# *American Cartel Enforcement in Our Global Era*[*]

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. In the United States, hard core cartels that fix prices, limit output, rig bids, or allocate markets, customers, or territories are subject to felony prosecution and criminal fines under Section 1 of the Sherman Act. These offenses also give rise to a significant percentage of private antitrust litigation.

This chapter evaluates the effectiveness of U.S. cartel enforcement and offers suggestions for policy and procedural changes that are likely to improve enforcement. To assess effectiveness, we rely on quantitative and qualitative indicators relating to the detection, prosecution, and deterrence of horizontal collusion, using information collected since roughly 1990. We analyze this information using broadly accepted principles of legal and economic reasoning, including optimal deterrence theory in particular.[1] Our recommendations follow from this analysis.

The suppression of collusion enjoys strong professional, political, and popular support. Economists and competition-law specialists universally condemn the injuries that arise from effective collusion.[2] With rare exceptions, members of Congress and presidential administrations from both major parties have embraced vigorous enforcement of Section 1 of the Sherman Act for more than a century. The U.S. public also largely understands and holds favorable views about the federal government's anti-cartel mission. A scientific opinion survey

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[1] *See* John M. Connor & Robert H. Lande, *Cartels as Rational Business Strategy: Crime Pays*, 34 CARDOZO L. REV. 427, 428 (2012) [hereinafter *Crime Pays*] (optimal deterrence theory holds that penalties imposed for cartel violations "should be equal to the violation's expected 'net harm to others,' divided by the probability of detection and proof of the violation"); *see also* William M. Landes, *Optimal Sanctions for Antitrust Violations*, 50 U. CHI. L. REV. 652, 656 (1983).

[2] *See, e.g.*, ANTI-CARTEL ENFORCEMENT IN A CONTEMPORARY AGE 263 (Caron Beaton-Wells & Christopher Tran eds., 2015) ("The United States Supreme Court has described price-fixing cartels as the 'supreme evil of antitrust', and for good reason."); *Crime Pays*, *supra* note 1, at 428 ("Cartels have always been the highest concern of antitrust"); Maurice E. Stucke, *Morality and Antitrust*, 2006 COLUM. BUS. L. REV. 443, 492 (2006) (hard core cartels "have been consistently condemned by conservative and liberal judges, economists and antitrust lawyers throughout the twentieth century").

conducted in the summer of 2014 found that a large majority of Americans support the following sentiments: (1) overt collusion is bad for customers, because it raises prices; (2) price fixing is immoral, dishonest, criminal, secretive, and widespread in business; (3) cartel conduct ought to be punished; (4) leniency programs are deserving of approval; and (5) price fixers ought to be fined at levels that exceed disgorgement of illegal profits and ought to compensate customers.[3] However, this survey also revealed that U.S. citizens have significant gaps in their knowledge of antitrust laws and how they are enforced.[4]

AAI believes that the Antitrust Division of the U.S. Department of Justice (The Division or DOJ) deserves outstanding marks for its cartel enforcement activities, and especially for the surge in enforcement that has occurred since the late 1990s. The Division's cartel enforcement activities set the "gold standard" for antitrust, not just in the United States, but around the world. For example, the Antitrust Division's Corporate Leniency Program has been so successful that more than 20 of the world's antitrust authorities have imitated it.[5] The Division's ongoing use and refinement of the leniency program, coupled with a host of other improvements to methods of detecting and prosecuting collusion, have saved American consumers and businesses billions of dollars from injuries that otherwise would have been inflicted by hard core cartels. As documented below, the Division's recent attainment of much larger fines, more individual prison sentences, and greater detection of cartels, and its leadership among international antitrust authorities, are evidence of its overwhelming success.

However, the Division is no longer the dominant antitrust authority in the world. In some ways, it is being surpassed by other actors in imposing anti-cartel sanctions. Moreover, the Division may be more constrained by inadequate enforcement resources than many of its international sister agencies. These trends lead us to suggest several changes that, *ceteris paribus*, should enhance the effectiveness of the Division's program, improve cartel deterrence, and generate even more benefits to the American economy.[6] The factual bases and rationales for our recommendations are explained throughout this chapter.

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[3] Andreas Stephan, *Survey of Public Attitudes to Price Fixing in the UK, Germany, Italy and the USA* (Centre for Competition Policy, Working Paper No. 15-8, 2015), *available at* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2642181.

[4] In response to a question as to whether hard-core cartel conduct was illegal, for example, 60% responded either "no" or "I don't know." Surprisingly, a majority do not support prison sentences for cartel managers. *Id.* at 13–14.

[5] *See* U.S. Dep't of Justice, LENIENCY PROGRAM, https://www.justice.gov/atr/leniency-program (updated May 16, 2016) (select "Corporate Leniency Policy").

[6] This chapter focuses primarily on government enforcement against hard core cartels. For a detailed discussion of private enforcement, see Chapter 8 of this Transition Report.

## MAJOR RECOMMENDATIONS

AAI proposes the following 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 in cost relative to their benefits.

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

- In recommending corporate fines for international cartels, the Division should make it standard practice to calculate the base fine using global affected sales, instead of domestic sales. In many cases this would significantly and appropriately increase the fines paid by international cartels.

- The Division should no longer start guilty plea negotiations from the bottom of the United States Federal Sentencing Guidelines (USSGs or Sentencing Guidelines) range rather than from the top or the middle. If necessary, Congress should hold hearings and offer guidance that clarifies the appropriate starting point and discounting criteria.

- The Division should aspire to bring to trial at least one or two well-conceived cases targeting large firms each year. The Division's ability to leverage meaningful negotiated fines can be compromised to the extent defendants do not believe trial is a credible threat, and there have been few cartel trials over the last 15 years.

- The Division should more frequently sue for damages under Section 4A of the Clayton Act. Congress amended Section 4A to permit the federal government to recover treble damages on the overcharges it pays as a purchaser from a cartel. More such suits would further deterrence goals.

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

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

- The Division should be parsimonious in considering cooperation discounts for late-arriving firms that plead guilty. 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.

- Congress should raise the Sherman Act maximum corporate fine for criminal price fixing to $1 billion. Because of recent Supreme Court decisions about proof in sentencing decisions, the efficacy of the Sentencing Guidelines' "alternative sentencing provision," which allows fines up to an amount that does not exceed double the harm or double the gain generated by the cartel conduct, is in doubt.

- The Division should impose more fines on individuals that are closer to the current $1 million statutory maximum. At the same time, Congress should raise the Sherman Act maximum fine for individuals to $10 million. Moreover, in egregious cases, the Division should seek to levy individual fines using the alternative sentencing provision in the Guidelines. Deterrence will increase if fines are based on a significant share of a price-fixer's wealth. As of this writing, the Division has imposed very few individual fines above $100,000 for cartel conduct.

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

- Congress or the Sentencing Commission should provide guidance to the judiciary to ensure that large fines do not translate into diminished recoveries for victims. 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 a defendant's wrongful conduct. This is especially likely to happen with bankrupt defendants.

**Introduce Innovative Cartel Detection Procedures**

- Congress, or the Division of its own accord, should institute whistleblower rewards in cartel cases akin to those made available in *qui tam* civil suits under the False Claims Act. The Division's individual leniency policy for criminal matters appears to be little used, and a whistleblower rewards program could increase cartel detection by encouraging more individuals to come forward. The Division has historically opposed such a program because of concerns that the advantages would be outweighed by

disadvantages, such as undermining the credibility of key witnesses, encouraging weak or fraudulent claims, undermining internal corporate compliance programs, and requiring expenditure of resources for administration.[7] But given the under-detection and under-deterrence of cartels, and because many of these perceived disadvantages could be ameliorated, the Division should reconsider this position and study the effectiveness of whistleblower reward programs that have been enacted in the United Kingdom, Hungary, and Korea.

- The next administration should also support legislation protecting cartel whistleblowers from retaliation from their employers for reporting wrongdoing.[8] Whistleblower protection is necessary because existing federal statutes cover only specific industries and specific types of conduct.[9]

**Availability of Public Cartel Enforcement Information**

- The Division should publish data showing unindicted co-conspirators, affected sales, conduct, and injuries caused by cartels. Among other things, it should publish all sentencing agreements, whether submitted to courts or not, on its website. As EU, UK, Korean, and Canadian enforcers have demonstrated, far more detail about the conduct and harm caused by cartels can be publicly disseminated for scholarly study without interfering with law enforcement efforts.

- After securing criminal convictions, the Division should routinely inquire about, and publicly report on, details concerning how cartels were able to collude and sustain their collusion. This information would foster rigorous empirical analysis of cartel dynamics, and in turn a greater understanding of the factors leading to successful explicit and tacit collusion. Antitrust scholars not only need to know more about how cartels form and operate, but also the effects of convictions on the marketplace.

- The Division should consider requiring, in sentencing agreements, that defendants turn over simple post-conviction reports for five years on their production costs, sales, and

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[7] *See* U.S. GOV'T ACCOUNTABILITY OFFICE, CRIMINAL CARTEL ENFORCEMENT, STAKEHOLDER VIEWS ON IMPACT OF 2004 ANTITRUST REFORM ARE MIXED, BUT SUPPORT WHISTLEBLOWER PROTECTION 36–44 (2011) [hereinafter GAO ACPERA REPORT], *available at* http://www.gao.gov/assets/330/321794.pdf.

[8] The Senate has twice passed legislation to protect cartel whistleblowers from retaliation from employers, but neither of those bills passed the House. *See* Criminal Antitrust Anti-Retaliation Act of 2013, S. 42, 113th Cong. (2013); Criminal Antitrust Anti-Retaliation Act of 2015, S. 1599, 114th Cong. (2015).

[9] *See* GAO ACPERA REPORT, *supra* note 7*,* at 45–50.

prices in the affected market. Among other things, this would allow the Division to create a representative sample of successful cartel prosecutions and report on the state of competition in the affected industries. 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 implicitly as a result of belonging to an explicit cartel.[10]

- The Division should make its post-conviction reports available for empirical study into 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 immediately after, a cartel violation. Although price fixing and mergers are handled by separate units in the Division, the two may be related. For example, a single horizontal merger in the United States or abroad can make cartel formation feasible. Likewise, 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's findings on the relationship between collusion and mergers could have important implications for its enforcement decisions.

- The Division should maintain a centralized computer database, updated annually, that identifies all antitrust consent decrees, pleas, and litigated actions under Section 1 of the Sherman Act. Scholars and other outside parties interested in assessing cartel conduct, cartel enforcement, and optimal deterrence would benefit in particular from a cartel database that contains, for a given cartel, the Division's best information on the number and market shares of conspirators, the duration of the conspiracy, the product or services market(s) affected, the number and market shares of non-participating competitors, the number and market shares of entrants during the conspiracy, the nature of the conspiracy, and the types and degrees of sanctions recommended to and accepted by the courts.

- The Division's workload statistics should be expanded to give greater insight into its cartel enforcement over time, including the number of full-time-equivalents the Division receives from the FBI and other investigative agencies, the number of full-time-equivalents other agencies or foreign antitrust authorities receive from the Division, the number of amnesty applications the Division receives and accepts, the Division's other bases for opening investigations (such as complaints, Amnesty Plus, tips from sister antitrust authorities, screening evidence, etc.), and the number of

[10] *See* JOHN M. CONNOR, GLOBAL PRICE FIXING: OUR CUSTOMERS ARE THE ENEMY (Studies in Industrial Org., Vol. 24, Keith Cowling & Dennis C. Mueller, series eds., 2001) [hereinafter GLOBAL PRICE FIXING].

investigations the Division closes and its general reasons for doing so.

- The Division should consider routinely announcing the opening and closing 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. Decisions whether to make public announcements regarding the closing of an investigation are currently made on a case-by-case basis.

**Help Improve Cartel Detection and Deterrence Internationally**

- Congress should either repeal the Foreign Trade Antitrust Improvements Act (FTAIA) or clarify its intent in passing it, specifically on the questions of (1) whether foreign buyers from international cartels should have standing to pursue private rights of action in U.S. courts and whether those courts have subject matter jurisdiction over such claims, and (2) whether foreign purchases by subsidiaries of U.S. companies that incorporate price-fixed component products into finished goods sold into the U.S. market can give rise to damages claims by those injured U.S. companies and their U.S. consumer customers.

- The Division should receive a budget increase earmarked for its program to help educate foreign antitrust authorities in how to design effective leniency programs, impose appropriate monetary sanctions, implement criminal provisions in their antitrust laws, and improve their anti-cartel enforcement generally. The most harmful cartels are those that operate across multiple countries and continents, many of which inflict greater harm over longer periods of time because they face insignificant probabilities of detection or disgorgement of their monopoly profits in jurisdictions with weak enforcement. Because most such global cartels eventually lead to negative welfare effects on U.S. companies and consumers, investing in improved cartel enforcement abroad is likely to lead to better protection at home.

**Expand the Division's Budgetary Resources**

- The Division's inflation-adjusted budget should be increased significantly, and it should grow at a rate of at least 10% per annum through 2020. The next administration should ensure there are no significant resource constraints on the Division's anti-cartel activities.

- The next administration should find a way to permit salaries of Division employees to exceed rigid limits set by civil service regulations. There is a growing gap between the

compensation of private-sector antitrust lawyers and economists and that of their counterparts in the Division.

## I. Detection and Prosecution of Cartels: Key Facts

### *A. Introduction*

The Antitrust Division is the sole U.S. federal criminal prosecutor of hard core private cartels, a form of business conduct that has been compared to economic cancer.[11] Division leaders emphasize that collusion is the agency's number-one priority.[12] While legal scholars and members of the antitrust bar are more divided on the effectiveness of federal merger and monopoly enforcement, few have criticized federal cartel enforcement.[13] Indeed, for decades the Division has been widely praised for its aggressive campaign to rid the nation of cartels.[14]

The Division became proficient in utilizing most of its current powers to punish cartels in the early 1990s.[15] In this section, we lay the groundwork for our recommendations by examining

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[11] Mario Monti, Member of the European Commission in Charge of Competition, Fighting Cartels: Why and How?, Why Should We Be Concerned with Cartels and Collusive Behaviour?, 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.").

[12] *See* Statement of Bill Baer, Assistant Att'y Gen., Dep't of Justice, Oversight of the Enforcement of the Antitrust Laws: Hearing Before the Subcommittee on Antitrust, Competition Policy and Consumer Rights of the Senate Committee on the Judiciary (Mar. 9, 2016), *available at* https://www.justice.gov/opa/speech/assistant-attorney-general-bill-baer-antitrust-division-testifies-senate-judiciary ("[H]alting and deterring price fixing cartels, dubbed the 'supreme evil' of antitrust by the Supreme Court, is a top priority for us."); Statement of Scott D. Hammond, Dep't of Justice, Antitrust Modernization Commission: Hearing on Criminal Remedies 1 (Nov. 3, 2005) [hereinafter Hammond 2005] (general deterrence of cartels is "the highest priority of the Antitrust Division").

[13] *See, e.g.*, William J. Baer, Assistant Att'y Gen., Dep't of Justice, Cooperation, Convergence, and the Challenges Ahead in Competition Enforcement: Remarks at the Ninth Annual Global Antitrust Enforcement Symposium (Sept. 29, 2015), *available at* https://www.justice.gov/opa/speech/assistant-attorney-general-bill-baer-delivers-remarks-ninth-annual-global-antitrust ("Today, there is near unanimity about the importance of fighting price fixing, bid rigging and market allocation."); William E. Kovacic, *The Modern Evolution of U.S. Competition Policy Enforcement Norms*, 71 ANTITRUST L.J. 377, 423 (2003) ("Modern U.S. experience with criminal enforcement presents a pattern of progressive, cumulative development of competition policy."). The absence of criticism may in part be traced to an ideological consensus between the so-called Harvard and Chicago schools of antitrust on the wisdom of anti-cartel enforcement. *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).

[14] *See, e.g.*, Robert H. Lande & Joshua P. Davis, *Comparative Deterrence from Private Enforcement and Criminal Enforcement of the U.S. Antitrust Laws*, 2011 BYU L. REV. 315, 316 (2011) ("In terms of taxpayer dollars well spent, the [Division's anti-cartel] program surely is one of the most outstanding in all of government."); 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); Robert E. Litan & Carl Shapiro, *Antitrust Policy During the Clinton Administration* 3 (U. Cal. at Berkley, Competition Policy Center, Working Paper No. CPC01-22, 2001), *available at* http://129.3.20.41/eps/le/papers/0303/0303003.pdf; WENDELL BERGE, CARTELS: CHALLENGE TO A FREE WORLD (1944).

