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Title: The United States Department of Justice Antitrust Division's Cartel Enforcement: Appraisal and Proposals

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This paper evaluates the effectiveness of the efforts of the Antitrust Division of the U.S. Department of Justice to detect, indict, and deter horizontal collusion during 1990-2007 and offers policy suggestions likely to improve that enforcement. Division leaders emphasize that collusion is the agency's number-one priority. Paradoxically, there is evidence that the number, size, and injuriousness of discovered cartels is increasing. This is particularly true for international cartels.

The number of cartel investigations has not risen appreciably. Moreover, the number of criminal Section 1 cases filed annually fell. From 1995-99 to 2004-06 cartel cases filed fell by 49%. The number of corporations charged annually dropped continuously throughout 1995-2007. There now is a significant and growing backlog of criminal investigations and unresolved matters.

Although the Division is bringing fewer Section 1 cases, the monetary penalties imposed on convicted corporate price fixers have grown. The total amount of cartel fines imposed is $4.2 billion. While an impressive amount, damages recouped by U.S. private plaintiffs are roughly four times as large. Division policy statements place great weight on the deterrence value of predictably high prison sentences for convicted cartel managers. Not only the frequency but also the severity of prison sentences has increased. These trends are positive in terms of cartel deterrence.

Higher cartel penalties would better serve cartel deterrence. The Division can take several steps that do not require new legislation. They include: substituting the global affected sales of cartels members in place of U.S. sales when computing the base fine, applying the principle of joint and several liability to maximum fines, using the middle or upper end of the Guidelines' range as the standard starting demand in plea negotiations, applying strong culpability multipliers to recidivists, and requiring cartel fines to include pre-plea interest. Other improvements would require changes in the U.S. Sentencing Guidelines (USSGs). For example, the 10% overcharge assumption should be raised to at least 20 or 30%, with the latter applying to international conspiracies. To effectively deter cartels, a substantial increase in Division positions and budget is amply justified.

Keywords: cartels, DOJ, remedies, criminal law.

AAI Working Papers are works in progress that will eventually be revised and published elsewhere. They do not necessarily represent the position of the AAI. This Working Paper forms the basis of the forthcoming AAI Transition Report on Competition Policy.

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FOREWORD

The objectives of this report are to identify indicators of performance of the Antitrust Division the U.S. Department of Justice (hereinafter " the Division") with respect to its enforcement of Section 1 of the Sherman Act, to evaluate the effectiveness of its enforcement efforts, and to offer suggestions for policy or procedural changes that are likely to improve that enforcement.[1] I collected information about the Division's performance since about 1990, using both available quantitative data and qualitative indicators. Then I assess the agency's foremost mission: to detect, indict, and punish horizontal collusive schemes that restrain markets. To the extent possible, I base my assessment on the broadly accepted principles of optimal deterrence.[2] Finally, I offer concrete proposals for fine-tuning the Division's anti-cartel campaign.[3]

The starting points for developing this paper is the testimony before and decisions of the Antitrust Modernization Commission (AMC 2007) and several comments prepared by members of the American Antitrust Institute for the AMC (AAI 2005, 2006, 2006a, 2006b). The views of legal scholars, the Antitrust Section of the American Bar

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[1] The issue of whether U.S. antitrust activity by all its antitrust units (the Division, FTC, other federal agencies, state attorneys general, private plaintiffs, the courts, etc.) results in improved socio-economic welfare is beyond the scope of this chapter. For a balanced analysis of this issue, see Baker (2003). Similarly, Stucke (2006) addresses such omitted topics as the ethical and moral dimensions of antitrust.

[2] See Garoupa (1997) or Polinsky and Shavell (2000) (demonstrating that optimal deterrence must be evaluated in terms of the *expected* benefits and *expected* costs of forming a new cartel or joining an existing cartel). The expected material benefits of cartelization are the monopoly profits derived from all geographic areas in which collusion takes place; the monetary costs are the sum of all government fines and private settlements. Other costs for cartel members include the opportunity costs of incarceration, legal fees, and reputational losses, but these are generally small compared with fines and settlements or difficult to monetize (Connor 2006b). A multiple jurisdictional analysis is needed in the case of international cartels.

[3] This Chapter does not analyze other Division activities, such as merger enforcement, that are covered in other chapters of this Report.

Association, and other stakeholders in antitrust are also incorporated.[4] Finally, this paper integrates the published and private views of a task force established by the AAI, all of whom have had years of experience tracking the activities of the Division from positions inside and/or outside the agency.

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[4] The only comprehensive critique of the Division by a government agency covered the roller-coaster years 1970-1989 (GAO 1990).

I. PROBLEM STATEMENT

Private cartels[5] are a form of business conduct that has, in a memorable metaphor, been compared to economic cancer.[6] The Division is the sole agency of the federal government empowered to criminally prosecute such cartels. However, available studies of cartel enforcement are either dated or fragmented. The most recent quantitative academic study of the enforcement record of the Division was published in an economic journal in 2000.[7] Pieces of the agency's record were also examined along with all other antitrust institutions by the Antitrust Modernization Commission in 2005-2007. This paper attempts to integrate these and other sources of information in a comprehensive assessment of the Division cartel enforcement. Following from this assessment are suggestions that might improve the Nation's anticartel programs.

Considerable evidence supports the observation that the number, size, and injuriousness of discovered cartels is trending upward (OECD 2003). This is particularly true for international cartels[8], which for decades prior to the mid 1990s were rarely

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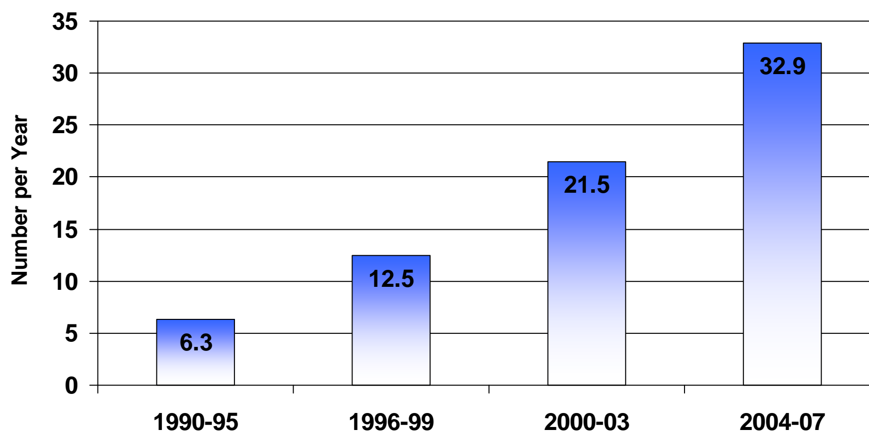
[5] Connor (2007: 21) defines a private cartel as "…an association of two or more legally independent firms that explicitly agree to coordinate their prices or output for the purpose of increasing their collective profits." Note that this definition excludes cartels mandated by national laws (such as USDA marketing orders) and cartels formed under sovereign international treaties (such as OPEC); in many cases international commodity agreements have long-term price *stabilization* as their principal goal, not price enhancement. These excluded cartels are not actionable under U.S. antitrust laws.

[6] Monti (2000:1) ("Cartels are cancers on the open market economy…cause serious harms to our economies [and] also undermine the competitiveness of the industry involved.").

[7] Gallo et al. (2000).

[8] See Evenett *et al.* (2001: 1221) ("The enforcement record of the 1990s has demonstrated that international private cartels are neither relics of the past nor do they always fall quickly under the weight of their own incentive problems. Of a sample of forty cartels prosecuted by the United States and European Union in the 1990s, twenty-four cartels lasted at least four years. And for the twenty of the cartels in this sample where sales data are available, the annual worldwide sales in the affected products exceeded US$30 billion").

discovered or indicted by the Division.[9] Rates of annual discovery of international cartels were six times higher in the 2000s compared to the early 1990s.[10] Section II shows that the vast majority of monetary sanctions recommended by the Division were imposed on cartels operating in the United States is international cartels.



The numbers of cartels being discovered are a function of three factors. First, the number antitrust authorities effectively enforcing tough laws against hard-core cartel conduct has risen.[11] Until the late 1990s, U.S. and EU authorities discovered nearly all international cartels, but in recent years sharing of information among competition-law authorities about alleged cartel activity has become far more prevalent. Even if the

[9] See Davis (2002: 31) ("For about half a century antitrust did not concern itself with international cartels – either they were not there, or the enforcers could not find them.").
[10] The "rate of discovery" is the total number of international cartels reported in the world's press for which a formal investigation, an indictment, or a guilty decision is announced by an antitrust authority divided by the number of years. Connor (2007f: Figure 1), reproduced in the text, shows that the rate of discovery of cartels with international membership rose from three per year in 1990-95 to 20 per year in 2000-07.
[11] See Connor (2007: 56-59) (citing reports documenting the rise of such agencies from one in 1950, to three in 1960, to 20 by 1989, and nearly 50 by 1996).

ability of the typical antitrust authority to uncover suspicious collusive conduct did not improve in the past 20 years, the sheer numbers of authorities would increase discovery rates.[12]

Second, many legal-economic commentators believe that the individual and collective *probability of cartel detection*[13] by the world's antitrust authorities has also risen. The most common reason given for an increase in the probability of detection is launching of corporate leniency programs (e.g., Spratling and Arp 2005). There is no question that there have been large numbers of leniency applications in response to the Division's Corporate Leniency Program after 1993[14], to the EU's revised leniency policy[15] after 2002, and adoption of similar programs in a dozen or more additional antitrust authorities (*ibid.*). One appealing study of the effects of the 1993 U.S. Corporate Leniency Program finds evidence from hard-core cartel convictions by the Division that detection levels have increased and formation levels have declined – both by about 60% (Miller 2007). However, the weight of the evidence is that detection rates have remained very low and *constant* from the 1960s to the early 2000s.[16]

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[12] See Connor (2007f, 2008) (charting the rising activism of international cartel enforcement by the antitrust authorities in Asia, Latin America, and the nations of Europe.

[13] This is the ratio of the number of cartels detected and prosecuted in a jurisdiction to the total number of illegal cartels in existence in the jurisdiction over some specified time period. In the United States, cartel "detection" is usually identified by the decision to empanel a grand jury to investigate whether there is probable cause for indicting organizations or individuals for a criminal violation of Section 1 of the Sherman Act. While a small number of these investigations close without indictments, a very high proportion results in criminal indictments or (if the evidence is weaker) in civil indictments.

[14] There was a second surge in applications around 1999 when the Amnesty Plus program was implemented.

[15] The EU's first Leniency Notice of 1998 was not a success (Wils 2007).

[16] The high response rate to the Division's Corporate Leniency Program after 1993, to the EU's first (1998) leniency program, to the EU's revised leniency policy after 2002, and adoption of similar programs in a dozen or more additional antitrust authorities has lead specialists to opine that detection rates have risen significantly (Spratling and Arp 2005). However, it is logically possible that the rate of increase in leniency applications is lower than the rate of increase in secret cartel formation.

Third, the rise in the pace of cartel discoveries could be correlated with an increase in the total number of cartels in existence.[17] [18] Admittedly, little is known about trends in the total number of modern prosecutable cartels.[19] However, even if detection rates

[17] That is, the sum of the number detected and the number that operated in a clandestine fashion throughout their lives.

