Chapter One

Countering the Evil of Cartels[1]

The objectives of this chapter are (1) to evaluate the effectiveness of the efforts of the Antitrust Division of the U.S. Department of Justice (the Division) to detect, prosecute, and deter horizontal collusion and (2) to offer suggestions for policy or procedural changes that are likely to improve that enforcement.[2] To assess enforcement, we collected information that describes the Division's performance since roughly 1990, using both quantitative and qualitative indicators. We analyzed this information using broadly accepted principles of optimal deterrence.

The starting points for our analysis are the deliberations and decisions of the Antitrust Modernization Commission (AMC), including the comments prepared for it by members of the American Antitrust Institute (AAI).[3] In addition, we consider perspectives of legal and economic scholars, position papers of the American Bar Association, and the views of other antitrust stakeholders. Finally, this analysis incorporates the publications and private views of many of those who contributed to this Report, all of whom have had years of experience tracking the activities of the Division from positions inside or outside the agency. Since this chapter aims to be a consensus document, however, readers should not assume that everyone who participated in its preparation agrees with all of its reasoning or conclusions.

AAI believes that the Division deserves outstanding marks for its cartel enforcement activities, and especially for the surge in enforcement that has occurred since 1995. Its cartel enforcement activities were for decades the "gold standard" for antitrust, not just in the United States, but around the world. The Division's cartel corporate leniency

---

[1] This chapter is an abridged version of American Antitrust Institute Working Paper #08-02. *See* John M. Connor et al., *Antitrust Division Cartel Enforcement: Appraisal and Proposals* (March 18, 2008) [hereinafter *Cartel Working Paper*], *available at* http://ssrn.com/abstract=1130204 and www.antitrustinstitute.org.

[2] The issue of whether overall and combined U.S. anticartel activity by all participants (the Division, Federal Trade Commission (FTC), other federal agencies, state attorneys general, private plaintiffs, etc.) is optimal is beyond the scope of this chapter.

[3] *See* AMERICAN ANTITRUST INSTITUTE, COMMENT SUBMITTED TO THE ANTITRUST MODERNIZATION COMMISSION RE CRIMINAL REMEDIES (2005).

program has been so successful that it would be difficult to find another law enforcement program in all of government that matches its record. By using and then refining its leniency program together with a host of other improvements to methods of detecting and prosecuting collusion, the Division has saved American consumers and businesses many billions of dollars in injuries that would otherwise have been inflicted on them by price fixing, bid rigging, the division of markets, and the division of territories. The Division's recent success in securing much larger fines, substantially increased individual prison sentences, greater detection of cartels, and leadership among international antitrust authorities all are evidence of their overwhelming successes.

This chapter does, however, find evidence that the Division is in some ways being surpassed by other actors in imposing anticartel sanctions. Moreover, the Division may be constrained by inadequate enforcement resources. These trends have led us to suggest a number of changes that, ceteris paribus, should enhance the Division's program, help it to deter even more illegal behavior, and bring even more benefits to the American economy. These will be explained throughout this chapter and summarized in the Recommendations section below.

MAJOR RECOMMENDATIONS

The AAI proposes the following set of recommendations for consideration by the leaders of the Division, the U.S. Sentencing Commission (Sentencing Commission), appropriate committees of Congress, and the new administration. We have limited ourselves to suggestions that are both feasible and relatively low cost relative to their benefits.

Increase the Certainty and Severity of U.S. Price Fixing Penalties

- The Division has the authority to recommend corporate fines for international cartels by calculating the base fine using global affected sales, instead of domestic sales. In many cases this would significantly and appropriately increase the fines for members of international cartels. The Division should make this its standard practice.

- The Division should revise its normal practice of starting guilty plea negotiations from the bottom of the federal Sentencing Guidelines range rather than from the

top or the middle. If it does not do so, Congress should hold hearings on the practice and offer guidance that clarifies the appropriate starting point and discounting criteria.

- The low number of trials of cartelists over the past 15 years is a cause of concern. If guilty defendants believe that the Division's threats to bring them to court are empty bluster, the Division's ability to extract meaningful fines through negotiation is severely compromised. The Division should bring at least one or two well conceived cases targeting large firms to trial each year.

- Congress amended Section 4A of the Clayton Act to permit the federal government to obtain treble damages on the overcharges it pays. However, the Division rarely sues under Section 4A for damages incurred by the federal government as a purchaser from cartels. More such suits would assist deterrence.

- The Sentencing Commission should study the assumption in its Organizational Guidelines that cartel overcharges are typically 10% of affected sales or, indeed, total market sales. We believe that the presumption should be raised to at least 20% for North American cartels and 30% for international cartels.

- The absence of prejudgment interest in monetary penalties cuts against basic financial and deterrence concepts and only encourages cartelists to delay pleading guilty. The Sentencing Commission should revise the Sentencing Guidelines to include prejudgment interest in the corporate fines.

- There are probably sound reasons for granting 50% or even higher discounts from the Sentencing Guidelines' maximum fine for the first two cartelists to plead guilty, but cooperation discounts of more than 20% for later-arriving companies ought to be exceptional.

- Because of recent Supreme Court decisions about proof in sentencing decisions, the efficacy of the "alternative fining provision" (fines up to double the harm or

double the gain) for criminal price fixing is in doubt. Congress should raise the Sherman Act maximum corporate fine to $1 billion.

- The Division has imposed very few individual fines for cartel conduct above $100,000. It is time to begin imposing more fines closer to the current $1 million statutory maximum. Moreover, in egregious cases, the Division should begin extracting individual fines using the more-generous alternative sentencing law. In addition, Congress should raise the Sherman Act maximum fine for individuals to $10 million.

- The Division has indicted many foreign cartel managers who escape justice by remaining abroad, many of them in Japan. Congress needs to prod the State Department to clarify and strengthen the ability of the Division to extradite foreign residents guilty of criminal cartel conduct.

- As criminal fines rise, there may come a point where they begin to affect the amount of compensation available to those who have been injured by the wrongful conduct. This may happen if bankrupt defendants are prepared to pay a certain amount in total, content to let the government and private plaintiffs fight it out. Congress or the Sentencing Commission should provide guidance to the judiciary to insure that large fines do not translate into diminished recoveries for the real victims.

Introduce Innovative Cartel Detection Procedures

- The Division's individual leniency policy for criminal matters appears to be underutilized. It may be time for the Division to revise it. One promising innovation that ought to be considered is offering bounties to whistleblowers, as is already the case for *qui tam* civil suits. As a first step, the Division should study the effectiveness of cartel bounty policies in Korea and the U.K.

Public Cartel Enforcement Information[4]

- EU, U.K., Korean, and Canadian enforcers release far more details about the conduct and harm caused by cartels than does the Division. The information released by the Division rarely, if ever, includes data about unindicted coconspirators, affected sales, conduct, and injuries caused by cartels. The Division should reveal more of what it knows about these matters, either in plea agreements, informations, sentencing agreements, or in follow-up studies using anonymous data. It should publish all sentencing agreements, whether submitted to courts or not, on its Web page. This could be done in a manner that would not interfere with the Division's law enforcement efforts.

- After securing criminal convictions, the Division should also inquire, and publicly report details on, how cartels were able to collude and sustain their collusion. Rigorous empirical analysis of the dynamics of cartels will help foster antitrust policymakers' and the greater antitrust community's understanding of the factors leading to successful explicit and tacit collusion. The ultimate test of a successful conviction is the post-cartel trend in prices, especially several years after conviction, because cartel firms often learn how to collude informally as a result of belonging to an explicit cartel. The Division could require in sentencing agreements that defendants turn over simple post-conviction reports for five years on their production costs, sales, and prices in the affected market. For a representative sample of successful cartel prosecutions, the Division should report on the state of competition in the affected industries.

- Price fixing and mergers are handled by separate units in the Division, yet the two may be related. A single horizontal merger in the United States or abroad can make formation of a cartel feasible. It is frequently the case that cartel convictions are followed by spin-offs and other industry restructuring. A history of collusion in an industry may signal that a rise in coordinated effects is likely after a proposed merger is consummated. The Division should study whether there is a pattern of cartel members' acquiring rivals, large customers, or suppliers in the affected industry anywhere in the world before, during, or

[4] Some of the suggestions developed for this section can be found *infra* Chapter 5, Building the Institutions of Enforcement.

immediately after, the violation. Any negative findings should be incorporated into the Division's enforcement decisions.

- To assist disinterested parties in assessing cartels' conduct, cartel enforcement, and optimal deterrence, the Division should also make publicly available on an annual basis a computerized database identifying all antitrust consent decrees, pleas, and litigated actions under Section 1 of the Sherman Act. The database should include certain industry characteristics, such as its best information on: (i) the number of conspirators (including its best estimate of their market shares); (ii) the duration of the conspiracy; (iii) the product or services market in which collusion occurred; (iv) the number of competitors (and their market shares) who were not part of the conspiracy; (v) the number of entrants (and their market shares) during the period of the conspiracy; (vi) the nature of the conspiracy; and (vii) the types and degree of sanctions recommended and accepted by the courts.

- We suggest that the Division's workload statistics be expanded to give greater insight into its cartel enforcement over time, including full-time-equivalents of assistance from the FBI and other investigative agencies, the number of full-time-equivalents used to assist other agencies or foreign antitrust authorities, number of amnesty applications received and accepted, other reasons for opening investigations (complaints, Amnesty Plus, tips from sister antitrust authorities, screening evidence, etc.), and the number of investigations closed and general reasons for such.

- We are concerned that knowledge about empanelling grand juries in cartel cases sometimes may be leaked by defense counsel for targeted corporations to small numbers of privileged parties who commercially benefit from early possession of knowledge of an investigation. We suggest that, like the EU competition authority, the Division consider announcing the opening of its formal investigations. These announcements can be very brief, mentioning only the industry and whether international cooperation is involved. Targeted companies' identities should of course be confidential. Knowledge about closed investigations is currently handled on a case by case, haphazard basis.

