeptical about claims that defending these suits often costs innocent firms $10 million or more. We would believe this only for very unusual cases. Regardless, $50 million should be well above the nuisance value of an unmeritorious case. Moreover, the majority of the cases we studied (23/40) settled for more than $100 million.[96]

Fourth, since actions that settle for more than $50 million are not nuisance lawsuits, the recoveries almost surely reflect the defendants' perception that they could well lose on the merits, not only at trial but also on appeal. To be sure, some may assert that defendants settle regardless of the merits of their cases simply because they are risk averse. This may sometimes be true. Of course, the risk to which they are averse is that they may lose. Moreover, plaintiffs—or, in contingency fee cases, plaintiffs' counsel—also tend to be averse to risk, probably more so than defendants. Plaintiff's

Court occurred in 1992 in two cases, [Eastman Kodak Co. v. Image Technical Services, 504 U.S. 451 (1992)] and [FTC v. Ticor Title Ins., 504 U.S. 621 (1992)].").

93. *See infra* Appendix I, Table 11. We do not mean to suggest that judges act on crass political commitments in presiding over litigation or that party affiliation correlates perfectly with attitudes toward plaintiffs in class actions. Our point is that our analysis is supported to the extent party affiliation might serve as an extremely crude and rough check on whether the judges in the cases we studied were unduly sympathetic to class counsel's efforts.

94. For examples, see Lande & Davis, *Benefits*, *supra* note *, at 903–04.

95. *See id.* at 903–04, 914 tbl.10.

96. It is difficult for a firm to believably claim, in effect: "We are saints who did absolutely nothing wrong. Nevertheless, we paid $50 million or $100 million or more just to make the case go away." While we are not saying this can never happen, as the settlements get higher, this argument loses credibility.

lawyers often pay millions of dollars toward the costs of litigation—both in terms of out of pocket expenses and in terms of the implicit value of thousands of hours of their time—all of which will be uncompensated if the case proceeds to trial and defendants prevail. This could give plaintiffs' attorneys an incentive to settle for amounts that are too low. Defendants' attorneys, by contrast, are paid by the hour, so they do not have the same kind of risk aversion incentives. In sum, there is no basis for believing that defendants are more risk averse than plaintiffs. If anything, we believe the reverse could well be true.[97] For these reasons, settlement values are at least as likely to be too low as they are to be too high.[98]

A final reason to believe that the cases we studied were generally meritorious is that most were validated in whole or in part by means other than settlement in private litigation. This validation took various forms:

1. In thirteen of the forty cases (32.5%), defendants or their employees were subject to criminal penalties, generally through guilty pleas.

2. In twelve of the forty cases (30%), government enforcers obtained a civil recovery, usually in the form of a consent order.

3. In nine of the forty cases (22.5%), plaintiffs survived or prevailed on a motion for summary judgment (or partial summary judgment).

4. In nine of the forty cases (22.5%), defendants lost at trial in the private litigation or in a closely related case.

97. It could be argued that plaintiffs' attorneys sometimes have an incentive to "sell out their clients" by settling for too low an amount, too quickly—that their incentive is just to take less money than the victims deserve and then to move on to the next case. Moreover, in class action cases, plaintiffs have difficulty effectively policing their counsel so the possibility of settlements that are too quick and too low is a serious one. By contrast, it could be argued that defense lawyers have the incentive to delay and reject reasonable offers and thereby bill as many hours as possible, even if defendants' clients are in a better position to oversee their attorneys' activities than plaintiffs. For a further discussion of these issues, see Joshua P. Davis and Eric L. Cramer, *Of Vulnerable Monopolists?: Questionable Innovation in the Standard for Class Certification in Antitrust Cases*, 41 RUTGERS L.J. 355 (2009); Joshua P. Davis and Eric L. Cramer, *Antitrust, Class Certification, and the Politics of Procedure*, 17 GEO. MASON L. REV. 969 (2010).

98. Others may also say that defendants worry that they will lose when they should not. This raises a philosophical issue. If the courts say conduct violates the antitrust laws, and if an appellate court, perhaps even the Supreme Court, confirms liability, is it meaningful to say that the outcome is wrong? For practical purposes, we adopt a positivist's view and suggest that the law is whatever the ultimate court declares it to be. Any other perspective would make a study like ours infeasible.

5. In at least three out of forty cases (7.5%) plaintiffs survived a motion to dismiss.[99]

In sum, thirty-four of the forty cases (85%) had at least one of these indicators that plaintiffs' case was meritorious. (This total would be thirty-three if motions to dismiss are not included. The percentages appear to total more than 100% because eight of the forty cases involved more than one basis for validation.) Table 12, *infra*, summarizes this information. Table 13, *infra*, lists the cases in which the merits received each kind of validation.

Table 12: Summary of Kinds of Validation in Cases

Kind of Validation of Merits	Number of Cases
Criminal Penalty	13 out of 40 (32.5%)
Government Obtained Civil Relief	12 out of 40 (30%)
Ds Lost Trial in Same or Related Case	9 out of 40 (22.5%)
Ps Survived or Prevailed at Summary Judgment	9 out of 40 (22.5%)
Ps Survived Motion to Dismiss	3 out 40 (7.5%)
At Least One Basis for Validation	34 out of 40 (85%)
At Least One Basis for Validation, Not Including Surviving Motion to Dismiss	33 out of 40 (82.5%)

Ultimately, there is no way to prove or fully refute assertions that many or most private cases are unmeritorious and are tantamount to extortion. But the above analysis offers reasons to conclude that all of the cases we studied involved legitimate claims, and there is no

99. In fact, the percentage of cases in which plaintiffs survived a motion to dismiss may be higher. We did not consistently note this aspect of the litigation we studied.

reason to believe otherwise, beyond defendants' self-serving assertions.

V. QUALIFICATIONS AND CAVEATS

Throughout this article, we have explicitly or implicitly added a large number of qualifications and caveats to our analysis. Some of the most important are worth recapitulating briefly so the conclusions presented in the next section can be assessed fairly.

Concerning DOJ enforcement, corporate criminal fines and all restitution and payments in private cases are made by the corporations involved. Prison terms and house arrests (which are virtually impossible to value accurately) are served by the individuals involved, and the individual fines are often paid by the individuals involved.[100] We are adding the deterrence effects of all these together to arrive at a measure of total deterrence. We are implicitly assuming that the corporations involved are profit-maximizing and that the executives involved care what happens to their employers. We recognize there are agent/principal problems and behavioral economics issues as well. As noted above, some executives may care only or primarily about the sanctions directed against them as individuals; some may care equally what happens to their employer (either out of professional pride, corporate loyalty, or because of how a corporate sanction could affect their career); other executives might care about both, but weigh the individual sanctions more heavily. To these agent/principal problems, we have arbitrarily tripled the deterrence effects of the individual sanctions (prison, house arrest, and fines) compared to the corporate payouts (fines, restitution, and payouts in private cases).

Concerning private enforcement, the $18–19.6 billion in payments made in forty large private antitrust cases is only an extremely low floor on the total deterrence effects of private antitrust enforcement, for many reasons. While these were among the largest private antitrust cases brought during the relevant time period, surely the total paid by defendants in the thousands of private antitrust cases that ended during this period was many times as large. This

100. For a discussion on whether the antitrust fines imposed on corporate employees are ultimately paid by the employees, or whether they are often or usually directly or indirectly paid by their employer, see Lande & Davis, *Benefits*, *supra* note *.

total also omitted the deterrence value of the products, discounts, services, and coupons that were part of the relief in these cases.

Concerning the DOJ/private comparison, the comparison of the relative deterrence from private and DOJ cases did not attempt to value the injunctive relief or legal precedent obtained in either type of case. The deterrence effects of defendants' attorneys' fees and the stress and time involved for defendants in defending both the DOJ and the private cases has also been omitted. These are significant omissions. This Article's analysis assumes the effects of these omitted factors would be the same for both private enforcement and DOJ enforcement, but we know of no way to ascertain whether this is true.[101]

Further, reasonable people could dispute who first discovered some of the violations that gave rise to the sample of forty large private cases. The Lande/Davis study concluded, on the basis of admittedly imperfect public information and interviews with attorneys, that sixteen of these forty cases originally had been discovered by private parties and their counsel, ten were follow-ons to government enforcement actions, and the others had mixed or uncertain origins. This figure for follow-on cases of 10/40, or 25%, is consistent with a survey by Kauper & Snyder, which found that only 20% of private cases were follow-on cases.[102] Moreover, at least nine of the private follow-on cases (9/40 or 22.5%) were significantly broader than the DOJ case: they involved more defendants than the DOJ case, more causes of action, greater relief (in some instances the only relief), or longer periods of illegality.[103]

If, contrary to our findings, every one of the forty private antitrust violations had originally been uncovered by the DOJ (even private actions where the DOJ never filed a case), this fact would complicate an analysis of the relative deterrence effects of private and

101. The only indication of the relative value of the precedents that were established comes from the Calkins study, which concluded that the most important precedents in recent years were established through private litigation. Calkins, *supra* note 11.