[15] Criminal price fixing became a felony in 1974. Although the change raised the level of available sanctions, the Division did not fully exploit the increase until the early 1990s. The Sentencing Guidelines have applied to

the Division's enforcement performance from 1990 to 2015 using indicators that generally match the measures of enforcement performance used by Division officials. These include the number of investigations launched, the number of cases filed and won, amnesty applications, the number of convictions won, and criminal fines and prison sentences imposed.[16] We also examine additional measures of enforcement performance, such as rates of cartel detection. For ease of exposition, we divide the years 1990-2015 into five "semi-decades." At times we offer comparisons with the European Commission's (EC) record of cartel enforcement.

Notwithstanding the Division's commendable efforts, there can be no doubt that cartels remain a large and growing problem. Statistical trends show that, paradoxically, both U.S. criminal cartel penalties and foreign penalties have risen after 1990, yet the number of cartels being discovered also continues to rise.[17] The size and injuriousness of discovered cartels also are increasing. This section of the chapter reviews these statistical trends in cartel enforcement, and Section II attempts to resolve this puzzle in discussing cartel penalties.

### *B. Numbers of Investigations, Case Filings, and Cartel Discoveries*

offenses committed after 1987. *See* U.S. SENTENCING COMM'N, GUIDELINES MANUAL (1987). In 1990, after the Division had had a few years' experience in using the Sentencing Guidelines for criminal cartel cases, the maximum penalties under the Sherman Act were raised substantially for both corporations and individuals. GLOBAL PRICE FIXING, *supra* note 10, 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 Antitrust Division Leniency Program was introduced in 1993. Enhanced criminal penalties came into force in 2004, and the Sentencing Guidelines applicable to criminal price fixing were revised to reflect the higher penalties the following year. Scott D. Hammond, Assistant Att'y Gen., Dep't of Justice, 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] These dimensions of enforcement performance are emphasized in the Division's annual reports. *See, e.g.*, Dep't of Justice, Division Update Spring 2016, https://www.justice.gov/atr/division-operations/division-update-2016. Most of the same indicators are available in the Division's workload statistics. *See, e.g.*, Dep't of Justice, Antitrust Division Workload Statistics FY 2006-2015, *available at* http://www.justice.gov/atr/public/workload-statistics.html [hereinafter Workload Statistics]. Although counting cases and convictions is a widely accepted method of measuring enforcement activity, heightened enforcement activity is not not necessarily indicative of effective cartel deterrence. On the contrary, the more successful the deterrence, the smaller should be the number of violations (both detected and undetected). Hence, in theory, smaller counts over time could be consistent with heightened deterrence. During the period examined in this chapter, however, cartel recidivism and cartel detections rose worldwide, which may be indicative of a constant or increasing number of violations during that time. Thus, while concerns about the misleading interpretation of case counts may apply to future analyses, these concerns are likely inapplicable to the time period examined in this chapter.

[17] The Division's leaders have provided select statistical trends in reporting on the Division's progress in public speeches and congressional testimony. *See* Table 1 for examples. The U.S. Sentencing Commission also occasionally prepares analyses of antitrust sentencing trends from its own data set of all federal crimes. *See* BERYL A. HOWELL, SENTENCING OF ANTITRUST OFFENDERS: WHAT DOES THE DATA SHOW? (2010), *available at* http://www.ussc.gov/sites/default/files/pdf/about/commissioners/selectedarticles/Howell_Review_of_Antitrust_Sentencing_Data.pdf. We avoid independently counting DOJ cases in this chapter, and we supplement and cross-check DOJ statistics with privately prepared data sets.

During Fiscal Years 1990–2015, the Division opened on average 76 formal Section 1 investigations (corporate and individual) annually, and it brought on average 49 criminal cases annually (Table 1).[18] During the same period, according to publicly available information, the Division detected on average seven international cartels annually.[19] International cartels are those where at least one corporate defendant is headquartered abroad or one individual is a non-U.S. citizen.

Cartel detection rates have been rising worldwide, particularly for international cartels (Figure 1). In the decades prior to the mid-1990s, international cartels were rarely discovered or indicted in the United States.[20] The number of international cartels discovered annually by the Division was five times higher during the years 2000-2015 than in the 1990s (Figure 1).[21]

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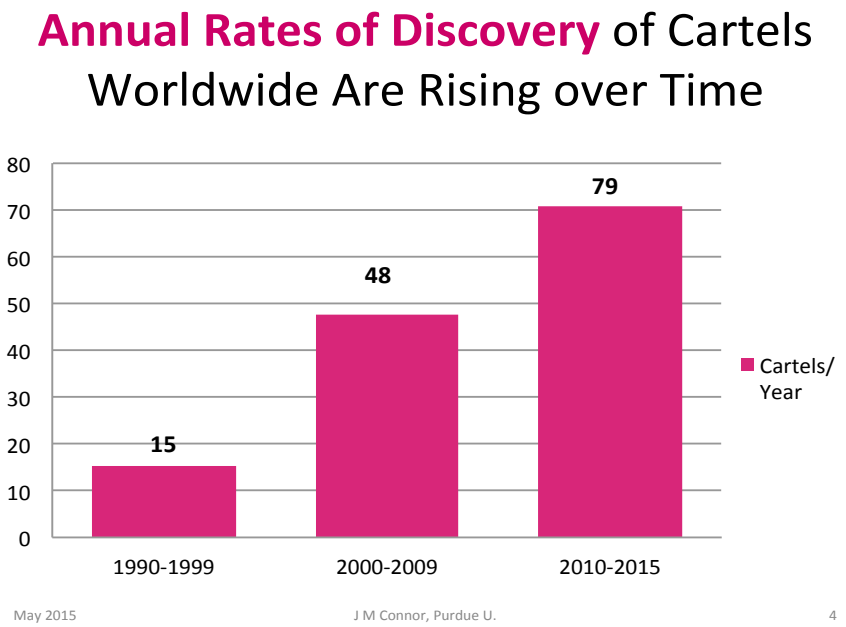
[18] Data on investigations and case filings are drawn from the Division's Workload Statistics FY 2006-2015 (and previous editions), *see supra* note 16.

[19] Although the Division's published statistics count "investigations" and "cases," they do not count individual "cartels" (i.e. conspiracies). When a single cartel is detected, it typically yields multiple indictments that may result in multiple district court cases arising out of the same conspiracy, whether against companies, individuals, or in some instances combinations of both. To effectively assess rates of cartel detection, therefore, and to facilitate comparisons with other jurisdictions, many of which do count "cartels," this chapter relies on an alternative data set. John M. Connor, The Private International Cartels (PIC) Data Set (Aug. 9., 2016) (unpublished data set) (on file with John M. Connor) [hereinafter PIC DATA SET]. A summary and guide to the data set can be found in John M. Connor, *The Private International Cartels (PIC) Data Set: Guide and Summary Statistics, 1990-2013* (Working Paper, 2014), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id= 2478271 [hereinafter PIC DATA SET GUIDE AND SUMMARY]. Although based upon international conspiracies, these data cover a high share of companies and individuals convicted and penalties imposed by the DOJ. This chapter relies primarily on the June-July 2015 spreadsheet (on file with AAI). For purposes of this discussion, a cartel is "discovered" the first time its investigation is mentioned in the press. *See id.* at 4, n.7, 5-6 (explaining that discovery date may be based on reliable information about a raid, leaks about grand juries, or news of the first indictment or plea agreement in a market not previously known to be cartelized). In the absence of raids, a disclosure by one or more of the targets in a quarterly SEC filing is sometimes the first public information about a cartel investigation. PIC DATA SET, *supra.* For domestic cartels, the data set contains only one discovery date in a given jurisdiction, but multiple dates may be recorded for international cartels investigated by multiple jurisdictions. *See* PIC DATA SET GUIDE AND SUMMARY, *supra* at 16.

[20] *See* Ronald W. Davis, *International Cartels: Who's Liable? Who's Not?*, ANTITRUST SOURCE, May 2002, at 1-8, *available at* 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.").

[21] This chapter adopts Professor John Connor's method for determining "rate of discovery," which is to divide the total number of reported international cartels in which an antitrust authority announced a formal investigation, indictment, or guilty decision by the number of years spanning the reports. *See* John M. Connor, *Global Antitrust Prosecutions of International Cartels: Focus on Asia* (2007), *available at* http://ssrn.com/abstract=1027949 [hereinafter *Prosecutions of International Cartels*]. Figure 1 shows that during the 16 years from 2000-2015, 7.9 cartels were discovered on average each year, whereas during the ten years from 1990-1999, 1.5 cartels were discovered on average each year.

**Fig 1. Rates of Discovery: All International Cartels**




The increasing number of cartels detected can be attributed to three factors. First, the number of antitrust authorities effectively looking for hard core cartel conduct worldwide has risen.[22] This factor is consistent with the rise in cartel detections outside of the EU and North America.[23] Second, some believe that, owing to the introduction of corporate leniency programs beginning in the mid 1990s, the probability of cartel detection by the world's antitrust authorities has risen.[24] The available evidence suggests that probability of detection has remained nearly constant and very low from the 1960s to the early 2000s.[25] Proof of a rise in

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[22] *See* GLOBAL PRICE FIXING, *supra* note 10 (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). Today, approximately 130 different jurisdictions have antitrust laws. Baer, Cooperation, Convergence, and the Challenges Ahead in Competition Enforcement, *supra* note 13.

[23] See John M. Connor, *The Rise of ROW Anti-Cartel Enforcement*, Competition Policy International: Antitrust Chronicle (Sept. 16, 2015), *available at* https://www.competitionpolicyinternational.com/the-rise-of-row-anti-cartel-enforcement/ (Figure 1 shows that, by the years 2010-2014, more than 60 jurisdictions had investigated international cartels).

[24] *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 Ass'n Section of Antitrust Law Fall Forum (Nov. 16, 2005). Specialists have pointed to the high response rate to the Division's Corporate Leniency Program after 1993, to the EU's first leniency program in 1998 (especially to the EU's revised leniency policy after 2002), and to the adoption of similar programs by a dozen or more additional antitrust authorities, in opining that detection rates have risen significantly. *See 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.

[25] John M. Connor, *Optimal Deterrence and Private International Cartels* 9-10 tbl.1 (2007), *available at* http://ssrn.com/abstract=787927 [hereinafter *Private International Cartels*] (surveys of 21 scholarly publications of

detection rates since then awaits confirmation.[26] Third, it is possible that the number of annual cartel formations is also up since the 1980s, so there simply may be more cartels to be discovered.[27] Counting undiscovered cartels is a tough exercise.

Figure 2 shows that the annual rate of cartel discovery by the Division was about 4.5 times higher during the years 2005–2015 than the period before 1995.[28] A particularly large jump occurred between the early and late 1990s, which may well be due to the Division's implementation of key revisions to the leniency program in 1993. Some of the ensuing increase may be due to the enactment of the Antitrust Criminal Penalty Enhancement and Reform Act (ACPERA) in 2004, which helped encourage cartelists to self-report to the Division in order to reap the benefits of the leniency program.[29] In 2007, the Division's Deputy Assistant Attorney General for Criminal Enforcement reported that the number of leniency applications had increased greatly, owing to enhancements to the leniency program in 1993 and the

studies or opinion surveys about the rate of clandestine cartel discovery show that 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 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 the years 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, Jan. 2003), *available at* http://ssrn.com/abstract=1015061 (reapplying the Bryant-Eckard study employing a data set of EU-prosecuted cartels, all of which were international, from 1969 to 2003, and finding 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 increased.

[26] A thorough survey of empirical studies on the effects of leniency policies finds ambiguous results. Catarina Marvao & Giancarlo Spagnolo, *What Do We Know about the Effectiveness of Leniency Policies? A Survey of the Empirical and Experimental Evidence* (Stockholm Institute of Transitional Economics, Working Paper No. 28, 2014).

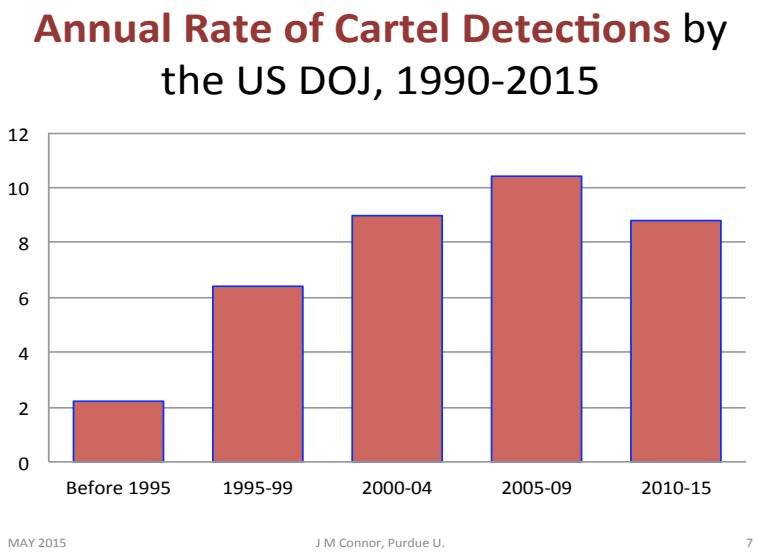
[27] The causes of increases in cartel conduct are not known with certainty, but increases may be contemporaneous with rising globalization and falling barriers to trade since the 1960s. Well-documented histories of cartels over long periods show that price fixing conduct frequently emerges as a response 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.

[28] There is a dip in the years 2010-2015, *see* PIC DATA SET, *supra* note 19, but it is not likely to be sustained. Indeed, it may be a statistical illusion. When investigations currently being conducted are revealed in the next couple of years, the 2010-2015 rate likely will rise.

[29] Pub. L. No. 108–237, 118 Stat. 661 (codified as amended at 15 U.S.C. § 1 note 1).

introduction of the Amnesty-Plus and Penalty-Plus programs in the late 1990s.[30]

**Figure 2. The Division's Rate of Cartel Detections, 1990 to April 2015.**




Although the annual rate of cartel detections has increased significantly, the average number of Section 1 investigations opened by the Division has fallen over time. The Division averaged 98 investigations per year in the 1990s, then dipped to 78 in the 2000s, and then reached a low of 37 during the years 2010-2015. The pattern of grand juries empaneled shows a similar trend. On average, 93% of all price-fixing investigations during the years 1990–2015 were criminal.[31]

The number of criminal case filings averaged 57 per year in the 1990s, and also fell, to 30, during the years 2000-2009. However, unlike the number of investigations opened by the Division, which continued to fall during the years 2010-15, the number of criminal filings

[30] *See* Hammond 2007, *supra* note 15. The leniency program revisions implemented in 1993 offer 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. However, it took a couple of years for leniency applications to rise. *See* Donald C. Klawiter, *Interview: Update on "Antitrust Criminal Sanctions: The Evolution of Executive Punishment,"* 8 COMPETITION POL'Y INT'L 86 (2012) ("The leniency policy . . . took a few years to become popular . . . in part because until 1996 or so, the penalties were lower than they are today."). 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").

[31] The average number of civil investigations launched per year was relatively high, 7.3 per year, only in the first seven years of the Clinton Administration, 1994–2000. In all other presidential administrations during the years 1990–2015, the average number of civil investigations was rather small, 2.1 per year. Ninety four percent of investigations were criminal during that time.

rebounded to 50 per year during the years 2010-15 (Table 1).[32] One way of reconciling the differences is to analyze the proportion of investigations that yielded indictments. For the whole period, the "yield ratio" was 56%; that is, 56% of all investigations resulted in indictments. This ratio varies systematically by presidential administration. The yield ratio was highest in the first six years of the Obama Administration (141%), second highest during the George H.W. Bush Administration (85%), and lowest during the Clinton and George W. Bush Administrations (48% and 32%, respectively). That is, the Obama Administration has been relatively efficient in converting its investigations into a large number of indictments. The sprawling auto parts and FOREX cartels are pertinent examples.

The greatest decline in cartel cases filed occurred between the years 1990–94 and the years 1995–99, a 33% decline, as the Division shifted away from the small but numerous cases of construction bid rigging to larger international cases (Table 1).[33] And between the years 1995–99 and the years 2004–06, cartel cases filed annually fell by an additional 43%. However, after 2009 price-fixing case filings rose above the 1990-2015 average.