Investigated organizations that have been cleared – but are concerned about lingering unfavorable rumors – ought to have the option of having the closing of an investigation announced by the Division.

Help Improve Cartel Detection and Deterrence Internationally

- Congress should either repeal the Foreign Trade Antitrust Improvements Act (15 U.S.C. § 6a (2000)) or clarify its intent in passing it, specifically on the questions of whether foreign buyers from international cartels have standing to qualify for private rights of action in U.S. courts and whether those courts have subject matter jurisdiction over such claims.

- The most harmful cartels are those that operate across multiple countries and continents. Most global cartels negatively affect the welfare of U.S. companies and consumers. One reason they are formed is that when operating in jurisdictions with weak anticartel enforcement, they face insignificant probabilities of detection or disgorgement of their monopoly profits. The Division should receive a budget increase earmarked to its program that helps educate foreign antitrust authorities in how to design effective leniency programs, impose appropriate monetary sanctions, criminalize their antitrust laws, and improve their anticartel enforcement generally.

Expand the Division's Budgetary Resources

- We believe there is plausible evidence of significant, binding resource restraints on the anticartel activities of the Division. We recommend that the Division's inflation-adjusted budget be increased significantly, and that it grow at a rate of at least 10% per annum through fiscal years 2009 – 16.

- The growing gap between the compensation of private-sector antitrust lawyers and economists and that of their counterparts in the Division is an issue that must be addressed. A way should be found to permit salaries of these highly demanded civil servants to escape the rigid limits set by civil service regulations.

I. Introduction: Cartels are a large and growing problem

The Division is the sole U.S. federal prosecutor of hard core private cartels, a form of business conduct that has been compared to economic cancer.[5] While legal scholars and members of the antitrust bar are divided on the quality of the Division's performance on merger and monopoly enforcement, few have criticized federal cartel enforcement.[6] Indeed, for decades the Division has largely been lionized for its aggressive campaign to rid the nation and the world of cartels.[7] The AMC made only modest recommendations about price fixing enforcement, none of which were critical of the Division.

Division leaders emphasize that collusion is the agency's number-one priority.[8] Indeed, the number, size, and injuriousness of discovered cartels is increasing. This is particularly true for international cartels, which for decades prior to the mid-1990s were rarely

---

[5] Mario Monti, Fighting Cartels: Why and How?, Address at the 3rd Nordic Competition Policy Conference 1 (Sept. 11 – 12 , 2000) ("Cartels are cancers on the open market economy . . . [,] cause serious harms to our economies . . . [and] also undermine the competitiveness of the industry involved."). Hard-core cartels are conspiracies between legally independent firms in the same market that control prices or quantities sold in order to increase profits above the level that would be observed in the absence of explicit collusion.

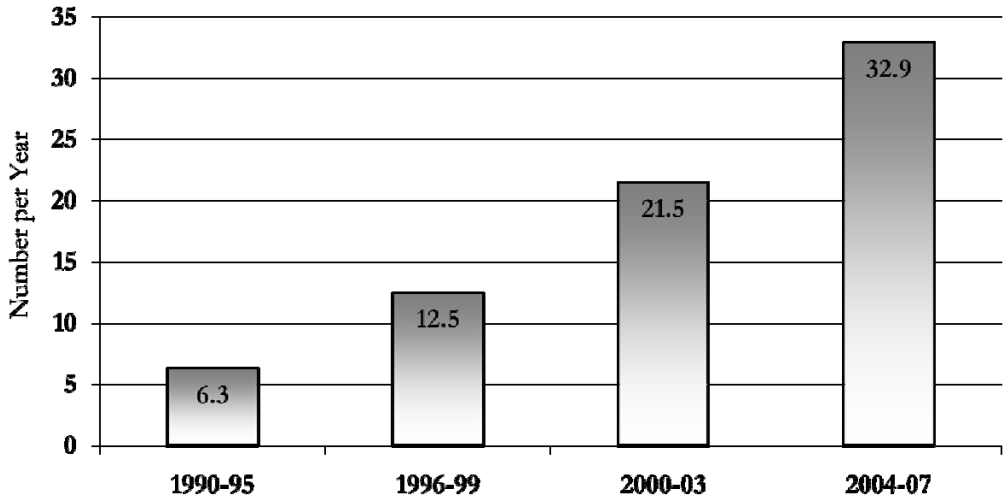
[6] "The . . . enforcement records of the [Divison and FTC] – outside the cartel area – are less activist now than at any time in recent years . . . . [T]here is continued vigor of cartel enforcement . . . ." Mark G. Whitener, *Editor's Note: The End of Antitrust?*, 22 ANTITRUST 5, 5 (2007). Whitener is editorial chair of the American Bar Association's *Antitrust* magazine and corporate counsel for General Electric Co. Similarly, FTC Commissioner Kovacic noted: "Modern U.S. experience with criminal enforcement presents a pattern of progressive, cumulative development of competition policy." William E. Kovacic, *The Modern Evolution of U.S. Competition Policy Enforcement Norms*, 71 ANTITRUST L.J. 377, 423 (2003). The absence of criticism may in part be traced to an ideological consensus on the wisdom of anticartel enforcement between the so-called Harvard and Chicago schools of antitrust. *See* Stephen Martin, *Remembrance of Things Past: Antitrust, Ideology, and the Development of Industrial Economics*, *in* THE POLITICAL ECONOMY OF ANTITRUST 25 (Vivek Ghosal & Johan Stennek eds., 2007).

[7] An early panegyric is WENDELL BERGE, CARTELS: CHALLENGE TO A FREE WORLD (1944). For more recent optimistic assessments of U.S. cartel enforcement, see Donald Klawiter, *After the Deluge: The Powerful Effect of Substantial Criminal Fines, Imprisonment, and Other Penalties in the Age of International Criminal Enforcement*, 69 GEO. WASH. L. REV. 745 (2001); David A. Balto, *Antitrust Enforcement in the Clinton Administration*, 9 CORNELL J.L. & PUB. POL'Y 61 (1999); and Robert E. Litan & Carl Shapiro, *Antitrust Policy during the Clinton Administration* 3 (U. of California at Berkley: Competition Policy Center, Working Paper CPC01-22, 2001), *available at* http://129.3.20.41/eps/le/papers/0303/0303003.pdf ("the Antitrust Division had unprecedented success during the Clinton years . . . in prosecuting price fixers").

[8] *See* Statement of Scott D. Hammond, Dep't of Justice, Before the Antitrust Modernization Commission on Criminal Remedies 1 (Nov. 3, 2005) [hereinafter *Hammond 2005*] ("[General deterrence of cartels is] . . . the highest priority of the Antitrust Division . . . .").

discovered or indicted by the Division.[9] The number of international cartels discovered annually was six times higher in the 2000s compared to the early 1990s.[10]

Rates of Discovery: All International Cartels



The increasing number of cartels detected appears to be a function of three factors. First, the number of antitrust authorities effectively looking for hard-core cartel conduct worldwide has risen.[11] Second, some believe that the probability of cartel detection by the world's antitrust authorities has also risen somewhat. The most common reason given for this perceived increase in the probability of detection is the introduction of corporate

[9] *See* Ronald W. Davis, *International Cartels: Who's Liable? Who's Not?* ANTITRUST SOURCE, May 2002, at 1-8, http://www.abanet.org/antitrust/at-source/02/05/violations.pdf ("For about half a century antitrust did not concern itself with international cartels – either they were not there, or the enforcers could not find them.").

[10] The "rate of discovery" is the total number of international cartels reported in the world's press for which a formal investigation, an indictment, or a guilty decision is announced by an antitrust authority divided by the number of years. John M. Connor, *Global Antitrust Prosecutions of International Cartels: Focus on Asia* (2007) [hereinafter *Prosecutions of International Cartels*], *available at* http://ssrn.com/abstract=1027949 (The figure, reproduced in the text, shows that the rate of discovery of cartels with international membership rose from three per year in 1990 – 95 to 20 per year in 2000 – 07. The date of discovery is the first date that an investigation or a conviction becomes publicly known.).

[11] *See* JOHN M. CONNOR, GLOBAL PRICE FIXING: STUDIES IN INDUSTRIAL ORGANIZATION NO. 24 (2001) [hereinafter GLOBAL PRICE FIXING] (citing reports documenting the rise of such agencies from 1 in 1950, to 3 in 1960, to 20 by 1989, and nearly 50 by 1996).

leniency programs.[12] However, the weight of the (admittedly sparse) evidence is that detection rates actually have remained constant and very low, from the 1960s to the early 2000s. [13] Third, it is possible that the number of annual cartel formations is also up since the 1980s.[14]

Section II will demonstrate that U.S. criminal cartel penalties, as well as foreign penalties, rose after 1990. Nevertheless, the number of cartels being discovered continues to rise. This appears to constitute a major paradox. We attempt to resolve this puzzle when we discuss cartel penalties in section III of this chapter.

---

[12] *See, e.g.,* Gary R. Spratling & D. Jarrett Arp, The Status of International Cartel Enforcement Activity in the U.S. and Around the World, Address at the American Bar Association Section of Antitrust Law Fall Forum (November 16, 2005). The high response rate to the Division's Corporate Leniency Program after 1993, to the EU's first leniency program in 1998, to the EU's revised leniency policy after 2002, and the adoption of similar programs by a dozen or more additional antitrust authorities has led specialists to opine that detection rates have risen significantly. *Id.* However, it is possible that the rate of increase in leniency applications is lower than the rate of increase in secret cartel formation during the same period.