102. *See* John C. Coffee, Jr., *Understanding the Plaintiff's Attorney: The Implications of Economic Theory for Private Enforcement of Law Through Class and Derivative Actions*, 86 COLUM. L. REV. 669, 681 n.36 (1986) ("Although the conventional wisdom has long been that class actions tend to 'tag along' on the heels of governmentally initiated suits, a recent study of antitrust litigation by Professors Kauper and Snyder has placed this figure at '[l]ess than 20% of private antitrust actions filed between 1976 and 1983.'" (quoting Moore, *Data Galore in Georgetown Damage Study*, LEGAL TIMES, Nov. 4, 1985, at 24, col.4)).

103. *See* Lande & Davis, *Benefits*, *supra* note *, at 910 tbl.6.

public antitrust enforcement. The DOJ certainly should get partial credit for the private recoveries obtained in any cases it uncovered or helped to uncover, even if the private parties secured the bulk of the sanctions.[104] Nevertheless, it would not be fair to give the DOJ complete credit for any resulting deterrence, because if there had been no private enforcement, this deterrence never would have arisen. Rather, the fairest thing would be to share credit for this deterrence between the public and private enforcers.

Another general caveat concerns how, from a deterrence perspective, perceptions can be more important than the realities this article has attempted to document. For example, Professor Stephen Calkins, who is from Detroit, noted the extraordinary prominence in Michigan of Alfred Taubman. Calkins said that the extensive press coverage of Mr. Taubman's being sent to (and later released from) prison for an antitrust offense sent a message to business leaders that no imaginable fine could equal.[105] In this regard, some of the stereotypes about private enforcers also could help to deter antitrust violations. Irwin Stelzer articulated the widely held belief: "An army of private enforcers, enlisting help from attorney-entrepreneurs free to accept cases on a contingency fee basis, freed of 'loser pays' obligations, is an important supplement to those limited [government] resources."[106] Although defendants to a large extent have succeeded in portraying plaintiffs' attorneys as the modern

104. Each type of plaintiff might make a different contribution to the deterrence mix. As we noted in *Global Competition Litigation Review*:

> In fact, there are many reasons to believe that, as a practical matter the government cannot be expected to do all or even most of the necessary enforcing for various reasons including: budgetary constraints; undue fear of losing cases; lack of awareness of industry conditions; overly suspicious views about complaints by 'losers' that they were in fact victims of anticompetitive behavior; higher turnover among government attorneys; and the unfortunate reality that government enforcement (or non-enforcement) decisions are at times politically motivated. Not surprisingly, a vigorous private antitrust or competition regime is likely to confer significant benefits over and above those conferred by a system reliant solely upon government enforcement.

Robert H. Lande & Joshua P. Davis, *Of Myths and Evidence: An Analysis of 40 U.S. Cases for Countries Considering a Private Right of Action for Competition Law Violations*, 2 GLOBAL COMPETITION LITIG. REV. 126, 18–19 (2009).

105. Stephen Calkins, Remarks at the George Washington University Law School Antitrust Conference (Feb. 27, 2009).

106. Irwin Stelzer, Implications for Productivity Growth in the Economy, Address at the Office of Fair Trading's Workshop on Private Enforcement of Competition Law (Oct. 19, 2006).

economy's bogeymen, their fears of this swarming private "army" might do a great deal to discourage anticompetitive conduct, despite the fact that many recent court decisions have weakened private enforcement substantially.[107]

Finally, this Article is not attempting to perform a cost/benefit analysis of private antitrust enforcement. Many others have asserted problems with private enforcement (although without any systematic evidence), and we readily agree that some private cases have not been in the public interest. Nevertheless, we believe the debate over private antitrust enforcement deserves balance.

VI. CONCLUSIONS

Our primary conclusion is that the benefits of private antitrust enforcement are substantial and underappreciated. The importance of private enforcement to compensation perhaps requires little elaboration because there is no meaningful alternative means for victims of anticompetitive behavior to recover for the harm they suffered as a result of antitrust violations. Perhaps more surprisingly, there is evidence that private antitrust enforcement does more than DOJ criminal enforcement to deter anticompetitive behavior.

It is, of course, extremely difficult to isolate successes in the antitrust world. Even if a particular private case succeeded in forcing violators to surrender $100 million or more to their victims, it often would be reasonable to credit many parties in addition to the victims and their counsel. A case could rely in whole or in part on a conspiracy uncovered or partly uncovered by an earlier DOJ investigation, as well as on a legal precedent established by a State Attorney General in an unrelated case; and the case itself could have been financed by private counsel who was able to do so only because of success in a prior private litigation. As always, success has many parents. Rather than enter into fruitless arguments about which type of enforcement is entitled to what percentage of the credit, and, regardless of whether it is viewed from a deterrence or compensation perspective, perhaps the safest conclusion is that private enforcement is an important complement to government enforcement.

Moreover, the cost to the taxpayer of the deterrence and compensation that arises from private enforcement is practically nonexistent. The only cost to the taxpayer is the cost of maintaining

107. *See supra* note 92 and accompanying text.

some portion of the judicial system. This amounts to only a tiny fraction of the benefits of private enforcement and would be incurred even if all these cases were brought by government enforcers.

In addition, the high success rate of government litigation suggests that in the absence of private litigation, many bad actors would get away with violating the antitrust laws. In most cases, if the law is somewhat unclear, or if the evidence of illegal conduct is not absolutely compelling at the outset of a legal action, the DOJ does not seem to be willing to pursue litigation. This may well be the appropriate approach for the government to take. But it holds the potential for antitrust laws to go largely unenforced.

Within this context, private litigation of the antitrust laws seems to play a crucial role. In the United States, the anticompetitive conduct that gives rise to government enforcement currently occurs far too frequently, even factoring in the effects of the present system of private litigation.[108] A fortiori, this conduct would be even more underdeterred if the United States' eliminated or substantially curtailed private enforcement. We would be surprised if firms in other nations were significantly more law abiding than U.S. firms, and we suspect that the United States' record of underdeterrence of anticompetitive conduct (and undercompensation of victims) exists in many if not most other nations as well. Although each nation has unique needs, history, institutions, capabilities, and circumstances, and we would never advocate a "one-size-fits-all" approach to competition legislation, we do urge every nation without private enforcement of its competition laws to seriously consider permitting victim suits.[109]

108. *See supra* note 43 and accompanying text.

109. Europeans often believe that public enforcement should be concerned with deterrence while private enforcement should be concerned with compensation of victims. *See* Wouter P.J. Wils, *The Relationship Between Public Antitrust Enforcement and Private Actions for Damages*, 32 WORLD COMPETITION 3, *passim* (2009). We believe that the deterrence effects of private enforcement should be given greater consideration.

APPENDIX I: TABLES

Table 1: Total Corporate Antitrust Fines 1990–2007[110]

Year (Fiscal)	Total Corporate Fines ($000)
1990	22,658
1991	17,573
1992	22,430
1993	40,427
1994	38,996
1995	40,222
1996	25,245
1997	203,931
1998	241,645
1999	959,866
2000	303,241
2001	270,778
2002	93,826
2003	63,752
2004	140,586
2005	595,966
2006	469,805
2007	615,671
Total	4,166,618

110. U.S. DEP'T OF JUSTICE, ANTITRUST DIVISION WORKLOAD STATISTICS FY 1990–1999 12, *available at* http://www.justice.gov/atr/public/246419.pdf (last visited Mar. 18, 2011); U.S. DEP'T OF JUSTICE, *supra* note 10, at 12.

Table 2: Total Individual Antitrust Fines 1990–2007[111]

Year (Fiscal)	Total Individual Fines ($000)
1990	917
1991	2,806
1992	1,275
1993	1,868
1994	1,240
1995	1,211
1996	1,572
1997	1,247
1998	2,499
1999	12,273
2000	5,180
2001	2,019
2002	8,685
2003	470
2004	644
2005	4,483
2006	3,650
2007	15,109
Total	67,148

111. U.S. DEP'T OF JUSTICE, *supra* note 110 at 12; U.S. DEP'T OF JUSTICE, *supra* note 10, at 12.

Table 3: Total Restitution 1990–2007[112]

Year	Restitution Imposed in Connection with Criminal Antitrust Cases ($000)
1990	5,670
1991	3,185
1992	3,550
1993	950
1994	4,220
1995	1,200
1996	799
1997	275
1998	4,250
1999	2,343
2000	1,713
2001	31,083
2002	7,278
2003	15,545
2004	18,776
2005	10,371
2006	2,165
2007	4,790
Total	118,163

112. U.S. DEP'T OF JUSTICE, *supra* note 110, at 12; U.S. DEP'T OF JUSTICE, *supra* note 10, at 12.

Table 4: Total Incarceration 1990–2007[113]

Year	Incarceration: Number of Days of Prison Time Sentenced in Antitrust Division Cases
1990	2,739
1991	6,594
1992	2,488
1993	4,726
1994	1,497
1995	3,902
1996	2,431
1997	789
1998	1,301
1999	6,662
2000	5,584
2001	4,800
2002	10,501
2003	9,341
2004	7,334
2005	13,157
2006	5,383
2007	31,391
Total	120,620 120,620 ÷ 365.25 = 330.24 years

