



DEPARTMENT OF JUSTICE

The 26th Annual

NATIONAL INSTITUTE ON WHITE COLLAR CRIME

**Presented by the
ABA Center for Continuing Legal Education**

**“DETERRENCE AND DETECTION OF CARTELS:
USING ALL THE TOOLS AND SANCTIONS”**

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Presented at

Miami, Florida

March 1, 2012

DETERRENCE AND DETECTION OF CARTELS: USING ALL THE TOOLS AND SANCTIONS*

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I. INTRODUCTION

The basic framework for deterring and detecting cartels in the United States remains that established in 1890 by the Sherman Act: Corporations that participate in cartels are subject both to criminal fines and civil actions for damages,¹ and culpable individuals are subject to criminal prosecution and imprisonment.² The applicable sanctions, however, have evolved substantially since 1890, and the arsenal of enforcement tools has been significantly enlarged in recent decades. This article details the tools and sanctions used in the United States to deter and detect cartels and explains how they work together in pursuit of a common goal. Even though more than a hundred countries now have anticartel laws, including many moving in the direction of the U.S. model, the United States remains the only jurisdiction that has extensive experience utilizing both incarceration and private damages litigation.

* This paper was previously published in the Antitrust Bulletin (56 Antitrust Bulletin 207 (2011)).

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AUTHORS' NOTE: Jim Fredricks of the Antitrust Division's Appellate Section provided helpful comments.

¹ Section 7 of the Sherman Act provided that “any person” injured by a violation of the Act “may sue” in federal court and “recover three fold the damages by him sustained, and the costs of suit, including a reasonable attorney’s fee.” Ch. 647, § 7, 26 Stat. 210 (1890). This provision was replaced by identical language (except for making “three fold” into a single word) in section 4 of the Clayton Act, now codified at 15 U.S.C. § 15 (2006).

² Section 1 of the Sherman Act declared that “[e]very contract, combination . . . , and conspiracy, in restraint of trade . . . is a misdemeanor.” Ch. 647, § 1, 26 Stat. 209 (1890). As highlighted below, violations are now felonies. *See infra* note 47 and accompanying text. When the Sherman Act became law, thirteen of the states already had criminal laws prohibiting cartels. *See* HENRY R. SEAGER & CHARLES A. GULICK, JR., TRUST AND CORPORATION PROBLEMS 342 & n.1 (1929).

II. CARTEL DETERRENCE IN THEORY

Cartels have no legitimate purposes and serve only to rob consumers of the tangible blessings of competition. Cartels, therefore, are not properly redressed with just a liability rule designed to compensate victims.³ Rather, participation in a cartel is viewed in the United States as a property crime, akin to burglary or larceny, and it is properly treated accordingly. Like other serious crimes, cartels are never socially desirable, and therefore U.S. law properly seeks to deter them completely rather than merely tax them.⁴ As Judge Posner has explained, criminal sanctions are not “prices designed to ration the activity; the purpose so far as possible is to extirpate it.”⁵

Theoretical analyses of deterrence often invoke the economic theory of optimal deterrence,⁶ a key premise of which is that the conduct under consideration is sometimes socially desirable and therefore would be overdeterred by sufficiently severe sanctions. Theoretical analyses of cartel deterrence often draw on (or replicate) the analysis of Professor William Landes, who applied the economic theory of optimal deterrence to what he called “cartels.”⁷ But Professor Landes assumed that the competitor collaborations he considered both restricted output, thus raising price, and reduced cost, thus yielding an offsetting social benefit.⁸ Such conduct is not treated as a cartel by the Antitrust Division of the U.S. Department of Justice.

When competitors collaborate in a manner that creates an efficiency-enhancing integration of economic activity, their collaboration nevertheless might unreasonably restrain trade, and hence violate section 1 of the Sherman Act, but the Antitrust Division

³ On the basic rationale for criminal prohibitions rather than reliance on liability rules, see Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1124–27 (1972).

⁴ On the differing treatments of crimes and torts and their distinct rationales, see John C. Coffee, Jr., *Paradigms Lost: The Blurring of the Criminal and Civil Law Models—And What Can Be Done About It*, 101 YALE L.J. 1875 (1992); Robert Cooter, *Prices and Sanctions*, 84 COLUM. L. REV. 1523 (1984); Keith Hylton, *Theory of Penalties and Economics of Criminal Law*, 1 REV. L. & ECON. 175 (2005).

⁵ Richard A. Posner, *An Economic Theory of Criminal Law*, 85 COLUM. L. REV. 1193, 1215 (1985).

⁶ See, e.g., Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169 (1968); Richard A. Posner, *Optimal Sentences for White-Collar Criminals*, 17 AM. CRIM. L. REV. 409 (1980).

⁷ See William M. Landes, *Optimal Sanctions for Antitrust Violations*, 50 U. CHI. L. REV. 652 (1983).

⁸ *Id.* at 656–66.

does not treat such a collaboration as a cartel.⁹ The Division's criminal enforcement against cartels is limited to agreements among competitors serving no purpose other than to eliminate competition. Such agreements are a subset of the conduct condemned as per se violations of the Sherman Act, and under the Supreme Court's modern decisions, the per se rule is applied only to types of restraints of trade, such as price fixing, bid rigging, and market allocation, that both "have 'manifestly anticompetitive' effects . . . and 'lack . . . any redeeming virtue.'"¹⁰ An efficiency-enhancing integration of economic activity among competitors could not be said to lack any redeeming virtue and would not be prosecuted as a cartel.¹¹

A very different rationale for invoking the economic theory of optimal deterrence, also raising the possibility of overdeterrence, begins with the premise that the rewards to individuals within corporations do not perfectly correlate with the profits of their employers. An implication of this premise is that a corporation's reckoning of the risks and rewards from criminal conduct could differ significantly from the personal risks and rewards for a key employee. To guard against unauthorized criminal conduct by employees, corporations therefore must monitor them. This rationale warns that large monetary sanctions on corporations from criminal and civil liability could cause excessively high employee monitoring costs,¹² and it supports imposing serious sanctions on culpable individuals to ensure effective deterrence.

Economic analyses of cartel deterrence (much as those for other white collar crimes) typically conclude that it is best to use only monetary sanctions,¹³ but this

⁹ See FED. TRADE COMM'N & U.S. DEP'T OF JUSTICE, ANTITRUST GUIDELINES FOR COLLABORATION AMONG COMPETITORS § 3.2 (2000), available at <http://www.ftc.gov/os/2000/04/ftcdojguidelines.pdf>.

¹⁰ *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877, 886 (2007) (quoting *Bus. Elecs. Corp. v. Sharp Elecs. Corp.*, 485 U.S. 717, 723 (1988); *Nw. Wholesale Stationers, Inc. v. Pac. Stationery & Printing Co.*, 472 U.S. 284, 289 (1985)).

¹¹ Nor is it plausible that such an arrangement would mistakenly be treated as a cartel. That possibility had been advanced as a rationale for applying the economic theory of optimal deterrence. See Michael K. Block & Joseph Gregory Sidak, *The Cost of Antitrust Deterrence: Why Not Hang a Price Fixer Now and Then?*, 68 GEO. L.J. 1131, 1136–38 (1980).

¹² See Bruce H. Kobayashi, *Antitrust, Agency, and Amnesty: An Economic Analysis of the Criminal Enforcement of the Antitrust Laws*, 69 GEO. WASH. L. REV. 715, 735–39 (2001); Douglas H. Ginsburg & Joshua D. Wright, *Antitrust Sanctions*, COMPETITION POL'Y INT'L, Autumn 2010, at 3, 8.

¹³ See, e.g., Kenneth G. Elzinga & William Breit, *Antitrust Penalties and Attitudes Toward Risk: An Economic Analysis*, 86 HARV. L. REV. 693 (1973); Posner, *supra* note 6. Economic analyses generally conclude that imprisonment is efficient only to the extent that liability

conclusion follows from unsupportable assumptions. One assumption is that imposing fines on corporations is costless to society, while sentencing individuals to imprisonment imposes significant social costs. Imposing fines is nearly costless when the fines are small in relation to the liquid assets of the corporations being fined, but fines sufficient to deter cartels are not so small.