[13] John M. Connor, *Optimal Deterrence and Private International Cartels*, Table 1 (2007), *available at* http://ssrn.com/abstract=787927 (A 2008 revision surveys 21 scholarly publications of studies or opinion surveys about the rate of clandestine cartel discovery; nearly all estimates fall within the range of 10% to 20%.). A highly regarded empirical economic study of U.S. cartel convictions between 1961 and 1998 by Bryant and Eckard finds that the probability of cartel detection was between 13% and 17%. Peter G. Bryant & E. Woodrow Eckard, *Price Fixing: The Probability of Getting Caught*, 73 REV. ECON. & STAT. 531 (1991). A limitation of the Bryant-Eckard analysis is that the sample is dated and includes few or no international cartels. *But see* Alla Golub, Joshua Detre, & John M. Connor, *The Profitability of Price Fixing: Have Stronger Antitrust Sanctions Deterred?*, paper presented at the International Industrial Organization Conference (Apr. 8 – 9, 2005), *available at* http://ssrn.com/abstract=1105450 (re-examining this issue using the same method for a sample of U.S.- prosecuted cartels uncovered during 1990 – 2004, many of them international cartels, and finding that the probability is unchanged); Emmanuel Combe, Constance Monier, & Renaud Legal, *Cartels: la probabilité d'être détecté dans l'Union Européene*, (Cahiers de researche PRISM-Sorbonne/07-01-03 January 2003), *available at* http://ssrn.com/abstract=1015061 (another reapplication of the Bryant and Eckard study employing a data set of EU-prosecuted cartels, all of them international ones, from 1969 to 2003 determines the discovery rate to be between 12.9% and 13.3%). It is significant that both of the later studies include periods during which the United States and the EU had instituted leniency programs, yet neither study finds that the cartel detection rate has increased.

[14] The causes of rising cartel conduct are not known with certainty, but the trend is contemporaneous with rising globalization and falling barriers to trade since the 1960s or so. Well documented histories of cartels over long periods show that it is frequently the case that price fixing conduct emerges as a response to falling market prices and a resulting industry-wide crisis of profits. *See* JOSEPH E. HARRINGTON, HOW DO CARTELS OPERATE? (2006). An increasing number of international cartels may well have been formed in response to greater price competition through import trade into a dominant firm's "home" markets. Additionally, globalization may have brought about a heightened awareness on the part of multinational corporations about the potential for high expected profits from overt collusion, not the least of which would result from the elimination of price competition from major importers when they join a newly formed cartel.

II. Detection and Prosecution of Cartels by the Division

The Division received and became proficient in utilizing most of its current powers to punish price fixers around 1990.[15] For ease of exposition, we divide the following 18 years into four periods: 1990 – 94, 1995 – 99, 2000 – 04, and 2005 – 07. At times we offer comparisons with the European Commission's (EC) record of cartel enforcement. The indicators we examine generally match the measures of enforcement success emphasized by Division officials: numbers of investigations launched, cases filed and won, amnesty applications, numbers of convictions, and criminal fines and prison sentences imposed.[16]

A. Numbers of Investigations and Cases

During 1990 – 2007, the Division consistently opened almost 100 formal Section 1 investigations annually (table 1). The number of pending grand juries averaged fewer than 100 before 2003 but rose to 126 during 2003 – 07.

In their public speeches, Division officials often mention that the 1993 changes to the Corporate Leniency Program and the introduction of the Amnesty-Plus and Penalty-Plus programs in the late 1990s greatly increased the number of leniency applications.[17]

---

[15] Price fixing became a felony in 1974, a change that raised the level of available sanctions for criminal price fixing, but which was not fully exploited by the Division until the early 1990s. The Sentencing Guidelines applied to offenses committed after 1987. *See* U.S. SENTENCING COMMISSION, GUIDELINES MANUAL (1987). By 1990, the Division had had a few years' experience in using the Sentencing Guidelines for criminal cartel cases. In 1990, the maximum penalties under the Sherman Act were raised substantially for both corporations and individuals. GLOBAL PRICE FIXING , *supra* note 11, at 77 – 80. The "alternative sentencing provision" for felony price-fixing violations, passed in 1984, was first applied in August 1995 in the sentencing of ETI Explosives Technologies International Inc. The innovative revisions of the Corporate Leniency Program were implemented in 1993. On June 22, 2004, enhanced criminal penalties came into force for violations that began or continued after that date; the Sentencing Guidelines applicable to criminal price fixing were revised to reflect the higher penalties on November 1, 2005. Scott D. Hammond, Recent Developments, Trends, and Milestones in the Antitrust Division's Criminal Enforcement Program, Address Before the Cartel Enforcement Roundtable, ABA Section of Antitrust Law, 2007 Fall Forum (Nov. 16, 2007) [hereinafter *Hammond 2007*].

[16] Counting cases and convictions is the universally accepted method of measuring enforcement activity of a legal authority like the Antitrust Division. Yet counts may be ultimately inconsistent with effective cartel deterrence, because the more successful deterrence is, the smaller the number of violations (detected and undetected). Hence, in theory, smaller counts over time could be consistent with heightened deterrence. We believe that the rising amount of cartel recidivism and of detections of cartels by the Division and by other antitrust authorities worldwide may be indicative of a constant or increasing number of violations during 1990 – 2007. Thus, while concerns about the misleading interpretation of case counts may apply to future analyses, this concern is inapplicable to the time period examined in this chapter.

However, the number of cartel investigations has not risen appreciably since then. Moreover, the number of Section 1 cases and the subset of criminal Section 1 cases[18] filed annually actually fell during 1990 – 2006 (table 1). The greatest decline in cartel cases occurred from 1990 – 94 to 1995 – 99, as the Division shifted away from the small but numerous cases of construction bid rigging to larger international cases. Yet, even from 1995 – 99 to 2004 – 06 cartel cases filed fell by 49%. The number of corporations and individuals charged or fined for Section 1 violations each year has also markedly declined from the 1990s to the 2000s.

The number of parties charged with criminal offenses also shows a declining or constant trend (table 1). The number of corporations charged annually averaged 68 in 1990 – 94, and has fallen in each subsequent period. During 2004 – 07, the average number of companies charged averaged only 20. Similarly, the number of individuals charged with criminal price fixing averaged 40 per annum during 1995 – 2007, down from a high of 59 per year in the early 1990s. Again, the shift from small-scale bid rigging to bigger international cartel cases largely explains this trend. However, it should be noted that the number of cases filed continued to decline after the late 1990s, albeit at a slower rate.

Because there was a major shift in emphasis between the Bush I and Clinton administrations from localized bid rigging towards large international cartel cases,[19] this issue warrants closer examination.[20] During 1980 – 95, virtually no foreign firms or

---

17 *See Hammond 2007, supra* note 15. The Leniency Program offers automatic immunity from criminal prosecution for a qualifying cartel participant (and its employees) in return for information and continuing cooperation in the prosecutions of the remaining members of the cartel. Amnesty Plus grants generous leniency (but not immunity) to a cartel participant that provides inculpatory information about a second cartel about which the Division was unaware. Guilty cartelists that do not take advantage of Amnesty Plus are promised maximal fines ("Penalty Plus").

18 These are cases that usually correspond to hard-core cartel allegations.

19 Joseph C. Gallo et al., *Department of Justice Antitrust Enforcement, 1955 – 1997: An Empirical Study*, 17 REV. INDUS. ORG. 75, 98 – 99 (2000) (showing that the proportion of localized bid-rigging schemes against governments was far higher in 1980 – 89 than at any time before or after and that nationwide conspiracy cases were averaging seven per year, except during the early 1960s. In real dollar terms, affected sales per case in 1955 – 79 were several times above the whole period average but well below average in 1985 – 94.).

20 About 50 international cartels are currently under investigation and about 10 more have had their investigations closed without being charged. Several of the latter subsequently settled with private plaintiffs.). *See* JOHN M. CONNOR, PRIVATE INTERNATIONAL CARTELS SPREADSHEET (2007) (on file with AAI) [hereinafter CARTELS SPREADSHEET].

individuals were punished for criminal price fixing.[21] Since 1994, 85% of the corporations fined at least $10 million have been foreign (table 1). Although mounting cases against foreign price fixers is more resource intensive and fraught with evidentiary difficulties, there are good public policy reasons for pursuing international cartels. Compared to domestic schemes, these cartels tend to have larger affected sales, more durability, and higher percentage overcharges.[22] For the international cartels discovered during 1990 – 2007 with known sales, total U.S. affected sales were $1.5 trillion.[23] More importantly, the U.S. overcharges generated by these discovered cartels are projected to be approximately $375 billion.[24] The sizes and injuries of these cartels dwarf all cartels sanctioned by the Division prior to 1990.[25]

Perhaps because of the Division's shift in priority towards large international cartels, requiring large teams of prosecutors, there was a significant backlog of criminal investigations in the early 2000s; however, the number pending has declined in recent years, down to a low of nine such cases pending at the end of fiscal 2007 (table 1).[26] Investigations and case development may be constrained by the limited number of professional positions in the Division and the growing pay disparity between the Division and private practice since the 1980s. Perhaps the Division has enough resources to investigate thoroughly, but only rarely enough to take large corporate defendants to

---

[21] Gallo et al.*, supra* note at 19, 98 – 99 (showing the proportion of international cases prosecuted generally ranged from 2% to 5% in 1955 – 79, fell to 0.2% in 1980 – 94, and then rose to 12% in 1995 – 97).

[22] John M. Connor & Robert H. Lande, *How High Do Cartels Raise Prices? Implications for Optimal Cartel Fines*, 80 TUL. L. REV. 513 (2005).

[23] John M. Connor, *Latin America and the Control of International Cartels*, presented at the Latin American Competition Policy Conference, Latin American and Caribbean Economic Association, Table 4 (Apr. 4, 2008) [hereinafter *Connor 2008*].

[24] Connor & Lande, *supra* note 22.

[25] *Cf.* Gallo et al., *supra* note 19.