[18] Concerning detection rates, critics of empirical cartel studies often argue that only stupid/unlucky cartels are caught and studied, whereas clever/lucky cartels remain clandestine from both academic studies and hostile public authorities. Clever cartels adopt strategies to remain clandestine, such as retraining sharp price increases after a cartel agreement is reached. According to this view, the large supply of stupid cartels tends to dry up through aggressive anti-cartel efforts. Thus, it is alleged, samples drawn from convicted (i.e., stupid) cartels may be subject to sample selection bias and research conclusions from them are unreliable (Baker 2001: 825). A problem with this criticism is that samples drawn from earlier historical periods often contain many, even mostly clandestine/unpunished cartels, and these studies show that such cartels are a bit more durable but are otherwise mostly indistinguishable from the discovered/sanctioned cartels (Levenstein and Suslow 2002, 2004, 2006).

Moreover, skeptics aver, the rising rate of detection observed since the mid 1990s may not be sustainable: It may be a temporary blip likely to be followed by a return to a longer-run period of low detection rates (*ibid.*). However, historical evidence suggests that previous waves of aggressive anticartel enforcement have not resulted in "permanent" subsequent reductions in cartel formation. The Newcastle coal cartel bounced back several times a decade or two after Parliament passed a string of strict laws against collusion in the 19th century. The great U.S. electrical conspiracy was organized 10 years after GE and scores of other firms were criminally prosecuted by Truman Arnold's DOJ, accompanied by strong public condemnation after the appearance of many exposes of the roles of international cartels in assisting the Axis powers in WWII. Bid rigging of auctions and tenders began 10-15 years after the electrical equipment cartel was so prominently prosecuted. And here we are 12 years after *Lysine* with no end in sight – not even a deceleration in the rate.

[19] However, Levenstein and Suslow (2002, 2006) note that U.S. government antitrust prosecutions in the 1940s accounted for only 10% of some of the known cartels operating in the interwar period (p.16). Around 200 such cartels have been identified, none of them intentionally clandestine and most of them based in Europe and legally registered with their home governments. The majority of these cartels were composed entirely of firms that were domiciled outside the United States. Consequently, their contracts and management frequently were matters of public record, and they were formed with a detection probability of zero.

have risen, it is highly doubtful that they have sextupled.[20] If so, it follows that the number of annual cartel formations is also up since the 1980s.[21]

There is a major paradox here. Monetary penalties, government and private, U.S. and non-U.S., became much higher after the mid 1990s.[22] Contrariwise, the number of cartels being discovered each year continues to rise as is the number of firms that are price-fixing recidivists.[23] I attempt to resolve this paradox in Section III of this Chapter.

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[20] A 2008 revision of Connor (2007b: Table 1) surveys 21 scholarly publications of studies or opinion surveys about the rate of clandestine cartel discovery p; nearly all estimates of p fall within the range of 10% to 20%. A highly regarded empirical economic study of U.S. cartels convicted in 1961-1998 by Bryant and Eckard (1991) finds that p is between 13% and 17%. A limitation of the Bryant-Eckard analysis is that the sample is dated and includes few or no international cartels. However, Golub *et al.* (2005) re-examine this issue using the same method for a sample of U.S.- prosecuted cartels uncovered during 1990-2004, many of them international cartels, and find that p is unchanged. Moreover, another reapplication of the Bryant and Eckard study employing a data set of EU-prosecuted cartels, all of them international ones, from 1969 to 2003 determines the discovery rate to be between 12.9% and 13.3% (Combe et al. 2003). It is significant that both of the later studies include periods during which the United States and the EU had instituted leniency programs, yet neither study finds that the cartel detection rate has nudged upward.

[21] The causes of rising cartel conduct are not known with certainty, but the trend is contemporaneous with rising globalization and falling barriers to trade since the 1960s or so. Well documented histories of cartels throughout history show that it is frequently the case that price fixing conduct emerges as a response to falling market prices and a resulting industry-wide crisis of profits (Harrington 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 conjectures about the potential for high expected profits from overt collusion, not the least of which is the elimination of price competition from major importers when they join a newly formed cartel.

[22] Connor and Helmers (2006) (showing that government and private penalties in all antitrust jurisdictions are increasing and that the number of cartel recidivists is in the hundreds). It will be shown below that the Division's fines are an important, but an increasingly minor component of total international-cartel monetary penalties.

[23] There are differences of opinion about the degree of cartel recidivism, but these differences may be due to competing definition of recidivism and these differences do not account for rising numbers since 1990. For example, Hammond (2005:6) takes the view that "…there is relatively little recidivism among corporate antitrust offenders…" Hammond is very likely applying the DOJ's standard definition, viz., the charging of a defendant for the same crime it was previously convicted *in the United States* (Masoudi 2007: 8). The Division considers a company a recidivist only if Section 1 of the Sherman Act was violated within ten years of the current charge. The DOJ publishes many statistics on individual recidivism (see *Criminal Offender Statistics,* available at http://www.ojp.usdoj.gov/bjs/crimoff.htm#recidivism), but none on corporate cartel recidivism. However, Connor (2008b: Table A3) calculates that at least 34% of a large sample of convicted corporate cartelists during 1995-2007 were recidivists by this definition: 3.2 per year during 1995-99 and 3.7 per year during 2000-07. It is possible that the Division's Amnesty-Plus Program may account for some of the observed U.S. recidivism, in which case some U.S. data on recidivism may be interpreted as a positive indicator of U.S. cartel enforcement.

II. ENFORCEMENT PERFORMANCE INDICATORS

Top officials of the Division profess satisfaction in public statements about the agency's performance with respect to all of its missions.[24] While legal scholars and members of the antitrust bar are divided on the quality of the Division performance on merger and monopoly enforcement, it is unusual to read much negative criticism of federal cartel enforcement.[25] Indeed, for decades the Division has largely been lionized for its aggressive campaign to rid the nation and the world of cartels.[26] Moreover, many of the Division's cartel traditional practices and innovations, such as its leniency program, have been imitated by foreign antitrust authorities (Spratling and Arp 2005). The Antitrust Modernization Commission made only a small number of recommendations

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Other data series show large and rising numbers of corporate cartelists. Connor and Helmers (2006: ii) found almost 200 examples of international-cartel recidivism during 1990-2005. That number is now higher. Connor and Helmers's (2006) broader definition counts the number of price-fixing violations (i.e., cartelized product markets) of *one or more country's* antitrust law. Another careful study by Veljanovski (2007) of EC prosecutions since 1998 only finds that about 30% of all decisions contain recidivists, narrowly limited to prior EU Article 81 infringements. These are precise data, because all published Commission decisions reveal recidivism when it is an aggravating factor in cartel fines. The EU does not have an amnesty-plus program.

Optimal deterrence concepts imply that cartel formations would slow to a trickle were penalties at optimal levels. Fewer cartels ought to lead -- with a lag -- to fewer opportunities for a given company to join multiple cartels. If recidivism is actually rising worldwide, one would expect the incidence of multiple violations to be more likely than not to be correlated with rising cartel formations.

[24] Hammond (2001, 2004, 2005, 2007) and Spratling (1999, 2001).

[25] "The …enforcement records of the [DOJ and FTC] – outside the cartel area – are less activist now than at any time in recent years...[T]here is continued vigor of cartel enforcement…" (Whitener 2007: 5). Whitener is Editorial Chair of the American Bar Association's *Antitrust* magazine and corporate counsel for General Electric Co. Similarly, Kovacic (2003: 415-425) views the 1990s as the culmination and intensification of an upward linear trend in harsh treatment of cartels that began at least as far back as 1959 ("Modern U.S. experience with criminal enforcement presents a pattern of progressive, cumulative development of competition policy" p. 423). The absence of negative criticism may in part be traced to an ideological consensus on the wisdom of anticartel enforcement between the so-called Harvard and Chicago Schools of antitrust (Martin 2007).

[26] An early panegyric is a book by Berge (1944). More recent optimistic assessments of U.S. cartel enforcement may be found in Klawiter (2001), Balto (1999), and Litan and Shapiro (2001:3) ("…the Division had unprecedented success during the Clinton years …in prosecuting price fixers").

about price-fixing enforcement, none of which were critical of the Division (Appendix, AMC 2007).

From time to time, scholars have undertaken empirical studies of antitrust enforcement in the United States.[27] Various measures of enforcement effort and performance have been employed by these authors: numbers of investigations, numbers of cases filed, speed of resolution, civil versus criminal remedies sought, nature of the offense alleged, number and type of defendants charged, the won/lost record, and the types and sizes of sanctions imposed. As will be seen, attention to multiple dimensions of enforcement leads to a more balanced assessment than reliance on only one indicator.

We prepared a series of quantitative Antitrust Division indicators of available resources and outcomes for the Federal Fiscal Years 1990 to 2007 that focus on enforcement of Section1 of the Sherman Act (Table 1). It was around 1990 that the Division gained and became proficient in utilizing most of the powers to punish price fixers that it now enjoys.[28] For ease of exposition, I break down the 18 years since then into three semi-

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[27] A massive study of the years 1955-1997 appears in Gallo *et. al.* (2000); it is an elaboration of a classic study of Posner (1970). Lande and Davis (2007) focus on large private settlements resolved since 1990. Connor (2004, 2007b) examines antitrust enforcement with respect to international cartels 1990-2007 by the Division, all other antitrust authorities, and private plaintiffs. A GAO (1990) report covering 1970-1989 uses most of the same indicators.

[28] Price fixing became a felony in 1974, a change that broadened the range and raised the height of available sanctions for criminal price fixing but which was not fully exploited by the Division until the early 1990s. The Sentencing Guidelines applied to offenses committed after 1987, and by 1990, the Division had had a few years experience in using the Federal Sentencing Guidelines for criminal cartel cases (USSG 1987). In 1990, the maximum penalties under the Sherman Act were raised substantially for both corporations and individuals (Connor 2007: 77-80). The "alternative sentencing provision" for felony price-fixing violations, passed in 1984, was first applied in August 1995 in *Explosives*. The innovative revisions of the Corporate Leniency Program in 1993On June 22, 2004 enhanced criminal penalties came into force for violations that began or continued after that date; the U.S. Sentencing Guidelines applicable to criminal price fixing were revised to reflect the higher penalties on November 1, 2005 (Hammond 2007: 2).

decades and the most recent three years: 1990-94, 1995-99, 2000-04, and 2005-07.[29] At times I offer comparisons with the European Commission's (EC's) record of cartel enforcement.[30]

The indicators examined are for the most part the same one emphasized by the Division officials themselves as measures of enforcement success: numbers of investigations launched, cases filed and won, amnesty applications, numbers of convictions, and criminal fines and prison sentences imposed.[31] An address by DAAG Scott Hammond (2007) is illustrative of a long stream of similar speeches that emphasize these factors as evidence of increasing effectiveness and severity of criminal enforcement.

A. Agency Resources

The Antitrust Division is one of the smaller agencies of the federal government, with a budget of $148 million in 2007 (only 0.8% of the Justice Department's budget and

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[29] Federal Fiscal Years 1990-1992 fall into the Bush I administration. The years 1993-95 seem to capture an important transition in the Division conviction patterns from a focus mainly on domestic conspiracies to an emphasis on international cartels (Davis 2003). A new emphasis on investigations of international price fixing began earlier, probably around 1991-92. The sub-periods do not correspond neatly to Presidential administrations, but 1995-99 lies within the Clinton presidency and 2000-07 is mostly the Bush II administration. Neither Gallo *et al.* (2000) nor Kovacic and Shapiro (2000) find any evidence that parties in power affect cartel enforcement effort, though the innovativeness of the cases brought might vary by political regime.