113. U.S. DEP'T OF JUSTICE, *supra* note 110, at 13; U.S. DEP'T OF JUSTICE, *supra* note 10, at 13.

Table 5: Total of Non-Prison Confinement Days (e.g., House Arrest) 1990–2007[114]

Year	Number of Other Confinement Days Sentenced in Antitrust Division Cases
1990	632
1991	1,519
1992	1,734
1993	3,552
1994	2,475
1995	2,933
1996	1,148
1997	1,270
1998	1,530
1999	2,850
2000	2,567
2001	1,844
2002	3,607
2003	1,025
2004	1,575
2005	1,270
2006	2,760
2007	1,085
Total	35,376 35,376 ÷ 365.25 = 96.85 years

114. U.S. DEP'T OF JUSTICE, *supra* note 110, at 13; U.S. DEP'T OF JUSTICE, *supra* note 10, at 13.

Table 6: The 9/11 Victim Compensation Fund[115]

Level of Income	Average Award	Number of Claimants	Total Awards
0	$788,022.03	17	$13,396,374.59
$24,999 or less	$1,102,135.44	163	$179,648,077.33
$25,000 – $99,999	$1,520,155.41	1,591	$2,418,567,253.96
$100,000 – $199,999	$2,302,234.80	633	$1,457,314,626.24
$200,000 – $499,999	$3,394,624.91	310	$1,052,333,721.38
$500,000 – $999,999	$4,749,654.40	89	$422,719,241.32
$1,000,000 – $1,999,999	$5,671,815.64	52	$294,934,413.48
$2,000,000 – $3,999,999	$6,253,705.42	17	$106,312,992.16
$4,000,000+	$6,379,287.70	8	$51,034,301.62

115. *See* FEINBERG REPORT, *supra* note 48, at 97 tbl.2. The Fund's report provided the total amount of compensation for a given income bracket and the total number of claims at that income level. The average awards were arrived at by dividing the total awards by the number of claimants at that income level. *Id.*

Table 7: Recoveries in Private Cases[116]

Case	Recovery ($ millions)
Airline Ticket Commission Litigation	86
Auction Houses	452 (plus 100 in uncounted fully redeemable coupons)
Augmentin	91
Automotive Refinishing Paint	106
Buspirone	220
Caldera	275
Cardizem (direct class)	110
Citric Acid	175
Commercial Explosives	77
Conwood	1,050
DRAM	326
Drill Bits	53
El Paso	1,427 (plus 125 in uncounted rate reductions)
Flat Glass	122
Fructose	531
Graphite Electrodes	47
IBM	775 (plus 75 in uncounted credit towards Microsoft software)
Insurance	36
Lease Oil	193
Linerboard	202

116. Lande & Davis, *Benefits*, supra note *, at 879, 892 tbl.1 (2008). For summaries of the individual case studies analyzed in this article, see Robert H. Lande & Joshua P. Davis, Benefits from Antitrust Private Antitrust Enforcement: Forty Individual Case Studies, SSRN, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1105523 (last modified Mar. 1, 2008) [hereinafter *Individual Case Studies*].

Lysine	65
Microcrystalline Cellulose	50
NASDAQ	1,027
NCAA	74
Netscape	750
Paxil	165
Platinol	50
Polypropylene Carpet	50
RealNetworks	478 to 761
Relafen	250
Remeron	75
Rubber Chemicals	268
Sorbates	96
Specialty Steel	50
Sun	700
Taxol	66
Terazosin	74
Urethane	73
Visa/MasterCard	3,383
Vitamins	3,908 to 5,258
Total	18,006 to 19,639

Table 8: Recoveries in Cases Validated by Government Action

Case	Validation of Merits in Government Action	Recovery ($ millions)
Auction Houses	Criminal Penalty	452
Buspirone	Part of Course of Conduct Resulting in FTC Consent Order	220
Cardizem	Conduct Resulted in FTC Consent Order	110
Citric Acid	Criminal Penalty	175
Commercial Explosives	Criminal Penalty	77
DRAM	Criminal Penalty	326
Drill Bits	Criminal Penalty	53
El Paso	FERC Ruling Against D	1,427
Graphite Electrodes	Criminal Penalty	47
IBM	Government Prevailed at Trial in Related Case	775
Lysine	Criminal Penalty	65
Microcrystalline Cellulose	FTC Consent Orders	50
Netscape v. Microsoft	Government Prevailed at Trial in Related Case	750
Platinol	Part of Course of Conduct Resulting in FTC Consent Order	50

Polypropylene Carpet	Criminal Penalty	50
RealNetworks v. Microsoft	EU Preliminary Findings Against D in Related Case and U.S. Government Prevailed at Trial in Somewhat Related Case	478 to 761
Rubber Chemicals	Criminal Penalty	268
Sorbates	Criminal Penalty	96
Specialty Steel	Criminal Penalty	50
Sun v. Microsoft	Government Prevailed at Trial in Related Case	700
Taxol	Part of Course of Conduct Resulting in FTC Consent Order	66
Terazosin	Government Obtained Injunctive Relief	74
Urethane	Criminal Penalty	73
Vitamins	Criminal Penalty	3,908 to 5,258
Total		10,340 to 11,973

Table 9: Recoveries in Per Se Cases[117]

Case	Recovery ($ millions)
Airline Ticket Commission Litigation	86
Auction Houses	452 (plus 100 in uncounted fully redeemable coupons)
Automotive Refinishing Paint	106
Cardizem (direct class)	110
Citric Acid	175
Commercial Explosives	77
Conwood	1,050
DRAM	326
Drill Bits	53
Flat Glass	122
Fructose	531
Graphite Electrodes	47
Insurance	36
Lease Oil	193
Linerboard	202
Lysine	65
Microcrystalline Cellulose	50
NASDAQ	1,027
Polypropylene Carpet	50
Rubber Chemicals	268
Sorbates	96
Specialty Steel	50
Terazosin	74

117. Lande & Davis, *Benefits*, supra note *, at 913 tbl.9.

Urethane	73
Vitamins	3,908 to 5,258
Total	9,227 to 10,577

Table 10: Recoveries for Cases with a Criminal Penalty as Well[118]

Case	Recovery ($ millions)
Auction Houses	452 (plus 100 in uncounted fully redeemable coupons)
Citric Acid	175
Commercial Explosives	77
DRAM	326
Drill Bits	53
Graphite Electrodes	47
Lysine	65
Polypropylene Carpet	50
Rubber Chemicals	268
Sorbates	96
Specialty Steel	50
Urethane	73
Vitamins	3,908 to 5,258
Total	6,171 to 7,521

118. *Id.* at 914 tbl.11.

Table 11: Judges Presiding Over Private Litigation by Case and Appointing President[119]

Judge	Case	Nominated By	Political Party
James Rosenbaum	Airline Tickets Commission	Ronald Reagan	Republican
Lewis A. Kaplan	Auction House	Bill Clinton	Democrat
Henry Coke Morgan	Augmentin	George H. W. Bush	Republican
Terrell Hodges	Automotive Refinishing	Richard Nixon	Republican
John F. Keenan		Ronald Reagan	Republican
Morey L. Sear		Gerald Ford	Republican
Bruce M. Selya		Ronald Reagan	Republican
Julia Smith Gibbons		Ronald Reagan	Republican
D. Lowell Jensen		Ronald Reagan	Republican
J. Frederick Motz		Ronald Reagan	Republican
John G. Koeltl	Buspirone	Bill Clinton	Democrat
Dee Benson	Caldera	George H.W. Bush	Republican
Nancy G. Edmunds	Cardizem	George H.W. Bush	Republican
Fern M. Smith	Citric Acid	Ronald Reagan	Republican

119. *See Biographical Directory of Federal Judges*, FEDERAL JUDICIAL CENTER, http://www.fjc.gov/history/home.nsf (follow "Judges of the United States Courts" hyperlink, then search for judges by name) (last visited Feb. 25, 2011).