[26] Some of these cases are the result of charges against individuals who are awaiting trial, who have pled guilty but have not yet been sentenced, who have fled U.S. jurisdiction, or who are "fugitives" because they reside abroad in countries with no extradition treaties for antitrust violations. Pending criminal cases against fugitives are not part of the Division's backlog properly speaking. However, we can find no Division data on the number of fugitives. Connor finds, in the case of international cartels from 1990 – 2007, 15 fugitives and about 30 more individuals with "pending" cases, some of whom may be fugitives. Few, if any, U.S. residents in domestic price-fixing cases become fugitives. *Prosecutions of International Cartels*, *supra* note 10. Thus, in 2007 the Division had at least 280 cases in its backlog. The Division has made some progress in reducing pending cases in the past couple of years.

trial.[27] Finally, the decline in cases filed could in part be the result of an unannounced shift in Division priorities not easily ascertainable to outsiders. Regardless, we believe that the Division should significantly expand the resources devoted to cartel enforcement to succeed in optimal deterrence of cartel formation.

B. Disposition of the Cases

Win rates are important indicators of the Division's performance.[28] During 1965 – 94, the Division won more than 90% of all its criminal cases. The win rate for civil price-fixing actions was lower in 1955 – 97 (77%), but increased since 1990.[29] Since 1994, the Division has won 99% of its criminal Section 1 cases (table 1). About 90% of the criminal convictions have been obtained by securing guilty pleas.[30]

Whether high conviction rates for cartels are an appropriate measure of prosecutorial success and whether any particular rate is optimal is difficult to judge. High rates could be obtained by following practices not in the best interests of justice, such as disproportionally pursuing the softest targets or settling rather than going to court with defendants inclined to engage in prolonged and expensive legal battles.

Prosecutors have substantial discretion to offer reduced fines or jail time in negotiations with defendants.[31] However, the plea negotiation process is not transparent.[32] The

---

[27] Defendants' counsel, being aware of the Division's reluctance to go to trial, might find it strategically advantageous to exaggerate their degree of seriousness about going to trial in the expectation that the Division will offer lower penalties to avoid court.

[28] The Department's annual reports confirm this. *See* OFFICE OF THE ATTORNEY GENERAL, FY2007 PERFORMANCE AND ACCOUNTABILITY REPORT (2007 and previous years), *available at* http://www.usdoj.gov/ag/annualreports.html. The Division wins criminal cases through negotiating a guilty plea, negotiating a consent decree, or obtaining a guilty verdict at trial. It loses cases by dismissals, acquittals, hung juries, dropped cases, or verdicts of not guilty. A third "neutral" category applies to successful amnesty applicants; these firms are not criminally indicted, and all their employees are immune from prosecution.

[29] Gallo et al., *supra* note 19, at Table XIV (the win rate for civil price-fixing prosecutions was lower in 1955 – 97 (77%), but also has increased since 1990).

[30] *See id.* at 108 – 09. From 1980 – 89, 80% of all pleas were guilty pleas, as were 99% during 1990 – 97. *Id.* at Table XII.

[31] The penalties for price fixing are spelled out in great detail in various editions of the Sentencing Guidelines. U.S. SENTENCING COMM'N, *supra* note 15. In early 2005, the Supreme Court made the Sentencing Guidelines advisory rather than mandatory. United States v. Booker, 543 U.S. 220 (2005). Most judges still tend to refer to the Sentencing Guidelines when making sentencing decisions.

Division only publishes a small share of plea and sentencing agreements, and most of those published do not contain sufficient information to enable an outsider to calculate with precision the maximum liability facing a defendant.[33] Nevertheless, the evidence we have found suggests that it is not uncommon for the Division to agree to reduce allegations of affected commerce volume or cartel duration below what could perhaps be proved at trial. Moreover, prosecutors are in a position to offer "downward departures" from the range of fines in the Sentencing Guidelines to any defendant they deem cooperative.[34] As a result, not counting the 100% fine discounts nearly automatically granted to amnestied firms, the median discount granted to a large sample of other indicted corporate price fixers in the past several years was 76% below the top end of the Sentencing Guidelines' fine range.[35]

The Division rarely goes to trial against large corporate defendants in price-fixing cases. In fact, we believe that the last trial of a large corporate price fixer took place in 2001.[36] Trials require large teams of Division staff who often must prepare for more than a year. Thus, it is doubtful that the Division has sufficient resources to bring more than a few price-fixing cases per year to trial. Defendants surely know this.

---

[32] *See* Warren S. Grimes, *Transparency in Federal Antitrust Enforcement,* 51 BUFF. L. REV. 937 (2003).

[33] John M. Connor, *A Critique of Cartel Fine Discounting by the U.S. Department of Justice* (SSRN Working Paper, 2007) [hereinafter *Critique of Fine Discounting*]. In theory, one could visit the files of every district court in which a cartel case had been conducted, examine their public files, and retrieve copies of all such memoranda. However, not only would this be prohibitively expensive, many courts do not retain paper copies because they lack the storage space. An assiduous search of the Division's Web site turned up fewer than 130 published sentencing agreements dated from 1995 to the present. *Id.* Since the Division fined 268 corporations and 309 persons (577 parties) over the same period (table 1), only about one-fourth of the agreements prepared and submitted to the courts have been published.

[34] Cooperation is already included as a mitigating factor when prosecutors compute the offense level of the crime. For this reason cooperation is usually reflected twice in fine determination, once in the offense level and once for downward departures.

[35] *Critique of Fine Discounting, supra* note 33, at Table 2.

[36] The Division successfully prosecuted scores of international cartels in 1943 – 49, and for 50 years thereafter detected and prosecuted only about 4 such cartels; in the 1990s, the Division won 2 international cartel cases and lost 2 others, *Appleton Papers* and *Industrial Diamonds*. GLOBAL PRICE FIXING, *supra* note 11, at 73 – 77. Mitsubishi was convicted in a jury trial in 2001 for its role in the huge *Graphite Electrodes* global cartel. The Division's fine recommendation in that case, which was accepted by the jury and the court, resulted in a penalty very close to the maximum Sentencing Guidelines fine.

C. Corporate Fines

Although the Division is bringing fewer Section 1 cases, it has been imposing stiffer monetary penalties on convicted price fixers. The total amount of cartel fines imposed since fiscal 1990 is approximately $4.2 billion (table 1). There is a strong upward trend. Total corporate fines averaged $28 million per annum in the early 1990s; since 1994 the mean annual fines have exceeded $300 million, and in the most recent period, 2005 – 07, corporate fines averaged $560 million per year (table 1). Corporate fines per company have also escalated during 1990 – 2007. Over the four subperiods, the mean corporate fine rose from $0.5 million to $12.9 million, $10.2 million, and $36.8 million, respectively.

In part this growth in fines is due to rising legal upper limits.[37] It also can be ascribed to the willingness and ability of the Division to impose fines above the statutory limit of $10 million that was in effect from 1990 to 2004, when it was increased to $100 million. The first $10-million fine was imposed in the *Explosives* case on September 6, 1995.[38] In late 1996, Archer-Daniels-Midland (ADM) became the first cartel defendant to pay a $100-million fine.[39] Since September 1995, 55 companies have joined the Division's "$10-million club."

The escalation in corporate price-fixing fines also can be attributed to an increased willingness of the Division to indict non-U.S. firms. Apparently no foreign firms were fined before 1995, but as of mid-2007 about 100 foreign companies had been fined by

---

[37] The statutory maximum "organizational" (i.e., corporate) fine was raised from $1 million to $10 million in 1990 and to $100 million in 2004 (appendix B). Recommended corporate fines may exceed these maxima if the "alternative fine provision" is invoked by the Division. 18 U.S.C. § 3571. The alternative fine must be less than double the harm or double the gain that can be proved was generated by the cartel conduct, but there is no absolute dollar limit. By convention, the fines are computed only on domestic sales, but there is no reason why defendants should not be liable for all the cartel's worldwide harm. Gallo et al., *supra* note 19, at 127 (showing that each time the statutory limit was raised in 1974, 1985, and 1990, real average corporate fines subsequently increased several-fold).

[38] *See* Press Release, Dep't of Justice, Justice Department Takes "One Two Punch" Against Criminal Price Fixers: Utah Explosives Company Agrees to Pay a Record $15 Million Fine for Conspiring to Fix Prices of Explosives Sold in Four States (Sept. 6, 1995), *available at* http://www.usdoj.gov/atr/public/press_releases/1995/0354.htm. The first firm to plead guilty and pay a fine above $10 million was Dyno Nobel, a U.S. subsidiary of Norsk Hydro, in 1995.

[39] *See* Press Release, Dep't of Justice, Archer-Daniels-Midland Co. to Plead Guilty and Pay $100 Million for Role in Two International Price-fixing Conspiracies: Largest Criminal Antitrust Fine Ever (Oct. 15, 1996), *available at* http://www.usdoj.gov/atr/public/press_releases/1996/0988.pdf.

the Division, nearly half paying fines of at least $10 million. In fact, 80% of all corporate fines of at least $10 million have been imposed on these companies.

Prior to 1990, the Division accounted for the vast majority of all fines collected in the world for collusion violations. The Division's only significant rival was the European Union (EU), but until 1989 the EU's cartels fines amounted to only $30 million,[40] compared to U.S. fines of more than $400 million).[41] From 1990 to 2007, however, the Division's total of $4.2 billion in fines was surpassed by the European Commission (EC) and its Member States. Cartel fines by all European competition authorities have now reached $12.6 billion, or almost three times the Division's total (table 2). Of this, $7.5 billion was recovered by the EU itself, and $5.1 billion by its constituent nation members. (However, as discussed earlier, the United States also imprisons offenders, while the EU does not.)

The main reason the Division is falling behind is that the Europeans are tackling more cartels each year,[42] not because EU fines are more severe.[43] However, a new set of EU fining guidelines implemented in September 2006 suggests that the EU might soon pull

---

[40] Francesco Russo et al., *European Commission Decisions on Competition* Figure 11 (Amsterdam Center for Law and Economics Working Paper 2007-04, 2007) (reporting a total of €42 million in fines for all violations, of which about two-thirds or $30 million was for cartels).