A simple calculation grounded in data on real-world cartels suggests that a sufficient level of fines (aggregated across all cartel participants) is about twice the annual volume of commerce affected by the cartel activity,¹⁴ and the annual volume of commerce done by U.S. corporations filing tax returns is roughly the same as their net worth.¹⁵ Hence, fines at a level sufficient to deter can exceed the ability of cartel participants to pay.¹⁶

limits for corporations and wealth constraints for individuals prevent monetary sanctions from achieving the desired level of deterrence. *See* Posner, *supra* note 5, at 1201–08; Steven Shavell, *Criminal Law and the Optimal Use of Nonmonetary Sanctions as a Deterrent*, 85 COLUM. L. REV. 1232 (1985).

¹⁴ *See* Gregory J. Werden, *Sanctioning Cartel Activity: Let the Punishment Fit the Crime*, 5 EUR. COMPETITION J. 19, 28–29 (2009). Consistent with data on actual cartels, the calculation assumes that cartel participants expect to raise prices by ten percent for six years. The calculation also assumes that the fine is imposed two years after the cartel ends and that the annual discount rate applied by cartel participants is six percent.

¹⁵ For all U.S. corporations filing tax returns for 2007, aggregate receipts and net worth were both \$28.8 trillion, and their cash on hand was just \$3.6 trillion. *See* INTERNAL REVENUE SERVICE, STATISTICS OF INCOME–2007, CORPORATE INCOME TAX RETURNS table 4 (2010), available at <http://www.irs.gov/pub/irs-soi/07coccr.pdf>.

¹⁶ The U.S. guidelines for the sentencing of organizations provide for the reduction of fines on the basis of inability to pay, but “not be more than necessary to avoid substantially jeopardizing the continued viability of the organization.” *See* 1 U.S. SENTENCING COMM’N, FEDERAL SENTENCING GUIDELINES MANUAL § 8C3.3 (2010). Under the guidelines, limited ability to pay sometimes results in significantly reduced fines. *See, e.g.*, Plea Agreement, United States v. Nippon Cargo Airlines Co., No. 09cr0098 (D.D.C. May 9, 2009), available at <http://www.justice.gov/atr/cases/f245700/245774.pdf>; Plea Agreement, United States v. Premio, Inc., No. CR 06-0086 (N.D. Cal. Feb. 22, 2006), available at <http://www.justice.gov/atr/cases/f215800/215819.pdf>; Plea Agreement, United States v. Hynix Semiconductor, Inc., No. CR 05-249 (N.D. Cal. May 11, 2005), available at <http://www.justice.gov/atr/cases/f209200/209231.htm>; Plea Agreement, United States v. DuCoa, L.P., No. 3-No. 2CR00291N (N.D. Tex. Sept. 30, 2002), available at <http://www.justice.gov/atr/cases/f200300/200380.pdf>; Plea Agreement, United States v. Steele-Nickles & Assoc., Inc., No. 01cr491 (N.D. Ga. July 12, 2001), available at <http://www.justice.gov/atr/cases/indx321.pdf>; Government’s Sentencing Memorandum, United States v. UCAR Int’l, Inc., Crim. No. 98-177 (E.D. Pa. Mar. 21, 1998), available at <http://www.justice.gov/atr/cases/f3800/3838.pdf>.

Cartel participants operating only in the cartelized products and locations often could not raise the funds required to pay at a sufficient level even through total liquidation. For such corporations, fines would fail to achieve the desired deterrent effect because of the limits of corporate liability.¹⁷ Cartel participants with limited diversification outside the cartelized products and locations often could not pay fines at a sufficient level without major asset sales or other significant disruptions in business operations. For corporations in either category, the brunt of the fines would be borne not just by those who stood to benefit from the cartel participation, i.e., executives and shareholders, but also by rank-and-file employees, suppliers, distributors, and communities.¹⁸ And paying the fines could significantly weaken competitors and hence weaken competition.

Theoretical analyses concluding that it is best to rely on monetary sanctions also assume that imposing a fine on an individual can achieve the same level of deterrence as a prison sentence.¹⁹ But those making this assumption ignore the fact that a prison sentence uniquely sends the message that society condemns the particular conduct for which a prison sentence is imposed,²⁰ and the failure to send that message necessarily lessens deterrence.²¹ They also ignore the fact that the brunt of a prison sentence must be borne by the convicted individual, whereas a fine could be paid (if only indirectly) by

¹⁷ Corporate liability limits also could undermine the incentive to invest in compliance because the marginal benefit of compliance effort is reduced by liability limits. See Assaf Hamdani & Alon Klement, *Corporate Crime and Deterrence*, 61 STAN. L. REV. 271, 290–98 (2008).

¹⁸ See John C. Coffee, Jr., “No Soul to Damn: No Body to Kick”: *An Unscandalized Inquiry into the Problem of Corporate Punishment*, 79 MICH. L. REV. 386, 389–93, 401–02 (1981); Reinier H. Kraakman, *Corporate Liability Strategies and the Costs of Legal Controls*, 93 YALE L.J. 857, 882–83 (1984).

¹⁹ The analyses note that this is not true if fines exceed the individual’s total wealth, and even with lower fines, this need not be true with differing attitudes of potential offenders toward risk when wealth is at stake (with fines) versus when personal liberty is at stake (with incarceration). See Michael K. Block & Robert C. Lind, *An Economic Analysis of Crimes Punishable by Imprisonment*, 4 J. LEGAL STUD. 479 (1975); Michael K. Block & Robert C. Lind, *Crime and Punishment Reconsidered*, 4 J. LEGAL STUD. 241 (1975); John R. Coffee, Jr., *Corporate Crime and Punishment: A Non-Chicago View of the Economics of Criminal Sanctions*, 17 AM. CRIM. L. REV. 419, 423–26 (1980).

²⁰ See Voula Marinos, *Equivalency and Interchangeability: The Unexamined Complexities of Reforming the Fine*, 39 CANADIAN J. CRIMINOLOGY 27 (1997).

²¹ Survey research finds that potential white-collar criminals make rational economic calculations of costs and benefits but also give weight to the perceived morality of the particular conduct. See Raymond Paternoster & Sally Simpson, *Sanction Threats and Appeals to Morality: Testing a Rational Choice Model of Corporate Crime*, 30 L. & SOC’Y REV. 549 (1996).

others.²² A former Assistant Attorney General in charge of the Antitrust Division reports being told by a “very senior corporate executive” that “ ‘as long as you are only talking about money, the company can at the end of the day take care of me . . . but once you begin talking about taking away my liberty, there is nothing that the company can do for me.’ ”²³ Finally, the proposition that a fine can achieve the same level of deterrence as a prison sentence is completely at odds with what prosecutors and counsel representing cartel defendants observe almost on a daily basis: individuals would gladly pay whatever they have to stay out of prison.²⁴

Theoretical analyses of deterring corporations reasonably assume that they act rationally, so monetary sanctions can have a significant deterrent effect,²⁵ but sanctions on culpable individuals are necessary because the monetary sanctions on corporations are insufficient. And while monetary sanctions can induce corporations to take significant steps to ensure compliance, the threat of prison sentences helps make compliance programs effective.²⁶ Sanctions on culpable individuals also are essential because they are apt to misperceive the risks and rewards from cartel participation, e.g., by placing

²² Federal law requires individuals to bear the cost of the fines imposed upon them unless payment by their employer “is expressly permissible under applicable State law.” 18 U.S.C. § 3572(f). Many existing state statutes could satisfy that test. *See generally* Pamela H. Bucy, *Indemnification of Corporate Executives Who Have Been Convicted of Crimes: An Assessment and Proposal*, 24 IND. L. REV. 279, 282–92 (1991) (reviewing state laws on indemnification of corporate executives). Moreover, effective monitoring of fined individuals to make sure they are not indemnified via a bonus, pay raise, or other indirect means is unlikely to be infeasible.