The number of companies charged with criminal offenses likewise shows a declining trend.[34] The number of corporations charged annually averaged 68 during the years 1990–94 and has fallen slowly in each subsequent period. During the years 2005–15, the number of companies charged averaged only 21. The number of individuals charged with criminal price fixing averaged 38 per year during the years 1995–2004, down from a high of 59 per year in the early 1990s. However, unlike corporate indictments, the number of individuals charged rose in the past ten years to 54 annually. Thus, the increase in total cartel cases after 2009 is due to a more assertive prosecution of individual cartelists. Again, the shift from small-scale bid rigging to bigger international cartel cases likely explains part of this trend.

Because of the major shift in emphasis between the Bush I and Clinton Administrations from localized bid rigging towards large international cartels, international cases warrant closer examination.[35] During the years 1980–95, virtually no foreign firms or individuals were

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[32] Criminal filings in district courts averaged 72 during George H.W. Bush, 46 during Clinton, 26 during George W. Bush, and 50 during Obama's first six years.

[33] *See* 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 went from well above the whole period average in the years 1955-79 to well below the whole period average in the years 1985-94).

[34] Workload Statistics, *supra* note 18.

[35] As of mid-2015, about 77 international cartels are currently under investigation with no convictions yet

punished for criminal price fixing.[36] Since 1994, however, 85% of the corporations fined at least $10 million have been foreign (Table 1). Although cases against foreign price fixers are 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, longer duration, and higher percentage overcharges.[37] For the international cartels discovered during the years 1990–2016, total U.S. affected sales exceed $20 trillion.[38] The U.S. overcharges generated by these discovered cartels are projected to be approximately $4 trillion.[39] The sizes and injuries of these cartels dwarf all cartels sanctioned by the Division prior to 1990.[40]

Perhaps because of the Division's shift in priority towards large international cartels, which require large teams of prosecutors, a significant backlog of criminal investigations has developed since the early 2000s. The number of pending criminal cases rose from 22 in fiscal year 1999 to an average of 50 during the years 2010-2015.[41]

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. Regardless, the statistical trends make clear that the resources made available to the Division should be significantly expanded so it can build upon its important work and continue to pursue optimal deterrence of cartel formation.

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announced; about 10 more have had their investigations closed without charges filed. Several of the latter subsequently settled with private plaintiffs. *See* PIC DATA SET, *supra* note 19.

[36] Gallo et al., *supra* note 33, at 98-99 (showing the proportion of international cases prosecuted generally ranged from 2% to 5% during the years 1955-79, fell to 0.2% during the years 1980-94, and then rose to 12% during the years 1995–97).

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

[38] John M. Connor, *International Cartel Stats: A Look at The Last 26 Years*, LAW360 Fig. 2. (Aug. 15, 2016), http://www.law360.com/articles/827868/international-cartel-stats-a-look-at-the-last-26-years.

[39] Connor & Lande, *supra* note 37.

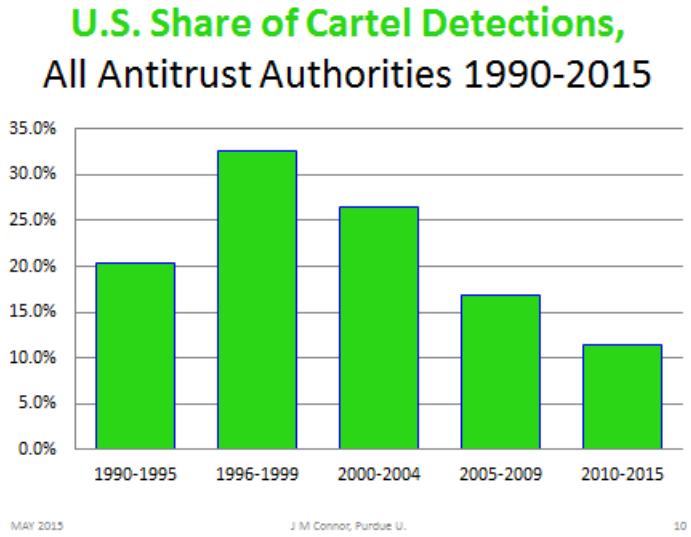
[40] *Cf.* Gallo et al., *supra* note 33.

[41] Workload Statistics, *supra* note 18. 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 21. The number of fugitives indicted for international price fixing by the DOJ has risen to roughly 100 in 2015. PIC DATA SET, *supra* note 19.

*C. Division Activity in International Perspective*

Although the Antitrust Division remains a leader among the world's antitrust authorities, its global shares of cartel discoveries, of corporate cartelists penalized, and of cartel penalties are shrinking. The DOJ's share of discoveries of all international cartels is shown in Figure 3 below. The Division's share peaked at about 33% in the late 1990s, but its shares in subsequent semi-decades have declined, reaching 11% in recent years.

**Figure 3. U.S. Share of World Cartel Detections**

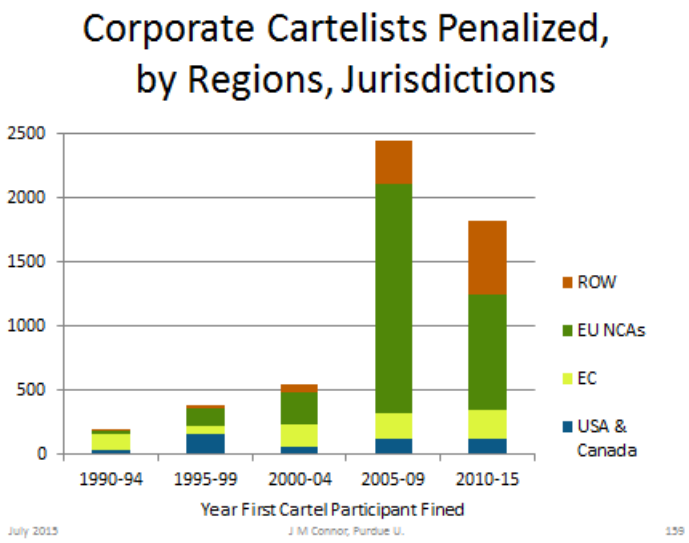



Comparative activity levels of international enforcement agencies also can be measured by counting the number of corporations indicted and penalized for price fixing.[42] Figure 4 below illustrates the huge growth in the numbers of corporate cartelists from 1990 to mid-2015 and the locations of the jurisdictions indicting the firms. The U.S. number and share of corporate indictments peaked in the 1990s (143 firms, 30% of the world total), and subsequently fell to about 10% or lower in the past couple of years. On average, the EC has convicted almost double the number of companies convicted by the DOJ. And the EU's National Competition Authorities (NCAs) and the rest of the world (ROW) showed enormous growth in cartel convictions beginning in the late 1990s. During the years 2005–2009, the NCAs accounted for

[42] This is a more accurate method of comparing agency enforcement efforts than counting "cases." *See supra* note 16. While the DOJ often brings separate cases against individual cartelists, a single company, or combinations thereof, EU antitrust authorities, in contrast, always bring cases against all of the corporate members of a single cartel. This can make a significant statistical difference where authorities prosecute highly populated global cartels or bid-rigging cartels that have many members. *See, e.g.*, *In re Air Cargo Shipping Services Antitrust Litig.*, MDL No. 1775 (E.D.N.Y.). More precisely, these are counts of criminal price-fixing convictions (in the U.S.) or companies that were found guilty of infringements of competition law (in the EU). There is some double counting of companies due to multiple convictions of companies (or their parent groups).

73% of corporate cartel convictions in the world, and in the latest semi-decade, ROW authorities accounted for over 30% of global indictments.

**Figure 4. Number of Convicted Corporations, 1990-2015**




*D. Disposition of the Cases*

During the years 1990–2015, by its own accounting the Division won convictions in 96% of its criminal cases against corporations.[43] Supplemental data from Connor (2015) finds that corporate win rates among foreign antitrust authorities are very similar to those of the United States – about 95%.[44] China and Japan have some of the highest "win rates," at nearly 100%.

Win rates in price fixing cases against individuals are lower but more difficult to calculate from publicly available statistics. We know that during the years 1990-2015, 52% of all indicted executives were fined and 39% of those indicted were given prison sentences. Because nearly all imprisoned individuals get fines, but not the reverse, we can conclude that the DOJ's win rate for individuals is approximately 52% (or a couple of points higher).[45] The lower win rates reflect the greater difficulty associated with prosecuting international cartel managers. A large

[43] Workload Statistics, *supra* note 18. The Division wins criminal cases by successfully 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, not-guilty verdicts, or avoided prosecutions by fugitives. A third "neutral" category applies to successful amnesty applicants. These firms are not criminally indicted, and all their employees are immune from prosecution. The large number of pending cases are statistically ignored. The win rate for *civil* price-fixing actions was lower during the years 1955-97 (77%), but has increased since 1990. *See* Gallo et al., *supra* note 33, at tbl.XIV.

[44] *See* PIC DATA SET, *supra* note 19.

[45] One reason win rates for individuals is lower than for companies is that many are indicted mainly to serve as witnesses; after testifying (or waiting a couple of years to do so), these individuals often are dismissed without being penalized.

number of foreigners become fugitives.[46] And extradition is problematic; only two fugitive cartelists were extradited in the 25 years ending in 2015.

The effective maximum liability facing a convicted corporate or individual defendant is largely unknown to the public and outside experts, for two reasons. First, about 90% of the Division's convictions are obtained by securing guilty pleas that are the product of bilateral negotiations with defendants,[47] the details of which are never revealed, after any amount of time.[48] Second, prosecutors have substantial discretion under the Sentencing Guidelines to offer reduced fines or jail time in negotiations with defendants.[49] Consequently, as former Assistant Attorney General Don Baker has explained, "the public gets to see the pre-packaged fruits of a non-public negotiation process between the Government lawyers and the experienced counsel for those under investigation . . . ." Baker laments that this "pre-complaint, pre-indictment . . . system of case resolution makes the whole enforcement process a lot less transparent."[50]

The absence of information used in plea negotiations poses a significant obstacle to evaluating whether U.S. cartel penalties are potentially sufficient to optimally deter cartel formations. At the conclusion of the parties' negotiation process, for example, allegations of affected commerce volume or cartel duration may be reduced below what the government would

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[46] *See* John M. Connor, *Problems with Prison in International Cartel Cases*, 56 ANTITRUST BULL. 311 (2011).

[47] *See* Gallo et al., *supra* note 33, at 108-09. Eighty percent of all pleas were guilty pleas from 1980-89, and 99% of all pleas were guilty pleas from 1990-97. *Id.* at tbl.XII. Like the leniency program, the use of plea bargaining has spread to the EU and other jurisdictions. The EC's comparable procedure, officially termed a "consent commitment," was first permitted in a 2003 rule change and first applied in 2005 in a vertical restraints case. *See* Stephan Andreas, *The Direct Settlement of EC Cartel Cases*, CTR. FOR COMPETITION POL'Y 13 (2007). It was introduced because the EC was getting far more leniency applications than it could handle. *Id.* at 53. However, unlike the United States, the EU settlements are abbreviated procedures for which a 10% fine reduction is offered; there is no negotiation over the discount. And a short decision is released by the EC. *See* Maarten Pieter Schinkel, *Bargaining in the Shadow of the European Settlement Procedure for Cartels* (Amsterdam Ctr. for Law & Econ. Working Paper No. 2010-17, 2010). In both jurisdictions, defendants give up their rights of appeal. The first use of the EU settlement procedure for a cartel was in *DRAM* in May 2010. *Id.* at 3.

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

[49] 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. *See* United States v. Booker, 543 U.S. 220 (2005). Most judges still tend to refer to the Sentencing Guidelines when making sentencing decisions, however.

[50] Donald I. Baker, *Antitrust Enforcement: From Sunlight to Shadows* 8 (Presented at the American Antitrust Institute Annual Conference, June 18, 2015), *available at* http://www.antitrustinstitute.org/content/donald-bakers-antitrust-enforcement-sunlight-shadows. Although the Division is obligated to publish a Criminal Information, informations are "very short and tell the court and the public almost nothing except that the defendant has violated the Sherman Act." *Id.* at 4. And while the Division publishes a small share of plea and sentencing agreements, this is not enough to allow outsiders to calculate with precision the maximum liability effectively facing a defendant. 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*]. Only about one-fourth of the agreements prepared for and submitted to the courts appear to have been published on the Division's website. *See id.* In theory, one could gather this information individually from each district court where a cartel case has been filed, but this would be impractical and expensive, and many courts do not retain copies.

attempt to prove at trial. Moreover, cooperating defendants may be offered "cooperation discounts" on fines that fall below even the bottom range of fines available under the Sentencing Guidelines, sometimes without explanation by the government or close scrutiny by the courts.[51]

Not counting the 100% discounts that are almost always granted to amnestied firms, the median discount granted to a large sample of other indicted corporate price fixers in the past several years resulted in fines that were 76% below the top end of the Sentencing Guidelines ranges.[52] Substantial cooperation discounts for the second-in cartelists seem appropriate, because testimony from two firms may be needed in the (albeit unlikely) event of a trial. But discounts of 30% to 60% for the late-arriving cartelists may be superfluous.

Although trials lack many of the transparency defects found in the negotiated plea agreement system, trials are far too rare to provide the information needed to effectively assess effective maximum liability facing cartelists. We are aware of only two trials involving large corporate price fixers in the past 20 years.[53] Moreover, trials require large teams of Division staff, who often must prepare for more than a year. Thus, it is doubtful the Division has the capacity to bring more than a handful of price-fixing cases to trial every few years. Experienced defense counsel surely know this, and may negotiate accordingly.

### *E. Corporate Fines*

The total amount of "collected" cartel fines reported annually by the Division since fiscal 1990 is approximately $10.2 billion (Table 1). There is a strong upward trend. Total collected corporate fines averaged $28 million per year in the early 1990s, $234 million per year over the following ten years, and $634 million per year in the most recent decade. Moreover, cartel fines collected per company also escalated during the years 1990–2007. The mean corporate fine collected rose from $0.5 million per year in the 1990s to $41 million per year in the last decade (Table 1).

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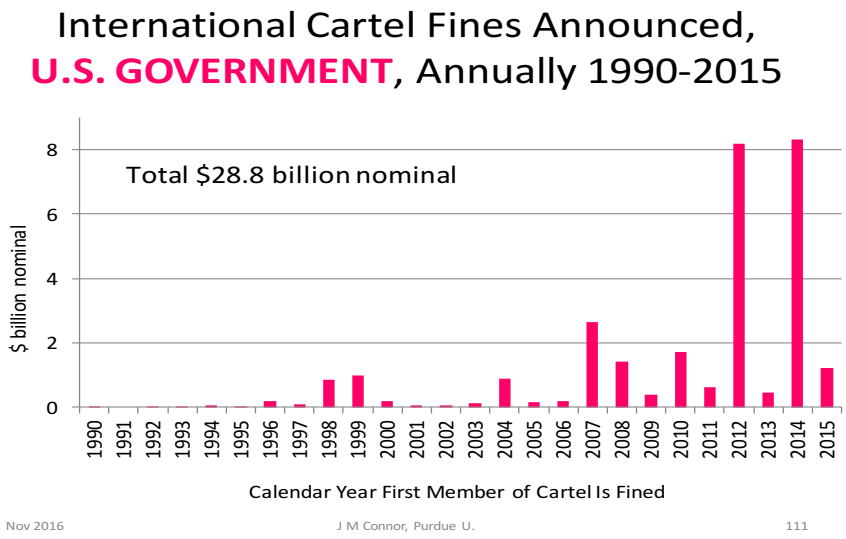
[51] Cooperation is already included as a mitigating factor when prosecutors compute the offense level of the crime. For this reason cooperation is usually reflected twice in fine determinations, once in the offense level and once for downward departures.

[52] *Critique of Fine Discounting*, *supra* note 51, at 31 tbl.2. The Sentencing Guidelines give the DOJ the discretion to exceed the top of the fine range in rare cases.

[53] The Division successfully prosecuted scores of international cartels at trial from 1943-49, but for 50 years thereafter it detected and prosecuted only about 4 such cartels. In the 1990s, the Division won 2 international cartel cases (*Plastic Dinnerware* and *Lysine*) and lost 2 (*Appleton Papers* and *Industrial Diamonds*). *See* GLOBAL PRICE FIXING, *supra* note 10, 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. In 2005, AU Optronics and two of its executives were convicted in a trial in the Northern District of California.