[41] Gallo et al., *supra* note 19, at Table XIX (reporting U.S. criminal fines imposed during 1950 to 1989. These dollars are converted to nominal figures; in 1982 dollars the total is $261.2 million). The amount of fines prior to 1950 is negligible.

[42] To be more precise, the 25 National Competition Authorities in the EU are increasingly active in opening and deciding cartel cases – 120 international cases alone. *Connor 2008*, *supra* note 23, at Table 5. The EC itself is able to decide on only about five or six hard-core cartel cases per year. It ended about one probe each year during 1990 – 2007, and in 2007 it had 24 known investigations in process. *See* CARTELS SPREADSHEET, *supra* note 20, and Russo, *supra* note 40, at Figure 1 (finding that the number of EC antitrust decisions of all types averaged 15 per year in 1990 – 2004. Beginning in 2008, the EC's capacity for making cartel decisions is expected to increase when it adopts a new method of negotiation akin to plea bargaining).

[43] Evidence for this comes from a comparison of sanctions on global cartels. Both the Division and the EC had almost the same number of opportunities to fine most of these global cartels, yet EU fines were higher than U.S. fines (table 2). A study by van der Hooft of 26 companies in global cartels fined by both the EU and the Division up to June 2006 concludes that there is no difference in the size of the fines per company imposed by the two authorities. *See* Maartel van der Hooft, Cartels: U.S. Fines v. EU Fines: Are Fines Really Higher in the U.S. than in the EU?(2007) (unpublished paper, on file with the University of Baltimore Law School).

away from the Division in the severity of its fines.[44] No similar increase in the severity of U.S. fines is expected.[45]

Damages recouped by private plaintiffs in the United States in a sample of only 40 post-1990 cases totaled more than $18 billion, roughly four times as large as total Division fines during the same period.[46] Of this $18 billion, $9.2 billion to $10.6 billion was from 25 per se Section 1 cases, of which $6.1 billion to $7.5 billion was from 14 cases that also resulted in criminal penalties.[47] Moreover, the significant number and percentage of non-follow-on private cartel suits with large settlements implies that the Division may be failing to prosecute, even civilly, large numbers of illegal cartels.[48] When placed in a global context, moreover, Division-secured cartel fines represent a modest share of the total. During 1990 – 2007, the Division total was only 17% of all such cartel payouts worldwide (table 2).

D. Individual Penalties

The Division has long emphasized that the most effective way to deter and punish cartel activity is to hold culpable individuals accountable by seeking jail sentences.[49]

---

[44] Veljanovski predicts that relative to the 1998 EU cartel-fining guidelines, the average absolute size of EU cartel fines for comparable violations will increase by 130% under the 2006 guidelines. *See* CENTO VELJANOVSKI, NEW EU PENALTY GUIDELINES: WILL THE 2006 PENALTY GUIDELINES DECREASE FINES? (2006), *available at* http://www.casecon.com/data/pdfs/casenote43.pdf.

[45] The AMC voted to retain the current structure of the Sentencing Guidelines. ANTITRUST MODERNIZATION COMMISSION, FINAL REPORT AND RECOMMENDATIONS (2007) [hereinafter AMC REPORT]. There is no indication the Sentencing Commission will raise the base fine.

[46] CARTELS SPREADSHEET, *supra* note 20. *See* Robert H. Lande & Joshua P. Davis, *Benefits From Private Antitrust Enforcement: An Analysis of Forty Cases,* paper presented at the AAI Symposium: Future of Private Antitrust Enforcement (December 10, 2007), *available at* http://ssrn.com/abstract=1090661. This $18 billion total is artificially low because of nonreporting of most of the smaller opt-out settlements and the study's decision not to count the noncash portions of the settlements. Moreover, while the Division total was for every cartel fined since 1990, the Lande/Davis data are quite incomplete because their sample only consisted of 40 very large private cases.

[47] Lande & Davis, *supra* note 46.

[48] *Id.* Although the sample size in the Lande & Davis study was small and included atypically large cases, the results suggest that many cartels that pay substantial settlements to alleged victims never face government prosecution.

[49] *Hammond 2007*, *supra* note 15, at 2.

The number of individuals fined for criminal price-fixing violations averaged 26.6 per year during 1990 – 2006 (table 1). Approximately 61% of all persons charged with criminal price fixing were subsequently fined; this proportion was highest (79%) in the early 1990s and has declined in each subsequent subperiod since then; in 2005 – 07, only 41% of those charged were fined. This decline in the frequency of fining those charged is explained in part by the increasing share of charges leveled at foreign residents, many of whom become fugitives.[50]

Total fines on individuals are modest. During 1990 – 2007, 478 individuals paid criminal fines totaling $70.3 million, or a mean of $147,100 per person (table 1). With two exceptions,[51] no individual has paid more than the 1990 – 2004 statutory maximum of $350,000 for price fixing alone. Compared with the wealth and power of the majority of convicted cartel managers, personal fines remain small and thus form an insignificant source of deterrence.[52]

Division policy statements (correctly in our view) place great weight on the deterrence value of predictably long prison sentences for convicted cartel managers. The Division secured prison sentences for a total of 284 individuals during 1990 – 2007 (table 1). Since 1999, 29 foreign defendants from 9 nations have been sentenced to prison (about 16% of all such sentences).[53] Moreover, the annual average number of individuals incarcerated for price fixing rose from 13 in the 1990s, to 17 in 2000 – 2004, to a high of 24 in 2005 – 2007.[54] The severity as of prison sentences has increased as well. The

---

[50] We know of no data available from the Division on the number of fugitives.

[51] As is the case for corporations, there is a rarely used "alternative sentencing provision" available to the Antitrust Division that can result in individual fines of up to $25 million under the alternative sentencing statute. 18 U.S.C. §3571. Higher fines for some individuals are due to multiple counts, such as mail fraud or obstruction of justice. In 2004, the Sherman Act maximum individual fine was raised to $1 million. *See* GLOBAL PRICE FIXING, *supra* note 11. In 2000 – 03, a guilty German graphite-electrodes manufacturer paid a $10-million personal fine for its convicted CEO (who in return received no prison sentence); the other high personal fine of $7.5 million was paid by the chairman of Sotheby's auction house, who also was sentenced to 366 days in prison (this remains the first and only litigated cartel fine above $350,000). *Id.* at 98.

[52] *See* Gallo et al., *supra* note 19, at 104 – 07 (69% of all criminal price-fixing defendants in 1955 – 97 were top corporate officers – secretary or treasurer or above – and 31% were lower-level employees). Given the large size of most corporate cartel members, their corporate officers are likely to be reasonably affluent persons, many with compensation in excess of $500,000 per year.

[53] *Hammond 2007*, *supra* note 15, at 3.

length of imprisonment per person more than doubled, from 238 days in 1990 – 94 to 623 days in 1995 – 2007 (table 1). These trends are positive in terms of cartel deterrence.

Finally, it should be noted that in the U.S. practice of regularly sentencing individuals to jail for price fixing is nearly unique.[55] Several countries have individual penalties written in their laws[56], but only Canada, Australia, Germany, and Israel have regularly imposed fines on individual price fixers.[57] The Division has made efforts to encourage the criminalization of antitrust abroad, and the EU is discussing proposals along these lines. Whether the current U.S. sentences are high enough or imposed often enough to deter cartels optimally will be discussed in section III.

III. APPRAISAL OF ANTICARTEL ENFORCEMENT

We believe that deterrence, specific and general, ought to be the overarching goal of the Division's cartel enforcement efforts. To the extent a desire to avoid corporate fines, individual fines, and jail sentences motivates defendants to institute effective training and internal detection programs to foil price fixing conduct, they also serve the goal of rehabilitation.[58] Two specific enforcement activities of the Division serve cartel deterrence. The first is detection, and subsequent prosecution, of secret cartels, since deterrence cannot happen without it. Second is imposing penalties sufficiently high to optimally deter these violations.

---

[54] The high average for 2005 – 07 depends heavily on the record number of 34 incarcerations in fiscal 2007. *Id.* at 2 – 3. Without the 2007 number, a strong upward trend might not be evident.

[55] The EU imposes only corporate civil fines.

[56] Examples are France, Brazil, Japan, and the U.K.

[57] Only Israel has imprisoned significant numbers of cartel managers. Yet, it has prosecuted only two international cartels, and in neither case were criminal sanctions imposed. Japan imprisoned a few cartelists in the early 1950s, but none since. One Canadian prosecution resulted in a nine-month sentence, which was commuted to community service.

[58] In rare instances, such as cases involving overcharges to the United States government, another goal of the Division is compensation of the victims of collusive behavior.

A. Detection of Cartels

Detecting clandestine cartel activity is one of the Division's most important tasks. Since 1990, innovative Division programs have increased the number of cartels uncovered annually. We applaud and encourage these efforts.

Before the 1990s, the Division mainly initiated investigations in response to complaints from suspicious buyers. The problem with a passive approach to cartel detection is that buyers of cartelized products often are unaware of the price fixing, particularly when the cartel operates internationally. Another problem with relying on tips alone is that considerable in-house industry expertise is required to decide which allegations of collusion are reasonably consistent with industry structures and trading conditions. Moreover, in the absence of direct evidence of collusion, it may be hard to prove that the conduct reflects an illegal agreement rather than legal oligopolistic coordination.

These buyer complaints have been largely supplanted by leniency applications as the mechanism that launches investigations. In terms of the number of applications, the 1993 revision of the Corporate Leniency Program has been a roaring success,[59] primarily because of nearly automatic approval if an applicant meets a short list of easily predetermined conditions.[60] The first successful applicant is granted a 100% reduction in its fine and its managers gain immunity from prosecution. For over five years, the Division has received about two applications each month. Apparently, this program has become by far the foremost source of tips about secret cartels. A 2004 amendment to the Sherman Act increased the benefits to amnesty applicants by de-trebling maximum private damages; it also obligates amnesty recipients to cooperate with private plaintiffs.[61] Finally, information about putative cartel activity is flowing among the world's antitrust authorities; joint international raids often provide additional tips about secret cartels and help preserve incriminating documents that may reside abroad.