²³ Donald I. Baker, *The Use of Criminal Law Remedies to Deter and Punish Cartels and Bid-Rigging*, 69 GEO. WASH. L. REV. 693, 705 (2001).

²⁴ The deterrent effect of prison sentences as a general matter also has substantial empirical support. *See* Steven D. Levitt & Thomas J. Miles, *Empirical Study of Criminal Punishment*, in 1 HANDBOOK OF LAW AND ECONOMICS 455, 470–74 (A. Mitchell Polinsky & Steven Shavell eds., 2007). Prison sentences are believed to have an especially powerful deterrent effect with corporate executives. *See, e.g.*, Arthur L. Linman, *The Paper Label Sentences: A Critique*, 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.”).

²⁵ *See generally* DAVID O. FRIEDRICHS, TRUSTED CRIMINALS: WHITE COLLAR CRIME IN CONTEMPORARY SOCIETY 357 (4th ed. 2010) (“White collar crime is typically viewed as a quintessentially instrumental (or rational) crime, and accordingly, . . . more amenable to deterrence than many forms of conventional crime . . .”).

²⁶ In the United States, the prospect of imprisonment of individuals is seen as part of an effective antitrust compliance program. *See* ABA SECTION OF ANTITRUST LAW, ANTITRUST COMPLIANCE: PERSPECTIVES AND RESOURCES FOR CORPORATE COUNSELORS 55, 258, 277–78 (2010); Tefft W. Smith, Comments for the Antitrust Modernization Commission Hearing on Criminal Antitrust Remedies at 15 (Nov. 3, 2005), *available at* http://govinfo.library.unt.edu/amc/commission_hearings/pdf/Smith_Statement.pdf.

excessive weight on the immediate gains from a cartel or being overly optimistic about escaping detection.²⁷ Sanctions on culpable individuals, therefore, can significantly enhance deterrence,²⁸ and merely fining the individuals would have little deterrent effect because their employers likely would pay their fines.²⁹

Furthermore, the sanction of imprisonment for individuals enhances deterrence by facilitating the detection and prosecution of cartels. The threat of a prison sentence provides individuals involved in cartel activity with the single greatest incentive to self-report through a leniency application and thereby escape sanctions. Even when full immunity is no longer available, the threat of a prison sentence provides an individual involved in cartel activity with a powerful incentive to cooperate with the prosecutor in exchange for a reduction in sentence. Thus, an absence of individual sanctions significantly undercuts the incentives of cartel participants to self-report, cooperate, and accept responsibility, handicapping both deterrence and detection.

Some recent scholarship has suggested that sanctions on individuals are the cornerstone of an effective cartel deterrence program and that the cost of achieving deterrence could be reduced by adding the sanction of disqualification (also called debarment) for convicted individuals.³⁰ The specific suggestion is to shorten prison

²⁷ Employees have been known to expose their employers to enormous risk in the pursuit of profit for the employer. In January 2008, Jérôme Kerviel, a trader at the French bank Société Générale, acting without authorization, booked trades with an aggregate value of €50 million. He was convicted of breach of trust, forgery, and other offenses and sentenced to serve three years in prison and ordered repay the €4.9 billion it cost the bank to undo his trades. *See Rogue French Trader Sentenced to 3 Years*, WALL ST. J., Oct. 6, 2010, at C1–C2.

²⁸ *See* Paolo Buccirossi & Giancarlo Spagnolo, *Corporate Governance and Collusive Behavior*, in 2 ABA SECTION OF ANTITRUST LAW, ISSUES IN COMPETITION LAW AND POLICY 1219 (W.D. Collins ed., 2008); A. Mitchell Polinsky & Steven Shavell, *Should Employees Be Subject to Fines and Imprisonment Given the Existence of Corporate Liability*, 13 INT’L REV. L. & ECON. 239 (1993).

²⁹ *See supra* notes 22–23 and accompanying text.

³⁰ *See* Ginsburg & Wright, *supra* note 12, at 16–22. This sanction is available in the United Kingdom under the Company Directors Disqualification Act of 1986, and recent policy statements discuss its use in competition cases. Office of Fair Trading, Director Disqualification Orders in Competition Cases (June 2010), *available at* http://www.offt.gov.uk/shared_offt/business_leaflets/enterprise_act/oft510.pdf; Office of Fair Trading, Company Directors and Competition Law: A Consultation on OFT Guidance (Oct. 2010), *available at* http://www.offt.gov.uk/shared_offt/OFT1277.pdf. Under U.S. law, a sentencing court could prohibit an individual “from engaging in a specified occupation, business, or profession,” after service of a prison sentence, as a condition of supervised release. 18 U.S.C. §§ 3563(b)(5), 3583(d). Proponents of disqualification suggest implementation through consent decrees. Ginsburg & Wright, *supra* note 12, at 22. That would necessitate filing a separate civil case against each individual, going through a court

sentences, hence reducing the cost of imposing the sanction, and to add a substantial term of disqualification after the prison sentence is served. The length of the latter term is calibrated to achieve the same average deterrent effect as the original prison sentence.³¹ During this term, a convicted individual would be prohibited from holding a comparable position of responsibility.³² The deterrent effect of disqualification stems mainly from its tendency to deny the offender substantial income.³³ In our view, however, the deterrent effect of any form of monetary sanction is apt to be far less potent than incarceration, which of course also denies the offender income. So a lifetime term of disqualification might provide less deterrent punch than a year in prison.

Some legal scholars argue that monetary sanctions on corporations can be imposed under civil law, so the only sound reason to criminalize conduct advancing corporate interests is to impose the sanction of imprisonment on the culpable individuals.³⁴ In the case of cartel activity, actions for damages brought by plaintiffs' lawyers could, in theory, deter corporations, with criminal enforcement reserved for individuals. This approach might have been envisioned by Congress when the Sherman Act was enacted; the United States then applied a principle of English common law under which a corporation was legally incapable of committing a crime because it could not

proceeding resulting in a judicial determination that disqualification is appropriate, and monitoring compliance throughout the duration of the decree, which could be decades. Consequently, disqualification would be far from costless. Disqualification also would be problematic with individuals who live or work outside the jurisdiction imposing the sanction.

³¹ See Ginsburg & Wright, *supra* note 12, at 22.

³² According to proponents, the individual would be barred "from working as a manager or director of any publicly traded company or for any company in a particular industry if it is either located in or sells into the United States." *Id.*

³³ Another asserted advantage of disqualification is that it enhances the reputational sanction imposed on convicted executives by shaming them. *See id.* at 20.

³⁴ See Daniel R. Fischel & Alan O. Sykes, *Corporate Crime*, 25 J. LEGAL STUD. 319 (1996). Others argue that corporations should be held criminally liable if, and only if, the corporate officers either are personally culpable or are negligent in policing the activities of subordinates. See Ginsburg & Wright, *supra* note 12, at 18–19. Imposing criminal liability on a corporation only upon a showing that corporate officers were negligent or personally culpable would complicate matters, but personal culpability of high-ranking executives is the norm. See Antitrust Modernization Commission, Public Hearing of Nov. 3, 2005, at 29–30 (testimony of Scott D. Hammond), available at http://govinfo.library.unt.edu/amc/commission_hearings/pdf/051103_Criminal_Remedies_Transcript_reform%20.pdf (for the fiscal year that had just ended the thirty individuals prosecuted by the Antitrust Division included "six owners; one CEO, four presidents, one head of a business group, two heads of marketing for a business group, 12 vice presidents, and one global product manager").

have the required mens rea.³⁵ Others have argued that corporate criminality necessarily results from specific actions taken by particular individuals, and they, rather than the corporation, should be sanctioned.³⁶

In our view, eliminating corporate criminal liability would significantly undermine cartel deterrence in several distinct ways. First, corporate criminal liability has a deterrent effect independent of that from monetary sanctions because a criminal conviction stigmatizes a corporation. Second, the deterrent effect of monetary sanctions imposed through civil damages actions would be greatly diminished without assistance from criminal enforcement. As elaborated below,³⁷ criminal enforcement against corporations detects the cartels, establishes the liability of the defendants, and provides valuable evidence for proving damages. Third, corporate criminal liability and substantial fines are essential in the operation of the Antitrust Division's leniency program. As further explained in the next section,³⁸ the potential to avoid large fines often induces a cartel participant to apply for leniency and inform on its coconspirators. Theoretical economic analysis confirms the deterrent effect of allowing the first conspirator to come forward to avoid a large monetary sanction.³⁹

³⁵ See 1 WILLIAM BLACKSTONE, COMMENTARIES ON THE LAWS OF ENGLAND 476 (1771) ("A corporation cannot commit treason or felony, or other crime, in [its] corporate capacity: though it's members may, in their distinct individual capacities. About twenty years after enactment of the Sherman Act, the Supreme Court rejected this principle. See *N.Y. Cent. & Hudson River R.R. Co. v. United States*, 212 U.S. 481, 492–94 (1909); Henry W. Edgerton, *Corporate Criminal Responsibility*, 36 YALE L.J. 827 (1927).