The total amount of "imposed" international cartel fines, based on publicly posted plea agreements from the Division and parallel fines from other federal agencies since fiscal 1990, is $29.8 billion (Figure 5).[54] The amount of "imposed" fines far exceeds the amount of "collected" fines because many defendants pay fines in installments over six years, which creates a lag[55] and makes international comparisons difficult.[56] The upward trend in "announced" fines is far more pronounced than even the strong upward trend in "collected" fines. Announced fines during the years 2010–2014 were *8.7 times* higher than the fines imposed during the 1990s.

**Figure 5. U.S. Government Cartel Fines by Calendar Year**




[54] Where the DOJ worked with other federal regulatory agencies as part of task forces, *see infra* note 65 and accompanying text, Figure 5 includes some civil fines that were issued alongside criminal fines by other members of the task forces.

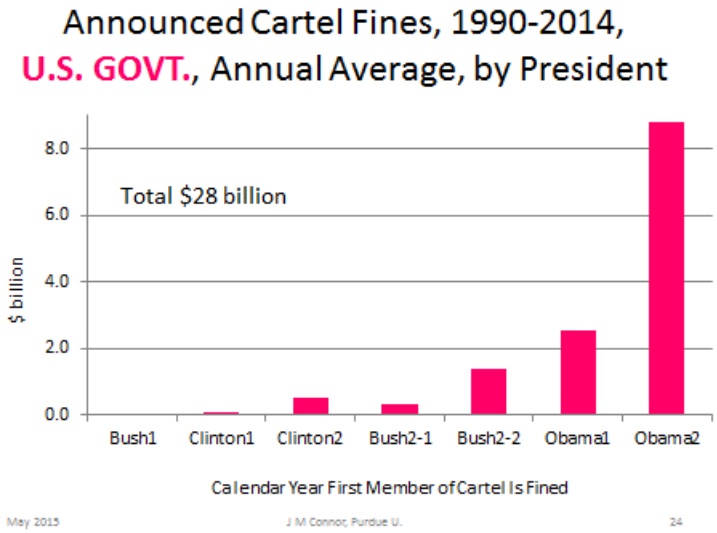
[55] The DOJ's annual statistics report only fines received by the Treasury during the federal fiscal year. This honest approach may understate the Division's accomplishments, but it also poses disadvantages for purposes of assessing progress toward optimal deterrence. First, the widespread granting of installment payments (usually spread over six years) means that when the size of fines imposed is rising, annual amounts are underreported, and vice-versa. Second, the Division's statistics omit fines imposed simultaneously by other federal agencies involved in the growing use of "task forces." *See infra* note 65 and accompanying text. Third, it is impossible to reconcile the Division's statistics on collected fines with announced fines, and therefore to make comparisons with other antitrust authorities that report announced fines. For example, in fiscal 2013, the corporate fines imposed were nearly four times higher than the amount of corporate fines collected. *Compare* PIC DATA SET, *supra* note 19, *with* Workload Statistics, *supra* note 18. However, the *totals* for the years 2000-2014 are nearly the same.

[56] The international fines data are 175% higher than the DOJ's annual statistics, bearing in mind that the latter omits a significant number of generally smaller fines imposed on participants in purely domestic cartels. Measured in 2014 dollars, total U.S. government cartel fines were $34 billion over the 1990-2015 period. The PIC data set includes roughly 400 fined companies, which is about half of the number of guilty companies indicted by the DOJ for both international and domestic conspiracies. Workload Statistics, *supra* note 18.

Some of the increase in fines is attributable to general price inflation, and some is attributable to increases in the size of cartel affected commerce.[57] However, when corrected for inflation, international cartel fines from 2010–2015 were still six times higher than fines in the 1990s.

Another factor in rising fines appears to be the level of emphasis accorded to the imposition of cartel fines by each presidential administration.[58] Figure 6 below shows announced international cartel fines by administration.[59] There are two clear patterns. First, for each administration, fines were much higher in the second term in office than the first. Both the Clinton and Bush II Administrations increased fines by a factor of 5 to 6 times during their second terms. So far, during President Obama's second term, cartel fines are 3.5 times as high as in his first term. Second, each successive administration has bested its predecessor's record by a wide margin.

**Figure 6. U.S. Government Cartel Fines by Presidential Administration**




How does one explain the correlation between rising cartel fines and presidential

[57] Using the Consumer Price Index (CPI-U), collected fines measured in 2014 dollars total $11.8 billion. They averaged $48 million annually during the years 1990-1994, and rose to an average of $578 million annually after 1994 (an increase of 1,105%).

[58] This is not to say that the DOJ's enforcement policies are politicized. Adhering to one political party's positions on competition policy is not a motive that can be detected in enforcement outcomes since the early 1990s.

[59] We lag the years for each term. For example, President Obama was elected in November 2008 and took office in January 2009. Because changes in antitrust leadership take many months to effectuate, 2009 is counted as the final year of President George H. W. Bush's second term and 2010 as the first year of Obama's first term. *See* PIC DATA SET, *supra* note 19.

administrations and terms? At least three policy factors are affected by presidential appointees and the congressional committees that oversee cartel enforcement. First, fines predictably increase when the statutorily allowed maximum fine increases.[60] The ability to impose fines above the statutory cap of $10 million that was in effect from 1990 to 2004 obviously changed when the cap was increased to $100 million. As of May 2015, 150 companies had joined the Division's "$10 million club." By mid-2015 there were 47 corporate price fixers in the "$100 Million Club" and five in a new "$1 Billion Club"![61]

Second, with changes in administrations we have seen increased indictments and convictions of non-U.S. firms, which contributes to escalating corporate price-fixing fines. For nearly 50 years following the end of World War II, no foreign firms were criminally convicted of price fixing in the United States. From 1990 to 1995, the Division tried several cases against alleged foreign cartelists but suffered a series of defeats.[62] But the successful global *Lysine* cartel prosecutions in 1995-1996, in which four of the five cartel members were Asian companies, marked a watershed. From 1995 to 1999, 45% of all firms charged for criminal price fixing were involved in international schemes; from 2005 to mid-2015, the ratio rose to 55% – about 515 companies in all.[63] Even more striking, during the years 1990-2015, one-fourth of guilty

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[60] The statutory maximum "organizational" (i.e., corporate) fine was raised from $1 million to $10 million in 1990 and to $100 million in 2004. Recommended corporate fines may exceed these maxima if the "alternative fine provision" is invoked by the Division. *See* 18 U.S.C. § 3571. The alternative fine must be less than double the harm or double the gain that can be proved to be generated by the cartel conduct, but there is no absolute dollar limit. By convention, the fines are nearly always computed only on domestic sales, but there is no reason why defendants should not be liable for all of the cartel's worldwide harm. *See* Gallo et al., *supra* note 33, at 127 (showing that each time the statutory limit was raised in 1974, 1985, and 1990, real average corporate fines subsequently increased several-fold).

[61] These are total criminal and civil U.S. government penalties; private recoveries are not counted. The vast majority of companies with the highest U.S. penalties are non-U.S. headquartered. The first corporate fine to exceed the $10-million cap was issued on September 6, 1995. *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* https://www.justice.gov/archive/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. In late 1996, Archer-Daniels-Midland (ADM) became the first cartel defendant to pay a $100-million fine. *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* https://www.justice.gov/archive/atr/public/press_releases/1996/0988.htm. A long-standing record fine was the $500 million paid by Hoffmann-La Roche in 1999 for its leading role in the bulk vitamins cartel. However, in 2015, Citicorp garnered the highest criminal antitrust fine ever imposed by the DOJ, $625 million. Citicorp actually paid $2,284 million in civil and criminal fines imposed by four federal agencies and a UK regulator for its participation in the FOREX cartel.

[62] *See* GLOBAL PRICE FIXING, *supra* note 10, at ch.2. The one possible exception was the prosecution of Miles, Inc. in the *Steel Wool Scouring Pad* case in October 1993.

[63] *See* Workload Statistics, *supra* note 18 (number of corporations criminally charged -- the denominator); PIC

foreign firms paid fines of at least $10 million, and these large foreign fines accounted for 86% of all cartel fines collected by the DOJ. Guilty foreign firms continue to account for nearly all of the $10 Million Club.[64]

Third, over time the Division increasingly has begun working with other agencies in government-wide task forces, particularly in banking markets, and coordinating internationally with foreign jurisdictions. The expanded bandwidth from working with other agencies arguably has allowed the Division to pursue even larger-scale cases resulting in larger fines. In the past decade or so, the Division has coordinated closely with the Securities and Exchange Commission (SEC), Commodities Futures Trading Commission (CFTC), Federal Maritime Commission (FMC), Office of the Comptroller of the Currency (OCC), Federal Reserve Bank, and New York Department of Financial Assistance.[65] It has also coordinated internationally with foreign agencies in cases involving multilateral market manipulation of essentially global markets, like the LIBOR and various commodity indexes (oil, gold, silver, and the like). The Division has worked closely with British, Dutch, German, and Swiss banking regulators in these cases. In some instances, fines were decided in tandem and announced simultaneously, and agreements were made on which authorities would prosecute particular traders.

If the recent rise in U.S. cartel fines seems stark, the rise in foreign jurisdictions is even more pronounced, by a significant margin. Until 1989, the European Union's (EU's) cartel fines amounted to only $30 million,[66] compared to U.S. fines of more than $400 million.[67] In the past 25 years, however, U.S. fines totaled $32 billion while combined EC and Member State fines totaled nearly double that amount – $55 billion. The U.S.-EU trends are illustrated in Figure 7 below.

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DATA SET, *supra* note 19 (number of companies fined, offered amnesty, or a consent decree – the numerator).

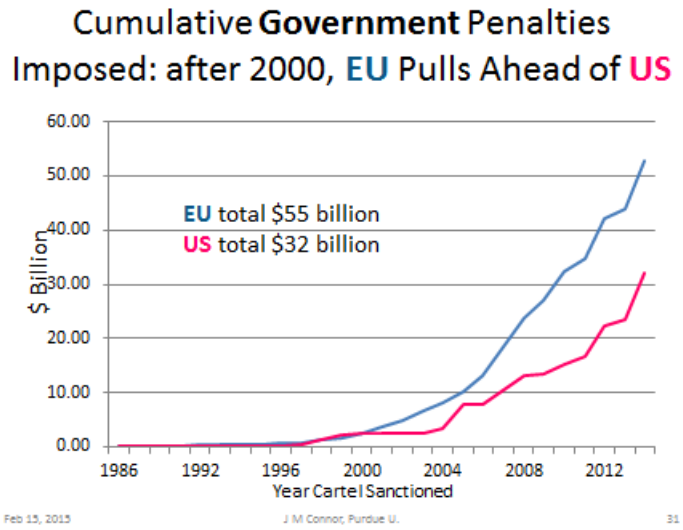
[64] *See id.*

[65] The last is a New York State agency, but its scope is practically national. We exclude settlements by the state attorneys general.

[66] Francesco Russo et al., *European Commission Decisions on Competition*, Fig.11 (Amsterdam Center for Law and Economics Working Paper No. 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).

[67] Gallo et al., *supra* note 33, at tbl.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.

**Figure 7. U.S. Government and EU Cartel Fines**




The Europeans appear to have heavily surpassed the United States in imposing cartel fines simply by tackling more cartels and more infringing firms each year,[68] rather than by imposing fines that are more severe.[69] However, EU fining guidelines implemented in September 2006 did meaningfully increase the severity of EC fines relative to those imposed by the Division.[70] No similar increase in the severity of U.S. fines is expected.[71]

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[68] *See Private International Cartels*, *supra* note 25. To be more precise, the 27 National Competition Authorities in the EU are increasingly active in opening and deciding cartel cases. During the years 1990–2015, the NCAs decided 317 international cartel cases, 287 with fines, which total $21.2 billion (Table 2). As of mid-2015, 60 cases were under investigation. Historically, the EC itself is able to decide only about five to eight hard-core cartel cases per year. During the years 1990–2015, the EC decided 144 international cartel cases with fines, which total $32.5 billion (Table 2). The U.S. total in Figure 7 counts fines imposed by all U.S. agencies. The Division itself imposed $10.2 billion in fines, or one-fifth the amount imposed by the EC and its Member States.

[69] 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* Maarten 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). Repeating this analysis using the PIC Data Set for 97 companies fined by both authorities during the years 1990–2015 also shows no significant difference ($60.9 million per firm for the U.S. and $60.7 million for the EC). *See* PIC Data Set, *supra* note 19.

[70] *See* John M. Connor, *Has the European Commission Become More Severe in Punishing Cartels? Effects of the 2006 Guidelines*, 32 EUR. COMPETITION L. REV. 27 (2011). The EU fining guidelines are non-binding on the NCAs, which "retain full discretion as to their fining policy, even when they are applying Articles 81 and 82 of the EC Treaty." European Commission, Press Release, Competition: Revised Commission Guidelines for Setting Fines in Antitrust Cases – Frequently Asked Questions (June 28, 2006), *available at* http://europa.eu/rapid/press-release_MEMO-06-256_en.htm?locale=en.

[71] The AMC voted to retain the current structure of the Sentencing Guidelines. ANTITRUST MODERNIZATION COMM'N, REPORT AND RECOMMENDATIONS (2007) [hereinafter AMC REPORT]. There is no indication the

*F. Privates Damages Recovered*

Private enforcement actions in the United States pick up of all of the slack in cartel penalties relative to Europe, and then some. Private antitrust damages suits are more common in North America than anywhere else in the world.[72] Adding these recoveries to government-imposed fines radically changes the position of U.S. cartel penalties relative to EU cartel penalties.[73]

Known monetary damages recouped by private plaintiffs in the United States from 1990 to 2014 totaled $47.5 billion, 90% of which was recovered by direct purchasers and 10% by indirect purchasers (Table 2). These private U.S. recoveries were at least 88% of all such recoveries in the world. When total antitrust penalties are compared, factoring in both public and private enforcement, the U.S. has surpassed penalties in the EU by a comfortable margin since 1998 (Figure 8).[74] This is significant because the two economies are roughly similar in economic size. Overall, the U.S. legal system imposed $62 billion in cartel penalties during the years 1990-2014, compared to $55 billion in the EU.

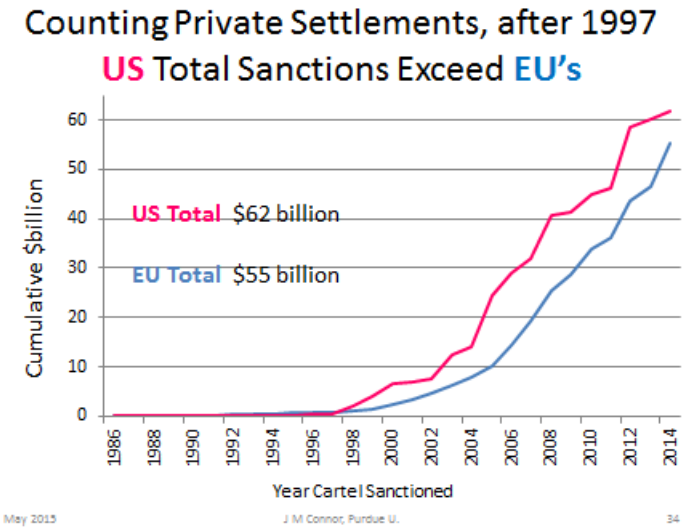
Sentencing Commission will raise the base fine.

[72] For a thorough analysis of private cartel damages actions, see John M. Connor, *Private Recoveries in International Cartel Cases Worldwide: What Do the Data Show*? (AAI Working Paper No. 12-03., Oct. 15, 2012). Narratives and details on 60 large U.S. cases are in Joshua P. Davis & Robert H. Lande*, Toward an Empirical and Theoretical Assessment of Private Antitrust Enforcement*, 36 SEATTLE L. REV. 1269 (2013); further legal analysis can be found in Joshua P. Davis & Robert H. Lande, *Defying Conventional Wisdom: The Case for Private Antitrust Enforcement*, 48 GA. L. REV. 1 (2013).