David Sam	Commercial Explosives	Ronald Reagan	Republican
Thomas B. Russell	Conwood	Bill Clinton	Democrat
Phyllis Hamilton	DRAM	Bill Clinton	Democrat
John V. Singleton	Drill Bits	Lyndon B. Johnson	Democrat
Richard Haden (San Diego Sup. Court)	El Paso	N/A	N/A
Donald Emil Ziegler / Donettta W. Ambrose	Flat Glass	Jimmy Carter / Bill Clinton	Democrat / Democrat
Michael M. Mihm	Fructose	Ronald Reagan	Republican
Charles R. Weiner	Graphite Electrodes	Lyndon B. Johnson	Democrat
Colleen Kollar-Ketelly	IBM	Ronald Reagan	Republican
Willian W. Schwarzer	Insurance	Gerald Ford	Republican
Jan E. Dubois	Linerboard	Ronald Reagan	Republican
Milton I. Shadur	Lysine	Jimmy Carter	Democrat
Thomas Newman O'Neill, Jr.	Microcrystalline Cellulose	Ronald Reagan	Republican
Kathryn H. Vratil	NCAA	George H.W. Bush	Republican
Thomas Penfield Jackson	Netscape v. Microsoft	Ronald Reagan	Republican
Janis Graham Jack	Oil Lease	Bill Clinton	Democrat
John Padova	Paxil	George H.W. Bush	Republican
Emmit G. Sullivan	Platinol	Bill Clinton	Democrat
Harold Murphy	Polypropylene Carpet	Jimmy Carter	Democrat

Frederick Motz	RealNetwoks v. Microsoft	Ronald Reagan	Republican
Reginald C. Lindsay	Relafen	Bill Clinton	Democrat
Faith Hochberg	Remeron	Bill Clinton	Democrat
Terrell Hodges	Rubber Chemicals	Richard Nixon	Republican
Maxine M. Chesney	Sorbates	Bill Clinton	Democrat
Norman W. Black	Specialty Steel	Jimmy Carter	Democrat
Frederick Motz	Sun v. Microsoft	Ronald Reagan	Republican
Emmet G. Sullivan	Taxol	Ronald Reagan	Republican
Patricia A. Seitz	Terazosin	Bill Clinton	Democrat
John W. Lungstrom	Urethane	George H.W. Bush	Republican
John Gleeson	Visa/MasterCard	Bill Clinton	Democrat
Thomas Francis Hogan	Vitamins	Ronald Reagan	Republican
			Total Republicans: 27 Total Democrats: 18

Table 13: Summary of Validation of Merits in Individual Cases[120]

Case	Validation of Merits
Airline Tickets Commission	None Reported
Auction Houses	Criminal Penalty
Augmentin	Rulings against Ds on Underlying Patent Issues in Related Cases
Automotive Refinishing	None Reported
Buspirone	Part of Course of Conduct Resulting in FTC Consent Order
Caldera	Survive SJ
Cardizem	Partial SJ for Ps on Per Se Issue (Aff'd on Appeal) and Conduct Resulted in FTC Consent Order
Citric Acid	Criminal Penalty
Commercial Explosives	Jury Verdict Against Ds by competitor, Criminal Penalty
Conwood	Jury Verdict Against D (Aff'd on Appeal)
DRAM	Survived SJ and Criminal Penalty
Drill Bits	Criminal Penalty
El Paso	FERC Ruling Against D

120. *See* Lande & Davis, *Benefits*, *supra* note *.

Flat Glass	SJ Against Ps Overruled on Appeal
Fructose	SJ Against Ps Overruled on Appeal
Graphite Electrodes	Criminal Penalty
IBM	Government Prevailed at Trial in Related Case
Insurance	Dismissal Reversed in Appellate Court (Aff'd by USSC)
Linerboard	None Reported (Other than Class Certification)
Lysine	Criminal Penalty
Microcrystalline Cellulose	FTC Consent Orders
NCAA	SJ for Ps on Liability (Aff'd on Appeal)
Netscape v. Microsoft	Government Prevailed at Trial in Related Case
Oil Lease	None Reported
Paxil	None Reported
Platinol	Part of Course of Conduct Resulting in FTC Consent Order
Polypropylene Carpet	Criminal Penalty
RealNetworks v. Microsoft	EU Preliminary Findings Against D in Related Case and U.S. Government Prevailed at Trial in Somewhat Related Case

Relafen	Ruling against D on Underlying Patent Issues in Related Case (Aff'd on Appeal) and Ps Survive Motion to Dismiss and for SJ and Prevail on Motion of Issue Preclusion Regarding Patent Validity
Remeron	None Reported
Rubber Chemicals	Criminal Penalty
Sorbates	Criminal Penalty
Specialty Steel	Criminal Penalty and Ps Survived Motions to Dismiss
Sun v. Microsoft	Government Prevailed at Trial in Related Case
Taxol	Part of Course of Conduct Resulting in FTC Consent Order
Terazosin	Partial SJ for Ps on Per Se Issue and Government Obtained Injunctive Relief
Urethane	Criminal Penalty
Visa/MasterCard	Ps Prevailed on SJ and Defeated SJ
Vitamins	Criminal Penalty and Jury Verdict Against Non-Settling D

Table 14: Present Value (in 2010 dollars) of the Recoveries in the Forty Private Cases[121]

#	Case Name	Year/Page Found	Settlement Amount (Before CPI/PPI)	2010 Dollars (CPI)
1	*In re* Airline Ticket Commission Litigation, 1996 U.S. Dist. LEXIS 20361 (D. Minn. Aug 12, 1996); 1996-2 Trade Cas. (CCH) P71,552	1997/pg. 9	$86.1 Million	$117.0 Million
2	*In re* Auction Houses Antitrust Litigation, 164 F. Supp. 2d 345 (S.D.N.Y. 2001), *aff'd*, 2002 U.S. App. LEXIS 15327 (2d Cir. 2002) and Kruman v. Christie's International PLC, 284 F.3d 384 (2d Cir. 2002)	Domestic Class (2000)/pg. 15 Foreign Class (2003)/pg. 16	$412 Million (Cash) (Domestic) $40 Million (Cash) (Foreign)	(Dom) $521.7 Million (For.) $47.4 Million
3	Ryan-House et al. v. GlaxoSmithKline *PLC*, C.A. Doc. No. 2:02cv442 (E.D.Va. 2004); SAJ Distributors, Inc. and Stephen L. LaFrance Holdings, Inc. v. SmithKline Beecham Corp., Doc. No.	Direct Class (2004)/pg. 22 Indirect Class (2004)/pg. 23	$62.5 Million (Direct) $29 Million (Indirect)	(Direct) $72.2 Million (Indir.) $33 Million

121. All data taken from *Individual Case Studies*, *supra* note 116. Present values calculated using CPI Inflation Calculator. CPI INFLATION CALCULATOR, *supra* note 69.

	2:04cv23 (E.D. Pa filed Nov. 30, 2004)			
4	*In re* Automotive Refinishing Paint Antitrust Litigation, 177 F. Supp. 2d 1378 (E.D. Pa. Nov. 15, 2001)	(settlements went on for a period of 5–6 years; however the last settlement was 2007) 2007/pg. 30	$105.75 Million	$111.24 Million
5	*In re* Buspirone Antitrust Litigation, 185 F. Supp. 2d 340 (S.D.N.Y. 2002) MDL Doc. No. 1413, and *In re* Buspirone Patent Litigation, 185 F. Supp.2d 363 (S.D.N.Y. 2002). Final Settlement approval at 2003 U.S. Dist. LEXIS 26538, (S.D.N.Y April 17, 2003). (BuSpar)	2003/pg. 38	$220 Million	$260.7 Million
6	Caldera, Inc. v. Microsoft Corp., Case No. 2:96CV645B, 72 F.Supp.2d 1295 (D. Utah 1999)	2000/pg. 43	$275 Million	$348.2 Million
7	*In re* Cardizem CD Antitrust Litigation, MDL Docket No. 1278; 105 F.Supp 2d 682 (E.D. Mich. 2000); 332 F.3d 896 (6th Cir. 2003)	2004/pg. 54	$110 Million	$127.0 Million

8	*In re* Citric Acid Antitrust Litigation, MDL Docket No. 1092; 996 F. Supp. 951 (N.D. Cal. 1998)	1997/pg. 58 1998/pg. 58	$86.2 Million $89 Million	$234.1 Million
9	*In re* Commercial Explosives Litigation, 945 F. Supp. 1489 (D. Utah 1996)	1998/pg. 61	$113 Million	$151.2 Million
10	Conwood Co. v. United States Tobacco Co., 290 F.3d 768 (6th Cir. 2002)	Trial 2000/pg. 70 Appeal/ Trebling 2002/ pg. 70	$1.05 Billion	$1.27 Billion
11	*In re* Dynamic Random Access Memory (DRAM) Antitrust Litigation, Master File No. M-02-1486PJH, MDL No. 1486, 2006 U.S. Dist. LEXIS 39841 (N.D. Cal. June 5, 2006)	2007/pg. 75	$326 Million	$342.9 Million
12	Natural Gas Antitrust Cases I, II, III & IV. Sweetie's, et al. v. El Paso Corp., No. 319840 (S.F. Super. Ct. filed Mar. 20, 2001); Continental Forge Company v. Southern California Gas Co., No. BC237336 (L.A. Super. Ct. Sept. 25, 2000); Berg v. Southern California Gas Co., No.	2003/pg. 82	$551 Million (cash + stock) $876 Million (semi-annual cash)	$653.04 Million $1.038 Billion

	BC241951 (L.A. Super. Ct. filed Dec. 18, 2000); City of Long Beach v. Southern California Gas Co., No. BC247114 (L.A. Super. Ct. filed Mar. 20, 2001); City of L.A. v. Southern California Gas Co., No. BC265905 (L.A. Super. Ct. filed Mar. 20, 2001); Phillip v. El Paso Merchant Energy LP, No. GIC 759425 (San Diego Super. Ct. filed Dec. 13, 2000); and Phillip v. El Paso Merchant Energy LP, No. GIC 759426 (San Diego Super. Ct. filed Dec. 13, 2000). (El Paso)			
13	*In re* Flat Glass Antitrust Litigation, MDL 1200, Master Docket Misc. 97-0550, 191 F.R.D. 472 (W.D. Pa. 1999)	2005/pg. 93	$121.7 Million	$136.0 Million
14	*In re* Fructose Antitrust Litigation, M.D.L. File 1087, Master File # 94-1577 (Michael Mihm) (C.D. Ill. 1995)	2004/pg. 99	$531 Million	$613 Million
15	*In re* Graphite Electrodes Antitrust	2003/pg. 102	$47 Million	$55.7 Million