³⁶ For example, in a statement to Congress on antitrust law, President Woodrow Wilson argued: "Every act of business is done at the command or upon the initiative of some ascertainable person or group of persons. These should be held individually responsible and the punishment should fall upon them, not upon the business organization of which they make illegal use." 51 CONG. REC. 1963 (1914).

³⁷ See *infra* notes 92–104 and accompanying text.

³⁸ See *infra* notes 64–69 and accompanying text.

³⁹ See Joe Chen & Joseph E. Harrington, *The Impact of the Corporate Leniency Program on Cartel Formation and Cartel Price Path*, in THE POLITICAL ECONOMY OF ANTITRUST 59 (Vivek Ghosal & Johan Stennek eds., 2007); Joseph E. Harrington, *Optimal Corporate Leniency Programs*, 56 J. INDUS. ECON. 215 (2008). For nontechnical explanations of the deterrent effect of leniency programs, see Christopher R. Leslie, *Antitrust Amnesty, Game Theory, and Cartel Stability*, 31 J. CORP. L. 453 (2006); Giancarlo Spagnolo, *Leniency and Whistleblowers in Antitrust*, in HANDBOOK OF ANTITRUST ECONOMICS 259 (Paolo Buccirossi ed., 2008). On the supplemental deterrent effect of leniency for individuals, see Cécile Aubert, *Instruments of Cartel Deterrence, and Conflicts of Interest*, in THE POLITICAL ECONOMY OF ANTITRUST, *supra*, at 123.

III. CARTEL DETERRENCE IN PRACTICE

One important tool for cartel deterrence in the United States is the civil action for damages brought by, or on behalf of, victims of the cartel. The corresponding sanction is the imposition on cartel participants of liability for overcharges. To ensure that this combination of tool and sanction acts as a deterrent, plaintiffs successful in antitrust damages actions are awarded both treble damages and attorneys fees.⁴⁰ As explained by the Supreme Court:

Congress chose to permit all persons to sue to recover three times their actual damages every time they were injured in their business or property by an antitrust violation. By offering potential litigants the prospect of a recovery in three times the amount of their damages, Congress encouraged these persons to serve as “private attorneys general.”⁴¹

Indeed, the Court has observed that: “The treble-damages provision wielded by the private litigant is a chief tool in the antitrust enforcement scheme, posing a crucial deterrent to potential violators.”⁴²

The potency of the treble damage remedy is substantially enhanced by aggregating claims through class actions. Class actions are governed by Rule 23 of the Federal Rules of Civil Procedure,⁴³ and a substantial revision of that rule in 1966 facilitated class actions in antitrust.⁴⁴ In the 1970s and 1980s, antitrust class actions

⁴⁰ Although U.S. antitrust law has authorized private damage actions since 1890, such actions were unusual until the 1960s. See ABA ANTITRUST SECTION, MONOGRAPH NO. 13, TREBLE-DAMAGES REMEDY 22–23 (1986); RICHARD A. POSNER, ANTITRUST LAW 45–46 (2d ed. 2001).

⁴¹ *Hawaii v. Standard Oil Co. of Cal.*, 405 U.S. 251, 262 (1972) (quoting *Perma Life Mufflers, Inc. v. Int’l Parts Corp.*, 392 U.S. 134, 147 (1968) (Fortas, J., concurring)). The term “private attorneys general” originated with the opinion of Judge Jerome Frank in *Associated Industries of New York State, Inc. v. Ickes*, 134 F.2d 694, 704 (2d Cir. 1943) (referring to “private Attorney Generals”).

⁴² *Mitsubishi Motors Corp. v. Soler Chrysler-Plymouth, Inc.*, 473 U.S. 614, 635 (1985).

⁴³ The extent to which claims can be aggregated under Rule 23 is limited by the requirement that the claims present common questions of fact, especially as to damages, and class certification increasingly requires a substantial showing by plaintiffs. See, e.g., *In re Hydrogen Peroxide Antitrust Litig.*, 552 F.3d 305 (3d Cir. 2008); *In re Initial Public Offerings Securities Litig.*, 471 F.3d 24 (2d Cir. 2006). Class certification was recently denied, for example, in the following antitrust cases: *In re Plastics Additives Antitrust Litig.*, 2010-2 Trade Cas. (CCH) ¶ 77,159 (E.D. Pa. 2010); *In re Evanston Nw. Healthcare Corp. Antitrust Litig.*, 268 F.R.D. 56 (N.D. Ill. 2010); *In re Flash Memory Antitrust Litig.*, 2010-2 Trade Cas. (CCH) ¶ 77,051 (N.D. Cal. 2010).

⁴⁴ Predicting this effect when the new rule took effect were Walker B. Comegys, Jr., *The Advantages and Disadvantages of a Class Suit under New Rule 23, as Seen by the Treble*

occasionally achieved large damage recoveries, but in recent decades recoveries have been larger and more frequent. Between 1990 and 2007, largely through class action litigation, plaintiffs' lawyers achieved recoveries totaling more than \$18 billion in antitrust cases, over \$5 billion of which was in cartel cases.⁴⁵

A very different set of tools and sanctions is provided by the criminal justice system. In addition to fining corporations, the Antitrust Division prosecutes culpable individuals, who are subject to imprisonment. Although imprisonment has been a permissible punishment for cartel activity since the Sherman Act was enacted, no one actually served a day in prison for cartel activity for the first seventy years the Act was in effect.⁴⁶ During the next fifteen years, prison sentences for cartel activity were both unusual and brief. In 1974, however, Congress declared that participation in a cartel was a serious crime by making it a felony, increasing the maximum prison sentence from one year to three years and increasing the maximum fine for a corporation to \$1 million.⁴⁷

The 1974 legislation began a long-term upward trend in the frequency with which convicted individuals have been sentenced to prison and in the average length of their sentences. The number of individuals prosecuted per convicted corporation also has increased. During fiscal years 1990–99, a prison sentence of at least one year for participation in a cartel was imposed on twenty-seven individuals, and a prison sentence of at least two years was imposed on ten individuals. During fiscal years 2000–10, a prison sentence of at least one year for participation in a cartel was imposed on nine fifty-three individuals, and a prison sentence of at least two years was imposed on twenty

Damage Defendant, 32 ANTITRUST L.J. 271 (1966); and Charles Donlan, *The Advantages and Disadvantages of a Class Suit under New Rule 23, as Seen by the Treble Damage Plaintiff*, 32 ANTITRUST L.J. 264 (1966). Confirming this effect after the fact was Dando B. Cellini, *An Overview of Antitrust Class Actions*, 49 ANTITRUST L.J. 1501, 1506 (1982).

⁴⁵ See Robert H. Lande & Joshua P. Davis, *Benefits from Private Enforcement: An Analysis of Forty Cases*, 42 U.S.F. L. REV. 879, 891–93 (2008).