[73] Private damages suits are likely to become more common in the EU, and particularly in the U.K., in the next several years. In November 2014, the EU's Directive on Antitrust Damages Actions was signed into law. The Directive requires member states to enact laws that will facilitate private antitrust damages claims. Under the new laws, for example, plaintiffs will be able to obtain discovery; rely on a final decision of a national competition authority finding an infringement as proof that the infringement occurred; receive full compensation for actual loss and loss of profit plus interest; and obtain damages even if they are indirect purchasers. Member states were given until November 2016 to implement the new laws. DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL ON CERTAIN RULES GOVERNING ACTIONS FOR DAMAGES UNDER NATIONAL LAW FOR INFRINGEMENTS OF THE COMPETITION LAW PROVISIONS OF THE MEMBER STATES AND OF THE EUROPEAN UNION, EUROPEAN UNION (2014), *available at* http://ec.europa.eu/competition/antitrust/actionsdamages/damages_directive_final_en.pdf. In the U.K., the recently enacted Consumer Rights Act 2015 permits opt-out class actions for antitrust damages claims.

[74] Projections to 2020 show the U.S. lead remaining.

**Figure 8. U.S. and EU Total Cartel Penalties**



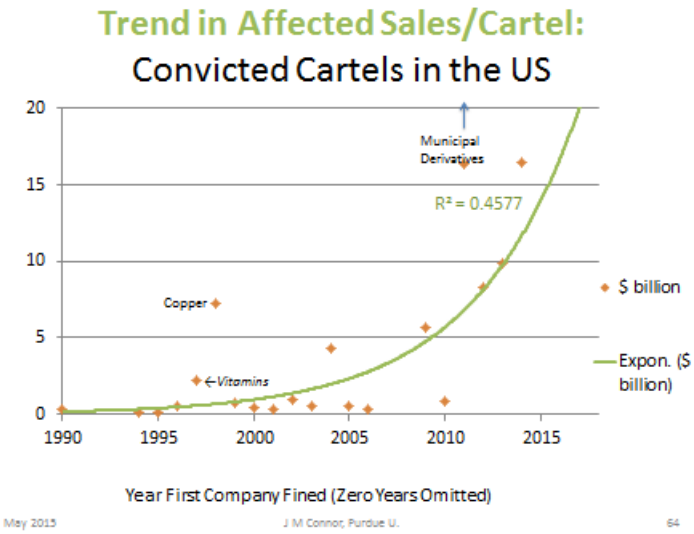

*G. Severity of Corporate Penalties*

Another important metric for effective cartel enforcement is the severity of fines imposed. The USSGs and the fining guidelines of most of the world's antitrust authorities begin with calculating a defendant's fine as a percentage of its sales during the collusive period; this initial figure is then adjusted for the cartelist's degree of culpability. Thus, if the cartel's sales are rising, so should the severity of the fine, defined as the ratio of the fine to affected sales. And if, as we argue below, cartel penalties are currently suboptimal for deterrence purposes, then policymakers should increase the severity of cartel fines.

The estimated affected sales of international cartels convicted in the United States are rising, and this trend has been quite sharp in the past 5-10 years (Figure 9).[75] Until about 2000, the typical cartel had affected sales of $1 billion or less. By 2010, the typical cartel's sales rose to about $5 billion, and by 2015, it reached more than $15 billion.

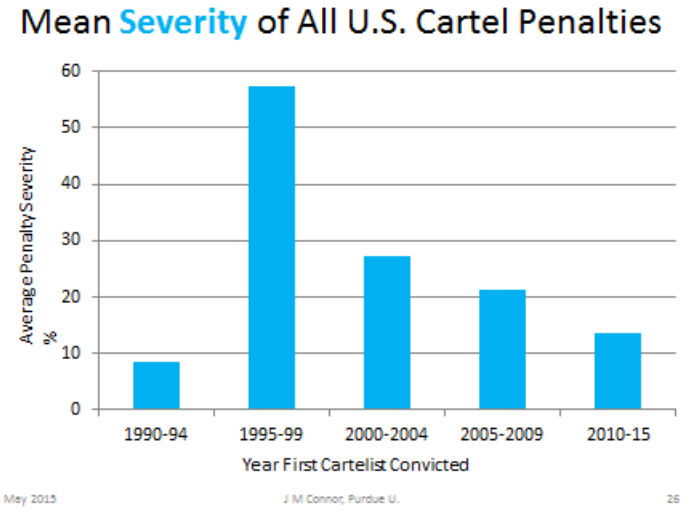
[75] *See Private International Cartels*, *supra* note 25. This figure is based on estimated U.S. sales of 93 international cartels aggregated by the year in which the first member of each cartel was convicted. The other convictions usually follow within a year. These sales data are from independent business-research sources or court documents, and they assume umbrella pricing by fringe firms. Two extremely large cases—*Municipal Derivatives* and *LIBOR*—are omitted because trillions of dollars of derivatives were affected. The DOJ does not reveal annual totals of cartel affected sales, and only partial sales data are obtainable from published sentencing memos. Insofar as affected sales are frequently reduced for sentencing purposes as a result of plea negotiations, they likely are systematically under-reported.

**Figure 9. Affected Sales of Cartels Convicted in the U.S.**




The 15-fold increase in the size of international cartels operating in the United States may be one reason for declining severity in U.S. penalties (Figure 10). The mean average U.S. cartel penalty during the years 1990 to mid-2015 rises to 29% of affected sales, up from 16% for fines alone.[76] However, after an impressive rise in severity in the late 1990s (heavily influenced by the *Bulk Vitamins* cartels), penalties' severity slid down at an alarming rate.

**Figure 10. Severity of U.S. Cartel Penalties**




[76] The medians are 5.8% and 3.9%, respectively.

*H. Individual Penalties*

Since at least the 1960s, the Division has maintained that the most effective way to deter and punish cartel activity is to hold culpable individuals accountable by seeking jail sentences.[77] Until the late 1990s, individual prison sentences were few and short, especially for cartel managers residing abroad. However, in approximately 2000, individual prison penalties began to become more severe.[78] The severity of individual penalties can be measured best by the number of executives punished per guilty company, the number per convicted cartel, or the length of imprisonment.[79]

By all measures, the Division is treating price-fixing managers more severely. First, the Division is indicting a larger number of executives for each convicted corporate cartelist. The number of individuals charged for criminal price-fixing violations per company fined for price fixing averaged 2.5 per year during the years 1990–2015 (Table 1). That number rose in each of the ensuing five semi-decades, and reached 3.8 individuals per company during the years 2010-2015. A second, steeper upward trend is seen in the number of executives jailed per guilty firm; this ratio rose from an average of 0.34 per company in the 1990s to 1.44 thereafter (Table 1). A third upward trend in severity is seen in the percentage of individuals imprisoned after being charged. That percentage rose from 25% on average in the early 1990s, to 31% in the late 1990s,

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[77] *See, e.g.,* William J. Baer, Assistant Att'y Gen., Dep't of Justice, Reflection on Antitrust Enforcement in the Obama Administration, Remarks as Prepared for Delivery to the New York State Bar Association 3 (Jan. 30, 2014) *available at* https://www.justice.gov/atr/file/517761/download ("Experience teaches that the threat of prison time is the most effective deterrent against criminal antitrust violations."). The imposition of five prison sentences on executives in the Great Electrical Equipment conspiracy is often mentioned as a watershed in the development of this thinking. Making price fixing a felony in 1974 was an additional spur. Hammond 2007, *supra* note 15, at 2.

[78] If an increase in severity of individual prison penalties was the product of an internal policy change, it was not the subject of any recommendations in a seminal report on international antitrust commissioned by the Attorney General and Assistant Attorney for Antitrust at the time. *See generally* INT'L COMPETITION POL'Y ADVISORY COMM., FINAL REPORT TO THE ATT'Y GEN. AND ASSISTANT ATT'Y GEN. FOR ANTITRUST (2000).

[79] The Division uses these same metrics. *See, e.g.,* Brent Snyder, Deputy Assistant Att'y Gen., Dep't of Justice, Remarks at the Yale Global Antitrust Enforcement Conference (Feb. 19, 2016), *available at* https://www.justice.gov/opa/speech/deputy-assistant-attorney-general-brent-snyder-delivers-remarks-yale-global-antitrust (noting that "[t]he Antitrust Division is not only successfully prosecuting more individuals, at higher levels within their firms, but is also obtaining longer prison sentences," and "[o]ver the last three decades, the average sentence for defendants sentenced to a prison term has increased three-fold, from an average of 8 months in the 1990's, to an average of 24 months for fiscal year 2010 through 2015"). *See also* Scott D. Hammond, Deputy Assistant Att'y Gen., Criminal Enforcement Antitrust Div., Dep't of Justice, Recent Developments, Trends, and Milestones in the Antitrust Division's Criminal Enforcement Program 5–9 (Mar. 26, 2008), *available at* http://www.justice.gov/atr/public/speeches/232716.pdf [hereinafter Hammond 2008]. The mere number of individuals punished could by itself be misleading. For example, the number of individuals charged criminally under Section 1 on average was highest during the years 1990–95 (59 per year), dropped during the years 1995–2004 (38 per year), and bounced back during the years 2005–2015 (55 per year). This U-shaped pattern is not supported by more discriminating statistics discussed *infra*.

and then jumped to 48% in the 16 fiscal years after 1999 (Table 1).[80] Finally, imprisoned cartelists now tend to receive longer sentences. Price-fixing sentences have grown from an average of less than 9 months in the 1990s to an average of 22 months after 2004 (Table 1).[81]

Price-fixing fines on individuals are modest. During the years 1990-2015, 631 individuals paid criminal fines totaling $82.7 million, or a mean of $123,475 per person (Table 1). With two exceptions,[82] no individual has paid more than $350,000, which was the statutory maximum during the years 1990-2004, for price fixing alone.[83] Unlike nearly all other sentencing figures, average fines per person are highly variable over time. The annual average peaked during the years 2005–2007 (at $363,000), but subsequently declined to $68,870 during the years 2011-2015. Relative to the wealth of the majority of convicted cartel managers, personal fines remain small and are likely an insignificant source of deterrence.[84]

Individual penalties imposed on managers of international cartels in particular show somewhat different, weaker trends, based on the Division's data on all types of collusion. Median prison sentences for international cartelists are lower—at 10 months.[85] There appear to be no upward

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[80] A leveling of the trend is noticeable during the years 2005–2015: there was no change in the years 2010-2015 compared to the years 2005–2009. This leveling may be explained in part by the increasing share of charges leveled at foreign residents, many of whom become fugitives. The Division does not publish data showing the number of fugitives, as far as we know, but see John M. Connor, *Problems with Prison in International Cartel Cases*, 56 ANTITRUST BULL. 311 (2011).

[81] The rise in severity of prison sentences somewhat tracks presidential administrations. In the Bush I Administration the average sentences were 8.4 months, Clinton 9.9 months, Bush II 20.4 months, and the first six years of Obama 22.4 months. In addition, post-ACPERA (i.e., after 2004), sentences rose to 22.4 months, a 106% increase over pre-ACPERA (1990-2004).

[82] As is the case for corporations, there is a rarely used alternative sentencing provision available to the Division that can result in individual fines of up to $25 million. *See* 18 U.S.C. § 3571. Higher fines for some individuals are due to additional charges, 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 10. From 2000-03, the employer of a guilty German graphite-electrodes manufacturer paid a $10 million personal fine for its convicted CEO (who received no prison sentence); the other high personal fine of $7.5 million was paid by the chairman of Sotheby's auction house, who was also sentenced to 366 days in prison (this remains the first and only litigated cartel fine above $350,000). *Id.* at 98. Removing these two outliers, the mean average U.S. fine for individuals during the years 1990-2015 falls from $123,475 to $97,650. The median fine is about $50,000.

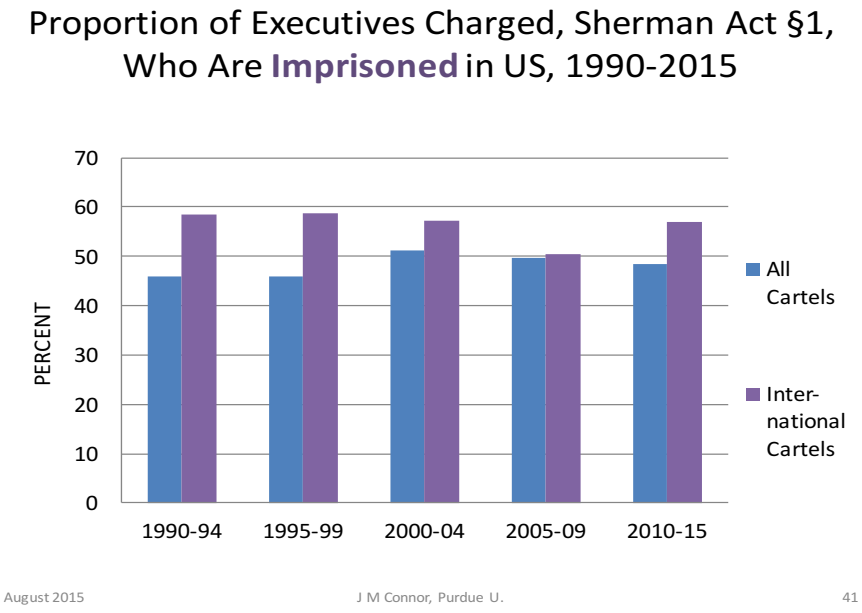
[83] ACPERA raised the individual statutory fine to $1 million for crimes committed after April 2004. Yet, average annual fines per person *declined* by 78% after FY 2004 compared to pre-ACPERA 1990-2004. Indeed, the first 46 managers to be fined in the giant *Auto Parts* cartels during the years 2014-2016 were required to pay no more than $20,000 each. *See Private International Cartels*, *supra* note 25.

[84] *See* Gallo et al., *supra* note 33, at 104–07 (69% of all criminal price-fixing defendants from 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 likely tend to be wealthy, many with compensation in excess of $500,000 per year.

[85] *See Private International Cartels*, *supra* note 25.

trends over time in the number of executives indicted per company, the number of executives fined per company, the number of executives imprisoned per company, and the length of prison sentences of foreign executives.[86] For example, the proportion of international cartel executives imprisoned was slightly higher before 2005 than after, and the ratio for international cartels fell below the ratios for all cartels for the first time during the years 2010–2015 (Figure 11). These trends suggest that international and global cartels continue to be more challenging to police than domestic schemes.

**Figure 11. Charged Individuals Subsequently Imprisoned**




## III. Appraisal of Anti-Cartel Enforcement

### *A. The Goals of Anti-Cartel Enforcement*

There is widespread agreement that deterrence, specific and general, should be the overarching goal of the Division's cartel-suppression efforts.[87] Indeed, there is evidence that deterrence has become the new global standard of antitrust enforcement.[88] Pursuing deterrence also serves the

[86] *But see* Hammond 2008, *supra* note 79, at 8 (Looking at data from the fiscal years 2000-2007, Hammond concludes that that the Division's "policies resulted in lengthier jail sentences for culpable foreign-based defendants"). Hammond's argument seems to rest on a rise in only the last two years. Longer time series do not support such a rise.

[87] In rare instances, such as cases involving overcharges to the United States government, compensation is also a goal of the Civil Division.

[88] INT'L COMPETITION NETWORK, DEFINING HARD CORE CARTEL CONDUCT, EFFECTIVE INSTITUTIONS,

goal of rehabilitation, 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. 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. The second is imposing penalties sufficiently high to optimally deter or dissuade these violations.[89]

Corporate and individual penalties can be measured with monetary metrics and are both substitutable and additive. That is, in measuring the deterrence impact of anti-cartel enforcement, total monetized penalties on both corporate and individual cartelists should be compared with the injuries caused by the cartel's collusion.[90] At a minimum, *ex post,* monopoly profits ought to be disgorged (i.e., penalties should equal or exceed the gain to the cartelists). Ideally, from an *ex ante* point of view, penalties should be a multiple of the gain so as to account for the fact that the chance of detection is less than 100%. The weight of scholarly opinion is that cartel penalties are sub-optimal.[91]

### *B. General Appraisals of DOJ Enforcement Quality*

There are several rankings available of the world's major antitrust authorities; these rankings tend to rely upon the size of the agencies' available resources, case-handling numbers, and subjective evaluations of selected qualitative developments during a recent year.[92] These rankings tend to emphasize total employment, the mix of skill sets, and the size of agencies' budgets.[93] In this chapter we eschew such resource-based comparisons and instead rely on

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EFFECTIVE PENALTIES: VOL. 1 53 (2005) (reporting on a 19-authority survey finding that "there was unanimous approval of the following statement: '*The principal purpose of sanctions in cartel cases is deterrence*'") (emphasis in original).