	Litigation, 2003 WL 22358491 (E.D. Pa. Sept. 9, 2003)			
16	IBM v. Microsoft	2005/pg. 107	$775 Million (cash)	$865.3 Million
17	*In re* Insurance Antitrust Litigation, 723 F. Supp. 464 (N.D. Cal. 19989); *rev'd*, 938 F. 2d 919 (9th Cir. 1991); *aff'd sub nom* Hartford Ins. Co. v. California, 509 U.S. 764 (1993)	1995/pg. 113	$36 Million	$51.5 Million
18	*In re* Linerboard Antitrust Litigation, MDL No. 1261, 2000 WL 1475559, at *1–3 (E.D. Pa. Oct. 4, 2000) ("Linerboard I"); *In re* Linerboard Antitrust Litigation, 203 F.R.D. 197, 201–04 (E.D. Pa. 2001) ("Linerboard II"); *In re* Linerboard Antitrust Litigation, 305 F.3d 145, 147–49 (3d Cir. 2002) ("Linerboard III"); *In re* Linerboard Antitrust Litigation, 321 F.Supp 2d 619 (E.D. Pa. 2004)	2004/pg. 116	$202.5 Million	$233.8 Million
19	*In re* Amino Acid Lysine Antitrust Litigation, MDL No. 1083, 918 F. Supp. 1190 (N.D. Ill.	1996/pg. 121 1997/pg 121 (federal class and two	$45 Million (major defendants) $5 Million (two	$62.5 Million (Major) $6.8 Million

	1996).	defendants)	defendants) $15 Million (estimate for state opt-out plaintiffs) $15 Million (federal class and opt-out payments)	(Two) $20.4 Million (state opt-out) $20.4 Million (federal class and opt-out)
20	*In re* Microcrystalline Cellulose Antitrust Litigation, MDL No 1402, 221 F.R.D. 428 (E.D. Pa. 2004)	2005/pg. 128 2003/pg. 129	$25 Million $25 Million	$27.9 Million $29.6 Million
21	*In re* NASDAQ Market-Makers Antitrust Litigation, M.D.L. No, 1023, No. 94 Civ. 3996 (RWS) (S.D.N.Y. 1998)	1998/pg. 133	$1.027 Billion	$1.374 Billion
22	Law v. National Collegiate Athletic Ass'n., 902 F. Supp. 1394 (D.Kan. 1995); *aff'd*, 134 F. 3d 1010 (10th Cir. 1998); *rev'd*, 938 F.2d 919 (9th Cir. 1991)	2000/pg. 139	$74.5 Million	$94.3 Million
23	North Shore Hematology & Oncology Associates v. Bristol-Myers Squibb Co., Civil Action No.1:04cv248(EGS) (D.D.C. filed Feb.	2004/pg. 140	$50 Million	$57.7 Million

	13, 2004) (Platinol)			
24	*In re* Lease Oil Antitrust Litigation (No. II), 186 F.R.D. 403 (S.D. Tex. 1999), 142 Oil & Gas Rep. 532 (1999)	1999/pg. 144	$193.5 Million	$253.3 Million
25	Netscape Comm. Corp. v. Microsoft Corp., Per Local Civil Rule 40.5, Related to Civil Action Nos. 98-1232 and 98-1233 (D.D.C. 2002)(a/k/a AOL v. Microsoft)	2003/pg. 152	$750 Million	$888.8 Million
26	Oncology & Radiation Associates v. Bristol-Meyers Squibb Co., Case No. 1:04CV00248 (D.D.C.) (Taxol)	2003/pg. 158	$65.8 Million	$78.0 Million
27	Stop N Shop Supermarket Company, et al. v. Smithkline Beecham Corp. Civil Action No. 03-CV-4578 (E.D. Pa. filed Aug. 6, 2003), and; Nichols v. SmithKline Beecham Corp., No. 00-CV-6222 (E.D. Pa. Jan 23, 2003) (Paxil)	2005/pg. 163, 165	$165 Million	$184.2 Million
28	*In re* Polypropylene Carpet Antitrust Litigation, 93 F. Supp. 2d 1348 (N.D. Ga. 2000)	2001/pg. 171	$49.7 Million	$61.2 Million

29	RealNetworks, Inc. v. Microsoft Corp., Civil Action No. JFM-04-968, MDL Docket No. 1332 (D. Md.) (2005 settlement)	2005/pg. 175	$478–$761 Million	$533.7–$849.7 Million
30	Red Eagle Resources, et al. v. Baker Hughes Inc., et al., No.4:91cv00627 (Docket) (S.D. Tex. Mar. 11, 1991) (*In re* Drill Bits Antitrust Litigation)	1993/pg. 181 1994/pg. 181	$45.4 Million $8 Million	$68.5 Million $11.7 Million
31	*In re* Relafen Antitrust Litigation, Civil Action No. 01-12239-WGY; 346 F. Supp. 2d 349 (D. Mass. 2004); 231 F.R.D. 52 (D. Mass. 2005)	2004/pg. 188, Indirect 2005 pg. 190–91	$175 Million (Direct) $75 Million (Indirect)	$202.0 Million $83.7 Million
32	*In re* Remeron Antitrust Litigation, 2005 U.S. Dist. LEXIS 27013 (D.N.J. Nov. 9, 2005)	2005/pg. 194	$75 Million	$83.7 Million
33	*In re* Rubber Chemicals Antitrust Litigation, 350 F.Supp.2d 1366 (J.P.M.L. 2004), 2005-1 Trade Cases P 74,804 (J.P.M.L.2004) (No. MDL 1648)	2005/pg. 202, Bayer 2006/pg. 202, Flexsys	$250.4 Million (Bayer) $18.5 Million (Flexsys)	$279.6 Million $20 Million
34	*In re* Sorbates Direct Purchaser Antitrust Litigation, 2002 WL	2002/pg. 207	$96.5 Million	$117 Million

	31655191 (N.D. Cal. Nov. 15, 2002)			
35	Sun Microsystems v. Microsoft, 333 F.3d 517 (4th Cir. 2003)	2004/pg. 211	$700 Million	$808 Million
36	*In re* Terazosin Hydrochloride Antitrust Litigation Case No. 99-MDL-1317-Seitz/Klein, a/k/a Louisiana Wholesale Drug Co., Inc. v. Abbot Laboratories, et al. S.D. Fla. Case no. 98-3125, 352 F. Supp. 2d 1279 (S.D. Fla. 2005) and Valley Drug Co. v. Abbot Laboratories, et al., S.D. Fla. Case No. 99-7143	2002/pg. 213	$74.5 Million	$90.3 Million
37	Transamerican Refining Corp. v. Dravo Corp., et al., No. 4:88CV00789 (Docket) (S.D.Tex. Mar. 10, 1988) (Specialty Steel Piping Antitrust Litigation) (1992 settlement)	1992/pg. 221	$50 Million	$77.7 Million
38	*In re* Urethane Antitrust Litigation, MDL No. 1616, 232 F.R.D. 681 (D. Kan. 2005)	2006/pg. 228	$73.3 Million (Chemical 1 $18M) (Chemical 2 $55.3)	$79.3 Million
39	*In re* Visa Check/MasterMoney Antitrust Litigation,	2003/pg. 233	$3.383 Billion	$4.009 Billion

	a/k/a Wal-Mart Stores, Inc. et. al v. Visa U.S.A. Inc. and MasterCard International Inc., 396 F.3d 96, 114 (2d Cir. 2005)			
40	*In re Vitamins Antitrust Litigation* (many related cases)	2003/pg. 242 (conservative average of settlement dates)	$4.2-$5.6 Billion	$4.977–$6.636 Billion
	Total	In 2010 Dollars	$21.887–$23.862 Billion	

Table 15: Present Value (in 2010 dollars) of Sanctions Imposed from 1990–2007

#	Year	Sanction[122] Amounts Before CPI ($000)	2010 Dollars (CPI[123])($000)
1	1990	31,079	51,942
2	1991	29,176	46,793
3	1992	29,805	46,405
4	1993	46,981	71,021
5	1994	46,936	69,181
6	1995	45,055	64,579
7	1996	30,760	42,825
8	1997	207,947	283,014
9	1998	253,392	339,575
10	1999	999,028	1,309,884
11	2000	320,494	406,553
12	2001	307,918	379,793
13	2002	127,159	154,400
14	2003	80,707	95,813
15	2004	161,244	186,458
16	2005	619,786	693,218
17	2006	482,920	523,257
18	2007	665,788	701,421
Totals		4,486,175	5,466,132

122. All data taken from Robert H. Lande & Joshua P. Davis, *Comparative Deterrence from Private Enforcement and Criminal Enforcement of the U.S. Antitrust Laws*, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1565693 (last revised September 9, 2010). These figures represent the combined totals of corporate antitrust fines, individual antitrust fines, and restitution from 1990-2007. The individual antitrust fines were tripled. For explanation, see *Comparative Deterrence from Private Enforcement and Criminal Enforcement of the U.S. Antitrust Laws*, Section IV.