[30] The EU's anticartel laws and procedures are widely emulated by its member states and other nations.

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

0.005% of the Government's total $2.8 trillion budget).[32] Measured in terms of agency funds, Congress and the Bush I and Clinton Presidential administrations have been supportive of the Division's mission. Corrected for inflation, the Division's annual budgets have increased every year but one during 1990-2002; the Division enjoyed a particularly large increase of 11.6% *per annum* from 1990 to 1995 (Table 1).[33] However, during the years 2002-2007 of the Bush II Administration, the agency's real budget was essentially flat at a level 5% below its 2002 peak.[34] While the 1990-2007 budget trend is overall favorable, it may still be insufficient to attract and retain the best and the brightest professionals.[35]

In terms of personnel, the Division grew only very slowly since 1990 and is still below levels authorized in the late 1970s.[36] With the major share of the Division's budget devoted to employee compensation, the slow rise in positions implies that budget

[32] See AG Reports (1994-2007) (which in most years contain no references to the Division activities, often lumping antitrust under such broad categories as "Combat Fraud" or "White Collar Crime"; in FY 2000 the first mention of antitrust appears on pp. 44-46 in a discussion of prosecuting international cartels).

[33] The deflator is the Producer Price Index (PPI), which tends to rise more slowly than the Consumer Price Index (CPI). The the Division budget fell by 28% in real terms from 1980 to 1990. For the whole period from fiscal 1990 to 2007, the budget rose on average 4.9% per annum. From the 1990 low point, the average real rates of increase were 8.1% per year to 1992, 11.6% to 1995, and 7.3% to 2002.

[34] While George W. Bush entered office in early 2001, he exercised full budget control starting in 2002. From 2002 to 2007, the Division's real budget fell by 4.5% (or 1% per year).

[35] Adjusted for inflation, the Division's budget per person fell in 2004-07 from 2000-03. It appears that the compensation of associates at top law firms has risen even faster. In 2007, the compensation of third-year associates reached $380,000, which is more than double the average Division's lawyer's salary (Table 1) and exceeded the salary of every employee of the DOJ (*ABA Journal* 12/3/07). [available at http://www.abajournal.com/news/200_k_pay_for_big_firm_midlevel_associates]. Part of the the Division's budget is occasionally used to hire lawyers, economists, or other contracted specialists; the standard government compensation rates typically are well below what these consultants are paid in the private sector.

[36] In 2007 there were 880 budget-authorized positions, an increase of 2.5% per year since 1990's 578 positions. Some of those positions are part-time and others are unfilled. Most of the Division's employees work in Washington and the rest in seven regional offices. The number of full-time-equivalent (FTE) persons has averaged 95% of the budgeted positions, which suggests that (considering normal turnover) the Division's administrators fill nearly every authorized position soon after it is open. In 1980, there were 939 authorized positions. The DIVISION appoints interns and hires persons on a short-time, contractual basis.

increases have gone mainly to try to attract and hold professionals. Employee compensation rose about 2% faster than inflation during 1990-2007.[37]

The data on the Division's own employees miss the investigatory support provided by the FBI in criminal cases, a practice that dates back to at least the 1970s. The FBI is a separate agency from the Division in the Justice Department. In the late 1990s, antitrust resources began to be significantly leveraged by FBI personnel. For criminal investigations, a large number of FBI investigators may be employed to assist the Division personnel.[38] The number of FBI agents available for antitrust work has dwindled since 2000.[39] Occasionally, the resources of a local office of U.S. Attorney may assist in prosecutions.[40]

Besides investigators assigned to assist the Division, the Division lends or "exports" professionals to assist other federal agencies in regulatory matters with significant competitive consequences; it also contributes personnel for overseas training or assistance for multilateral organizations. It is likely that the Division imports more FTEs than it exports, but publicly available documents do not provide information sufficient to make any firm conclusions on this issue.

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[37] In real dollar terms, the average compensation per employee rose by 2.0% per year from 1990-94 to 2004-07 but has fallen slightly since 2002.

[38] The FBI had 27,000 employees and a budget of $4.8 billion in FY 2004. In some cartel raids as many as 100 FBI agents have been assembled to assist prosecutors. However, the number of agents seconded to antitrust duties cannot be determined from public documents.

[39] See FBI (2004-2009) (showing that of the FBI's eight strategic priorities, fighting white collar crime was seventh) and AG Report (2007: Table 2) (stating that the DOJ created a new number-one priority for Terrorism and reduced other criminal-law enforcement expenditures by 6%). See the next section for further supporting details of FBI resources for antitrust investigations. Defense Department investigators also occasionally assist in bid-rigging cases involving the Department of Defense.

[40] In FY 2004 there were 10,200 U.S. Attorney positions nationwide. The U.S. Attorney in Chicago was a co-prosecutor in the 1988 trial of three ADM officers in the *Lysine* cartel case. Cooperation with the Chicago the Division office was considered an innovation at the time (Connor 2007).

Price fixing is one of three general Division enforcement areas. Numerous public statements by the Division leaders emphasize that price-fixing matters are the agency's number-one goal.[41] Historically, the Division has spent about 40% of its enforcement budget on price-fixing and 60% on mergers and monopoly matters.[42] In the 2000s the cartel budget share was about 29% Table 1). Thus, neither the budget share[43] nor its trend supports the primacy of the price-fixing goal. Moreover, employment data also suggest that cartels are a significant but far from dominant preoccupation of the Division.[44]

Compared with most federal agencies, the Division's budget is characterized by a heavy reliance on the "user fees" collected for merger filings. For the period as a whole, filing fees accounted for 78% of the Division's total budget, which is clearly greater than the agency's allocation of effort toward merger regulation (Table 1). Indeed, in the fiscal years 1999-2003, 100% of the Division total budget was derived from filing fees. Since 2003, the ratio has dropped to about 80%. Filing fees are an unstable source of income because they depend on the vicissitudes of the pace of merger activity and the general

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[41] See Hammond (2005:1) ("[General deterrence of cartels is] … the highest priority of the Antitrust Division…").

[42] Crandall and Winston (2003: Table 1) find that the proportion of enforcement funds spent on price fixing was 42% in 1981, 52% in 1991, and 35% in 2000. These proportions exclude general administration, competition advocacy, policy analysis, and appellate activities.

[43] Perhaps price-fixing prosecutions are more labor-extensive than merger decisions; this would account for the minor share but not for the declining share.

[44] According to Division workload statistics, in the 1990s less than 20% of its FTE's were devoted to Section 1 (price fixing) enforcement. In the 2000s the cartel-employment share increased, but was slightly below 30%.

economy. It should be noted that while the Division retains filing fees, it does not itself retain any of the fines that it imposes for price-fixing violations.[45]

An important feature of federal criminal cartel prosecutions in the United States is that they are exclusively handled by the Division [46] and that the Division seldom brings large corporate price-fixers to trial.[47] Rather, the Division relies almost exclusively on grand jury investigations[48], the threat of indictments by those juries, and plea negotiations[49] and agreements to secure corporate[50] prosecutions. While these procedures are time consuming and laborious, they result in a much larger number of completed cases than would result from decidedly more labor-intensive trials. For example, a significant ready-mix concrete bid-rigging scheme in Indianapolis, Indiana resulted in the conviction of six companies[51] and ten individuals. Even though only two individuals were convicted at

[45] Like all corporate fines collected by various federal government agencies, these funds are transferred to the Crime Victims' Fund, which is administered by the U.S. Treasury Department and transferred to certain federal agencies and the states on the basis of their population for assisting victims of violent crime (Fields 2008). The Victims of Crime Act was made law during the Reagan Administration in 1984. Until the large vitamins cartel fines were paid in 1999, all fines, forfeitures, and fees collected from federal criminal offenders were distributed in full the following year. Beginning in 2000, annual caps of $500 to $650 million were imposed to stabilize distributions over time. The Fund serves about 6000 local non-profit organizations and aids about six million victims per year. In early 2008 the Fund had about $1.7 billion in reserves. Beginning in 2005, the President's Office of Management and Budget made continuing attempt to transfer the Fund's reserves to the Treasury's general fund.
[46] Since 1990, the only hard-core cartel case prosecuted by the U.S. Federal Trade Commission has been *Mylan Laboratories,* and this was handled as a civil matter.
[47] There are no official statistics on numbers of antitrust trials or their outcomes, but see Connor (2007). The major exception during 1990-2007 was Mitsubishi, which was found guilty at trial in 2001 for its role in the *Graphite Electrodes* cartel. In the early 1990s, Appleton Papers was prosecuted at trial in the *Fax Paper* case and General Electric in the *Industrial Diamonds* case; the Division lost both cases. Some small partnerships and proprietorships have been prosecuted at trial, often by indicting the sole or principal owner.
[48] In a study of several hundred formal hard-core international cartels investigations, only 6% failed to result in at least one prosecution within about five years (Connor and Helmers 2006).
[49] On the economics of plea bargaining see Adelstein (1978).
[50] Every year the Division is compelled to bring a few individual cartel managers to trial.
[51] There was also one amnesty applicant and one other firm that were not indicted.

trial, the Division's Chicago office had four trial attorneys tied up for four years in this case (Corcoran 2007).[52]

B. Numbers of Investigations and Cases

The Division starts investigating allegations of antitrust violations by opening *preliminary inquiries*. In most years the Division has 120 to 140 of these pending for Section 1 and Section 2 matters (Table 1). The nature of these inquiries is not made public.

Many of these preliminary inquiries evolve into *formal investigations* of suspected price-fixing conduct. The Division has *opened* on average almost 100 formal Section 1 investigations annually during 1990-2007, with no trend in these openings evident (Table 1). Roughly one-third of the Section 1 investigations require setting up grand juries to consider criminal indictments. Most of them are handled by the seven regional offices of the Division. About 25 to 35 grand juries were opened or closed each year during 1995-2007; the number of *pending grand juries* averaged less than 100 before 2003 but rose to 126 during 2003-07. Information usually appears in the press for about half of these juries prior to the announcement of guilty pleas or indictments.[53]

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[52] Litan and Shapiro (2001: 20) (state that in the mid 1990s, the Division's policy shifted away from local bid-rigging cases because the belief was that the states would prosecute them). However, Indiana and many other states have no records of antitrust prosecutions of any kind.

[53] Indictments are always seemed to be made public, but to retain the element of surprise in an investigation, they may be kept secret for up to a year.

In their public speeches DIVISION officials often mention that the 1993 changes to the Corporate Leniency Program and the introduction of the Amnesty-Plus and Penalty-Plus programs in the late 1990s greatly increased the number of leniency applications (Hammond 2007). Amnesty applications have averaged about two per month since the late 1990s, and the number of grand jury investigations devoted to cartel allegations has been quite high since the late 1990s.[54]

However, the number of cartel investigations has not risen appreciably since then. Moreover, the number of all Section 1 cases and the number of *criminal Section 1 cases*[55] filed annually has actually fallen during 1990-2006 (Table 1).[56] The decline in filings is seen for both the larger number of District Court filings and the smaller number of Appeals Court filings.[57] The number of all Section 1 cases during 1990-2006 averaged 63 per year, but fell by 60% from the early 1990s to the most recent period 2004-2006; similarly, the number of criminal Section 1 cases filed fell by 68%. The greatest decline in cartel cases came from 1990-94 to 1995-99, as the Division shifted away from the small but numerous cases of construction bid rigging to larger international cases. Yet, even from 1995-99 to 2004-06 cartel cases filed fell by 49%. The number of corporations and individuals charged or fined annually for Section 1 violations has also markedly declined from the 1990s to the 2000s.