---

[59] Litan & Shapiro, *supra* note 7, at 3 – 4 (crediting the program as the major reason for the successful anticartel record of the Clinton administration).

[60] They include ceasing collusion, full cooperation with the investigation, and no ringleader role.

[61] James M. Griffin, The Antitrust Criminal Penalty Enhancement and Reform Act of 2004, Address at the ABA Section of Antitrust Law Fall Forum 9 (Nov. 16 – 17, 2006); Scott D. Hammond, Antitrust Sentencing In The Post-*Booker* Era: Risks Remain High For Non-Cooperating Defendants, Address at the ABA Section of Antitrust Law Spring Meeting 12 – 13 (Mar. 30, 2001). Time will tell, but plaintiffs' attorneys are skeptical that the law will significantly improve cooperation.

The Corporate Leniency Program has one negative implication for general deterrence. As noted, amnesty recipients pay no fines, and since 2004 are liable for only single rather than treble private damages. The routine approval of qualified amnesty applicants means that the total amount of fines and private penalties collected for price fixing has fallen compared to that for cartels uncovered under a no-leniency regime.[62] This raises a crucial question: does the Division frequently "buy" cooperation in order to secure relatively easy convictions? There is evidence, further explored in the next subsection, that the Division's leniency practices result in quite generous fine discounts.

The Division also has an individual leniency program, but it is rarely mentioned and evidently little used. One proposal to increase discovery of cartels that merits serious consideration would be to expand the existing Civil False Claims Act to encourage greater whistle-blowing by individuals about suspected hidden cartel activity.[63] From 1986 to 2000 more than $3.5 billion was recovered by the U.S. Treasury from *qui tam* actions, of which $500 million went to individuals.[64] A bounty program for individual whistle-blowers, like those employed in Korea and the U.K., would probably spur more cartel discoveries.

B. Price-Fixing Remedies

Since the early 1990s, the size of cartel penalties imposed has been rising, yet so has the number of cartels detected worldwide. Together, these observations might seem contradictory, even paradoxical. However, these facts can be reconciled by evidence suggesting that even today's higher penalties are still far lower than most cartels' expected illegal profits. This evidence implies that even recently increased price-fixing penalties substantially underdeter cartel violations. Underdeterrence arises from flaws in the

---

[62] The non-amnestied members of a cartel are jointly liable for the total cartel overcharge *less* the portion attributable to the amnesty recipient. For example, if a cartel controlled 90% of a market and an amnesty recipient held 20% of the cartel's market share, then ceteris paribus both the total fines and the private settlements would be reduced by 18%. The 2004 detrebling law is too new to have been studied empirically.

[63] *See* William E. Kovacic, *Private Monitoring and Antitrust Enforcement: Paying Informants to Reveal Cartels,* 69 GEO. WASH. L. REV. 766 (2001).

[64] *Id.* at 767.

design of the Sentencing Guidelines for price fixing and from the generous Division discounts from the Sentencing Guidelines, among other things.[65]

1. Corporate Fine Levels

The starting point for plea bargaining is the Sentencing Guidelines of the Sentencing Commission.[66] The AMC,[67] ABA,[68] and the AAI agree that the Sentencing Guidelines' presumption (crafted in the mid-1980s) that the typical cartel achieves a 10% overcharge is unsupported by empirically sound research.[69] Indeed, the most comprehensive study of the subject concludes that the median overcharge is roughly 22 – 25%, and the mean overcharge is probably 31 – 49%.[70] Thus, cartel price effects are *two to five times higher* than the Sentencing Commission assumed. This suggests that penalties based on the Sentencing Guidelines will significantly underdeter cartel behavior. The Division itself seems to agree that the 10% presumption may be too low.[71] This fact alone suggests that cartels usually make a profit even when they are caught. A fortiori, since cartels frequently are not caught, their expected profits from collusion are substantial.

---

[65] Underdeterrence of international cartels also results from factors beyond the scope of this chapter, including relatively weak government and private anticartel enforcement abroad. Antitrust monetary penalties imposed on international cartels by jurisdictions in Africa, Asia, and Latin America during 1990 – 2007 amounted to merely 2.6% of the world total (table 2).

[66] The double-the-harm standard has been used to justify cartel fines in only a handful of cartel cases. Nearly always, the alternative sentencing provision is invoked solely to permit fine recommendations that are calculated from the Sentencing Guidelines but that exceed the statutory maximum. Therefore, nearly all Division fines are based at least in part on the Sentencing Guidelines.

[67] AMC REPORT, *supra* note 45, at 8.

[68] AMERICAN BAR ASSOCIATION, COMMENT SUBMITTED TO THE ANTITRUST MODERNIZATION COMMISSION RE CRIMINAL REMEDIES 8 (2005).

[69] While it is likely that some empirical data were examined, in retrospect it appears likely that the sample was small and confined to a short time period. For the state of knowledge in the field at the time, see Connor & Lande, *supra* note 22.

[70] *Id.*; John M. Connor, *Price-Fixing Overcharges: Legal and Economic Evidence*, *in* 22 RESEARCH IN LAW AND ECONOMICS 59 (John B. Kirkwood ed., 2007).

[71] *See Hammond 2005*, *supra* note 8, at 9 ("Several recent empirical studies show that the [Sentencing] Commission's original estimate of a 10-percent overcharge . . . may in fact be too low."). The AMC requests that it be reexamined. AMC REPORT, *supra* note 45, at 300 ("Recommendation 52. Congress should encourage the Sentencing Commission to reevaluate and explain the rationale for using 20 percent of the volume of commerce affected as a proxy for actual harm, including both the assumption of an average overcharge of 10 percent of the amount of commerce affected and the difficulty of proving the actual gain or loss.").

The Sentencing Guidelines doubled the presumed overcharge to obtain the base fine of 20% of affected sales. Doubling of the presumed overcharge is more than justified (moreover, it is far too low a multiple) by the Sentencing Commission's desire to include such factors as the dead-weight loss harm to society and the absence of prejudgment interest on fines.[72] However, a further adjustment should be made for several reasons: Dead-weight loss alone adds as much as 50% to the overcharge amount.[73] Further, the absence of prejudgment interest significantly reduces the inflation-adjusted value of penalties when they are eventually paid, especially when the rate of inflation is high or when payments to recipients take place many years after the injuries occurred.[74] For example, the failure to adjust for prejudgment interest in the *Vitamins* case cut the net present value of the imposed penalties in half.[75] Finally, because the probability of detection of secret cartels is commonly believed to be less than 33%,[76] an optimal fine must be at least treble the harm caused for this reason alone. Note that these are not overlapping factors – they are multiplicative.[77]

After the base fine has been ascertained, the Sentencing Guidelines specify culpability factors that can augment a defendant's penalty.[78] When all these culpability factors have been determined, a minimum and a maximum multiplier are ascertained from a conversion table. Once the Sentencing Guidelines' fine range is determined, the Division often offers downward "partial leniency" discounts for cooperation with its investigation. Because less than 1% of all corporate defendants insist on a trial, 99% receive these

---

[72] Connor & Lande, *supra* note 22, at 523.

[73] *See* Robert H. Lande, *Are Antitrust 'Treble' Damages Really Single Damages?,* 54 OHIO ST. L. J. 115, 152 – 53 (1993).

[74] *Id.* at 130 – 36.

[75] John M. Connor, *Effectiveness of Sanctions on Modern International Cartels*, 6 J. INDUS. COMPETITION & TRADE 195 (2006). For a list of other omitted factors, see Lande, *supra* note 73.

[76] *See* Connor, *supra* note 13, at Table 1.

[77] Suppose that for a particular cartel the dead-weight loss is 20% of the overcharge, that prejudgment interest would double the penalties, and that the probability of discovery is 25%. The optimal monetary penalty for that cartel would be (1.25) x (2.0) x (4.0) = 10 times the overcharge. For a more elaborate version of this calculation see Lande, *supra* note 73.

[78] In the 2007 Sentencing Guidelines these factors are discussed in § 8C2.5, which specifies the points to be added to or subtracted from the base culpability score. AMC REPORT, *supra* note 45. These points are then converted into summary culpability multipliers. Sentencing Guidelines at § 8C2.6.

"cooperation discounts." Even the last to cooperate in an eight-member cartel gets a discount, sometimes a significant one.[79] Partial amnesty usually results in very large fine discounts. Using a sample of 129 posted plea agreements of corporate price fixers during 1995 – 2007, the average discount from the maximum Sentencing Guidelines' fine was found to be 70% and from the minimum 58%.[80] Put another way, without partial leniency discounts, Division fines would have been $6 billion to $10 billion higher than those imposed.

There is no question that higher cartel penalties would be in the public interest. We note with approval that at least two AMC Commissioners have agreed that tougher fines are needed for international cartels.[81] Towards this end, the Division should take several steps to expand potential fines, none requiring new legislation. They include: filing more multiple counts,[82] substituting the global affected sales of cartels members in place of U.S. sales when computing the base fine, applying the principle of joint and several liability to maximum fines, using the middle or upper end of the Sentencing Guidelines' range as the standard starting demand in plea negotiations, applying strong culpability multipliers to recidivists, and requiring cartel fines to include prejudgment interest.

Currently, no matter a defendant's plea rank, in most instances it is Division practice to begin negotiations over cooperation discounts from the bottom of the Sentencing Guidelines' fine range (which the previous section demonstrated to be far too low). That is, most negotiations begin with a Division concession to a level 50% below the maximum liability. After cooperation discounts, three-fourths of all guilty corporate

---

[79] For example, E Merck was the 7th to plead guilty in the *Vitamins* cartel (8th after the amnesty recipient Rhone-Poulenc). It got a 62% discount from the top of the Sentencing Guidelines' range.