[89] A somewhat philosophical debate has emerged in the legal-economic literature over the proper standard for the judiciary to employ in calculating the optimal set of remedies for price fixing violations. The optimal deterrence view, which has been enshrined in the U.S. Sentencing Guidelines since 1987 and quickly became the consensus view, has begun to be challenged by (mostly European) theorists who call their approach "dynamic." The conventional (static) approach would kill cartels *before they are born*. The newer dynamic approach aims lower; it would *destabilize existing cartels* by offering just enough monetary incentives to the weakest member of the cartel to defect. This debate has enormous practical implications for optimal penalties. Joseph E. Harrington, *Penalties and the deterrence of unlawful collusion*, 124 ECON. LETTERS 33, 33-36 (2014) (roughly calculating that, if detection is perfect, dissuasive penalties are one-third to one-half of deterrence penalties).

[90] *Crime Pays, supra* note 1.

[91] See the introduction of *Crime Pays, supra* note 1.

[92] One respected annual survey is conducted by the Global Competition Review. *See, e.g.*, Global Competition Review, *Rating Enforcement 2015* (2015) [hereinafter *Rating Enforcement*]. Its journalists and leading practitioners gave the DOJ and FTC its top rating in 2015 and for several previous years. Other publishers' surveys of antitrust practitioners' sentiments also rank the U.S. DOJ and FTC at or near the top.

[93] *Id.* at Tbl. 8 (placing the Antitrust Division third in the world in employment size and the U.S. first in budget size).

enforcement outcomes to assess enforcement quality.

### *C. 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 this 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.

Buyer complaints have now been almost entirely supplanted by leniency applications as the mechanisms that launch cartel investigations.[94] In terms of the number of applications, the 1993 revision of the leniency program has been a roaring success,[95] primarily because it awards an applicant nearly automatic approval if the applicant meets a short list of easily pre-determined conditions.[96] The first qualified applicant is granted amnesty in the form of a 100% reduction in its fine and immunity from prosecution for its managers and directors.[97] However, supported by language in the USSGs, the Antitrust Division also customarily grants large discounts to later applicants if they demonstrate cooperation with prosecutors.

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[94] *See* Scott D. Hammond, Deputy Assistant Att'y Gen., Dep't of Justice, The Evolution of Criminal Antitrust Enforcement Over the Last Two Decades 3 (Feb. 25, 2010), *available at* http://www.justice.gov/atr/speech/evolution-criminal-antitrust-enforcement-over-last-two-decades [hereinafter Evolution] (noting that since fiscal year 1996, over 90% of $5 billion in antitrust fines were tied to investigations assisted by leniency applicants, and that of the 50 investigations the Division typically has open at a time, more than half "were initiated, or are being advanced, by information received from a leniency applicant").

[95] Litan & Shapiro, *supra* note 14, at 3-4 (crediting the program as the major reason for the successful anti-cartel record of the Clinton administration).

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

[97] SCOTT D. HAMMOND, DEPUTY ASSISTANT ATT'Y GEN., DEP'T OF JUSTICE, FREQUENTLY ASKED QUESTIONS REGARDING THE ANTITRUST DIVISION'S LENIENCY PROGRAM AND MODEL LENIENCY LETTERS (Nov. 19, 2008), *available at* http://www.justice.gov/atr/public/criminal/239583.htm (explaining in detail the procedures for applying for corporate leniency). If the applicant is not first in line, it may obtain a very large fine discount by confessing to collusion in another line of business, so-called "Amnesty Plus." *See id.*

The DOJ does not report annually on the number of leniency applications received or granted.[98] In the early 2000s, however, the Division indicated it received more than 12 applications per year.[99] During the 1993–2010 period, the Division indicated it received about 20 applications per year.[100] In 2015, the Global Competition Review reported that each of the antitrust agencies ranked in the top ten in the world (which includes the Division) received an average of about 45 applications per year.[101] The leniency program thus has become by far the foremost source for detecting secret cartels.[102]

In 2004 Congress enacted ACPERA, which further incentivized cartel members to seek leniency by limiting their civil liability. ACPERA eliminates treble damages and joint and several liability for a leniency applicant that provides "satisfactory" cooperation to a civil plaintiff, thus increasing the monetary benefits for cartel participants considering blowing the whistle on their co-conspirators: the threat of treble-damage liability plus responsibility for co-conspirators' injuries in private litigation.[103] Most observers agree that ACPERA, like other features of the DOJ's leniency program, has been successful in increasing reporting on secret cartels. Although the number of leniency applications did not increase materially in the years after ACPERA was enacted, the DOJ saw a significant shift in the type of leniency applications: before ACPERA, most cartelists sought leniency after the DOJ had already initiated an investigation (i.e., through a "Type B" application). After ACPERA, there were twice as many leniency applications filed by leniency applicants before the DOJ had begun an investigation.[104]

ACPERA was also intended to benefit the victims of price-fixing by incentivizing cartelists to cooperate with civil claimants. The leniency applicant is only entitled to the damages-limiting provisions of ACPERA if it provides cooperation that is deemed "satisfactory" by the court in which the civil action is pending. While many plaintiffs' lawyers agree that ACPERA

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[98] The Division should begin reporting on the number of leniency applications under the next administration. Nearly every other antitrust authority reports this information annually.

[99] James M. Griffin, Deputy Assistant Att'y Gen., Dep't of Justice, A Summary Overview of the Antitrust Division's Criminal Enforcement Program (Jan. 23, 2003), *available at* http://www.justice.gov/atr/speech/summary-overview-antitrust-divisions-criminal-enforcement-program.

[100] *See* Hammond, Evolution, *supra* note 94, at 3. One cannot tell whether these applications also include Amnesty-Plus situations.

[101] Global Competition Review, *Rating Enforcement*, *supra* note 92, tbl.21.

[102] *See* Hammond, Evolution, *supra* note 94.

[103] Bonny E. Sweeney, *Earning ACPERA's Civil Benefits: What Constitutes "Timely" and "Satisfactory" Cooperation*? 29 ANTITRUST 37 (2015) [hereinafter *ACPERA's Civil Benefits*].

[104] *Id.*; GAO ACPERA REPORT, *supra* note 7, at 10.

cooperation can strengthen and streamline the prosecution of private damages claims, leniency applicants are often less forthcoming with the requisite cooperation than plaintiffs would like. Cooperation that consists merely in the information provided by co-defendants during discovery, for example, or cooperation provided at the end of discovery, is of limited or no utility.[105] And while the statute now requires the leniency applicant to cooperate in a timely manner, there is still uncertainty about what constitutes "timely" cooperation.[106]

Finally, information about putative cartel activity is flowing among the world's antitrust authorities; a leniency application in one jurisdiction about a cartel that affects another jurisdiction may result in coordinated, simultaneous international raids. Joint multi-jurisdictional raids often provide expanded details about secret international cartels and help preserve incriminating documents that may reside abroad.

The Corporate Leniency Program has at least one negative implication for general deterrence, however. As noted, amnesty recipients pay no fines, and since 2004 they are liable for only single rather than treble private damages.[107] 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.[108] This raises an important policy question: do the benefits of securing relatively easier convictions from cooperating defendants always necessarily justify the costs in decreased deterrence? The next subsection discusses risks associated with possibly over-generous fine discounts for late-arriving defendants in particular.

The Division also has an individual leniency program, but it is rarely mentioned and appears to be little used. To better encourage individuals to report suspected hidden cartel activity, the next administration should support the passage of an anti-retaliation statute like the bills

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[105] *ACPERA's Civil Benefits*, *supra* note 103, at 38–40; James M. Griffin, Deputy Assistant Att'y Gen., Dep't of Justice, 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).

[106] *ACPERA's Civil Benefits*, *supra* note 103, at 38–39.

[107] From EC decisions, we know that amnesty decisions often result in substantial reductions of total fines. Indeed there are cases where the "but-for fine" (the fine that would have been imposed but for awarding amnesty) exceeds *all* the fines paid by the other convicted companies. The U.S. DOJ does not on its own release any information on cartel-amnesty recipients. The release of the amount of but-for fines by amnestied, guilty cartelists would help Congress evaluate the deterrence implications of its Corporate Leniency Program.

[108] Under U.S. law, the non-amnestied members of a cartel remain jointly and severally liable for the total cartel overcharge.

sponsored by Senators Leahy and Grassley in 2013 and 2015.[109] Those bills, which passed the Senate but not the House, would have protected employees who report possible violations of the antitrust laws−either to an employer or to the Federal Government−from retaliation by employers.[110]

In addition, the next administration should implement a whistleblower rewards program akin to that of the False Claims Act.[111] From 1986 to 2000 more than $3.5 billion was recovered by the U.S. Treasury from *qui tam* actions under the False Claims Act, of which $500 million went to individuals.[112] "Bounty" programs for individual whistleblowers in cartel cases have been employed in Korea, Hungary, and the U.K., and instituting such a program would probably spur more cartel discoveries in the United States.[113] At a minimum, the balance of perceived advantages and disadvantages merits further study, informed by the experiences of other federal agencies enforcing other statutes and foreign agencies enforcing their competition laws.

*D. Price-Fixing Remedies*

Since the early 1990s, the size of U.S. 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 under-deter cartel violations. Underdeterrence arises in part from flaws in the design of the Sentencing Guidelines and from arguably generous discounts given during plea negotiations.[114] Failure to deter may also be traced to multi-jurisdictional—indeed global—spread of many of the biggest cartels, problems of proof of damages in private suits, and limits on the ability of antitrust

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[109] *See supra* note 8.

[110] *Id.*

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

[112] *Id.* at 767.

[113] *See* Andreas Stephan, *Is the Korean Innovation of Individual Informant Rewards a Viable Cartel Detection Tool?* 22 (CCP Working Paper 14-3, Jan. 15, 2014) *available at* http://competitionpolicy.ac.uk/documents/8158338/8199490/CCP+Working+Paper+14-3.pdf/7a9c1d06-d790-4e83-86bf-d43c68c83d0d (concluding that "these schemes are a viable enforcement tool").

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

authorities to punish individual cartel managers.

1. Corporate Fine Levels

A root cause of insufficient price fixing penalties is very likely an error in the U.S. Sentencing Guidelines.[115] The Antitrust Modernization Commission (AMC),[116] the American Bar Association (ABA),[117] and the AAI all 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.[118] Even the Antitrust Division has acknowledged that the 10% presumption may be too low.[119] The most comprehensive study of the subject concludes that the median overcharge is roughly 22–25%, and the mean overcharge is probably 31–49%.[120] Other researchers have also determined typical cartel overcharges to be well above 15%.[121] Thus, cartel price effects are likely to be *two to five times higher* than the mean overcharge assumed in the Sentencing Guidelines. This suggests that penalties based on the Sentencing Guidelines will significantly under-deter cartel behavior. This fact alone also suggests that cartels usually make a profit even when they are caught.[122] *A fortiori*, because cartels frequently are not caught,

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[115] At the sentencing hearing following a guilty plea, the Division submits a sentencing memorandum that lays out in some detail how the proposed fine is justified by the Sentencing Guidelines. While the fines usually are based on the Sherman Act (as amended), the double-the-harm standard is used to justify large cartel fines. Almost exclusively, the alternative sentencing provision is invoked solely to permit fine recommendations that are calculated from the Sentencing Guidelines but that exceed the statutory maximum ($100 million for violations after mid-2004 and $10 million before that). Therefore, nearly all Division fines are based at least in part on the Sentencing Guidelines.

[116] AMC REPORT, *supra* note 71, at 8.

[117] AMERICAN BAR ASS'N, COMMENT SUBMITTED TO THE ANTITRUST MODERNIZATION COMMISSION RE CRIMINAL REMEDIES 8 (2005).

[118] While some empirical data were probably examined when the Guidelines' presumption was crafted, 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 37.

[119] *See* Hammond 2005, *supra* note 12, 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 requested that it be re-examined. AMC REPORT, *supra* note 71, at 300 ("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.").

[120] John M. Connor, *Cartel Overcharges*, *in* 29 RESEARCH IN LAW AND ECONOMICS 249 (Mar. 2014).

[121] Marcel Boyer & Rachidi Kotchoni, *How Much Do Cartels Overcharge?* (Toulouse School of Economics Working Paper No. TSE-462, Jan. 2014). In Table 6, after applying a method to adjust for statistical bias, the authors conclude that the median overcharge for post-1972 studies of domestic cartels is 15.0% and for international cartels 21.1%. *Id.*

[122] In a much-discussed article, Ginsburg and Wright seem to reject the optimal deterrence standard. While they are convinced that underdeterrence of cartels is widespread in North America and the EU, they propose to solve this enforcement failure with (1) fines that equal disgorgement of profits and (2) increased penalties on the cartel managers (i.e., fines, incarceration, and debarment), together with debarment for their senior supervisors and the

their expected profits from collusion are substantial.

Base fines, which are calculated from affected sales, are also very likely too low. The Sentencing Guidelines double the presumed overcharge to obtain the base fine of 20% of affected sales. Doubling of the presumed overcharge is more than justified by the Sentencing Commission's desire that fines include such factors as the deadweight loss to society and the absence of prejudgment interest.[123] However, double the presumed overcharge is far too low a multiple. Deadweight loss alone adds as much as 50% to the overcharge amount.[124] 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 fines or payments to recipients take place many years after the injuries occurred. For example, the failure to adjust for prejudgment interest in the *Vitamins* case cut the net present value of the imposed penalties in half.[125] Finally, because the probability of detection of secret cartels is commonly judged to be less than 33%,[126] an optimal fine must be at least triple the harm caused to effectively deter cartel formation. Note that these are not independent factors—they are multiplicative.[127]

The conceptualization of affected sales can also drive down base fines, leading to inadequate penalties. The question becomes: Which sales, and what does "affected" mean?[128] A recurring issue, for example, is whether to measure affected sales in the cartelized market on a worldwide basis. The Division can do so, and has employed non-U.S. sales for sentencing purposes in a couple of cases, but its criteria for determining when to use broader geographic dimensions are unclear. One reasonable approach is to use worldwide sales of defendants when they admit to fixing prices abroad *and* they agree that no other governments' antitrust proceedings are

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company's directors. They do not discuss the role of settlements from private suits as a source of deterrence. *See* Douglas H. Ginsburg & Joshua D. Wright, *Antitrust Sanctions*, 6 COMPETITION POL'Y INT'L 3, 6 (2010), *available at* http://www.law.gmu.edu/assets/files/publications/working_papers/1060AntitrustSanctions .pdf [hereinafter *Antitrust Sanctions*].

123 *Crime Pays*, *supra* note 1, at 523.

124 *See Crime Pays*, *supra* note 1 (showing that the best research tends to find that the deadweight loss is 10% to 30% of the overcharge).

125 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 Davis & Lande, *supra* note 72.

126 *See* Connor, *supra* note 120, at tbl.1.

127 Suppose that for a particular cartel the deadweight 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 Davis & Lande, *supra* note 72.

128 Some observers would prefer to examine each transaction and eliminate those that have arguably competitive prices. Others suggest that this is an impractical approach.

ongoing.

A more difficult issue is the appropriate concept of affected sales when a cartel colludes on a component of a multicomponent final product that is sold in the United States. And similarly, the question arises whether sales of a close substitute for a cartelized product can be considered "affected sales."[129] Finally, the temporal dimensions of markets are yet another consideration. Plea negotiations can and do involve curtailing of collusive periods for fine purposes, especially as to beginning dates of collusion.[130]

Yet another factor contributing to inadequate penalties is "cooperation discounts" for cartelists that do not qualify for full amnesty. After the base fine has been ascertained, the Sentencing Guidelines specify culpability factors that can augment a defendant's penalty.[131] 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% are potential recipients of these discounts.[132] Even the last to cooperate in an eight-member cartel can get a discount, sometimes a significant one.[133] In the aggregate, partial amnesty usually results in very large fine discounts. Using a sample of 129 posted plea agreements of corporate price fixers from 1995–2007, the average discount from the maximum Sentencing Guidelines'

[129] If the price of petroleum is subject to overt collusion, for example, then economists would argue that natural gas is such a close substitute that the conspirators could reasonably foresee parallel price effects. Many of the same companies would be beneficiaries. Another good example is the collusion on fuel surcharges in *Air Cargo*. The Division insisted that the appropriate prices were the total shipping charges, not just the fuel fee; moreover, it took the position that both outbound and inbound shipments were affected commerce, even though invoices for the latter were written abroad.