[54] As of September 30, 2007, there were 135 sitting grand juries investigating price fixing, of which more than 50 focused on international cartel activity (Hammond 2007: 2). More than half of all international cartel convictions are the result of leniency applications.
[55] These are cases by and large that correspond to hard-core cartel allegations.
[56] By contrast, Gallo *et al.* (2000:98) find 50 (CCH) horizontal per se cases per year during 1990-97 and 43 per year for 1955-89. Of these 57% involved bid rigging.
[57] The District Court filings refer specifically to price fixing, but the nature of Appeals Court filings is not separable.

In parallel to the number of cases, the number of guilty parties *charged with criminal offenses* also shows a declining or constant trend (Table 1). The number of corporations charged annually averaged 68 in 1990-1994 and dropped continuously throughout 1995-2007. During 2004-2007, the average number of companies charged averaged only 20. Similarly, the number of individuals charged with criminal price fixing averaged 40 per annum during 1995-2007 from a high of 59 per year in the early 1990s. Again, the shift from small-scale bid rigging to bigger international cartel cases explains much of this trend.

There is evidence of a large backlog of criminal investigations and unresolved cases. Convening a grand jury is standard procedure when the Division prosecutors believe that there is probable cause to bring charges of a criminal nature. Typically, a jury investigates a single cartel with several corporate and individual targets. Conducting the presentations of documents and witnesses to a grand jury can absorb weeks of a prosecutor's time. The number of grand jury investigations pending at the end of fiscal years is quite large. During FY1990-1994 the number of pending grand juries was 133; it dropped to an average of 88 in FY1995-1999 but has risen steadily since then to 126 annually in 2005-2007. Another piece of evidence that allegations of cartel activity may have exceeded the Division's ability to dispose of cases is the vast number of pending criminal cases: there were 261 such cases pending at the end of FY 2007, some stretching back ten years (Table 1). The lion's share of these pending cases is a backlog of unresolved cases.[58]

[58] Some of these cases are the result of charges against individuals who are awaiting trial, who have pled guilty but not yet been sentenced, who have fled U.S. jurisdiction, or who are "fugitives" because they reside abroad in

Cartel investigations have become more complicated in the past 15 years because the range of investigative tools has broadened. FBI interviews were the principal method used prior to 1992, but the *Lysine* case led the way to additional methods (Connor 2007). Now the the Division makes regular use of consensual covert taping, serving search warrants ("raids"), secret informants, INTERPOL Red Notices, border watches, and foreign assistance requests (Hammond 2007: 4). In 2006, Congress authorized court-approved non-consensual wire tapping. Internationally coordinated raids have occurred in most years since the first one for *Graphite Electrodes* in June 1997.[59] For example, the 2007 investigations into the *Air Cargo* and *Air Passenger* cartels began with joint raids on five continents.[60]

One reason the number of cases filed fell from the early 1990s to the late 1990s was an overt policy shift from the Bush I to the Clinton administrations. The change in emphasis was from prosecuting large numbers of localized bid-rigging cases to fewer cases involving fewer companies and larger multi-state affected commerce; in addition, there was a shift from prosecuting professional organizations for civil violations to

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countries with no extradition treaties for antitrust violations. Pending criminal cases against fugitives are not part of the Division's backlog properly speaking. However, there is no Division data on the number of fugitives. In the case of international cartels 1990-2007, Connor (2007f) finds 15 fugitive and about 30 more individuals with "pending" cases, some of which may be fugitives. Few, if any, U.S. residents in domestic price-fixing cases become fugitives. Thus, in 2007 the Division had at least 280 cases in its backlog. The Division has made some progress in reducing pending cases in the past couple of years.

[59] These numbers include only publicly announced joint investigations. Many U.S.-Canadian joint investigations were handled quietly out of public view. Press sources have noted 15 more joint international raids since 2001 (Connor 2007e).

[60] Additional nations have opened airline investigations since the initial raids.

targeting corporations for criminal violations.[61] However, it should be noted that the decline in number of cases filed continued to decline after the late 1990s, albeit at a slower rate. Combined with the information on the large backlog of criminal investigations, these trends suggest that limited professional resources may be constraining the Division's ability to charge guilty parties and obtain guilty-plea agreements.

An important trend in the Division enforcement is the sharp turn in the late 1990s[62] toward investigating and prosecuting international cartels enforcement.[63] A price-fixing case is categorized as international if one or more of the corporate co-conspirators is headquartered outside the United States or if one of the cartel managers is a foreign national. The Division has formally investigated or convicted approximately 135 international cartels since 1990.[64] During 1980-95, virtually no foreign firms or individuals were punished for criminal price fixing.[65] Since 1994, 85% of the corporations with fines of at least $10 million have been foreign (Table 1).

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[61] Gallo *et al.* (2000: 98-99) show that the proportion of localized bid-rigging schemes against governments was far higher in 1980-1989 than at any other time before or after; nationwide conspiracy cases were averaging 7 per rear, except during the early 1960s; cases with trade associations averaged 16.7% in 1955-84 but dropped to 0.6% thereafter; and, in real dollar terms, affected sales per case in 1955-79 were several times above the whole period average but well below average in 1985-94.

[62] See Connor (2007: 72-77 and 347-357) (recounting the shift in U.S. antitrust investigation priorities toward greater emphasis on international price-fixing conspiracies in 1993 and the payoff in prosecutions that began in September-October 2006).

[63] An indicator of the rising importance of international cartel enforcement for the Department of Justice comes from the annual reports of the Attorney General. See AG Reports (in which no mention is made of any antitrust activities from FY1994 to FY1999; suddenly with the successful prosecution of the Vitamins cartels in 1999, the FY2000 to FY2003, these reports contain a page or two highlighting international-cartel prosecutions; references to antitrust disappear once again from FY 2004 to FY2007). Litan and Shapiro (2001: 4) agree.

[64] About 50 international cartels are currently under investigation and about 10 more had their investigations closed without being charged (several of the latter subsequently settled with private plaintiffs) (Connor 2007e).

[65] Gallo *et al.* (2000: 98-99) show that the proportion of international cases prosecuted generally ranged from 2% to 5% in 1955-79, fell to 0.2% in 1980-94, and then rose to 12% in 1995-97.

Although mounting cases against foreign price fixers is fraught with risk, there are good public-policy reasons for pursuing international cartels.[66] They tend to have large affected sales compared to domestic schemes, are more durable, and have higher percentage overcharges (Connor and Helmers 2006, Connor and Bolotova 2006). For the international cartels discovered during 1990-2007 with known sales, total U.S. affected sales were $1.5 trillion (Connor 2008a: Table 4).[67] More importantly, the U.S. overcharges generated by these discovered cartels are projected to be approximately $375 billion (Connor and Lande 2005). The size and injuries of these cartels dwarfs all cartels sanctioned by the Division prior to 1990 (*cf.,* Gallo *et al.* 2000).

The disparity between the *rising* number of cartel-amnesty applications together with *rising* the Division budget resources to investigate the resulting allegations and the *falling* number of price-fixing cases filed since the 1990s is puzzling.[68] Some changes during this period ought to have increased the Division's efficiency.[69] On the other hand, the flood of new amnesty applicants brought with it an increasing demand for the labor necessary to build a good case against the remaining cartel members.

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[66] Among such cases brought by the Division, but were abandoned, dismissed, or lost are *Uranium (1975), Industrial Diamonds (1994),* and *Appleton Papers (1997).*

[67] These sales data include some by international cartels not yet indicted, though the probability of future indictments is above 90%. Public statements of Division officials have mentioned much smaller sales.

[68] In economic terms, the amnesty applications are analogous to demand for antitrust services, and the real budget or employees is representative of supply. As both demand and supply shift "to the right," the quantity supplied should increase.

[69] For example, discovery increasingly depended on the delivery of electronic records, which makes searching and extracting for key words, dates, and names much easier than in the 1980s when discovery involved mostly printed documents. Also, the increasing number of corporate leniency applications that began in the later 1990s, which was followed by loads of inculpatory evidence supplied by the applicant, meant that less time was needed by the staff to decide whether a conspiracy had occurred. The speed-up in investigation time due to the information received in leniency applications is also noted in the EU (Russo et al. 2007: 14).

Investigations became more complicated because of the increasing size and increasingly international character of cartel investigations.[70]

In addition, data on trends federal criminal referrals supports the view that the attack of September 11, 2001 caused FBI resources to be diverted from antitrust matters to counter-terrorism probes. The number of federal referrals on immigration and terrorism matters increased 129% from 2000 to 2007, whereas referrals for white collar crimes (a category that includes antitrust) declined 27% (TRAC 2008: 2). Responding to this report, Senator Patrick Leahy, Chairman of the Senate Judiciary Committee, said "… we must the trend of shifting importing resources away from violent crime and white collar crime" (Yost 2008). Investigations and case development may be further constrained by the slow growth in professional positions in the Division. Perhaps the Division has enough resources to investigate, but only rarely enough to take large corporate defendants to trial.[71] Finally, the decline in cases filed may be the result of an unannounced shift in the Division priorities. Those priorities may have shifted toward merger enforcement, toward international engagement, toward seeking harsher individual sentences, or toward fewer but larger corporate targets.

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[70] Many foreign parents will keep their internal records in languages other than English. Moreover, additional time was spent on coordination between the Division and other cooperating foreign antitrust authorities. Large corporate defendants are likely to be defended by attorneys from leading law firms who will have the resources to vigorously defend their clients

[71] The Division successfully prosecuted scores of international cartels in 1943-49, and for 50 years thereafter detected and prosecuted only about four such cartels; in the 1990s, the Division won two international-cartel cases and lost two others, *Appleton Papers* and *Industrial Diamonds* (Connor 2007: 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 this case, which was accepted by the jury and the court, resulted in a penalty very close to the maximum USSG fine. Defendants' counsel, being aware of the Division's reluctance to go to trial, would find it strategically advantageous to exaggerate their degree of seriousness about going to trial in the expectation that the Division will offer lower penalties to avoid court.

C. Disposition of the Cases

The Division *wins* criminal cases through negotiating a guilty plea, negotiating a consent decree, or obtaining a guilty verdict at trial. It *loses* cases by dismissals, acquittals, hung juries, dropped cases, or verdicts of not guilty. A third "neutral" category applies to successful amnesty applicants; these firms are not criminally indicted and all their employees are immune from prosecution.[72]

Win rates are important indicators of performance for the Division.[73] During 1955-64 the Division won more than 80% of all its criminal cases, and during 1965-1995 the win rate was well above 90% (Gallo *et al*. 2000: Table XIV).[74] After 1994, the Division has won 99% of its criminal Section 1 cases (Table 1). About 90% of criminal convictions are obtained by securing guilty pleas.[75] The high rate of successful criminal prosecutions can be attributed to several factors: improved investigation tools, greater use of FBI resources, the clarity of hard-core cartel violations, and the routine nature of plea negotiations (Gallo *et al*. 2000, pp. 116-18).