[80] See John M. Connor, *A Critique of Partial Leniency for Cartels by the U.S. Department of Justice* (SSRN Working Paper May 26, 2008) [hereinafter *Critique of Partial Leniency*]. Naturally, this figure excludes amnesty recipients and a small number of fines above the maximum Sentencing Guidelines fine.

[81] "Commissioners Carlton and Garza believe further consideration should be given to increasing treble damages in international price-fixing conspiracies where certain victims of the conduct may not seek compensation in U.S. courts through operation of the Foreign Trade Antitrust Improvements Act." AMC REPORT, *supra* note 45, at 245.

[82] For example, there were 16 vitamins cartels. Most of them were treated as separate violations by the EU for sentencing purposes, but they were treated as only three cartels by the Division. *See* John M. Connor, *Forensic Economics: An Introduction with Special Emphasis on Price-fixing*, 4 J. COMPETITION L. & ECON. 31 (2008) [hereinafter *Forensic Economics*].

cartelists end up with negotiated fines *below the minimum* specified by the Sentencing Guidelines.[83] The Division's discounting practices for price fixers after the second to sign guilty pleas seem overly generous. Until more modest and precise criteria for awarding cooperation discounts are developed and promulgated by the Division, the Sentencing Guidelines' cooperation multiplier should be dropped. Another change in Division fining practices that requires no changes in the law would be to calculate base fines using global affected commerce rather than domestic affected commerce. One study estimates that such a change would at least triple the recommended fines for members of global conspiracies.[84]

Other improvements would require changes in the Sentencing Guidelines. The Division should support reconsideration by the Sentencing Commission of the assumptions and methods embedded in the Sentencing Guidelines. First of all, the 10% overcharge assumption should be raised to at least 20% or 30%, with the latter applying to international conspiracies.[85] Second, because bid rigging results in lower percentage overcharges on average than classic price fixing,[86] the Sentencing Guidelines' higher multiplier for bid rigging offences ought to be removed. This is a change with which the AMC agrees.[87] Third, the base fine can also be raised by using a more expansive sales concepts: the Sentencing Guidelines should substitute either world-wide sales in the defendants' line of business, global sales of a defendant's sales in all lines of business (a concept close to the EU's method of capping fines), or domestic sales of the entire cartel,

---

[83] *Critique of Partial Leniency*, *supra* note 80 (containing a statistical model that predicts corporate cartelists' fine discounts fairly accurately; results show that companies that delay settling and that are members of global cartels or bid rigging schemes receive lower discounts (higher fines), but, inexplicably, that defendants in long-lasting cartels that settled during the Bush II administration got higher discounts; finally, recidivists were not penalized more severely as called for by Division policy).

[84] GLOBAL PRICE FIXING, *supra* note 11.

[85] Connor & Lande, *supra* note 22, at 561 – 62.

[86] *Id.* at 559.

[87] AMC REPORT, *supra* note 45, at 19 ("54. No change to the Sentencing Guidelines is needed to distinguish between different types of antitrust crimes because the Guidelines already apply only to bid-rigging, price-fixing, or market allocation agreements among competitors, and the Antitrust Division of the Department of Justice limits criminal enforcement to such hard-core cartel activity as a matter of both historic and current enforcement policy.").

in place of domestic affected sales of a single participant.[88] Broadening the sales definition used to calculate the base fine will place Division prosecutors in better initial bargaining positions than do the present Sentencing Guidelines. One study estimates that such a change would at least triple the recommended fines for members of global conspiracies.[89]

2. Individual Penalties

As previously stated, the Division believes that individual penalties are more efficacious than corporate fines.[90] Unfortunately, while a notable escalation in individual fines has taken place over time, fewer cartel managers are being fined each year. Overall, individual fines are minuscule, and fines per person constant or declining. More positively, the number of persons (especially foreign executives) incarcerated is up, as is the proportion of defendants imprisoned. However, the number of prison-days imposed per person is flat; the number of carve-outs of officers of guilty corporations is also flat.

C. Interaction with Private Cases: Does the Division Help or Hinder Private Rights of Action?

Dollar-for-dollar, fines and private settlements have equivalent impacts on cartel deterrence. We therefore believe that the Division has, as Congress intended, an

---

[88] AMERICAN ANTITRUST INSTITUTE, *supra* note 3, at 7. Hammond argued strongly for this more expansive interpretation of sales. *See Hammond 2005*, *supra* note 8, at 10 – 13. The ABA noted that counting the overcharges of all coconspirators is the interpretation historically used by the Division for implementing § 3715(d), the "alternative fine statute," when the Sentencing Guidelines require a fine above the Sherman Act cap. The ABA further noted that no court decision contradicts the Division's sales interpretation. *See* AMERICAN BAR ASSOCIATION, *supra* note 68. The last substitute approach – a joint-and-several-liability concept – was considered but not recommended by the AMC. Instead, the AMC recommended no change, except "making explicit" the existing rule that a 10% overcharge is a rebuttable assumption for Division prosecutors. AMC REPORT, *supra* note 45, at 302.

[89] GLOBAL PRICE FIXING, *supra* note 11.

[90] There is a broad body of opinion among experienced antitrust lawyers that imprisonment has a powerful effect in deterring cartel formation. However, we have been unable to find convincing studies based upon large samples of data that test that belief. Moreover, it would be very difficult to test this belief rigorously. The principle seems not to apply to owner-operated partnerships or proprietorships, but rather to large companies with a small cadre of professional managers with small stakes in the firm. Clearly, a $10-million fine for a large corporation with $100 million of cash on hand "hurts" the stockholders less than the same fine hurts an executive with $1 million in assets, but individual fines of this magnitude are extremely rare. The Division seems to imply that the expectation of a possible felony conviction with substantial jail time has more deterrent power than a typical fine for a large corporation. Put another way, executives value avoiding a month in prison at millions of dollars of corporate money. This hypothesis is to our knowledge untested.

obligation to assist private rights of action as far as it is legally and practically able to do so. At times, however, the Division appears indifferent or even hostile to private litigation. It even takes steps to shield defendants from the full force of private litigation in order to avoid the risk that a related plea agreement will unravel.[91] The deterrence benefits of securing more fines from guilty pleas must be balanced against the deterrence costs of reduced private penalties.[92]

While it is not uncommon for the FTC to join with the state attorneys general in antitrust prosecutions, we are not aware of a single instance of such an alliance involving the Division and the "private attorneys general." On the contrary, we have heard many informal reports that when private suits are initiated, plaintiffs experience unnecessary delays and blockages initiated by the Division. Legal impediments are particularly severe in international cartel actions.[93] We note that some courts have overridden concerns about comity and required foreign antitrust authorities to produce documents held abroad to plaintiffs in private suits.[94] Yet, the Division typically resists turning over amnesty application documents.[95]

One major issue in the *Empagran* decision was whether injured parties who made "wholly foreign purchases" from international cartels should be given standing in U.S. courts.[96]

---

[91] In 1996, the Division secured a guilty plea and the first $100-million fine from Archer-Daniels-Midland Co. (ADM) for its role in the global lysine and citric acid cartels. GLOBAL PRICE FIXING, *supra* note 11. Despite fairly clear audiotape evidence of a parallel conspiracy in the corn fructose market (by far the largest of the three markets), the Division offered to conclude its investigation of corn fructose as a concession to ADM. After nine years of litigation, with no assistance from the Division, private plaintiffs concluded settlements worth $611 million. *Id.* at 402 – 03.

[92] The latter are at least four times larger for cartel penalties in the United States. *See* Lande & Davis, *supra* note 46. Also, they are about equal in the case of international cartels (table 2).

[93] Kenneth L. Adams & Elain Metlin, Procedural Issues Unique to International Cartel Litigation, Speech at American Bar Association, Antitrust Section, International Forum 2002 (Jan. 31, 2002).

[94] In the *Vitamins* action, the court ordered both the EC and the Canadian Bureau of Competition to turn over documents they had received in the course of amnesty applications. Calvin S. Goldman, *Comity after* Empagran *and* Intel*,* 20 ANTITRUST 6, 6 (2005). Since that time, the EC has changed its process to "paperless" presentations of leniency applications.

[95] Indeed, in recent years the Division, along with the EC, has changed the amnesty application process to an oral one, because transcripts of oral testimony are not discoverable.

[96] *See* Davis, *supra* note 9, at 1 (surveying the state of the law on antitrust liability in international cartel conduct); Ronald W. Davis, *Empagran and International Cartels – A Comity of Errors*, 18 ANTITRUST 58 (2004) (a nice overview and critical analysis of the Supreme Court's *Empagran* decision); and John M. Connor &

Permitting such private rights of action would raise monetary penalties on international cartels and therefore improve deterrence. However, raising private penalties would also create a trade-off for the operation of the Division's Leniency Program by making amnesty applicants almost assuredly targets of civil damages suits.[97] It would also, under present court rules, increase the burden on the U.S. court system and might adversely affect comity. The Division weighed these considerations and argued against broadening plaintiffs' rights even though we are unaware of convincing empirical evidence of which effect predominates.[98]

There may indeed be trade-offs among deterrence, leniency policy effectiveness, and comity, but formulating wise anticartel policies requires empirical research to determine the sizes of those trade-offs.[99] We therefore propose that the Division, the Sentencing Commission, the Organisation for Economic Co-operation and Development, or Congress sponsor definitive research by disinterested parties on the net benefits of extending standing to *Empagran*-type plaintiffs under alternative institutional arrangements.[100] The results of this research should inform the Division in writing amicus briefs and Congress in devising enabling legislation in the future.

Darren Bush, *How to Block Cartel Formation and Price Fixing: Using Extraterritorial Application of the Antitrust Laws as a Deterrent*, 112 PENN ST. L. REV. 813 (2008) (for a review of the legal and economic issues).