⁴⁶ The first cartel case resulting in prison sentences actually served was *United States v. McDonough Co.*, 1960 Trade Cas. (CCH) ¶ 69,695 (S.D. Ohio 1959) (order overruling defendants' objections to prison sentences). Four individuals were each sentenced to ninety days for fixing the prices of hand tools such as shovels and rakes, but one died before reporting to prison.

⁴⁷ Antitrust Penalties and Procedures Act, Pub. L. 93-528, § 3, 88 Stat. 1708 (1974). From 1955 to 1974, the maximum fine was \$50,000. From 1890 to 1955, it was only \$5000.

individuals.⁴⁸ Under legislation in effect since 2004, individuals convicted of Sherman Act violations now can be imprisoned for up to ten years.⁴⁹

Corporate fines also have trended up. In 1990, the Sherman Act was amended to increase the maximum fine from \$1 million to \$10 million,⁵⁰ and under legislation in effect since 2004, the Act contains a maximum fine of \$100 million.⁵¹ In addition, fines exceeding the Sherman Act maximum can be imposed under a provision of federal law allowing, in the alternative to the statutory fines, a fine equal to either twice the gain from the illegal activity or twice the loss to victims.⁵² Since 1990, a fine of at least \$100 million has been imposed on a cartel participant eighteen times.⁵³

IV. DETECTING CARTELS

Deterrence ultimately fails without effective tools for detecting cartels because the probability that the available sanctions would be applied likely would be so low that the sanctions could not do their job. And this is not merely a theoretical possibility; cartel activity is more easily concealed than other crimes, and cartel participants have a strong interest in concealing their unlawful activity. Consequently, detecting cartels requires powerful tools, and the Antitrust Division has such tools at its disposal.

The Antitrust Division conducts grand jury investigations of cartel activity,⁵⁴ and in recent years always has had over a hundred active grand jury investigations.⁵⁵ A grand

⁴⁸ These figures reflect the total sentence imposed on an individual convicted of violating the Sherman Act even if the individual was also convicted of violating another federal criminal statute.

⁴⁹ Antitrust Criminal Penalty Enhancement and Reform Act of 2004, Pub. L. 108-237 § 215(a), 118 Stat. 668 (2004).

⁵⁰ Antitrust Amendments Act of 1990, Pub. L. 101-588, § 4(a), 104 Stat. 2880 (1990).

⁵¹ Antitrust Criminal Penalty Enhancement and Reform Act of 2004, § 215(a).

⁵² *See* 18 U.S.C. § 3571(d) (“If any person derives pecuniary gain from the offense, or if the offense results in pecuniary loss to a person other than the defendant, the defendant may be fined not more than the greater of twice the gross gain or twice the gross loss, unless imposition of a fine under this subsection would unduly complicate or prolong the sentencing process.”). This provision took effect on November 1, 1987.

⁵³ All fines of \$10 million or more for Sherman Act violations are listed on the Antitrust Division’s Web site, <http://www.justice.gov/atr/public/criminal/sherman10.pdf>. Listed fines over \$10 million for violations committed before June 22, 2004, were imposed under 18 U.S.C. § 3571(d). Listed fines over \$100 million for violations committed after that date were imposed under 18 U.S.C. § 3571(d).

⁵⁴ *See generally* Antitrust Division, U.S. Dep’t of Justice, Grand Jury Manual, <http://www.justice.gov/atr/public/guidelines/4371.htm> (detailing antitrust criminal investigation practices and procedures).

jury conducting a criminal investigation can issue subpoenas ad testificandum calling witnesses to provide potentially relevant testimony, and it can issue subpoenas duces tecum ordering the production of potentially relevant documents or physical evidence.⁵⁶ To obtain testimony from a witness asserting the Fifth Amendment privilege against self-incrimination, a federal prosecutor is authorized to compel grand jury testimony under a grant of immunity.⁵⁷

To avoid the possibility of document destruction and to deal with the failure to comply fully with a subpoena duces tecum, the Antitrust Division, with probable cause, can obtain a search warrant and then seize relevant documents.⁵⁸ The Division's cartel investigations can be greatly assisted by audio or video recordings of cartel discussions. Making such recordings is termed "consensual monitoring" when done with the consent of one of the participants, and no court order is required. With a court order, the Division can record conversations without consent.⁵⁹ Antitrust Division criminal investigations are supported by other government agencies, such as the FBI and various offices of inspectors general. Agents from these agencies assist in locating and interviewing persons of interest, executing search warrants, or conducting surveillance. In international cartel investigations, the Antitrust Division often benefits from the cooperation of competition agencies outside the United States.⁶⁰

The foregoing tools are substantially reinforced by criminal statutes prohibiting efforts to frustrate criminal investigations. Making knowingly false, material statements under oath before a grand jury is the crime of perjury.⁶¹ Making unsworn, knowingly false, material statements to Antitrust Division investigators or FBI agents also is a crime.⁶² Acts designed to interfere with a criminal investigation can constitute the crime of obstruction of justice.⁶³

⁵⁵ See Antitrust Division Workload Statistics FY 2000–2009, available at <http://www.justice.gov/atr/public/workload-statistics.pdf>.

⁵⁶ See generally *United States v. Calandra*, 414 U.S. 338, 343 (1974) ("The grand jury may compel the production of evidence or the testimony of witnesses as it considers appropriate . . .").

⁵⁷ See 18 U.S.C. §§ 6001–03.

⁵⁸ See FED. R. CRIM. P. 41.

⁵⁹ See 18 U.S.C. § 2516.

⁶⁰ The Antitrust Division's cooperation agreements with authorities in several other jurisdictions can be found at http://www.justice.gov/atr/public/international/int_arrangements.htm.

⁶¹ See 18 U.S.C. §§ 1621, 1623.

⁶² See 18 U.S.C. § 1001.

⁶³ See 18 U.S.C. §§ 1503, 1510, 1512 & 1519.

For all the power of this formidable array of investigative tools, the Antitrust Division's leniency program is now the most important tool either for detecting cartels or for developing the evidence necessary to prosecute them. Under the Division's leniency program, a corporation participating in a cartel can be granted leniency in return for coming forward and cooperating in the investigation and prosecution of the cartel. The Division first adopted a leniency policy in 1978, but it became an effective tool only after major revisions in 1993.⁶⁴

Since 1993, avoidance of all criminal sanctions has been automatic for qualifying corporations that come forward before the Division has information indicating the existence of the cartel. Moreover, all officers, directors, and employees of these corporations are protected from criminal conviction, provided that they cooperate in the investigation. In addition, avoidance of criminal sanctions has potentially been available even if cooperation begins after the Division acquired information indicating the existence of the cartel.⁶⁵ Since 1994, the Division also has had a leniency policy for individuals who come forward when their employers do not.⁶⁶

Over ninety percent of fines imposed for Sherman Act violations since 1996 can be traced to investigations assisted by leniency applicants,⁶⁷ and prosecutions assisted by leniency applicants accounted for over ninety percent of the total commerce affected by all the cartels prosecuted by the Division since 1999. The Antitrust Division's leniency program is effective because acceptance into the leniency program can enable both corporations and individuals to avoid substantial sanctions. A corporation accepted into the program avoids the stigma of a criminal conviction, pays no fine, and has limited

⁶⁴ Under the original program, the Division received only about one leniency application per year, and no leniency application made under the original program resulted in the detection of a significant cartel. See Scott D. Hammond, *The Evolution of Criminal Enforcement Over the Last Two Decades* at 2, Speech at the 24th Annual National Institute on White Collar Crime (Feb. 25, 2010), available at <http://www.justice.gov/atr/public/speeches/255515.pdf>.

⁶⁵ See ANTITRUST DIVISION, U.S. DEP'T OF JUSTICE, CORPORATE LENIENCY POLICY (Aug. 10, 1993), available at <http://www.justice.gov/atr/public/guidelines/0091.pdf>. For a fuller discussion of program, see Scott D. Hammond & Belinda Barnett, *Frequently Asked Questions Regarding the Antitrust Division's Leniency Program and Model Leniency Letters* (Nov. 19, 2008), <http://www.justice.gov/atr/public/criminal/239583.pdf>.