Whether high conviction rates for cartels are an appropriate measure of prosecutorial success and whether any particular rate is optimal is difficult to judge. First, the

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[72] This partition follows Gallo *et al.* (2000). Perhaps acquittals also should fall into a neutral category.

[73] Perusal of the Department's annual reports confirms this statement (AG Reports).

[74] The win rate for civil price-fixing prosecutions was lower in 1955-1997 (77%), but also has increased since 1990.

[75] See Gallo *et al.* (2000: 108-109). In the past, the Division generally recommended and the courts accepted that price-fixing defendants be allowed to plead *nolo contendere*. With a *nolo* plea the defendant may later deny facts admitted in a criminal proceeding, an advantage for defendants in follow-on private suits. From 1955 to 1979, 88% of all criminal defendants offered *nolo* pleas (*ibid.*). In 1978, the Division policy changed; a DOJ memorandum instructed U.S. Attorneys who sought *nolo* pleas would require the AAG's approval. The memo derided the use of *nolo* pleas because of "shockingly low sentences and insufficient fines which are no deterrent to crime" (Gallo *et al.* 2000: note 36). After that date, straight guilty pleas increasingly became the standard. From 1980 to 1989, 80% of all pleas were guilty pleas, and during 1990-97 99% were (*ibid.* Table XII). It seems likely that since 1990 *nolo* pleas have been rare-to-nonexistent in criminal cases.

percentage of wins is extremely high for *all* federal felony cases – 96% in 2003.[76] Second, higher rates could be obtained by following practices not in the best interests of justice, for example, by selecting to prosecute the softest targets and avoiding defendants with inclinations to engage in prolonged and expensive legal battles.

One factor not often mentioned for the high rate of resolution of cases by means of guilty pleas is that prosecutors have substantial discretion to offer monetary or incarceration-time incentives to negotiating defendants. The penalties for price fixing are spelled out in great detail in various editions of the U.S. Sentencing Guidelines (USSG 1987).[77] These Guidelines specify a minimum and maximum penalty range for price-fixing violations; the range is determined by the company's affected commerce and several objective culpability factors. If the top end of the range exceeds the statutory cap, then an alternative sentencing provision for federal felonies may be employed; for corporations the alternative fine may reach double the harm or double the gain from the conspiracy. Fine determination on the surface seems logical and objective.

However, the plea negation process is not transparent (Grimes 2003). The Division only publishes a small share of all plea and sentencing agreements, and most of those published do not contain sufficient information to calculate with precision the maximum liability facing a defendant (Connor 2007c).[78] Even with all the sentencing data needed

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[76] Bureau of Justice Statistics (2003: Table 5.1).

[77] In early 2005 in *U.S. v. Booker (543 U.S. 220),* the Supreme Court made the Guidelines advisory rather than mandatory. Most judges still tend to refer to the Guidelines when making sentencing decisions.

[78] In theory, one could visit the files of every District Court in which a cartel cases had been conducted, examine their public files, and retrieve copies of all such memoranda. However, not only would this be prohibitively expensive, many courts do not retain paper copies at all because they lack the storage space. An assiduous search of the Division's Web site turned up less than 130 published sentencing agreements dated from 1995 to the present

to calculate the fine range, it is not uncommon for the Division to offer reduced affected commerce or a shorter duration than could be proven at trial.[79] More importantly, prosecutors are in a position to offer "downward departures" from the USSG fine range to any defendant if it deems that the defendant is cooperating with the Division's prosecution. The "degree of cooperation" is an elastic concept computed with a high degree of subjectivity and available to virtually all defendants that agree to negotiate.[80] As a result, not counting the 100% fine discounts nearly automatically granted to amnestied firms, the median average discount granted to a large sample of other indicted corporate price fixers in the past several years was 76% below the top end of the USSG fine range (Connor 2007c: Table 2).

The Division only rarely goes to trial in *corporate* price-fixing cases when the defendants are large corporations. The Division does not report statistics on trials involving hard-core price fixing, but in the 1990s only about four trials of a large corporate price fixer occurred in the 1990s and only one since then (Connor 2007: 72-77).[81] However, the the Division has brought more than a dozen *individuals* to trial for hard-core price-fixing since 1990.[82] The win rate for cartel cases resolved at trial is well below 90%. Trials

(Connor 2007c); as the Division has fined 268 corporations and 309 persons (577 parties) over the same period (Table 1), about one-fourth of the agreements prepared and submitted to the courts have been published.

[79] The Division officials are quite open about this practice. In some cases, the shortened collusive periods stem from a concern about defendants' rights to non-self-incrimination, especially when a defendant is one of the first to apply for leniency.

[80] Cooperation is already included as a mitigating factor when prosecutors compute the offense level of the crime. If a company is "self reporting," the offense level is reduced by five points; for "full cooperation," the reduction is two points; and for "acceptance of responsibility," one point is deducted. That is, cooperation is usually reflected *twice* in fine determination, once in the offense level and once for downward departures.

[81] 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 this case, which was accepted by the jury and the court, resulted in a penalty very close to the maximum USSG fine.

[82] In a few cases (almost all of them domestic, small-scale bid-rigging schemes), the individuals owned small proprietorships or small family-operated corporations that were indicted along with the individuals.

require teams with large numbers of the Division staff who often must prepare for a year or two before getting a chance to argue the case. It is doubtful that the Division has sufficient resources to prepare for and argue more than about five price-fixing cases per year.

D. Corporate Fines

Although the Division is bringing fewer Section 1 cases, the monetary penalties imposed on convicted price fixers have grown. In part this growth is due to rising legal upper limits.[83] The total amount of cartel fines imposed since 1990 is $4.2 billion (Table 1).[84] There is a strong upward trend. Corporate fines averaged $28 million per annum in the early 1990s; since 1994 the mean annual fines have exceeded $300 million, and in the most recent period 2005-2007 corporate fines averaged $560 million per year (Table 1).[85]

Corporate fines *per company* have also escalated during 1990-2007. For the whole period, the mean average fine was $7.5 million. For the four sub-periods, the mean

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[83] Gallo *et al.* (2000:127) show that each time the statutory limit was raised in 1974, 1985, and 1990, real average corporate fines subsequently increased several-fold. The statutory maximum "organizational" (i.e., corporate) fines was raised from $1 million to $10 million in 1990 and to $100 million in 2004 (Appendix B). Recommended corporate fines may exceed these maxima if the "alternative fine provision" (18USC §3571) is invoked by the Division. The alternative fine must be less than double the harm or double the gain that can be proved was generated by the cartel conduct, but there is no absolute dollar limit. By convention, the Division restricts the computation of the gain or harm to the *company's* gain or harm, but it appears possible to hold each member of a cartel jointly and severally liable for the *entire cartel* harm.

[84] Prior to 1960 corporate price-fixing fines were very small (Posner 2001). Gallo *et al.* (2000: 122-123) calculate the total 1955-1989 fines on 2708 corporations to be about $215 million, or $80,000 per company (we have converted the study's 1982 dollars to 2007 dollars). The courts may also award restitution as part of a guilty finding, but the Division recommendations for restitution in addition to a fine are unusual because prosecutors are normally aware of parallel private damage suits. However, restitution is sometimes negotiated in the case of bid rigging against federal or local governments.

[85] Average annual fines rose to $297 million in fiscal years 1995-1999, dipped to $178 million in 2000-2004, and then rose to $558 million in the four most recent years 2005-2007 (Table 1). The peak year for cartel fines is 1999 ($972 million).

corporate fine rose from $0.5 to $12.9, $10.2, and $36.8 million[86], respectively. That is, the average corporate fine rose 26-fold from the early to the late 1990s, fell slightly during the early Bush II administration, and then resumed its climb in the past four years.

This escalation in corporate fines also can be ascribed to the willingness and ability of the Division to impose fines above the statutory limit of $10 million in effect since July 1990.[87] The first $10-million fine was imposed in the *Explosives* case on September 6, 1995.[88] Sixteen days later, the third firm to plead guilty in *Explosives* was ICI Explosives, a subsidiary of the UK's chemical giant ICI (formerly Imperial Chemicals), which agreed to pay a $15-million fine. In late 1996, Archer Daniels Midland (ADM) became the first cartel defendant to pay a $100-million fine.[89] Since September1995, 55 companies have joined the Division's "$10-million club." Although these heavily fined corporate cartelists account for only 10% of all such companies, beginning with FY1995 corporate fines of at least $10 million have accounted for 94% of total criminal price-fixing fines.

The escalation in corporate price-fixing fines can be attributed to a renewed willingness of the Division to indict non-U.S. firms. When the Division embarked on this policy in

[86] Data for late FY2007 are incomplete.
[87] $10 million was the Sherman Act maximum corporate penalty for violations committed between July 1990 and April 2004. Since then the cap has been $100 million.
[88] The first firm to plead guilty and pay a $10-million fine was Dyno Nobel, a U.S. subsidiary of Norsk Hydro. A second firm, Mine Equip. & Mill Supply, pled guilty and paid a fine of $1.9 million on the same day. A somewhat confusing historical foot note is that Mine Equipment, recipient of the first above-ten-million-dollar fine, was 50%-owned by Norsk Hydro, so in a sense Norsk Hydro could claim the ignominious distinction of being the first to break the $10-million-fine barrier. However, the Division chose to list these two guilty pleas as separate pleadings, so most observers give the title to ICI Explosives.
[89] Two Japanese co-conspirators agreed to pay $10-million fines the month before (Connor 2007).

1993, success was by no means assured.[90] Since 1995 foreign firms from at least 10 nations have come to comprise the major source of U.S. fines paid by convicted price fixers. No foreign firms were fined before 1995, but as of mid 2007 about 100 foreign companies have been fined by the Division, of which 46 have paid fines of at least $10 million. In fact, 80% of all corporate fines of at least $10 million have been imposed on non-U.S. companies.