123. CPI INFLATION CALCULATOR, *supra* note 69.

APPENDIX II: TABLE A AND ACCOMPANYING NOTES

Table A: Monetary Valuation of Prison Time Established Through False Imprisonment Litigation.

Plaintiff	Sentence	Total Award	Award per year	How Finalized?
Raul Ramirez	10 months	$9,000,000.00 (settlement)	$10,800,000.00	Phone interview
George Jones	1 month	$355,500.00	$4,266,000.00	Phone interview
Kerry Edwards	30 days	$327,500.00 (settlement)	$3,875,416.66	Phone interview
Mark Diaz Bravo	1,179 days	$3,758,976.90	$1,164,517.36	Phone interview
James Newsome	15 years	$15,000,000.00	$1,000,000.00	Phone interview
Stephan Cowans	6.5 years	$3,200,000.00 (settlement)	$492,307.69	Published case
Ellen Maria Reasonover	16 years	$7,500,000.00 (settlement)	$468,750.00	Published case
Eddie Joe Lloyd	17 years	$6,000,000.00 (settlement)	$352,941.17	Published case
Neil Miller	10.5 years	$3,200,000.00 (settlement)	$304,761.91	Published case
Larry Mayes	21 years	$4,500,000.00 (settlement)	$214,285.72	Published case
Eduardo Velázquez	14 years	$ 2,450,000.00 (settlement)	$175,000.00	Published case

Bruce Godschalk	15 years	$2,340,000.00 (settlements)	$156,000.00	Published case
Clarence Elkins	7 years	$ 1,075,000.00 (settlement)	$153,571.43	Published case
Olmedo Hidalgo	14 years	$2,000,000.00 (settlement)	$142,857.15	Published case
Kerry Kotler	10 years 8 months	$1510000.00	$141,563.39	Published case
Robinson	14 years	$1,750,000.00 (settlement)	$125,000.00	Published case
Michael Green	13 years	$16,00,000.00 (settlement)	$123,076.92	Published case
Darryl Hunt	19.5 years	$ 1,958,454.00 (settlement)	$100,433.54	Published case
Stephen Avery	17 years	$400,000.00 (settlement)	$23,529.41	Published case

Notes for Table A—Following is a list of cases included in Table A. This contains the researcher's methodology notes and other general case notes.

1. Raul Ramirez.[124] The verdict in this case was $18 million dollars, but it settled for $9 million.[125] Ramirez was a twenty-five-year-old special education teacher.[126] Eight months after the attempted rape of a sixteen-year-old girl, the police arrested Raul Ramirez, who spent ten months incarcerated awaiting trial.[127] He was found factually innocent and sued for false arrest and malicious prosecution.[128] This case was cited in *Limone v. United States* as one of several cases in recent years where courts have awarded

124. Telephone Interview with Mark Artan, attorney for Plaintiff Raul Ramirez (Oct. 28, 2009). This case settled in early 2006. *Id.*

125. *Id.*

126. *See* Ramirez v. Cnty. of Los Angeles, 397 F. Supp. 2d 1208, 1215 (C.D. Cal. 2005).

127. *See id.* at 1212.

128. *See id.*

compensation of more than $1,000,000.00 per year of wrongful incarceration.[129]

2. George Jones.[130] The defendant fully satisfied this judgment.[131] We include only the false imprisonment portion of $355,500 and exclude the $71,100 for false arrest, $71,100 for intentional infliction of emotional distress, $213,300 for malicious prosecution, $90,000 in punitive damages,[132] and $271,188.75 in attorneys' fees.[133] The police failed to turn over exculpatory evidence in a rape and murder case against George Jones, who was a high school student at the time of arrest.[134] This case was found via a citation by the district court in *Limone*.[135]

3. Kerry Edwards.[136] The settlement is ambiguous as to the portion of the award pertaining to false imprisonment and the portion of the award pertaining to civil rights violations.[137] Kerry Edwards was misidentified as the subject of an arrest warrant and held for thirty days.[138] At Edwards's insistence, an independent investigator wrote a report within three days confirming that Edwards had been misidentified. However, the report was ignored for several weeks while Edwards continued to be incarcerated.[139] This verdict summary was found by running a Westlaw verdict search.[140]

129. Limone v. United States, 497 F. Supp. 2d 143, 243–44 (D. Mass. 2007), *aff'd*, 579 F.3d 79 (1st Cir. 2009).

130. Jones v. City of Chicago, 856 F.2d 985 (7th Cir. 1988).

131. Telephone Interview with John L. Stainthorp, attorney for Plaintiff George Jones, People's Law Office (Oct. 8, 2009).

132. Jones v. City of Chicago, No. 83 C 2430, 1987 WL 19800, at *1 (N.D. Ill. Nov. 10, 1987).

133. *Id.* at *4.

134. *Jones*, 856 F.2d at 988–89.

135. Limone v. United States, 497 F. Supp. 2d 143, 244 (D. Mass. 2007), *aff'd*, 579 F.3d 79 (1st Cir. 2009).

136. Edwards v. Freehold Twp., No. 3:07CV043763-MLC-TJB, 2006 WL 4587710 (D.N.J. 2006) (Verdict Research Group, Inc. settlement summary).

137. *See* Complaint at, *Edwards*, No. 3:07CV043763-MLC-TJB, 2007 WL 3388973 (D.N.J. Oct. 2, 2007).

138. Telephone Interview with Thomas J. Mallon, Attorney for Kerry Edwards, Law Offices of Thomas J. Mallon (Aug. 3, 2009).

139. *Id.*

140. Databases: JV-NAT, LRP-JV, VS-JV. Search terms: "wrongful imprisonment," "wrongful confinement," "false imprisonment," "malicious prosecution," and "wrongful arrest" on June 1, 2009.

4. Mark Diaz Bravo.[141] This award was satisfied by the defendant.[142] The total award of $3,758,976 was calculated by taking the $3,000.00 per day awarded by the court for 1,179 days in prison and adding the court's $221,976.00 award for lost earnings.[143] An award of $1,000,000 for time spent in prison before conviction was not included in our calculations.[144] Mark Diaz Bravo was a nurse falsely convicted of raping a patient.[145] This case was cited by the *Limone* case.[146]

5. James Newsome.[147] The award was fully satisfied.[148] In addition to $1,000,000 per year of imprisonment, the jury awarded $850,000 total in attorneys' fees, which we did not include in our calculations.[149] The jury found that officers violated Newsome's civil rights by inducing three witnesses to falsely testify against him.[150] James Newsome was an unemployed paralegal at the time of arrest. However, although he testified that he was still employed, the court held that this did not require a new trial.[151] This case was cited by the *Limone* case.[152]

6. Stephen Cowans.[153] Although Cowans only served 6.5 years, he was sentenced to 35–50 years for murder, which was a factor in the amount of the settlement.[154] The Boston police department used faulty finger printing techniques as evidence at plaintiff's trial. Plaintiff was released as a result of DNA testing released by the New England Innocence Project in January 2004. That same year, Boston's finger printing department was closed for two years. It

141. Bravo v. Giblin, No. B125242, 2002 WL 31547001 (Cal. Ct. App. Nov. 18, 2002).

142. Telephone Interview with Tonia Ibanez, Deputy Attorney Gen. (Oct. 9, 2009).

143. *See supra* note 59 and accompanying text.

144. *See id.*

145. *See Bravo*, 2002 WL 31547001, at *1.

146. Limone v. United States, 497 F. Supp. 2d 143, 243–44 (D. Mass. 2007), *aff'd*, 579 F.3d 79 (1st Cir. 2009).

147. Newsome v. McCabe, 319 F.3d 301 (7th Cir. 2003).

148. Telephone Interview with Sean Gallagher, Attorney for Plaintiff, Bartlit, Beck, Herman, Palenchar & Scott (Oct. 9, 2009).

149. *Newsome*, 319 F.3d at 303.

150. *See id.* at 302.

151. *Id.* at 307.

152. Limone v. United States, 497 F. Supp. 2d 143, 243–44 (D. Mass. 2007), *aff'd*, 579 F.3d 79, 106 (1st Cir. 2009)

153. Cowans v. City of Boston, No. 1:05-CV-11574-RGS, 2006 WL 4286744 (D. Mass. Aug. 4, 2006) (Verdict Research Group, Inc. settlement summary).