[97] Prior to applying for amnesty, a cartelist might judge its chance of being exposed to be well under 50%; after applying its chance of paying fines becomes nearly zero, while its chance of paying significant civil penalties rises substantially. It was this concern that caused the civil liability of amnesty recipients to be detrebled when the Sherman Act was amended in 2004.

[98] Although the AMC did not endorse the *Empagran* plaintiffs' position, the sole economist on the AMC has endorsed giving standing in U.S. courts to plaintiffs who conducted wholly foreign transactions. Dennis W. Carlton, *Does Antitrust Need to Be Modernized?* 21 J. ECON. PERSPECTIVES 155 (2007). Ultimately, Carlton appears to prefer having jurisdictions outside the United States "develop and enforce their own strong laws against cartels." *Id.* at 172. We also are concerned about the loss in international cartel deterrence caused by the inability of injured parties located outside North America to bring private rights of action.

[99] We take note that the Supreme Court itself was painfully aware of the amnesty program/deterrence trade-off and asked: "How could a court seriously interested in resolving so empirical a matter . . . do so simply and expeditiously?" F. Hoffmann-La Roche Ltd. v. Empagran S.A., 542 U.S. 155, 169 (2004).

[100] Ironically, one empirical indicator may come from developments in England, because the English High Court has ruled that it is empowered to accept non-English claims from cartel victims after EC sanctions are imposed.

D. Does the Division Have Sufficient Resources?

The Division is the oldest and largest antitrust authority in the world, but given the scope of its responsibilities it does not appear to have sufficient resources to carry out its main missions. Only about 200 Division professionals are earmarked for cartel enforcement. Its large backlog of cases, reluctance to litigate, and tendency to offer excessive concessions in order to quickly settle plea agreements are all signs of an organization trying to stretch an insufficient labor pool. Relative to the size of the U.S. economy, many other foreign antitrust authorities are actually larger.[101]

Unfortunately, external observers have insufficient information to identify the appropriate size or internal organization of the Division for optimal performance of its anticartel functions. However, we safely can conclude that a substantial increase in Division manpower and budget is amply justified, with perhaps a 50% increase in professional positions dedicated to cartel matters.[102] We believe the benefit to the U.S. economy from such an increase would far outweigh its cost to the taxpayer.[103]

---

[101] *Forensic Economics*, *supra* note 82. The EC's DG-COMP has about 500 employees for a slightly larger market, but over the past several years the EU's National Competition Agencies, with more than a thousand additional employees, have begun to shoulder much of the burden of cartel enforcement. Indeed, the European national competition authorities have, together, secured more fines in total since 1990 than the Division! *See* table 2. Both the German and Dutch antitrust authorities have about 300 employees. Some overseas antitrust authorities combine the work of the Division and FTC, which together have about 2000 employees. In general, these combined foreign authorities have more employees relative to the size of their economies. For example, the Canadian Competition Bureau and the Korean Federal Trade Commission each have more than 300 employees for economies roughly 9% the size of the U. S. economy.

[102] Even with such an increase, the Division's staff handling cartel matters would still be smaller than those handling mergers and monopoly matters (table 1).

[103] In the U.K., based in part on a large survey of active competition lawyers in private firms, reductions in consumer expenditures in 2004 – 06 were estimated to be ten times the size of the Office of Fair Trading's budget. *See* OFFICE OF FAIR TRADING, THE DETERRENT EFFECT OF COMPETITION ENFORCEMENT BY THE OFT – DISCUSSION DOCUMENT (2007), *available at* http://www.oft.gov.uk/shared_oft/reports/Evaluating-OFTs-work/oft963.pdf. A similar but smaller U.S. survey in 2000 concluded that if the Division were to cease enforcing Section 1 of the Sherman Act, the number of cartels would increase by 150%. OFFICE OF FAIR TRADING, THE DETERRENT EFFECT OF COMPETITION ENFORCEMENT BY THE OFT 50 (2007), *available at* http://www.oft.gov.uk/shared_oft/reports/Evaluating-OFTs-work/oft962.pdf.

Table 1

U.S. DOJ Antitrust Division Enforcement Statistics, Annual Averages, Fiscal Years 1990-2007

	1990-94	*1995-99*	*2000-04*	*2005-07*	*1990-2007*
Resources:					
Budget (current $ mil)	59	92	126	144	100.8
Budget (1982 $ million):	47.8	70.4	88.5	89.7	72.4
Cartels %	--	--	28	29	29
Mergers, monopoly %	--	--	51	53	52
Compet. advocacy %	--	--	4	3	
Positions budgeted [a]	615	815	843	880	778.3
FTEs/budgeted %	--	93	97	97	95
FTEs on cartels %	--	24	28	28	26.4
Budget/position (000s 1982$)	77.7	86.4	105.0	101.9	93.0
Case Handling:					
Prelim inquiries pending	127	138	139	118	132
Investigations opened	96	94	95	100	95.6
No. §1 cases filed:	83	71	45	34	62.5
Criminal cases	72	55	35	25	49.0
Criminal cases %	95	83	95	89	90.8
Grand juries opened	43	27	29	37	33.8
Grand juries closed	55	29	24	30	35.2
No. appeals filed	15	17	6.2	1.7	10.8
Cases won, number	67	46	27	36	45.4
Cases won %	94	97	99	99	97
Cases pending FY'07 [b]	--	19	35 [e]	16	26.1 [e]
Corporate sanctions:					
Corporations charged	68	28	22	20	36.3
Number corps. fined	59	27	17	16	31.5
% above $10 mil.	0	20	25	22	9.7
Corp. fines ($ mil.) [c]	28	317	174	560	237.7
% above $10 mil.	0	88	97	97	90.6
% foreign $10 mil.+	0	81	91	87	79.8

Fines/corporation $ mil.	0.5	12.9	10.2	36.8	7.5
Individual sanctions: [d]					
Persons charged	59	36	40	44	44.7
Persons fined	34.4	27.8	22.6	18.0	26.6
Total fines ($ mil.)	1.62	4.39	3.40	7.75	3.91
Fines/person(thousands)	47	135	150	475	171
No. imprisoned	14.6	11.4	16.6	23.7	15.8
Prison days	3609	3017	7512	16,644	6701
Prison days/person	238	298	458	646	384

Notes:
-- = Not available

a) Highly correlated with FTEs, which are generally 85 to 95% of budgeted positions.

b) There are no cases pending shown prior to 1997, because this is a new statistical series.

c) The respective subperiod cartel fines for the EU are $83.3, $21.2, $338.2, and $1717.1 million; for all 18 years, the annual mean is $415 million.

d) Largely for price fixing, but not all.

e) The number pending on Sept. 30, 2007 was 9; the numbers were 30 or higher from 2000 to 2004, peaking at 44 at the end of fiscal year 2004; the average shown for 1995-99 is for 1998-99.

Sources:
U.S. DEPARTMENT OF JUSTICE, SHERMAN ACT VIOLATIONS YIELDING A CORPORATE FINE OF $10 MILLION OR MORE (2007), available at http://www.usdoj.gov/atr/public/criminal/225540.htm; U.S. DEPARTMENT OF JUSTICE, ANTITRUST DIVISION: WORKLOAD STATISTICS for FY 1990-1996, FY 1997 – 2006, and 1998-2007; U.S. DEPARTMENT OF JUSTICE, APPROPRIATION FIGURES FOR THE ANTITRUST DIVISION: FISCAL YEARS 1903-2007 (2007), available at http://www.usdoj.gov/atr/public/10804a.htm; Connor 2008, supra note 23.

Table 2

Monetary Penalties Imposed on Corporate Members of International Cartels Discovered January 1990 - December 2007

Antitrust Authority Location	***Geographic Scope of Cartel***						
	North America	*EU-Wide*	*European Nations*	*Africa, Asia, & Oceania*	*Latin America*	*Global*	*Total*
	Million nominal U.S. dollars						
FINES:							
U.S. Govt.	260.1			141.2[a]		3736	4137[a]
Canada Govt.	53.2	0.7				155.4	209.3
Eur. Commission		7467				5124	12,585
EEA Members[e]		110	5646			318.6	6075
Other Eur.		0	0				0
Africa				29.1			29.1
Asia				755.3		10.4	765.7
Oceania				61.5		7.0	68.4
Latin America					302.2	0.2	302.4
Total fines	313.3	7572	5646	987.1	302.2	9352 [c]	24,172
OTHER PENALTIES:							
U.S. direct buyers	5767			60.0		12,579 [d]	18,406
U.S. indirect buyers	225.6	28.4				1006	1260
Canada private	8.7					164.3	173
Other private			95.7 [b]	1405 [c]			1501
Total private	5999	28.4	95.7	1465		13,749	21,340
Total penalties	6312	7600	5742	2452	302.2	23,100 [d]	45,512

Notes:

a) Includes U.S. fines for a bid-rigging case in Egypt and restitution of $60 million for the U.S. government in the same case.

b) Includes three cases of court-ordered restitution: Norwegian hydro-electric equipment, UK generic drugs, and Danish district heating pipes – the sole such examples Europe.

c) Includes restitution ordered for the Kazakhstan government in a petroleum cartel ($530 million), $0.5 million in the Israeli diamond-transport case, and for the Korean government in a military fuels case ($86.1 million).

d) Includes fines by Korea and Australia ($16.9 million) for four bulk vitamins, Korea ($8.5) for graphite electrodes, and Mexico ($0.2) for lysine; the largest amount ($3413 million and rising) was settlements by U.S. state attorneys general in *Insurance Brokers' Contingent Fees*.

e) National enforcement by the 25 Member States of the EU plus the four countries of the European Free Trade Area that enforce the EU's competition laws; these 29 countries comprise the European Economic Space. Some national indictments are made using Article 81 of EU law.

Source:
Prosecutions of International Cartels, *supra* note 10, at Table 6, adapted from Private International Cartels spreadsheet dated February 8, 2008.