In its prosecutions of international cartels, the Division compares well with other antitrust authorities around the world, but it is no longer the paragon it once was. Prior to 1990, the Division accounted for the vast majority of all fines collected in the world for price-fixing violations; the Division's only rival in fining cartels was the EU (Harding and Joshua 2003). Up to 1989, the EU's cartels fines amounted to only $30 million,[91] compared to U.S. fines of more than $400 million (Gallo *et al.* 2000: Table XIX).[92] After 1994, U.S. cartel fines greatly accelerated.[93] From 1990 to 2007, the Division a very impressive $4.2 billion on corporate members of international cartels (Table 1).[94]

When placed in a global context, Division-secured cartel fines represent a modest share of the total. For example, the 1990-2007 U.S. totals are only 17% of all such fines

[90] See Connor (2007: 73-77) (showing that the policy shift flew in the face of severe evidentiary problems, concerns about comity, and losses in court; the shift was derided by former AAG William Baxter as unnecessary because, in his view, large corporations were well counseled to avoid antitrust liabilities).
[91] Russo et al. (2007: Figure 11) report a total of €42 million in fines for all violations, of which about two-thirds or $30 million was for cartels.
[92] (Gallo *et al.* 2000: Table XIX) report 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 amounts of fines prior to 1950 are negligible.
[93] From 1955 to 1994, average annual U.S. criminal fines were $13.6 million. During 1995-2007 such fines have averaged $318 million per year (Connor 2008a: Table 15).
[94] In this report fines are updated through December 2007 from Connor (2008: Table 15).

worldwide.[95] Moreover, since the late 1990s, the EU Commission (EC) and its Member States have overtaken the Division in the size of such fines. In 1990-94, EU fines alone exceeded the Division's cartel fines for the first time -- and by a wide margin (200% higher) (Table 1). The EC running total[96] surpassed federal U.S. total fines in 2005. Cartel fines by *all* EU authorities have reached $11.6 billion, or 77% of the global total (Table 2).[97]

The main reason that the Antitrust Division is falling behind the EU is because EU authorities are tackling more and more cartels each year,[98] not because EU fines are more severe. Evidence for this assertion comes from sanctions on global cartels.[99] Both the Division and the EC had almost the same opportunities to fine most of these cartels, yet EU fines were higher than U.S. fines on global cartels (Table 2). A careful study by van der Hooft (2007) 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. A new set of EU fining guidelines implemented in September 2006 suggests that the EU will soon pull away from the

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[95] Although these data refer to international cartels only, the ratios for all cartels are likely to be very similar.
[96] By running total is meant the total fines imposed since 1954. See Connor (2008: Table 15).
[97] Fines by antitrust authorities in Asia, Oceania, and Latin America are increasing the fastest, albeit from very low initial amounts. Up through the end of 2007, cartel fines from these regions accounted for almost 5% of world fines.
[98] To be more precise, the 25 National Competition Authorities in the EU are increasingly active in opening and deciding cartel cases – 120 international cases alone (Connor 2008a: Table5). The EC itself is able to decide on only about five or six hard-core cartel cases per year; it ended about one probe each year during 1990-2007; and in 2007 it had 24 known investigations in process (Connor 2007e). Russo et al. (2007: Figure 1) find that the number of EC antitrust decisions of all types averaged 15 per year in 1990-2004. The number of decisions concerning infringements alone averaged 9.1 annually (*ibid.* Figure 2). Beginning in 2008, the EC's capacity for making cartel decisions is expected to speed up when it adopts a new method of negotiation akin to plea bargaining.
[99] The typical global cartel fixed prices or output on three continents (Europe. East Asia, and North America) (Connor 2007).

Division in the severity of its fines.[100] Veljanovski (2006a) predicts that relative to the 1998 EU cartel-fining guidelines the average absolute size of EU cartels fines for comparable violations will increase by 130% under the 2006 guidelines. No similar increase in the severity of U.S. fines is expected.[101]

Since the 1970s, government cartel fines have begun to shrink relative to private settlements. Damages recouped by private plaintiffs, who total more than $21 billion, are now almost as high as global fines. The vast majority of private damages settlements occur in North America (Table 2). Settlements in the United States (reportedly at least $18.5 billion) are much higher than the Division fines.[102]

E. Individual Penalties

> "The Division has long emphasized that the most effective way to deter and punish cartel activity is to hold culpable individuals accountable by seeking jail sentences" (Hammond 2007: 2).[103]

[100] For example, in the EU's *Flat Glass* decision announced on November 29, 2007, the four defendants were fined $720 million for a cartel that lasted only one year and that had $2.5 billion in affected sales.

[101] The AMC (2007) voted to retain the current structure of the U.S. Sentencing Guidelines. Whether the U.S. Sentencing Commission will raise the base fine is highly uncertain at this time.

[102] These settlements data are from Connor (2007e) and are incomplete because of non-reporting of most of the smaller opt-out settlements; most of the largest opt-out settlements are reported publicly, but these press reports might exaggerate the non-cash portions of the settlements. Settlements are at least four times as large as the Division fines for international cartels alone. Lande and Davis (2007) report private cartel settlements of $8.2 to 9.6 billion for both domestic and international hard-core cartels for the same period, but their data are also incomplete because they omit settlements below $50 million (Lande 2008).

[103] Gallo *et al.* (2000: 105-107) show that during 1955-97 an average of 10% of all price-fixing cases had individuals as defendants; 81% had corporations as defendants. A fascinating finding, still true today, is that 60% of the individuals convicted during 1955-97 were directors, owners, or other corporate officers. Given the large average size of companies prosecuted since 1990, one can reasonably infer that the incomes of cartel defendants are quite 87high also. For an analysis of the value of imprisonment, see Werden and Simon (1987).

Hammond's point is supported by citing the trends from about FY1995 to FY2007 in the number of incarcerated price fixers, the total number of prison-days sentenced, and the rising share of manager-defendants who have been incarcerated (*ibid.* pp. 2-3). These indicators are examined over a slightly longer period (since 1990).

The total number of individuals *charged* for Section 1 violations averaged 45 per year during 1990-2006 (Table 1).[104] That number was highest (59) during the early 1990s and dropped to an average of 39 per year in the subsequent years 1995-2006. This pattern may be attributed in part to the shift in the Division prosecutions from bid-rigging conspiracies to classic price-fixing cartels; the former tend to have larger numbers of both companies and managers involved than do the latter type. During 1995-2006, the number of cartel managers charged trended slightly upwards: In 2005-07 the annual numbers charged were 22% higher than in 1995-99. Being indicted for a federal felony ought to have a deterrent effect apart from any subsequent penalties because of its negative implications for future employment opportunities.

The number of *individuals fined* for criminal price-fixing violations averaged 26.6 per year during 1990-2006 (Table 1). Just like the number of corporations, the number of individuals fined peaked at 34 per year in 1990-1994 and has been much lower (averaging 23.5 per year) since then. Moreover, there is a strong downward trend in the annual number of fined persons during 1995-2006. Approximately 61% of all persons charged with criminal price fixing were subsequently fined; this proportion was highest

[104] In the first 64 years of the Sherman Act, only 21 individuals were incarcerated for price fixing (Posner 1970: 389-391).

(79%) in the early 1990s and has declined in each subsequent sub-period since then; in 2005-07 only 41% of those charged were fined. This decline in the frequency of fining individuals is explained in part by an increasing share of charges being leveled at foreign residents, many of whom become fugitives.[105]

Total fines on individuals are modest. During 1990-2007, 478 individuals paid criminal fines totaling $70.3 million, or a mean of $147,100 per person (Table 1). The mean average is distorted by a few very high personal fines. The *median* fine imposed has been $50,000 or $100,000 (Connor and Helmers 2006). With two exceptions[106], no individuals have paid more than the 1990-2004 statutory maximum of $350,000 for price fixing alone.[107] Compared with the wealth and high positions of the majority of convicted cartel managers, personal fines are an insignificant potential source of deterrence.[108]

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[105] Fines are typically imposed in the same year as the date of the charge, but in some cases fines are delayed while the defendant's extent of cooperation with prosecutors is assessed. Thus, because of such lags one cannot precisely compare the number of fined individuals in any given year with the number charged in that year; however, comparisons involving multiple years are much less distorted by lags in sentencing. Another reason for the decline in the fined/charged ratio is that the Division is charging more and more foreign residents for cartel crimes, and many of these choose to remain fugitives. There are no data on the number of fugitives.

[106] As 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 (Connor 2007). In 2000-2003, 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 also was sentenced to 366 days in prison (this remains the first and only litigated cartel fine above $350,000). Individual fines for price fixing can go as high as $25 million under the "alternative sentencing" statute (18 USC §3571). Higher fines for some individuals are due to multiple counts, such as mail fraud or obstruction of justice. In mid 2004, the Sherman Act maximum individual fine was raised to $1 million.

[107] Higher fines for some individuals are due to multiple counts, such as mail fraud or obstruction of justice. In mid 2004, the Sherman Act maximum individual fine was raised to $1 million. The two highest individual price-fixing fines were $10 million in *Graphic Electrodes* and $7.5 million in *Auction Houses (see* footnote *supra).*

[108] See Gallo et al. (2000: 104-107) (who find that 69% of all criminal price-fixing defendants in 1955-1997 were top corporate officers – secretary-treasurer or above – and 31% were lower-level employees). Given the large size of most corporate cartel members, their corporate officers are likely to be reasonably affluent persons, most with compensation in the $500,000 to $1,000,000 range.

The Division policy statements place great weight on the deterrence value of predictably high *prison sentences* for convicted cartel managers. The Division secured prison sentences for a *total of 284 individuals* during 1990-2007 (Table 1). Since 1999, 29 foreign defendants from nine nations have been sentenced to prison, or about 16% of all such sentences (Hammond 2007: 3). Moreover, the average number of individuals receiving prison *sentences per year* has been rising during 1990-2007. The annual average number of individuals incarcerated for price fixing rose from 13 in the1990s, to 17 in 2000-2004, to a high of 24 in 2005-2007.[109] Public ANTITRUST DIVISION *Workload Statistics* indicate that the *proportion of defendants imprisoned* during 1990-2006 has averaged 37% and has risen in each sub-period: 25% in 1990-94, 31% in 1995-1999, 46% in 2000-2004, and 54% in 2005-07.[110] An alternative data series developed by the Division shows a much higher ratio of defendants sentenced to jail (Hammond 2007: 3). It shows that this ratio rose from 37% in the 1990s to 52% in 2000-2004 and to a high of 74% in 2005-2007.[111] This trend is a positive development for cartel deterrence.[112]

Not only the frequency but also the severity of prison sentences has increased. Consistent with stated Division policy, individual sentences measured by aggregate days in prison have mushroomed (Table 1). During 1990-1994 the number of prison-

[109] The high average for 2005-2007 depends heavily on the record number of 34 incarcerations in FY2007 (Hammond 2007: 2-3). Without the 2007 number, a strong upward trend might not be evident.

[110] Prison sentences are typically imposed in the same year as the date of the charge, but in some cases sentencing is delayed while the defendant's extent of cooperation with prosecutors is assessed. Thus, because of such lags one cannot precisely compare the number of sentenced individuals in any given year with the number charged in that year; however, comparisons involving multiple years are much less distorted by lags in sentencing. One reason for a lower imprisoned/charged ratio is that the Division is charging more and more foreign residents for cartel crimes, and many of these choose to remain fugitives.

[111] The discrepancy between the two data series is inexplicable.

[112] For a contrary view see (Denger 2003).

days imposed averaged 3609 per year; the average rose in each sub-period to its highest level of 16,644 in 2005-2007. More importantly, the number of days of *imprisonment per person imprisoned* more than doubled, from 238 days in 1990-94 to 623 days in 1995-2007 (Table 1).

It must be noted that the high rates of imprisonment noted in the previous paragraph are to a large extent the result of the Division leniency and plea-bargaining policies that limit the number of guilty individuals charged. It is obvious that each of firms convicted had at least one and usually several managers responsible for operating the cartel.[113] Yet it is clear that the Division does not indict all guilty individual price fixers in a company convicted for price fixing. Moreover, in a large proportion of cases, no individuals are charged.[114] To some extent, in order to conserve prosecutorial resources, it is impractical to charge all the underlings involved in a conspiracy; from the point of view of general deterrence, charging the leaders may suffice. However, it is evident that the Division does not indict all the leaders either.

In some cases, longer jail sentences have been procured by bringing multiple counts for collateral federal offences. Fraud and kickback schemes are often found together with bid-rigging offenses. A few cases have involved obstruction of justice charges; during 2000-2007 the Division indicted 11 corporations and 23 individuals for obstructing cartel investigations (Hammond 2007:4).