⁶⁶ ANTITRUST DIVISION, U.S. DEP'T OF JUSTICE, LENIENCY POLICY FOR INDIVIDUALS (Aug. 10, 1994), available at <http://www.justice.gov/atr/public/guidelines/0092.pdf>.

⁶⁷ See Hammond, *supra* note 64, at 3.

liability in any follow-on civil litigation.⁶⁸ Moreover, qualifying executives avoid the stigma of a criminal conviction, fines, and imprisonment.

Avoidance of corporate sanctions provides a strong incentive to come forward because the likelihood of detection is substantial: Corporations participating in cartels are well aware that one of their coconspirators or employees could apply for leniency and that the Antitrust Division has powerful criminal investigation tools. Avoidance of individual sanctions also provides a strong incentive to come forward because culpable individuals who do not get leniency are regularly sentenced to prison.⁶⁹

Detection of cartels through the leniency program bolsters cartel deterrence.⁷⁰ First, the leniency program directly increases the expected probability with which sanctions will be applied. Second, the leniency program has a destabilizing effect on potential cartels because the first participant to apply for leniency can escape sanctions that are then imposed on the other cartel participants. Third, the leniency program facilitates prosecutions because leniency applicants provide access to evidence that otherwise might be unavailable (e.g., documents and witnesses located outside the United States). Fourth, the leniency program induces cooperating companies to provide useful information on the existence of other cartels, which the Division then investigates with its formidable array of tools.⁷¹

Plaintiffs' lawyers can avail themselves of none of the foregoing tools in detecting cartels, and historically, civil tools have not been effective in detecting cartels.⁷² Until a few years ago, however, an inkling of cartel activity might have sufficed to invoke the

⁶⁸ Section 213 of the Antitrust Criminal Penalty Enhancement and Reform Act of 2004, Pub. L. 108-237, 118 Stat. 665, 666–67 (2004), limits the exposure of any company accepted into the Division's leniency program to its pro rata share of the total damages before trebling, provided that the company cooperates with the plaintiffs in the damages action.

⁶⁹ See Scott D. Hammond, Cornerstones of an Effective Leniency Program 6–8, Speech at the International Competition Network Workshop on Leniency Programs (Nov. 22–23, 2004), available at <http://www.justice.gov/atr/public/speeches/206611.pdf>.

⁷⁰ Experimental and empirical evidence confirms the deterrent effect of leniency programs. See Jeroen Hinloopen & Adriaan R. Soetevent, *Laboratory Evidence on the Effectiveness of Corporate Leniency Programs*, 39 RAND J. ECON. 607 (2008); Nathan Miller, *Strategic Leniency and Cartel Enforcement*, 99 AM. ECON. REV. 750 (2009).

⁷¹ See Antitrust Modernization Commission, Public Hearing of Nov. 3, 2005, at 50–51 (testimony of Scott D. Hammond), available at http://govinfo.library.unt.edu/amc/commission_hearings/pdf/051103_Criminal_Remedies_Transcript_reform%20.pdf (As a result of the leniency program, “[o]ver 50 percent of our international investigations were generated as a result of a lead developed in a completely separate investigation.”).

⁷² See, e.g., John C. Coffee, Jr., *Rescuing the Private Attorney General: Why the Model of the Lawyer as Bounty Hunter Is Not Working*, 42 MD. L. REV. 215, 220–23 & n.15 (1983).

discovery powers under the Federal Rules of Civil Procedure. As pleading standards were interpreted, a complaint did not have to set out specific facts,⁷³ but rather only to say enough to establish a “reasonably founded hope that the [discovery] process will reveal relevant evidence.”⁷⁴ Dismissing antitrust cases in advance of discovery was particularly disfavored.⁷⁵ Thus, the filing of a complaint with vague allegations of cartel activity could have sufficed to make use of civil discovery.⁷⁶

The opportunity for plaintiffs’ lawyers to investigate suspected cartel activity with the tools of civil discovery was limited in 2007 by the Supreme Court’s decision in *Twombly*.⁷⁷ *Twombly* was a putative class action alleging a concealed agreement not to compete among four regional telephone companies. The district court’s dismissal of the complaint prior to discovery was reversed by the appeals court. The Supreme Court then reversed the appeals court, holding that a complaint alleging a conspiracy in violation of section 1 of the Sherman Act must provide “enough factual matter (taken as true) to suggest that an agreement was made,” and must do so by “identifying facts that are suggestive enough to render a § 1 conspiracy plausible.”⁷⁸ Without the benefit of discovery, many plaintiffs have had difficulty in providing “enough factual matter” to

⁷³ See generally *S. Austin Coalition Cmty. Council v. SBC Commc’ns Inc.*, 274 F.3d 1168, 1171 (7th Cir. 2001) (“It is not necessary that facts or the theory of relief be elaborated.”); *Kirksey v. R.J. Reynolds Tobacco Co.*, 168 F.3d 1039, 1041 (7th Cir. 1999) (“The courts keep reminding plaintiffs that they don’t have to file long complaints, don’t have to plead facts, don’t have to plead legal theories.”).

⁷⁴ *Dura Pharms., Inc. v. Boudo*, 544 U.S. 336, 347 (2005) (alteration in original) (quoting *Blue Chip Stamps v. Manor Drug Stores*, 421 U.S. 723, 741 (1975)).

⁷⁵ See *Poller v. Columbia Broad. Sys., Inc.*, 368 U.S. 464, 473 (1962) (“We believe that summary procedures should be used sparingly in complex antitrust litigation where motive and intent play leading roles, the proof is largely in the hands of the alleged conspirators, and hostile witnesses thicken the plot.”).

⁷⁶ See generally *Swierkiewicz v. Sorema N.A.*, 534 U.S. 506, 512 (2002) (interpreting Rule 8(a)(2)); *Conley v. Gibson*, 355 U.S. 41 (1957) (same).

⁷⁷ *Bell Atl. Corp. v. Twombly*, 550 U.S. 544 (2007). Any doubt about the significance of *Twombly* was dispelled two years later by the Court’s decision in *Ashcroft v. Iqbal*, 129 S. Ct. 1937, 1949 (2009)

(“To survive a motion to dismiss, a complaint must contain sufficient factual matter, accepted as true, to state a claim to relief that is plausible on its face. A claim has facial plausibility when the plaintiff pleads factual content that allows the court to draw the reasonable inference that the defendant is liable for the misconduct alleged. The plausibility standard is not akin to a probability requirement, but it asks for more than a sheer possibility that a defendant has acted unlawfully. Where a complaint pleads facts that are merely consistent with a defendant’s liability, it stops short of the line between possibility and plausibility of entitlement to relief.”) (internal quotations and citations to *Twombly* omitted).

⁷⁸ *Twombly*, 550 U.S. at 556.

make antitrust conspiracy claims “plausible,” so the dismissal of such claims has been common since *Twombly*.⁷⁹ Courts in antitrust cases take the view expressed by one appeals court even before *Twombly* that

the price of entry, even to discovery, is for the plaintiff to allege a factual predicate concrete enough to warrant further proceedings, which may be costly and burdensome. Conclusory allegations in a complaint, if they stand alone, are a danger sign that the plaintiff is engaged in a fishing expedition.⁸⁰

V. RELATIVE CONTRIBUTIONS OF CIVIL AND CRIMINAL ENFORCEMENT

Law professors Robert Lande and Joshua Davis purport to assess the relative deterrent effect of civil damages actions and government criminal prosecutions by comparing the total recovery in damages actions to the total criminal penalties imposed in Antitrust Division cases. Comparing aggregate figures, they argue that the recovery from damages actions filed by plaintiffs’ lawyers amount to more than penalties imposed in prosecutions by the Antitrust Division and hence the former are more important in deterring cartels.⁸¹

To assess the deterrent effect of damage actions filed by plaintiffs’ lawyers, Lande and Davis use the data on damage recoveries they had compiled on antitrust cases in which plaintiffs’ lawyers achieved substantial recoveries since 1990.⁸² Of these cases,

⁷⁹ See, e.g., *In re Travel Agent Comm’n Antitrust Litig.*, 583 F.3d 896, 902–11 (6th Cir. 2009), cert. denied, 131 S. Ct. 896 (2011); *Rick-Mik Enters., Inc. v. Equilon Enters., LLC*, 532 F.3d 963, 975–76 (9th Cir. 2008); *Kendall v. Visa U.S.A., Inc.*, 518 F.3d 1042, 1048–50 (9th Cir. 2008); *In re Elevator Antitrust Litig.*, 502 F.3d 47, 50–52 (2d Cir. 2007) (per curiam).