[130] *See* Letter from Am. Bar Ass'n to U.S. Sentencing Comm'n (July 22, 2015). Several follow-up U.S. private suits have managed to calculate recoveries based on longer time periods than the preceding criminal actions. Defense counsel are aware that requests for curtailing are frequently made by the Division.

[131] In the Sentencing Guidelines these factors are discussed in § 8C2.5, which specifies the points to be added to or subtracted from the base culpability score. *See* AMC REPORT, *supra* note 71. These points are then converted into summary culpability multipliers. Sentencing Guidelines at § 8C2.6.

[132] Put another way, the DOJ appears to view agreeing to plead guilty in itself as a valuable form of cooperation. It is true that plea agreements allow the DOJ to escape from the substantial expenses of a trial, but in most other parts of the world merely agreeing not to contest a cartel decision is worth only a 10% discount. The principal justification for cooperation discounts is the value of inculpatory evidence (in the form of proffer letters) that results in avoiding the expense of trials against the remaining cartelists that have not yet agreed to plead guilty. After receiving proffers from two or three conspirators, are proffers from the rest really of prosecutorial value?

[133] 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.

fine was found to be 70%, and from the minimum 58%.[134] Put another way, without partial leniency discounts, Division fines would have been $6-10 billion higher than those imposed.

Currently, no matter a defendant's plea rank, in most instances it is apparently 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 apparently begin with a Division concession to a level 50% below the maximum liability. After cooperation discounts, three-fourths of all guilty corporate cartelists end up with negotiated fines *below* the minimum specified by the Sentencing Guidelines.[135] The Division's discounting practices for price fixers that are third in line to apply for leniency seem overly generous, given the rarity of corporate trials for price fixing. 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.[136]

Although corporate fines in the U.S. and other nations have been increasing, most notably since 2004 (Figure 12), we believe the weight of evidence suggests that more severe cartel penalties would increase deterrence and better serve consumer welfare. To this end, the Division should take several steps to expand potential fines, none of which requires new legislation. The Division should (1) use every opportunity to file multiple counts[137]; (2) under certain conditions substitute global affected sales of cartel members in place of U.S. sales when computing base fines; (3) apply 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 point for prosecutors in plea negotiations; (4) apply strong culpability multipliers more frequently to recidivists; and (5)

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[134] *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.

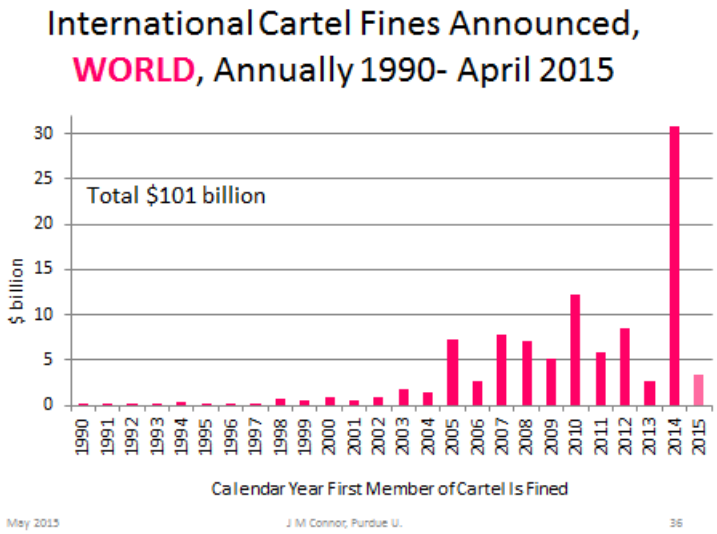
[135] *Id.* (containing a statistical model that predicts corporate cartelists' fine discounts fairly accurately; results show that companies that delay settling and that are members of global cartels or bid rigging schemes receive lower discounts (i.e., higher fines), but, inexplicably, defendants in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

[136] GLOBAL PRICE FIXING, *supra* note 10.

[137] 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*].

require cartel fines to include prejudgment interest.

**Figure 12. Global Cartel Fines**




Other improvements would require changes in the federal Sentencing Guidelines. The Division should support reconsideration by the U.S. 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.[138] Second, because bid rigging results in lower percentage overcharges on average than classic price fixing,[139] the Sentencing Guidelines' higher multiplier for bid rigging offences ought to be reconsidered and possibly removed. Third, the base fine can also be raised by using a more expansive sales concept: the Sentencing Guidelines should substitute either world-wide sales in the defendants' line of business, global sales in all of the defendants' lines of business (a concept close to the EU's method of capping fines), or domestic sales of the entire cartel, in place of domestic affected sales of a single participant.[140] Broadening the sales definition used to

[138] Connor & Lande, *supra* note 37, at 561–62.

[139] *Id.* at 559.

[140] *See* Am. Antitrust Inst., Comments of the AAI Working Group on Criminal Remedies 7 (Sept. 30, 2005) (comments submitted to the Antitrust Modernization Commission). Hammond argued strongly for this more expansive interpretation of sales. *See* Hammond 2005, *supra* note 12, at 10-13. The ABA noted that counting the overcharges of all co-conspirators 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 ASS'N, *supra* note 117. 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

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.[141] Fourth, the objective of specific deterrence is to reduce recidivism. However, the maximum fine enhancement possible for *two prior convictions* for U.S. price fixing is 16%, and this provision is rarely applied. An increase in the recidivism penalty in the USSGs to perhaps 50% per incident is desirable.[142]

2. Individual Penalties

Division policy statements 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 494 individuals during the years 1990–2015.[143] As documented above, the likelihood of individual cartelists being indicted and imprisoned has risen, and the length of prison sentences has grown. These trends are positive for cartel deterrence.[144]

It should be noted that the U.S. practice of regularly sentencing individuals to jail for price fixing is nearly unique in the world.[145] Several countries have individual penalties written in their laws,[146] but only Canada, Australia, the UK, Brazil, Korea, Germany, and Israel have regularly imposed fines on large numbers of individual price fixers.[147] However, few incarcerations are observed even in jurisdictions that permit them. The Division has made efforts to encourage criminalization of antitrust abroad in additional nations.

As previously stated, the Division has suggested that individual penalties are more efficacious

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rule that a 10% overcharge is a rebuttable presumption for Division prosecutors. AMC REPORT, *supra* note 71, at 302.

141 GLOBAL PRICE FIXING, *supra* note 10.

142 The 2006 EC Guidelines permit a 100% increase for each recidivism episode, and recidivism is broadly defined. The ultimate parent is jointly and severally responsible for violations of any subsidiary, even one acquired recently.

143 Workload Statistics, *supra* note 18.

144 The legal-economic literature does not uniformly support individual sentences for cartel crimes. *See* Keith N. Hylton, *Deterrence and Antitrust Punishment: Firms versus Agents*, 100 IOWA L. REV. 2069 (July 2015) (offering a simple proof that, given the intensive system of rewards for its managers, a firm bent on price fixing will almost always induce its managers to carry out the illegal act, making individual penalties superfluous).

145 The EU imposes only corporate civil fines.

146 Examples are France, Brazil, Japan, and the U.K.

147 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, a common outcome in other jurisdictions as well.

than corporate fines.[148] Unfortunately, there is no research confirming this strongly held opinion. Moreover, while a notable escalation in individual fines has taken place over time, fewer cartel managers are being fined each year. And individual fines in international schemes are minuscule; fines per person are constant or declining, and the number of persons (especially foreign executives) incarcerated is flat, as is the proportion of defendants imprisoned.

Proposals have been made of late to debar directors and senior executives of criminally convicted companies from serving in such positions in the future.[149] In force already abroad in a couple of nations, this punishment is very likely consistent with U.S. laws and regulations. While additional ways of discouraging conspiracies are welcome, there are several drawbacks to the proposal. First, a large share of convicted cartelists are subsidiaries of non-U.S. parents. Consequently, few are publicly listed; the SEC will have no records of the directors of such firms, making follow-up impractical. Second, there is a danger that debarment will be seen by the judiciary as a substitute for incarceration or lengthy sentences.[150] Third, corporations have incentives to compensate penalized senior managers, thereby undermining the debarment.

### *E. Interaction with Private Cases: Does the Division Do Enough to Help Private Rights of Action?*

Dollar-for-dollar, fines and private settlements have equivalent impacts on cartel deterrence.[151] We are convinced that the Division has, as Congress intended, an obligation to assist private rights of action as far as it is legally and practically able to do so.[152] Moreover, private damages actions that recover their antitrust losses from leniency applicants in fact enhance the effectiveness of leniency programs and cartel deterrence.[153] At times, the Division has appeared

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[148] 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. Proponents of the principle seem 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 are thought to value avoiding a month in prison at millions of dollars of corporate money.

[149] Ginsburg & Wright, *Antitrust Sanctions*, *supra* note 122.

[150] Joseph Harrington, *Comment on "Antitrust Sanctions"*, 6 COMPETITION POL'Y INT'L 41 (2010).

[151] However, because cartelists are required to admit to a felony at the completion of all criminal cartel proceedings, the stigma of a government prosecution may be greater than a private settlement with similar monetary penalties.

[152] ACPERA, for example, was intended to increase "the total compensation to victims of antitrust conspiracies." 150 CONG. REC. S6,327 (2004) (quoting Sen. Hatch).

[153] *See* Paulo Buccirossi et al., *Leniency and Damages* (Stockholm Inst. of Transition Econ., 2015), *available at*

indifferent at best to private litigation.[154] The proper approach, however, is to balance the deterrence benefits of securing more criminal fines against the deterrence costs of reduced private penalties.[155]

1. DOJ Stays of Discovery in Private Cases

While it is not uncommon for the Division to join with the state attorneys general in antitrust prosecutions, the Division does not always work as smoothly with "private attorneys general." On the contrary, when private suits are initiated, plaintiffs' cases are often delayed by the Division. The Department of Justice intervenes in civil litigation when its criminal investigation is still pending, for the purpose of staying or limiting discovery. Most courts grant such motions, at least for limited periods.[156] And while a stay limited in time (six months is typical) and scope (the government often seeks to prohibit merits depositions and interrogatories) would not appear to impose a significant burden on the private plaintiffs, in practice the DOJ almost routinely seeks to extend the stay on the grounds that the investigation has not proceeded as quickly as anticipated.[157] Plaintiffs' counsel often are sensitive to the government's need to maintain the integrity of its investigation, and often agree with the Division to limit the scope of discovery while the investigation is ongoing, and to sequence discovery so as to minimize interference with the criminal investigation. This kind of cooperation can benefit both the DOJ (which does not need to waste resources moving to intervene and briefing a

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http://ssrn.com/abstract=2566774 ("Our analysis shows that . . . limiting the cartel victims' ability to recover their loss is not necessary to preserve the effectiveness of a Leniency Program [and] that damage actions will actually improve the effectiveness of such programs, through a legal regime in which the civil liability of the immunity recipient is minimized and full access to all evidence collected by the competition authority, including leniency statements, is granted to claimants.")

[154] In 1996, for example, after the Division secured a guilty plea and the first ever $100 million fine from ADM for its role in the global lysine and citric acid cartels, the Division offered to conclude its investigation of corn fructose as a concession to ADM in plea negotiations, despite fairly clear audiotape evidence of a parallel conspiracy in the corn fructose market (by far the largest of the three markets) that was being challenged by private plaintiffs. GLOBAL PRICE FIXING, *supra* note 10. After nine years of litigation, with no assistance from the Division, private plaintiffs concluded settlements worth $611 million. *Id.* at 402–03.

[155] In follow-on cases, private cartel penalties measure at least four times larger than criminal fines in the United States. *See* Davis & Lande, *supra* note 72. They are about equal in the case of all international cartels worldwide (Table 2).

[156] *See, e.g.*, *In re Air Cargo Shipping Services Antitrust Litig.*, No. 06-MD-1775, 2010 WL 5027536 (E.D.N.Y. 2010) (granting partial stay of discovery and noting that "courts in the Second Circuit have routinely granted motions made by prosecuting authorities seeking to intervene in civil actions for the purpose of obtaining stays of discovery"); *Four in One Company, Inc. v. SK Foods, L.P.*, No. CIV S-08-3017 MCE EFB, 2010 WL 4718751 (E.D. Cal. 2010) (granting DOJ's request to stay discovery).

[157] In *Four in One*, 2010 WL 4718751, for example, the DOJ sought and obtained multiple stays, in effect staying much of the civil action's discovery for more than two years. Similarly, in *In re Aftermarket Automotive Lighting Prods. Antitrust Litig.*, 2013 WL 4536569 (C.D. Cal., 2013), the DOJ obtained several extensions of its discovery stay, and while discovery was stayed a critical witness died.

discovery stay) and the private plaintiffs, so long as the DOJ recognizes that open-ended and broad discovery stays can irrevocably harm the plaintiffs' case.

Legal impediments to discovery in private actions are particularly severe in international cartel actions.[158] For example, although federal rules of civil procedure permit plaintiffs to seek discovery of a party's documents wherever those documents are located, foreign law may limit such production. In some cases litigants must obtain evidence through the limiting and cumbersome Hague Convention (and many countries are not signatories to the Hague Convention).[159] Further, foreign antitrust authorities do not ordinarily permit the release of any documents pertaining to ongoing investigations, although some U.S. courts have overridden concerns about comity and required foreign antitrust authorities to produce documents held abroad to plaintiffs in private suits.[160]

2. The FTAIA

The Division has also urged courts to interpret the Foreign Trade Antitrust Improvements Act, or FTAIA, in a manner that limits private damages actions. The FTAIA, passed in 1982 as part of a package of bills supporting U.S. exports, was intended to clarify the circumstances under which foreign conduct would be subject to U.S. antitrust laws. It makes the Sherman Act inapplicable to conduct involving foreign nations – other than import trade – *unless* that trade has a "direct substantial, and reasonably foreseeable effect" on U.S. commerce, *and* that direct and foreseeable effect "gives rise to a claim" under the antitrust laws. In its 2004 *Empagran* decision, the Supreme Court held that the FTAIA precluded injured parties who made "wholly foreign purchases" from international cartels from bringing antitrust claims in U.S. courts.[161] In

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[158] *See* Jose M. Umbert, Judith A. Zahid, & Qianwei Fu, *Unique Discovery Challenges in International Cartel Cases*, COMPETITIONLAW360 (Jan. 31, 2014, 3:43 PM), http://www.law360.com/articles/505219/unique-discovery-challenges-in-international-cartel-cases; Kenneth L. Adams & Elaine Metlin, Procedural Issues Unique to International Cartel Litigation, Speech at American Bar Ass'n, Antitrust Section, International Forum 2002 (Jan. 31, 2002).

[159] In *Societe Nationale Industrielle Aerospatiale v. U.S. Dist. Court for the Southern Dist. Of Iowa*, 482 U.S. 522 (1987), the Supreme Court held that a district court considering a motion to compel discovery from a party in a foreign nation must conduct an analysis of the respective interests of the foreign and requesting nation before determining whether the Federal Rules of Civil Procedure or the Hague Convention on the Taking of Evidence Abroad for Commercial Matters applies.

[160] 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.

[161] *See* Davis, *supra* note 20, at 1 (surveying the state of the law on antitrust liability for international cartel conduct leading up to *Empagran*); Ronald W. Davis, Empagran *and International Cartels – A Comity of Errors*, 18 ANTITRUST 58 (2004) (providing overview and critical analysis of the Supreme Court's *Empagran* decision); and John M. Connor & Darren Bush, *How to Block Cartel Formation and Price Fixing: Using Extraterritorial Application of the Antitrust*

that case, five foreign vitamin distributors (located in the Ukraine, Australia, Ecuador and Panama) sought to bring damages claims in federal district court against U.S. and foreign vitamin manufacturers that had engaged in a price-fixing conspiracy. All of the foreign plaintiffs bought vitamins for delivery outside of the United States. In these circumstances, the Court held, principles of "prescriptive comity" as well as the FTAIA's language and legislative history, precluded an interpretation of the FTAIA that would have allowed the plaintiffs to rely upon the Sherman Act to redress their foreign injury.[162]

Permitting such private rights of action in U.S. courts 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.[163] 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.[164]

There may indeed be trade-offs among deterrence, leniency policy effectiveness, and comity, but formulating wise anti-cartel policies requires empirical research to determine the sizes of those trade-offs.[165] We therefore propose that the Division, the Sentencing Commission, the

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*Laws as a Deterrent*, 112 PENN ST. L. REV. 813 (2008) (reviewing the legal and economic issues).