154. *See id.*

reopened in 2006 after heavy audits of its internal procedures.[155] This verdict summary was found through a Westlaw verdict search.[156]

7. Ellen Maria Reasonover.[157] Reasonover was falsely convicted of murder at an unfair trial where hearsay evidence was allowed. Her conviction was overturned, and she settled her case with the city. Found through a Westlaw verdict search.[158]

8. Eddie Joe Lloyd.[159] Lloyd was exonerated by DNA evidence of the rape and murder of a sixteen-year-old girl.[160] This settlement summary was found by running a Westlaw verdict search.[161]

9. Neil Miller.[162] Miller was exonerated by DNA evidence.[163] This verdict summary was found by running a Westlaw verdict search.[164]

10. Larry Mayes.[165] Originally, a jury verdict of $9,000,000 was reached, but was appealed by Defendant. The Seventh Circuit stayed its judgment on appeal to allow the parties to settle the case for $4,500,000.[166] This verdict summary was found by running a Westlaw verdict search.[167]

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155. *See id.*

156. Databases: JV-NAT, LRP-JV, VS-JV. Search terms: "wrongful imprisonment," "wrongful confinement," "false imprisonment," "malicious prosecution," and "wrongful arrest" on June 1, 2009.

157. Reasonover v. City of Dellwood, No. 4:01-cv-01210-CEJ, 1000 WL 81189 (E.D. Mo. no date given) (Jury Verdict Reports settlement summary).

158. Databases: JV-NAT, LRP-JV, VS-JV. Search terms: "wrongful imprisonment," "wrongful confinement," "false imprisonment," "malicious prosecution," and "wrongful arrest" on June 1, 2009.

159. Lloyd v. City of Detroit, No. 2:04-CV-70922-GER-SDP, 2006 WL 2062011 (E.D. Mich. Mar. 1, 2006) (Verdict Research Group, Inc. settlement summary).

160. *See id.*

161. Databases: JV-NAT, LRP-JV, VS-JV. Search terms: "wrongful imprisonment," "wrongful confinement," "false imprisonment," "malicious prosecution," and "wrongful arrest" on June 1, 2009.

162. Miller v. Boston, No. 1:03CV10805JLT, 2006 WL 4111728 (D. Mass. Mar. 9, 2006) (Verdict Research Group, Inc. settlement summary).

163. *See id.*

164. Databases: JV-NAT, LRP-JV, VS-JV. Search terms: "wrongful imprisonment" "wrongful confinement" "false imprisonment" "malicious prosecution" "wrongful arrest" on June 1, 2009.

165. Mayes v. City of Hammond, No. 2:03-CV-379-PRC, 2008 WL 3874685 (N.D. Ind. Aug. 15, 2008).

166. Mayes v. City of Hammond, 290 Fed. App'x 945, 946 (7th Cir. Aug. 28, 2008).

167. Database: JV-NAT, LRP-JV, VS-JV. Search terms: "wrongful imprisonment," "wrongful confinement," "false imprisonment," "malicious prosecution," and "wrongful arrest" on June 1, 2009.

11. Eduardo Velázquez.[168] Prior to this action, Eduardo Velazquez had filed and settled a lawsuit under Massachusetts' exoneration statute[169] for the statutory maximum of $500,000.[170] The police failed to disclose exonerating evidence.[171] This settlement summary was found by running a Westlaw verdict search.[172]

12. Bruce Godschalk.[173] Godschalk was a twenty-six-year-old landscaper at the time of conviction.[174] This case was cited in a footnote in a law review article.[175]

13. Clarence Elkins.[176] Elkins was exonerated by DNA testing.[177] This verdict summary was found by performing a Westlaw verdict search.[178]

14. Olmedo Hidalgo.[179] Hidalgo was convicted of murder despite what he claimed to be overwhelming evidence of his innocence that was withheld.[180] This verdict summary was found by running a Westlaw verdict search.[181]

168. Velázquez v. City of Chicopee, 226 F.R.D. 31 (D. Mass. 2004).

169. *See* Mass. Gen. Laws ch. 258D, §§ 1–9 (2006).

170. Velázquez v. City of Chicopee, 3:03-CV-30249-MAP, 2005 WL 3839494 (D. Mass. 2005) (Verdict Research Group, Inc. settlement summary).

171. *Velázquez*, 226 F.R.D. at 32–33.

172. Databases: JV-NAT, LRP-JV, VS-JV. Search terms: "wrongful imprisonment," "wrongful confinement," "false imprisonment," "malicious prosecution," and "wrongful arrest" on June 1, 2009.

173. Godschalk v. Montgomery Cnty. Dist. Attorney's Office, No. 02-6745, 2003 WL 22998364 (E.D. Pa. 2003) (ALM Media Properties, Inc. settlement summary) (discussing $740,000 settlement with the district attorney's office); Brandon L. Garrett, *Innocence, Wrongful Error, and Wrongful Conviction Law*, 2005 WIS. L. REV. 35, 43 n.30 (discussing both the aforementioned settlement and a $1,600,000 settlement with the township).

174. *See Godschalk*, 2003 WL 22998364.

175. Garrett, *supra* note 173, at 43 n.30.

176. Elkins v. Ohio, No. CR-98-06041, 2006 WL 3827191 (Ohio Com. Pl. 2006) (Verdict Research Group, Inc. settlement summary).

177. *See id.*

178. Databases: JV-NAT, LRP-JV, VS-JV. Search terms: "wrongful imprisonment," "wrongful confinement," "false imprisonment," "malicious prosecution," and "wrongful arrest" on June 1, 2009.

179. Hidalgo v. City of New York, No. 06 CIV. 13118, 2009 WL 1199430 (S.D.N.Y. 2009) (ALM Media Properties, Inc. settlement summary).

180. *See id.*

181. Databases: JV-NAT, LRP-JV, VS-JV. Search terms: "wrongful imprisonment," "wrongful confinement," "false imprisonment," "malicious prosecution," and "wrongful arrest" on June 1, 2009.

15. Kerry Kotler.[182] Kotler, who had been convicted of rape, was exonerated by DNA evidence.[183] Kotler sued for unjust conviction and imprisonment under the state statute.[184] This case was cited in a footnote in a law review article.[185]

16. Robinson.[186] Plaintiff alleged failure to properly train and hire officers and failure to disclose exculpatory evidence.[187] This settlement summary was found by performing a Westlaw search.[188]

17. Michael Green.[189] Plaintiff was exonerated of rape via DNA evidence[190] because an analysis of a rag said to contain Plaintiff's semen had been fabricated. [191] As part of the settlement, the city agreed to reopen the more than one hundred cases in which the lab technician had testified.[192] This verdict summary was found by running a Westlaw verdict search.[193]

18. Darryl Hunt.[194] Plaintiff was exonerated through DNA evidence and a confession by another inmate.[195] This settlement summary was found by running a Westlaw verdict search.[196]

19. Stephen Avery.[197] Avery was exonerated by DNA evidence.[198] Avery's case probably settled very low because he was accused of a

182. Kotler v. State, 680 N.Y.S.2d 586 (N.Y. App. Div. 1998).

183. *See id.* at 587.

184. *See* N.Y. Court of Claims Act § 8-b (McKinney 2007). There is no statutory maximum on the amount of an award under this statute. *See* § 8-b 6.

185. Garrett, *supra* note 173, at 44 n.32.

186. Robinson v. City of Los Angeles, JVR No. 491391, 2007 WL 5476226 (S.D. Cal. 2008) (LRP Publications settlement summary).

187. *See id.*

188. Databases: JV-NAT, LRP-JV, VS-JV. Search terms: "wrongful imprisonment," "wrongful confinement," "false imprisonment," "malicious prosecution," and "wrongful arrest" on June 1, 2009.

189. Green v. City of Cleveland, No. 1:03-CV-00906, 2004 WL 1574178 (N.D. Ohio June 7, 2004) (ALM Media Properties, Inc. settlement summary).

190. *See id.*

191. *See id.*

192. *See id.*

193. Databases: JV-NAT, LRP-JV, VS-JV. Search terms: "wrongful imprisonment" "wrongful confinement" "false imprisonment" "malicious prosecution" "wrongful arrest" on June 1, 2009.

194. Hunt. v. North Carolina, JAS NC Ref. No. 231251 WL, 2007 WL 2791826 (N.C. Super. Feb. 16, 2007) (Verdict Research Group, Inc. settlement summary).

195. *See id.*

196. Databases: JV-NAT, LRP-JV, VS-JV. Search terms: "wrongful imprisonment," "wrongful confinement," "false imprisonment," "malicious prosecution," and "wrongful arrest" on June 1, 2009.

second murder before this case settled.[199] The verdict summary was found by running a Westlaw verdict search.[200]

APPENDIX III

Following is a list of the forty cases included in this Study and the researchers who analyzed them.[201]

1. *In re* Airline Ticket Comm'n Litig., 1996 U.S. Dist. LEXIS 20361 (D. Minn. Aug. 12, 1996). Tara Shoemaker.

2. *In re* Auction Houses Antitrust Litig., 164 F. Supp. 2d 345 (S.D.N.Y. 2001), *aff'd*, 2002 U.S. App. LEXIS 15327 (2d Cir. July 30, 2002); Kruman v. Christie's Int'l PLC, 284 F.3d 384 (2d Cir. 2002). Douglas Richards.

3. Ryan-House v. GlaxoSmithKline PLC, 2005 U.S. Dist. LEXIS 33711 (E.D. Va. Jan. 10, 2005); SAJ Distribs., Inc., v. SmithKline Beecham Corp., No. 2:04cv23 (E.D. Pa. filed Nov. 30, 2004) (Augmentin). Michael Einhorn.