⁸⁰ *DM Research, Inc. v. Coll. of Am. Pathologists*, 170 F.3d 53, 55 (1st Cir. 1999).

⁸¹ Robert H. Lande & Joshua P. Davis, *Comparative Deterrence from Private Enforcement and Criminal Enforcement of the U.S. Antitrust Laws*, 2011 B.Y.U. L. REV. (forthcoming), available at <http://ssrn.com/abstract=1565693> (page references are to the unpublished version of the paper).

⁸² *Id.* (citing Lande & Davis, *supra* note 45). To be included, a case had to produce a recovery of at least \$50 million. Consequently, Lande and Davis provide no information on the contribution of plaintiffs’ lawyers to the deterrence of small cartels. Historical data indicate that successfully prosecuted small cartels often were not the subject of damages actions. See Gregory J. Werden, *Price-Fixing and Civil Damages: Setting the Record Straight*, 34 ANTITRUST BULL. 307, 313–16 (1989). During the period examined by Lande and Davis, the Antitrust Division had over a hundred cartel prosecutions involving less than \$10 million in annual commerce. Such cases typically could generate, at the very most, only a few million dollars in damages, making them unattractive to plaintiffs’ lawyers. Yet if small cartels were

thirteen involved cartels, and \$5.6–7.0 billion was recovered in those cases, with \$3.9–5.3 billion from just the vitamins cartel.⁸³ To assess the deterrent effect of the Antitrust Division’s criminal enforcement, Lande and Davis use the data published by the Division on sentences in its criminal cases for the same time period as the damage recoveries.⁸⁴ They sum the penalties imposed in all the Division’s cases, converting prison sentences to what they view as a reasonable dollar equivalent based on several alternative methods of determining the disutility of incarceration. Lande and Davis conclude that recovery in the thirteen cartel cases accounted for at least as much deterrent effect as all the Division’s criminal cases put together.⁸⁵

For purposes of computing the total deterrent effect of criminal sanctions, Lande and Davis ultimately value the disutility of a year in prison at \$2 million, while arguing that figure is “unduly high.”⁸⁶ We believe, however, that some antitrust defendants have spent more than \$2 million in legal fees in the attempt to avoid prison and would pay much more in criminal fines to avoid jail altogether. Moreover, Lande and Davis overlook the deterrent effect of stigma from criminal conviction, from restrictive conditions of supervised release, and from reduced future earnings.

Lande and Davis usefully document the important role played by civil damages actions in the deterrence of cartel activity, but their specific comparison is more misleading than informative. They overlook the critical contributions made by the Antitrust Division to the success of plaintiffs’ damages actions, and they fail to fully appreciate how cartel deterrence works.

Lande and Davis maintain that deterrence is accomplished if, and only if, the expected value of total criminal penalties and civil settlements exceeds the expected value of total incremental profits from the illegal activity.⁸⁷ But this overly simplistic view misses much that is critical in deterring cartels. A cartel is not a single, profit-maximizing entity, but rather a group of competitors each of which is run by individuals.

permitted to fly under the enforcement radar, in the aggregate, they would inflict a great deal of harm on consumers.

⁸³ See Lande & Davis, *supra* note 81, tables 7, 10.

⁸⁴ The relevant data for the ten most recent years are provided by Antitrust Division Workload Statistics FY 2000–2009, available at <http://www.justice.gov/atr/public/workload-statistics.pdf>. Earlier data are available at <http://www.justice.gov/atr/public/division-operations.html>. As Lande and Davis note, these data cover all the Antitrust Division’s criminal cases, including cases not involving antitrust violations.

⁸⁵ See Lande & Davis, *supra* note 81, at 23.

⁸⁶ See *id.* at 20 & n.71.

⁸⁷ See *id.* at 4–11.

Even if criminal fines and damages are insufficient to make cartel activity unprofitable for the entire group of corporations competing in a market, deterrence nevertheless succeeds if cartel activity is made unprofitable for corporations collectively accounting for a substantial share of the market. An important insight from economic theory is that a voluntary cartel can exist only when each participant reckons that it gains from participating, so heterogeneity among competitors tends to make a cartel less likely,⁸⁸ and it tends to strengthen the effect of any deterrent. Success in cartel deterrence might require only that one substantial competitor decline to participate. The costs and benefits of cartel participation differ substantially between large and small firms,⁸⁹ and empirical evidence indicates that recent cartels were destabilized by asymmetry in participants' market shares.⁹⁰

And even if criminal fines and damages are insufficient to make cartel activity unprofitable for any of the corporations competing in a market, deterrence nevertheless can succeed if the threat of prison sentences prevents individuals within those corporations from committing acts necessary to effectuate a cartel. Success in cartel deterrence might require only that one individual in one substantial competitor decline to commit the unlawful acts needed to effectuate the cartel. For this reason, the deterrent effect of a prison sentence cannot be measured usefully by the monetary equivalent assigned it by Lande and Davis.

Lande and Davis also are wrong to credit the entire deterrent effect of damage recoveries to plaintiffs' lawyers on the basis that the recovery would not have occurred without the efforts of plaintiffs' lawyers.⁹¹ In fact, the Antitrust Division does a great deal of the work that results in damage recoveries. By statute, a criminal conviction for an antitrust offense creates what amounts to a collateral estoppel effect in a subsequent

⁸⁸ See Olivier Compte, Frédéric Jenny & Patrick Rey, *Capacity Constraints, Mergers and Collusion*, 46 EUR. ECON. REV. 1 (2002); Helder Vasconcelos, *Tacit Collusion, Cost Asymmetries, and Mergers*, 36 RAND J. ECON. 39 (2005).

⁸⁹ The impact of firm size is most stark if cartels are both lawful and enforceable in court. In such a world, the best outcome for every firm is for all of its rivals to participate in a cartel, while it free rides on the cartel. But if a firm is large enough, it realizes that its attempt to free ride makes the cartel unprofitable for others, thereby eliminating the opportunity to free ride. Consequently, sufficiently large competitors, but not smaller ones, elect to participate when cartels are lawful and legally enforceable. See LOUIS PHILIPS, *COMPETITION POLICY: A GAME THEORETIC PERSPECTIVE* 23–38 (1995); Reinhard Selten, *A Simple Model of Imperfect Competition where Four Are Few and Six Are Many*, 2 INT'L J. GAME THEORY 141 (1973).

⁹⁰ See Oindrila De, *Analysis of Cartel Duration: Evidence from EC Prosecuted Cartels*, 17 INT'L J. ECON. BUS. 33 (2010).