[162] 542 U.S. at 169-70. The Court remanded the case to permit plaintiffs the opportunity to demonstrate a link between their foreign injury and any adverse domestic effects sufficient to satisfy the FTAIA's "domestic effects" exception, and to demonstrate that the domestic injury gave rise to the foreign injury. *Id.* at 175. On remand, plaintiff-appellants argued that, because vitamins are fungible and easily transportable, the cartelists could not have maintained their price-fixing conspiracy without also maintaining supracompetitive prices in the U.S. as well. The Court of Appeals agreed that the plaintiffs-appellants had presented a "plausible scenario under which maintaining super-competitive prices in the United States might well have been a 'but-for' cause of the appellants' foreign injury," but held that they had not demonstrated the requisite proximate cause relationship. *Empagran S.A. v. F. Hoffman-LaRoche, Ltd.*, 417 F.3d 1267 (D.C. Cir. 2005).

[163] 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, but 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.

[164] 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 in most foreign jurisdictions to bring private rights of action.

[165] 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

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.[166] The results of this research should inform the Division in writing amicus briefs and Congress in devising enabling legislation in the future.

The Division has also weighed in against private damages actions by U.S. companies that purchase price-fixed component products through their foreign subsidiaries and then incorporate those component products into finished goods sold in the United States.[167] In *Motorola Mobility LLC v. AU Optronics Corp.*,[168] Motorola sought to recover damages it incurred as a result of purchasing liquid crystal-display (LCD) panels used in its mobile phones from members of a global price-fixing conspiracy. The problem for Motorola was that its foreign subsidiaries purchased those LCD panels in foreign countries, and then incorporated them (in foreign countries) into Motorola phones which were then shipped to the United States for sale to U.S. consumers. The Seventh Circuit assumed that Motorola had satisfied the FTAIA's requirement that the challenged conduct have a "direct, substantial, and reasonably foreseeable effect on domestic commerce," but held that Motorola's purchases fell outside the FTAIA's exception because the domestic effect did not "give rise to" an antitrust cause of action. Specifically, because Motorola's foreign subsidiary, rather than Motorola, directly purchased the price-fixed LCD panels, its damages claims were too derivative to give Motorola standing under the antitrust laws, and its damages claims were barred by the indirect purchaser rule of *Illinois Brick*.[169]

Motorola's business model is, of course, a very common one. Many American parent companies rely on foreign subsidiaries to manufacture their products, which are then sold into the U.S. market. The Seventh Circuit's decision not only deprived Motorola of an effective remedy, but also denied compensation to the millions of U.S. consumers that purchased the

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expeditiously?" *Empagran*, 542 U.S. at 169.

166 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 EC cartel victims after EC sanctions are imposed. See *Cooper Tire v. Shell* [2009] EWHC 2609 (Comm) (UK); *Provimi Ltd v Roche Products Ltd et al* [2003] EWHC 961 (Comm) (UK).

167 Although the DOJ initially submitted an amicus brief urging the panel to vacate its decision, it subsequently declined to take any position on whether Motorola was entitled to an antitrust damages remedy. *Motorola Mobility*, 775 F.3d at 825.

168 755 F.3d 816 (7th Cir. 2014).

169 755 F.3d at 820-21, citing *Mid-State Fertilizer Co. v. Exchange National Bank of Chicago*, 877 F.2d 1333, 1335-26 (7th Cir. 1989); *Brunswick Corp. v. Pueblo Bowl-O-Mat*, 429 U.S. 477 (1977); *Illinois Brick Co. v. Illinois,* 431 U.S. 720 (1977).

mobile phones from Motorola, and who very likely paid an artificially inflated price as a result of Motorola's incorporation of price-fixed LCD panels into the phones. The decision has generated significant controversy, for good reason. As the AAI said in an amicus brief:

> The panel's decision exempts foreign cartels from Sherman Act damages on price-fixed products intended for the U.S. market, as long as those products are initially sold abroad before they are imported into the United States (eithers as raw materials or components of finished products). Not only are direct purchasers like Motorola's foreign subsidiaries barred from recovery under the FTAIA, but the panel was emphatic that the *Illinois Brick* rule would prevent U.S. indirect purchasers (Motorola or American consumers of cell phones) from recovery as well. . . . This result makes no sense because it cannot be the case that the most efficient enforcer of the U.S. antitrust laws is "no one."[170]

We recommend that the next administration seek the passage of legislation clarifying the scope of the FTAIA, and that the Division give greater support in its amicus filings to private damages claims.

*F. The Difficult Case of Global Cartels*

Global cartels – those that collude across two or more continents, though collusion in at least three continents ("the Triad") is more typical – are the most difficult nuts to crack and generate the cruelest cartel injuries. We know that these behemoths tend to have the largest affected sales, the longest duration, the highest overcharge rates, cause the greatest customer injuries, and most easily escape punishment of any category of cartel.[171] Worse yet, they are also the hardest to detect.[172] Despite the increase in the number of antitrust authorities with leniency programs, rates of discovery of global cartels, unlike all other categories, have stagnated after

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[170] Brief of the American Antitrust Institute as Amicus Curiae in Support of Appellant's Petition for Rehearing En Banc, 2014 WL 7405036. The Division has supported an exception or construction of *Illinois Brick* that would allow injured U.S. victims to sue in these circumstances. Brief for the U.S. and the FTC as Amici Curiae in Support of Neither Party 14, Motorola Mobility LLC v. AU Optronics Corp., 775 F.3d 816 (7th Cir. 2015) (No. 14-8003) (filed Sep. 5, 2014) (noting that "a holding that [*Illinois Brick*] does not apply if the Sherman Act itself, through Section 6a, bars recovery by the direct purchaser does not risk 'litigat[ing] a series of exceptions,'" "[n]or would it 'entail the very problems' of proof and line-drawing the direct purchaser rule was meant to avoid" (quoting Kansas v. UtiliCorp United, Inc., 497 U.S. 199, 216-17 (1990))).

[171] *See* John M. Connor, *Cartels and Antitrust Portrayed: Market Effects and Damages–Private International Cartels 1990–2008* (American Antitrust Institute, Working Paper No. 09-06, Sept. 1, 2009), http://www.antitrustinstitute.org/sites/default/files/Working%20Paper%2009-06_090120091450.pdf.

[172] When a cartel manages to attract all of the largest suppliers in the world, customers have weaker bases to complain about prices because benchmark prices from suppliers in geographically remote places disappear. Global cartel managers can meet in jurisdictions with weak or no cartel-detection in place.

the early 1990s.[173] Those that have been caught in the United States display the highest average overcharges, longest duration, and greatest damages—but with the lowest severities of antitrust penalties.[174] Even more concerning is a large decline in U.S. recoveries as a proportion of damages, from over 90% in the 1990s to only 25% in the 2000s.

This raises a major conundrum. An incredibly high 88% of U.S. government fines have been imposed on global cartels (Table 2). More so than any other of the world's antitrust authorities, the DOJ is highly focused on punishing global cartels.[175] This may mean that the DOJ's uniquely powerful set of criminal-law methods is especially congenial to fighting global cartels. But at the same time, it may show that global cartels habitually target the U.S. economy over other regions. We applaud the DOJ's active prosecution of global cartels, but see a need for doubling its efforts and penalties.

### *G. Does the Division Have Sufficient Resources?*

The Division is the oldest and one of the largest antitrust authorities in the world.[176] However, given the scope of its responsibilities and the size of the U.S. economy, it should be awarded significantly greater resources to carry out its main missions.[177] Only about 200 Division attorneys are earmarked for cartel enforcement.[178] Its large backlog of cases, infrequent trial litigation, and tendency to offer seemingly excessive concessions that yield quickly negotiated plea agreements likely 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 much larger.[179]

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[173] *See Private International Cartels*, *supra* note 25 (showing rates meandering in the six to eight per year range).

[174] *Id.*

[175] In the rest of the world, only 43% of all fines are directed at global cartels. Jurisdictions like Korea, South Africa, and Japan direct a greater proportion of their antitrust resources to local construction-industry bid rigging. This is an industry that has become less burdensome for the DOJ in recent years.

[176] Global Competition Review, *Rating Enforcement*, *supra* note 92.

[177] *Id.* We recognize that its attorneys are occasionally augmented by investigators secunded from the FBI and, less commonly, from U.S. Attorneys offices.

[178] The Division employs about 70 economists in its Economic Analysis Group (EAG), but some practitioners suspect those economists rarely participate in or assist in preparing for plea negotiations. When the Division goes to trial, it typically hires outside economic experts to testify. While some aspects of cartel prosecution clearly do not depend meaningfully on the analysis of economic information, sentencing a cartelist is inextricably related to the scope of affected commerce or the degree of harm caused. Bringing internal economic expertise to bear would be useful in this respect, including when an outside expert is providing services to the Division.

[179] *Forensic Economics*, *supra* note 137. 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

This chapter has focused largely on the Division's activities directly related to exposing and penalizing cartels. It is worth noting that the Division spends significant resources in numerous ancillary outreach activities. Mostly through its administrators, the Division is represented at numerous professional meetings and conferences for specialists; it also prepares reports for and participates in regular events sponsored by the OECD, the International Competition Network, and several other international organizations. It helps train professional trustbusters at the world's newer antitrust authorities, many in middle- or lower-income countries. For the past several years, the Division has prepared a short scorecard of its major accomplishments, the annual *Spring Update,* which is written and illustrated in a non-technical manner accessible to educated citizens. Nevertheless, the agency remains for the most part a tiny atom in a mammoth departmental galaxy in the universe of the federal government carrying out what is to the voting public a largely obscure, highly technical mission.

External observers have insufficient information to identify the appropriate size or internal organization of the Division for optimal performance of its anti-cartel 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.[180] We believe the benefits to the U.S. economy from such an increase would far outweigh its cost to the taxpayer.[181]

competition authorities have, together, secured more fines every year since 2001 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 Fair Trade Commission each have more than 300 employees for economies roughly 7% to 9% the size of the U. S. economy.

[180] 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).

[181] In the U.K., based in part on a large survey of active competition lawyers in private firms, reductions in consumer expenditures from 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%. *Id.* at 50.

*Table 1*

**U.S. DOJ Antitrust Division Enforcement Statistics, Annual Averages, Fiscal Years 1990-2015**

| | ***1990-94*** | ***1995-99*** | ***2000-04*** | ***2005-09*** | ***2010-2015*** [b] | ***1990-2015*** [b] |
|---|---|---|---|---|---|---|
| **Resources:** | | | | | | |
| Budget (current $ mil) | 59 | 92 | 126 | 144 | 161 | 119 |
| Budget (1982 $ million): | 42 | 58 | 69 | 71 | 70 | 62 |
| FTEs on cartels % | -- | 24 | 28 | 28 | 40 | 26 |
| Budget/FTEs (000s 1982$) | 68 | 71 | 82 | 81 | 81 | 77 |
| **Investigations:** | | | | | | |
| No. §1 Investigations | 96 | 101 | 78 | 78 | 37 | 76 |
| Grand Juries Opened | 43 | 27 | 29 | 36 | 15 | 30 |
| **Case Handling:** | | | | | | |
| No. §1 cases filed: | 72 | 54 | 35 | 29 | 55 | 49 |
| Criminal cases | 68 | 46 | 32.6 | 26.4 | 49.7 | 44.8 |
| Criminal cases % | 95 | 86 | 95 | 92 | 95 | 93 |
| **Corporate sanctions:** | | | | | | |
| Corporations fined | 59 | 27 | 17 | 15 | 20 | 27 |
| Corp. fines collected ($ mil.) [c] | 28 | 294 | 174 | 670 | 892 | 430 |
| % of above $10 mil.+ | 0 | 16 | 26 | 37 | 47 | 25 |
| % $10+ fines foreign | 0 | 80 | 100 | 99 | 98 | 76 |
| Fines/corporation $ mil. | 0.5 | 12.1 | 10.2 | 45.9 | 43.9 | 23.3 |
| **Individual sanctions:** [d] | | | | | | |
| Persons charged §1/No. Corporations fined | 1.0 | 1.5 | 2.3 | 3.5 | 3.8 | 2.5 |
| Fines/person ($'000) | 47 | 118 | 150 | 222 | 95.8 | 125.3 |

| % imprisoned/charged | 25 | 31 | 44 | 50 | 49 | 40 |
|---|---|---|---|---|---|---|
| No imprisoned/ Corporations fined | 0.25 | 0.43 | 1.00 | 1.73 | 1.45 | 0.99 |
| Prison days | 3609 | 3017 | 7512 | 17,932 | 26,368 | 10,496 |
| Prison days/person | 247 | 265 | 453 | 683 | 745 | 565 |
| | | | | | | |
| | | | | | | |

**Notes:**
-- = Not available

a) Highly correlated with FTEs, which are generally 85 to 95% of budgeted positions.
b) Most data stop at the end of FY2015, a few observations stop at the end of FY2014
c) The respective subperiod annual average cartel fines for the EC are $79, $107, $577, $2213, and $2510 million; for all 25 years, the annual EC mean is $1208 million. Fine collections in the U.S. tend to run behind impositions by a few years.
d) Largely for price fixing, but not all. Sometimes fraud or other charges are combined with Section 1 charges.

**Sources:**
U.S. DEP'T OF JUSTICE, SHERMAN ACT VIOLATIONS YIELDING A CORPORATE FINE OF $10 MILLION OR MORE (2016), *available at* https://www.justice.gov/atr/sherman-act-violations-yielding-corporate-fine-10-million-or-more; Workload Statistics, *supra* note 16 (and previous editions); U.S. DEP'T OF JUSTICE, APPROPRIATION FIGURES FOR THE ANTITRUST DIVISION: FISCAL YEARS 1903-2016 (2016), *available at* https://www.justice.gov/atr/appropriation-figures-antitrust-division; Connor, *supra* note 38.

*Table 2*

**Monetary Penalties Imposed on Corporate Members of International Cartels Discovered January 1990 - June 2015**

| ***Antitrust Authority Location*** | ***Geographic Scope of Cartel*** | | | | | | |
|---|---|---|---|---|---|---|---|
| | *North America* | *EU-Wide* | *European Nations* | *Africa, Asia, & Oceania* | *Latin America* | *Global* | *Total* |
| | Billion nominal U.S. dollars | | | | | | |
| **FINES:** | | | | | | | |
| U.S. Govt. | 3.20 | | | 0.14 [a] | | 24.5 | 27.8 |
| U.S. AGs | 0.11 | | | | | 4.76 [d] | 4.87 |
| Canada Govt. | 0.06 | | | | | 0.29 | 0.35 |
| Eur. Commission | | 13.8 | | | | 18.5 | 32.5 |
| EEA Members [e] | | | 15.6 | | | 4.28 | 21.2 |
| Other Eur. | | | 0.25 | | | 0.53 | 0.80 |
| Africa | | | | 1.84 | | 0.00 | 1.84 |
| Asia | | | | 5.54 | | 6.78 [d] | 12.3 |
| Oceania | | | | 0.09 | | 0.71 | 0.80 |
| Latin America | | | | | 3.98 | 0.22 | 4.20 |
| **Total fines** | 3.45 | 13.8 | 15.9 | 7.61 | 3.98 | 55.7 | 101.9 |
| **OTHER PENALTIES:** | | | | | | | |
| U.S. direct buyers | 25.6 | | | 0.06 [a] | | 16.1 | 42.8 |
| U.S. indirect buyers | 1.41 | | | | | 3.25 | 4.7 |
| Canada private | 0.02 | | | | | 0.53 | 0.55 |
| Other private | | 0.03 | 1.16 | 1.34 [c] | | 2.46 | 5.00 |
| Total private | 27.1 | 0.03 | 1.16 | 1.40 | | 22.4 | 53.0 |
| **Total penalties** | 30.5 | 13.9 | 17.1 | 9.01 | 3.98 | 78.1 | 155.0 |

**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 five cases of court-ordered restitution: Norwegian *Hydro-Electric Equipment*, *UK Generic Drugs*, *German Steel Rails*, *Finnish Asphalt*, and *Danish District Heating Pipes* – the sole such examples in Europe.

c) Includes restitution ordered for the Kazakhstan government in a petroleum cartel ($530 million), in the Israeli diamond-transport case ($0.5 million), 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 Area. Increasingly, national indictments are made using Article 81 of EU law.

**Source:**

PIC DATA SET, *supra* note 19.