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[113] In one famous case, ADM, one of the ringleaders of the *Lysine* cartel, had three officers carved out, but at least 12 employees helped further the conspiracy. In the *Vitamins* case, less than 10% of the 200 cartel managers were indicted (Connor 2007).

[114] In 1990-2007, the Division secured guilty pleas from companies involved in 53 international cartels, but in 47% of those cartels, no individuals were indicted (Connor 2007e).

The majority of all cartels prosecuted by the United States since 1993 contain a corporate amnesty recipient; in recent years the proportion is higher. Subject to an admission of guilt and complete cooperation with the Division's investigation, cartel managers who are employees of a successful amnesty applicant are granted immunity. Because the typical price-fixing cartel is comprised of roughly four firms, it follows that up to one-fourth of all guilty cartel managers are neither charged nor sentenced as a matter of policy. Moreover, among the guilty firms that are the second or third to apply for leniency, a significant share qualifies for Amnesty Plus, which also gives a pass to all of its guilty cartel managers (in this instance, managers of two cartels). Finally, plea bargaining with the remaining firms that do not qualify for either type of amnesty limits the number of managers that will be carved out[115] of the plea agreement.

With sufficient promises of cooperation in a prosecution, a deal may result in no carve-outs. Since the *Vitamins* prosecutions, the Division has suggested that its policy will be to carve out at least two or three officers, and that that number will increase over time.[116] However, this goal seems to apply only to a couple of the ringleaders in selected high profile cases. In an analysis of a sample of 117 sentencing memorandums on non-amnestied firms culled from the Division Web site, Connor (2007c) found that 54% of all corporate guilty pleas had zero carve-outs.[117] For firms

[115] This is the term used to indicate that when a firm is offered partial leniency, some of the most culpable managers will still be subject to criminal indictments. For amnestied firms there are no carve-outs.
[116] In the *DRAM* international-cartel case, 14 officers of the top three corporate defendants were sentenced to prison in 2003-2004.
[117] It is possible that in a few such cases a retired or dismissed rogue employee was responsible.

with carve-outs, the mean number was 2.2 executives, and there is no clear evidence of an upward trend over time.

In closing, it should be noted that U.S. courts are nearly alone in the world in regularly sentencing individuals to jail for price fixing.[118] Many of the individuals imprisoned for cartel offenses have been foreign residents, but many others indicted are fugitives abroad because of difficulties associated with extradition.[119] Several countries have individual penalties written in their laws[120], but only Canada, Australia, Germany, and Israel have regularly imposed fines on individual price fixers. And only Israel has imprisoned significant numbers of cartel managers.[121] The Division has made efforts to encourage the criminalization of antitrust abroad, with some success.[122] The European Union is discussing proposals to criminalize antitrust, but enactment is at best several years away.

F. Other Cartel-Related Enforcement Activities

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[118] The EU imposes only corporate civil fines.

[119] Extradition from countries without criminal antitrust statutes or without extradition treaties is unlikely. Countries like Japan, which have both necessary laws and large numbers of cartel fugitives, have not cooperated thus far with the DOJ. The DOJ in effect lost an appeal on this question in a closely watched case before the UK House of Lords in March 2008 (Crompton 2008). However, it appears that future extradition requests to the UK will likely be successful if the cartel conduct extends after June 19, 2003, the date that the UK's criminal cartel statute came into force, or if obstruction of justice or making false statements are elements in the charges.

[120] Examples are France, Brazil, Japan, and the UK.

[121] 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.

[122] For example, in late 2007 the Division made an unprecedented deal with Britain's Office of Fair Trading that will likely result in the imprisonment of individuals for criminal price fixing for the first time in UK history (Peel 2007). The Division transferred to UK custody three British nationals who were arrested and indicted for price fixing in the *Marine Hose* cartel in the United States. The three have voluntarily agreed to plead guilty in a British court and, unless they are given the Division's preferred jail sentence, they will be returned to the United States for sentencing.

Of course, the Division allocates significant resources to merger and Section 2 matters – in most years such spending has eclipsed price-fixing matters. Besides these activities the Division supplies information on three other areas of responsibility: Congressional testimony, international notifications and negotiations, and public education through official speeches. Historically, the AAGs and DAAGs have appeared before Congress about 6 or 7 times per year (Table 1). However, since 2002, the number of appearances has varied from zero to three. Such appearances are by invitation of the oversight committees of Congress. It is noteworthy that the 2004 amendments to the Sherman Act were initiated and passed by Congress with little or no public input from the Division's political appointees.

On the other hand, the Division has become more heavily involved in international activities. The average annual number of international notifications and negotiations doubled from the early 1990s to 2005-07. It played a founding role in the International Competition Network and has participated actively and consistently since then. Numerous treaties and protocols have been signed with other antitrust authorities that could positively affect international cartel enforcement. The Division has spent about 4% of its budget in recent years on advocacy. The number of speeches by Division officials on price-fixing topics, mostly before various legal-profession organizations, is quite large.

III. APPRAISAL OF ANTI-CARTEL ENFORCEMENT

Enforcement of Section 1 of the Sherman Act is the Division's core mission.

A. Objective of Enforcement: Is Deterrence the Sole Goal?

A survey by the International Competition Network of 18 of the world's antitrust authorities, including the Division, found that the principal objective of anti-cartel enforcement is *general and specific deterrence of cartel formation* (ICN 2005). This principle is consistent with official speeches of the Division officials.[123] Deterrence, in turn, serves consumer welfare. The ABA takes the position that there are four "generally accepted" goals of criminal remedies: *Punishment* proportional to the harm to consumers, *deterrence*, *protection* of the public, and *rehabilitation* (ABA 2005:2).

We take the position that specific and general deterrence ought to be the overarching goal of antitrust enforcement generally and cartel enforcement in particular. Optimally deterring fines would be by their nature punitive, proportional, and likely to protect customers and suppliers from future criminal activity. To the extent that the ability to avoid corporate fines and individual fines and jail sentences offer incentives for defendants to institute effective training and internal detection programs intended to foil price fixing conduct, they also serve the goal of rehabilitation.

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[123] Hammond (2005: 6-7), testifying for the Division in support of fines based on the volume of affected commerce, argues that "…the controlling factor underlying the antitrust guideline is general deterrence...because it is difficult and time consuming to establish gain or loss in antitrust cases and because general deterrence does not require an exact correlation between harm and punishment." He then goes on to assert that the Sentencing Guidelines result in cartel fines and terms of imprisonment that are in fact loosely related to the harm caused by defendants, thus implying that specific deterrence is served. The Division has since the *Booker* decision of 2005 relied on specific harm to set recommended fines in a small number of cartel cases.

Two specific enforcement activities of the Division serve cartel deterrence. More effective detection of secret cartels that raises the probability of conviction improves general deterrence. Monetary penalties, of which criminal fines recommended by the Division are an important part, help further both general and specific deterrence.[124]

B. Detection of Cartels

One of the most important tasks facing the Division involves the detection of habitually clandestine cartel activity. Since 1990, innovative Division programs have increased the number of cartels that have been uncovered.

Before the 1990s, the Division mainly relied on complaints from suspicious buyers for initiating investigations. There is no public information on whether the number of cartel investigations that may have been launched from internally generated suspicions or from complaints from external parties is still significant.[125] Litan and Shapiro (2001:5) assert that information brought to the antitrust agencies by private litigants and state attorneys general assisted cartel prosecutions in the 1990s. The genesis of the landmark *Vitamins* case lies in plaintiffs' information (Connor 2007). Referrals from other U.S. government agencies about suspected bid rigging still account for a modest number of investigations.

The problem with a passive approach to cartel detection is that buyers of cartelized products often are unaware they are being injured, particularly when the cartel operates

[124] As is demonstrated in other parts of this chapter, the totality of fines and settlements does not exceed the optimal level. It is possible that large private settlements might reduce the effectiveness of leniency programs.
[125] The published decisions of the EC almost always mention what initiates a cartel investigation.

internationally.[126] Another problem with relying on tips is that considerable industry expertise is required to decide on which tips apply to markets with structures likely to harbor cartels. There is a historical division of responsibilities between the DOJ and the FTC with respect to mergers based loosely on industry expertise, but when it comes to cartel-prone industries, the Division's industry expertise does not cover all of them.[127] Speeches by the Division officials sometimes hint at the existence of internal models developed to help filter reasonable allegations of antitrust violations from unreasonable ones on the basis of industry structure or other market characteristics.[128]

As far as we know, tips of these kinds have become largely supplanted by leniency applications as the initial events that kick off investigations. In terms of the number of applications, the 1993 revision of the Corporate Leniency Program has been a roaring success[129], primarily because of nearly automatic approval if an applicant meets a short list of easily predetermined conditions.[130] The first successful applicant is granted a 100% reduction in its fine and immunity from prosecution for its involved managers. The Division has been receiving about two applications per month each year for more than five years, becoming by far the major source of tips about secret cartels. More recent

[126] When a cartel fixes prices in most geographic markets around the world, it often engages in conduct that suppresses international geographic arbitrage (Connor 2007). Another frequent characteristic of modern international cartels is that the cartelized products are such minor ingredients for the buyers that they have little economic incentive to invest in expert procurement managers.

[127] Unlike the FTC, which has a long tradition of industry research, the Division's working papers and other publications seldom show specialized economic expertise in single industries. For example, the FTC specializes somewhat in consumer manufactures, whereas the DOJ handles matters involving metals, gas pipelines, and other petroleum-industry topics.

[128] The use of filters for cartel enforcement is discussed by Abrantes-Metz and Froeb (2008). Knowledgeable former Division personnel believe that filters are no longer being used by the DOJ. In any event, to avoid gaming strategies by potential violators, it may be best for the Division not to reveal the features of filtering models.

[129] Litan and Shapiro (2001: 3-4) (attribute the policy as the major reason for the successful anticartel record of the Clinton administration).

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

improvements, Amnesty Plus and Penalties Plus, have further aided cartel detection.[131] A 2004 amendment to the Sherman Act increased the benefits to amnesty applicants by detrebling maximum private damages; it also obligates amnesty recipients to cooperate with private plaintiffs (Griffin 2006: 9).[132] Finally, joint international raids with foreign authorities provide additional potential tips about secret cartels and help preserve incriminating documents that may reside abroad.

The Corporate Leniency Program has one negative implication for general deterrence. Amnesty recipients pay no fines, and since 2004 are liable for only single rather than treble private damages. The routine approval of qualified amnesty applicants means that the total amount of fines and private monetary penalties collected for price fixing is reduced compared to a no-leniency regime.

The identity of U.S. amnesty recipients is not normally revealed by the Division, so the foregone fines cannot accurately be computed. Moreover, hiding their identities means that measures of U.S. recidivism will be underreported. However, because the EU does identify amnestied defendants and the fines they would have paid absent the EU Leniency Program, one can calculate precisely the reduction in fines in a comparable jurisdiction.[133] An analysis of 39 EU cartel decisions that resulted in fines during 1998-

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[131] Amnesty Plus was instituted in the late 1990s after the Division found that some defendants were engaged in cartelizing multiple markets. To discover additional cartels, subject to full cooperation in both matters, the Division offers amnesty to a company already under investigation if it confesses to a *second* cartel about which the Division was unaware; it also offers a large discount on fines for the first cartel. Penalty Plus is a policy that promises to impose unusually large fines on companies that neglect to apply for the Amnesty Plus program.