⁹¹ See Lande & Davis, *supra* note 81, at 30.

damages case.⁹² The Antitrust Division’s leniency program also provides plaintiffs’ lawyers with a stream of cooperating conspirators.⁹³

Plaintiffs’ lawyers now rely on the work done by the Antitrust Division more than ever. In 2007, when the research by Lande and Davis on private damage recoveries ends, the Supreme Court’s *Twombly* decision held that antitrust conspiracy claims must be dismissed unless their plausibility is supported by substantial factual allegations.⁹⁴ Without either discovery or the benefit of the Antitrust Division’s efforts, it is difficult in the post-*Twombly* world for plaintiffs’ lawyers to make the required allegations. Having either a conviction in the Division’s criminal case or a cooperating amnesty applicant is enormously helpful to plaintiffs’ lawyers litigating cartel cases.⁹⁵

Lande and Davis recognize that the Antitrust Division facilitates cartel damages actions by detecting the cartels that plaintiffs’ lawyers then target, but they assert that the “private plaintiffs completely uncovered” the conduct responsible for two of the thirteen cartel-based recoveries in their data “with the government following the private plaintiffs’ lead or playing no role at all.”⁹⁶ In fact, the Antitrust Division did not “follow the private plaintiffs’ lead” in prosecuting those cartels, and any suggestion that the Division “played no role at all” is ridiculous.⁹⁷

⁹² See 15 U.S.C. § 16(a) (A conviction in a “criminal proceeding brought by or on behalf of the United States under the antitrust laws to the effect that a defendant has violated said laws shall be prima facie evidence against such defendant in any action or proceeding brought by any other party against such defendant under said laws as to all matters respecting which said judgment or decree would be an estoppel as between the parties thereto . . .”).

⁹³ See *supra* note 68.

⁹⁴ See *supra* notes 77–79 and accompanying text.

⁹⁵ See Heather Lamberg Kafele & Mario M. Meeks, Antitrust Digest: Developing Trends and Patterns in Federal Antitrust Cases After *Bell Atlantic Corp. v. Twombly* and *Ashcroft v. Iqbal* 15–17, <http://www.shearman.com/files/upload/AT-041910-Antitrust-Digest.pdf>. Even when a damages action alleges a broader conspiracy than that of which the defendants were convicted in the Antitrust Division’s case, courts give significant weight to the conviction in evaluating the plausibility of the allegations under *Twombly*. See, e.g., *In re Packaged Ice Antitrust Litig.*, 723 F. Supp. 2d 987, 1009–12 (E.D. Mich. 2010); *In re Flash Memory Antitrust Litig.*, 643 F. Supp. 2d 1133, 1149 (N.D. Cal. 2009); *In re Static Random Access Memory (SRAM) Antitrust Litig.*, 580 F. Supp. 2d 896, 903 (N.D. Cal. 2008).

⁹⁶ Lande & Davis, *supra* note 45, at 897.

⁹⁷ The fact that plaintiffs’ lawyers filed a complaint before the Antitrust Division announced an indictment or plea agreement in no way suggests that the plaintiffs’ lawyers became aware of a cartel before the Division did. Plaintiffs’ lawyers can engage in discovery only after filing a case, and they often race to the courthouse with class action complaints. The Antitrust Division, on the other hand, completes its investigation of a target before seeking an indictment and conducts a substantial investigation before entering into plea agreements.

In particular, Lande and Davis credit plaintiffs' lawyers with detecting the massive vitamins cartel, relying on the events recounted by David Boies.⁹⁸ He reports that he first got wind of a cartel in February 1997 and that he and others filed the first of many damages cases in December 1997.⁹⁹ The Antitrust Division, however, had been investigating the vitamins cartel for more than a year before Boies got his first indication of the cartel's existence. And contrary to the assertion of Lande and Davis, Boies acknowledges the contribution to his success provided by the Antitrust Division.¹⁰⁰ He observed that indications that criminal cases were about to be filed by the Antitrust Division and the evidence provided by the leniency applicant made success "easy" for the plaintiffs and greatly increased their recovery.¹⁰¹

Lande and Davis credit the detection of one other cartel to plaintiffs' lawyers. They report that an explosives cartel was discovered in the course of private litigation of a noncartel case.¹⁰² They do not indicate when evidence of a cartel emerged, but they do indicate that the antitrust claims leading to significant damage recovery were filed in February and August 1996.¹⁰³ But that was after the Division had secured guilty pleas from the conspirators,¹⁰⁴ and evidence uncovered in the private litigation did not prompt the Division's investigation.

VI. CONCLUSION

Building on a basic statutory framework unchanged for more than a century, the United States applies a diverse array of tools and sanctions to deter and detect cartels. Many countries rely on some of the same tools and sanctions, but the United States stands

⁹⁸ See Robert Lande & Joshua Davis, Benefits from Antitrust Private Enforcement: Forty Individual Case Studies at 237–38, *available at* <http://ssrn.com/abstract=1105523>.

⁹⁹ See DAVID BOIES, *COURTING JUSTICE* 226–35 (2004). A somewhat different version of the story was recounted by Harry First, *The Vitamins Case: Cartel Prosecutions and the Coming of International Competition Law*, 68 *ANTITRUST L.J.* 711, 712–14 (2001).

¹⁰⁰ Lande and Davis inaccurately report that Boies claimed that his firm "ultimately proved the collusion 'without the benefit of government involvement.'" Lande & Davis, *supra* note 98, at 237. What he actually wrote is that taking on a case like this, "without the benefit of government involvement, is a long, uncertain venture that can tax the resources of small firms such as" those that were working on the case. BOIES, *supra* note 99, at 230.

¹⁰¹ See BOIES, *supra* note 99, at 241–43.

¹⁰² See Lande & Davis, *supra* note 81, at 61.

¹⁰³ See *id.* at 63–64.

¹⁰⁴ The August 22, 1995, and September 6, 1995, press releases announcing the pleas are at http://www.justice.gov/atr/public/press_releases/1995/227835.pdf and http://www.justice.gov/atr/public/press_releases/1995/0354.pdf.

alone in its extensive experience with both class action damages cases brought by plaintiffs' lawyers and imprisonment of individuals convicted of engaging in cartel activity. Because cartel activity is treated as a serious crime in the United States, a formidable array of criminal investigative tools is available for ferreting out cartels. The tools and sanctions used in the United States support each other in numerous ways that make each of them important in deterring and detecting cartels.

Civil damages actions brought by plaintiffs' lawyers result in large monetary sanctions on corporations and thus are a mainstay of cartel deterrence. But the success of the damages actions depends on the work of the Antitrust Division. With its formidable criminal investigation tools, none of which can be used directly by plaintiffs' lawyers, the Antitrust Division is vastly more likely to detect a cartel than they are. In addition, the Division provides plaintiffs' lawyers with criminal convictions effectively establishing liability in follow-on civil suits and with cooperating leniency applicants that greatly assist in proving damages. One inducement to apply for leniency, however, is the potential to significantly limit liability in damages suits.

Although civil damages contribute to deterring corporations, criminal fines also play a critical role. Avoiding criminal fines is a powerful inducement to apply for leniency, and leniency applications are the most important means of cartel detection, which in turn makes them critical in cartel deterrence.

Monetary sanctions on corporations, even combining criminal fines with civil damages, are unlikely to be sufficient to deter cartels. Serious sanctions on culpable individuals therefore are required, and they are provided by the imprisonment of convicted individuals. If the threat of monetary corporate sanctions fails to deter, the threat of prison sentences for the culpable individuals still can do the job, and the threat of prison sentences is apt to be an especially powerful deterrent because this threat need be perceived by only one of a few key individuals across all the potential conspirators. If the threat of monetary sanctions does induce corporations to take significant steps to ensure compliance, the threat of prison sentences nevertheless is important because it makes compliance programs effective.

Deterrence ultimately fails without effective tools for detecting cartels because the probability with which the available sanctions would be applied would be so low that the sanctions could not do their job. The Antitrust Division has many powerful tools for detecting cartels, and they reinforce each other. For example, leniency applicants provide leads that trigger grand jury investigations, and the fact that the formidable criminal investigation tools can be used to detect a cartel is critical in the risk-reward calculus of potential leniency applicants.

The leniency program works well because of criminal sanctions. One inducement to come forward and cooperate is the avoidance of criminal sanctions on both the corporation and individuals within it. Another inducement to come forward and cooperate is the knowledge that only the first participant in a cartel to come forward and cooperate can avoid criminal sanctions. By playing one cartel participant off against another, the leniency program not only serves to detect cartels, it also has a potent destabilizing effect that deters cartels.

Cartels have not yet been eliminated in the United States, and they might never be, but the United States has the most successful cartel enforcement program. The reason is the unique array of tools and sanctions brought to bear against cartels in the United States.