4. *In re* Auto. Refinishing Paint Antitrust Litig., 177 F. Supp. 2d 1378 (E.D. Pa. 2001). Maarten Burggraaf & Andrew Sullivan.

5. *In re* Buspirone Antitrust Litig., 185 F. Supp. 2d 340 (S.D.N.Y. 2002); *In re* Buspirone Patent Litig., 185 F. Supp. 2d 363 (S.D.N.Y. 2002), *final settlement approval*, 2003 U.S. Dist. LEXIS 26538 (S.D.N.Y. Apr. 17, 2003). Morgan Anderson & Erika Dahlstrom.

6. Caldera, Inc. v. Microsoft Corp., 72 F. Supp. 2d 1295 (D. Utah 1999). Tara Shoemaker & Erica Dahlstrom.

7. *In re* Cardizem CD Antitrust Litig., 105 F. Supp. 2d 682 (E.D. Mich. 2000), *aff'd*, 332 F.3d 896 (6th Cir. 2003). Morgan Anderson.

197. Avery v. Manitowoc Co., No. 04-C986, 2006 WL 3955911 (E.D. Wis. 2006) (Law Bulletin Publishing Co. settlement summary).

198. *See id.*

199. *See id.*

200. Databases: JV-NAT, LRP-JV, VS-JV. Search terms: "wrongful imprisonment," "wrongful confinement," "false imprisonment," "malicious prosecution," and "wrongful arrest" on June 1, 2009.

201. For complete case analyses, see ROBERT H. LANDE & JOSHUA P. DAVIS, BENEFITS FROM PRIVATE ANTITRUST ENFORCEMENT: AN ANALYSIS OF FORTY CASES (2007), *available at* http://www.antitrustinstitute.org/node/10990.

8. *In re* Citric Acid Antitrust Litig., 996 F. Supp. 951 (N.D. Cal. 1998). Bobby Gordon.

9. *In re* Commercial Explosives Litig., 945 F. Supp. 1489 (D. Utah 1996). Ruthie Linzer.

10. Conwood Co. v. U.S. Tobacco Co., 290 F.3d 768 (6th Cir. 2002). Erika Dahlstrom.

11. *In re* Dynamic Random Access Memory (DRAM) Antitrust Litig., 2006 U.S. Dist. LEXIS 39841 (N.D. Cal. June 5, 2006). Erika Dahlstrom.

12. Natural Gas Antitrust Cases I, II, III & IV: Sweetie's v. El Paso Corp., No. 319840 (S.F. Super. Ct. filed Mar. 20, 2001); Cont'l Forge Co. v. S. Cal. Gas Co., No. BC237336 (L.A. Super. Ct. filed Sept. 25, 2000); Berg v. S. Cal. Gas Co., No. BC241951 (L.A. Super. Ct. filed Dec. 18, 2000); City of Long Beach v. S. Cal. Gas Co., No. BC247114 (L.A. Super. Ct. filed Mar. 20, 2001); City of L.A. v. S. Cal. Gas Co., No. BC265905 (L.A. Super. Ct. filed Mar. 20, 2001); Phillip v. El Paso Merch. Energy LP, No. GIC 759425 (San Diego Super. Ct. filed Dec. 13, 2000); Phillip v. El Paso Merch. Energy LP, No. GIC 759426 (San Diego Super. Ct. filed Dec. 13, 2000) (El Paso). Erin Bennett & Polina Melamed.

13. *In re* Flat Glass Antitrust Litig., 191 F.R.D. 472 (W.D. Pa. 1999). Richard Kilsheimer.

14. *In re* High Fructose Corn Syrup Antitrust Litig., 936 F. Supp. 530 (C.D. Ill. 1996). Michael Freed.

15. *In re* Graphite Electrodes Antitrust Litig., 2003 WL 22358491 (E.D. Pa. Sept. 9, 2003). Norman Hawker.

16. Scott Brooks, *Microsoft and IBM Resolve Antitrust Issues*, IBM, July 1, 2005 http://www-03.ibm.com/press/us/en/pressrelease/7767.wss. Erika Dahlstrom.

17. *In re* Ins. Antitrust Litig., 723 F. Supp. 464 (N.D. Cal. 1989), *rev'd*, 938 F.2d 919 (9th Cir. 1991), *aff'd sub nom*, Hartford Ins. Co. v. California, 509 U.S. 764 (1993). Maarten Burggraaf.

18. *In re* Linerboard Antitrust Litig. (Linerboard I), No. 1261, 2000 WL 1475559, at *1–3 (E.D. Pa. Oct. 4, 2000); *In re* Linerboard Antitrust Litig. (Linerboard II), 203 F.R.D. 197, 201–04 (E.D.Pa. 2001), *aff'd*, *In re* Linerboard Antitrust Litig. (Linerboard III), 305 F.3d 145, 147–49 (3d Cir. 2002); *In re* Linerboard Antitrust Litig., 321 F. Supp. 2d 619 (E.D. Pa. 2004). Maarten Burggraaf.

19. *In re* Amino Acid Lysine Antitrust Litig., 918 F. Supp. 1190 (N.D. Ill. 1996). Maarten Burggraaf.

20. *In re* Microcrystalline Cellulose Antitrust Litig., 221 F.R.D. 428 (E.D. Pa. 2004). Michael Einhorn.

21. *In re* NASDAQ Market-Makers Antitrust Litig., 894 F. Supp. 703 (S.D.N.Y. 1995). Maarten Burggraaf.

22. Law v. Nat'l Collegiate Athletic Ass'n, 902 F. Supp. 1394 (D. Kan. 1995), *aff'd*, 134 F.3d 1010 (10th Cir. 1998). Joey Pulver.

23. Netscape Comm. Corp. v. Microsoft Corp., Civil Action Nos. 98-1232, 98-1233 (D.D.C. filed Jan. 22, 2002). Andrew Smullian.

24. N. Shore Hematology & Oncology Assocs. v. Bristol-Myers Squibb Co., Civil Action No. 04 cv248 (EGS) (D.D.C. filed Feb. 13, 2004). Tara Shoemaker.

25. *In re* Lease Oil Antitrust Litig., 186 F.R.D. 403 (S.D. Tex. 1999). Stratis Camatsos.

26. Vista Healthplan, Inc. v. Bristol-Myers Squibb Co., 266 F. Supp. 2d 44 (D.D.C. 2003). Tara Shoemaker.

27. Stop & Shop Supermarket Corp. v. SmithKline Beecham Corp., Civil Action No. 03-CV-4578 (E.D. Pa. filed Aug. 6, 2003); Nichols v. SmithKline Beecham Corp., 2003 WL 302352 (E.D. Pa. Jan. 23, 2003). Tara Shoemaker.

28. *In re* Polypropylene Carpet Antitrust Litig., 93 F. Supp. 2d 1348 (N.D. Ga. 2000). Drew Stevens.

29. Settlement Agreement, RealNetworks, Inc. v. Microsoft Corp., No. JFM-04-968, M.D.L. Docket No. 1332 (D. Md. Oct. 11, 2005). Norman Hawker.

30. Red Eagle Res. v. Baker Hughes Inc. (*In re* Drill Bits Antitrust Litig.), No. 4:91cv00627 (S.D. Tex. filed Mar. 11, 1991). Ruthie Linzer.

31. *In re* Relafen Antitrust Litig., 346 F. Supp. 2d 349 (D. Mass. 2004). Morgan Anderson & Erika Dahlstrom.

32. *In re* Remeron Antitrust Litig., 2005 U.S. Dist. LEXIS 27013 (D.N.J. Nov. 9, 2005). Morgan Anderson & Erika Dahlstrom.

33. *In re* Rubber Chems. Antitrust Litig., 350 F. Supp. 2d 1366 (J.P.M.L.). Ruthie Linzer.

34. *In re* Sorbates Direct Purchaser Antitrust Litig., 2002 WL 31655191 (N.D. Cal. Nov. 15, 2002). Joey Pulver.

35. Sun Microsystems v. Microsoft, 333 F.3d 517 (4th Cir. 2003). Robert Lande.

36. *In re* Terazosin Hydrochloride Antitrust Litig., 352 F. Supp. 2d 1279 (S.D. Fla. 2005). Morgan Anderson & Erika Dahlstrom.

37. Settlement Agreement, Transam. Refining Corp. v. Dravo Corp., No. 4:88CV00789 (S.D. Tex. filed Mar. 10, 1988) (Specialty Steel Piping Antitrust Litigation). Ruthie Linzer.

38. *In re* Urethane Antitrust Litig., 232 F.R.D. 681 (D. Kan. 2005). Bobby Gordon.

39. Wal-Mart Stores, Inc. v. Visa U.S.A. Inc. & MasterCard Int'l Inc., 396 F.3d 96, 114 (2d Cir. 2005). Robert Lande.

40. *In re* Vitamins Antitrust Litig. (many related cases), *see* John M. Connor, *The Great Global Vitamins Cartel*, (April 9, 2008) (unpublished manuscript), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=885968.