[132] Time will tell, but plaintiffs' attorneys are skeptical that the law will significantly improve cooperation.

[133] The EU instituted its first Leniency Notice in 1996, but there were few applicants because full leniency was not offered, the benefits for partial leniency were not generous, and acceptance was highly discretionary (Veljanovski

2004 finds that 90% of the cartels had firms that were granted leniency of some sort, and 31% had amnesty recipients (Veljanovski 2006b: 511). Partial and total leniency discounts *by themselves*[134] reduced the fines called for by the EU's Guidelines by an astonishing 40.5%. Concludes the author:

> "…[T]he leniency program appears generous…The Commission's leniency program is essentially in the business of "'buying' convictions by discounting penalties…" (*ibid.* pp. 512-513).[135]

Is the Division also in the habit of "buying" cooperation in order to secure relatively easy convictions? This is an important question that bears on deterrence in two ways. First, if would-be cartelists form their expectations from the recent past practices of antitrust authorities, then it is the **net discounted fines** (after leniency discounting) that will form their expectations about the size of probable penalties.[136] In other words, the Sentencing Guidelines may be almost irrelevant as a direct deterrent. As will be seen below, there is evidence that the leniency practices of the Division result in very generous – more generous than the EU's -- fine discounts. Second, there is the question as to whether $2 to $3 billion is an optimal financial incentive for the discovery

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2006b: 511). The revised 2002 program (*EC Commission Notice on immunity from fines and reduction of fines in cartel cases, 2002/C45/03*) was much closer to the US program, almost nondiscretionary, and attracted large numbers of applications.

[134] Because of the manner in which the EU's fines are computed, none of the reductions can be attributed to a defendant's ability to pay or to breaching the EU's fine cap (10% of the firm's global sales in the year prior to the decision).

[135] Even more damning is Veljanovski's (2006b: 512) finding that leniency was unnecessary for 19 of the 26 cartels (73%), because they had been detected by other antitrust authorities (mainly the Division) or in parallel EU investigations *prior to the first amnesty application*! Even in the case of full amnesty, one-third was deemed superfluous.

[136] Part of this calculus is a conjecture about the likelihood that one of the other members of the cartel might seek amnesty as well as the possibility that the would-be conspirator itself might seek amnesty first. For an ambitious synthesis of the logic of leniency programs see Spagnolo 2006).

of additional cartels (those not already identified by amnesty recipients) or for revealing more evidence (beyond that given by amnestied firms) for convictions. At least one respected observer of the EU cartel scene is of the opinion that for the high costs of the leniency program (i.e., the foregone fines) private law firms and economic consultants would be more efficient at discovering hidden cartels than is the EC itself.[137] [The issue of the Division fine-discounting is further explored in section II.E. below].

The Division has an *individual* leniency program, but it is rarely mentioned and evidently little used. It has not been revised in at least 20 years. One proposal to increase discovery of cartels that merits serious consideration is to expand the existing Civil False Claims Act to encourage greater whistle-blowing by individuals about suspected hidden cartel activity (Kovacic 2001). From 1986 to 2000 more than $3.5 billion was recovered by the U.S. Treasury from *qui tam* actions, of which $500 million went to individuals (*ibid.* p.767). A bounty program for individual whistle-blowers would probably spur more cartel discoveries. The Korean FTC has had a successful bounty program since 2006 that rewards tipsters with a small share of the cartels' fines imposed, and the UK's Office of Fair Trading adopted a cartel-tip program in March 2008 that awards up to ₤100,000 to individuals.

C. The Decision to Open a Formal Investigation and Plea Bargaining

[137] Veljanovski (2006) wryly asserts that "…I am sure several law firms assisted by economists would be prepared to detect and prosecute cartels for a fraction of the €2.5 billion 'cost' of the leniency program." In a follow-up study of 1998-2007 EU decisions (39 decisions and 50 cartels), the foregone fines attributed amnesty and leniency rose to €3.8 billion (approximately $5 billion) or 38.2% of the Commission's fines.

The Division is not fully transparent, and this is nowhere more apparent than in the decisions to open, not to open, and to close formal investigations.[138] The Division does not release information on the number of amnesty applications, the number accepted, the identity of the applicants, the industries of the applicants, or the disposition of these applications.[139] Similar comments apply to plea bargains.[140]

The Division must adhere to procedures that protect alleged but innocent wrongdoers from the stigma of being investigated. In addition, investigatory decisions, plea bargaining, and sentencing agreements are doubtless complex deliberations full of nuances. Nevertheless, the Division does little to enlighten interested observers about the factors that determine these outcomes. Moreover, accurate predictability of plea bargaining is restricted to a relatively small number of defense counsel, many of whom are experienced former Division prosecutors. This situation opens the Division to charges of cronyism or the revolving-door syndrome and may contribute to higher legal fees by effectively restricting entry.

Unless witnesses choose to reveal it, the existence of a grand jury investigation of a suspected cartel is confidential, as are its deliberations. Approximately half of corporate cartel indictments for price fixing are announced on the same date as the guilty pleas are revealed in the Division press releases; the absence of public warning about an on-

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[138] Informal investigations begin in response to tips or complaints from "the public" (organizations or individuals), from information received from foreign antitrust authorities, and from amnesty applications; less commonly these days, investigations may be internally generated. In criminal cartel matters, these decisions are formally made by a grand jury.

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[140] Adelman (1978: 488) (says of plea bargaining "… perhaps no other aspect of the criminal process is so hidden and so little understood"). See also Cooter and Rubinfeld (1989: 1082-1084) (a classic synthesis of the legal-economic literature on legal disputes that covers plea bargaining at a high level of generality).

going investigation is demonstrated by the stock-price reactions for target companies to the news.[141] However, about half of all cartel prosecutions are no surprise. Prior information on investigations sometimes leaks out when a subpoenaed company issues an SEC report to its stockholders (an event not always reported by business media) or when someone connected with a grand jury makes its existence public.

Grand jury investigations must be kept secret by the Division employees and members of the jury. As a matter of public policy, secrecy may be justified by the element of surprise that would prevent interference by other units of government. Moreover, there are due process concerns. Early release of information about a criminal violation might hurt defendants' privacy rights or give the government an unfair advantage by using adverse publicity.[142] However, the Division customarily treats as confidential the dates and reasons for closing probes, even when an investigation is public knowledge. It is difficult to imagine what public benefit flows from this policy. Rather, it prevents outsiders from assessing the quality of the Division decision making about "false positives."

D. Choosing Cases to Prosecute

More than 90% of all Section 1 violations are filed as criminal matters, and nearly all of these are hard-core cartels. Prior to reorganization in the mid 1990s, lawyers in the Division worked on both criminal and civil matters, which many of them found more

[141] See Connor (2004). The extent of confidentiality of the Division investigations is higher than in the EU, where raids tend to be reported by the press. Canada maintains the highest degree of confidentiality of its cartel probes, though a high share of its cases closely follow the Division probes.
[142] Other reasons for secrecy are to make witnesses comfortable, reduce the risk of flight of defendants, and prevent corruption of grand jurors.

enriching. Since then, lawyers in the Division's 7 field offices and the National Criminal Enforcement Section in DC primarily prosecute cartels criminally, while the balance of Division attorneys conduct civil investigations. The decision to categorize a particular case is presumably made at the DAAG level or higher.

Price fixing violations handled as civil matters may involve allegations of horizontal restraints other than hard-core cartels or may involve suspected hard-core cartel conduct for which the evidence of an illegal agreement does not rise to beyond a reasonable doubt.[143] The relatively small proportion of civil cases suggests that the Division is very cautious when deciding to open formal investigations. Civil cases usually end with consent decrees under the Division's assumption that follow-on private suits will extract monetary fines (Litan and Shapiro: 27). This was true of the well-known *NASDAQ Market-Makers* case.[144] However, the fairly significant number of non-follow-on private cartel suits with large settlements implies that the Division may be failing to prosecute large numbers of illegal cartels, if not criminally then civilly.[145]

Some observers have proposed moving all federal *civil* antitrust or all merger cases to the FTC's jurisdiction. There may be efficiencies gained by allowing each federal agency to specialize in a narrower range of violations. One negative consequence of

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[143] In many civil price-fixing cases, the conduct at issue was not hidden, which suggests that the participants lacked the requisite intentionality.

[144] Litan and Shapiro (2001: 28) (showing that the Division worked together with the SEC to impose a change in trading rules).

[145] Lande and Davis (2007) find that more than 60% of recoveries in private antitrust suits – most of them cartel cases --is made by in cases not preceded by government action. Although its sample size was small and included atypically large cases, its results suggest that many cartels which pay substantial settlements to alleged victims never face government prosecution.

such a move – and a factor likely to cause any Attorney General to oppose it – is the loss of merger-filing fees for the Division. As noted above, these fees have in most years in effect subsidized the Division's anti-cartel activities. It may not be wise to remove the power of the Division to prosecute civil price-fixing cases, because *inter alia* it is only after significant investigation of possible criminal violations that many cases are relegated to the civil category.

The Division habitually offers significant fine discounts and reduced carve-outs to entice cartelists to plea bargain (Connor 2007c). Offering discounts to cartelists contemplating entering into a plea negotiation is costly in terms of the reduction in deterrence from fines. The practice is justified by the *additional* information made available to the Division (at a relatively low cost compared to compelling document production and depositions) to assist in the conviction of the remaining cartelists. The additional inculpatory information is likely to be meager when dealing with third-in and later plea-bargainers. Yet, no matter a defendant's plea rank, in most instances it is the Division practice to begin negotiations over cooperation discounts from the bottom of the fine Guidelines' range (which the next section will demonstrate to be far too low). That is, most negotiations begin with a Division concession that is 50% below the maximum liability. Consequently, three-fourths of all guilty corporate cartelists end up with negotiated fines below the minimum specified by the Guidelines (Connor 2007c).

As was shown above, the Division has brought only a handful of large corporations suspected of hard-core cartel conduct to trial. Trials against individual cartel managers

are more frequent, perhaps one or two per year. Although it is true that trials require several times more resources than convictions by guilty plea agreements, a reluctance to go to trial encourages targets to resist plea agreements and encourages prosecutors to give greater concessions than would otherwise be the case.

While aggregate annual information on the number of investigations and their disposition is made available in the Division's *Workload Statistics*, such information about individual cases is spotty. The identities of some targets of search warrants are often secret; the dates when grand jury investigations open are sometimes known only to those subpoenaed; and fines for many smaller members of cartels are unannounced, either by the Division itself or by the press. There may be good reasons for secrecy on such matters.

However, many formal cartel investigations are closed by the Division without publicly known sanctions. In a large sample of international cartels, about 6% of all formal Division probes ended without fines or civil penalties (Connor and Helmers 2006). When this happens, public notification normally occurs only when a target of the investigation issues a press release. In other cases notification of the end of investigations may remain buried in the footnotes of a firm's financial reports; unlisted firms may never reveal a probe or its closure. The Division rarely if ever issues a public explanation for closing particular cases. As a result of this pattern of secrecy, valuable information is unevenly distributed.[146]

[146] News of raids sometimes makes it into press sources, but targets may not confirm their status; publicly listed firms may mention an investigation in their financial statements, if they believe the monetary impacts are material;

Ignorance about closing standards can lead to needless speculation about the causes. Perhaps most occur because the investigation exonerated the suspects, because remaining members of the cartel refused to provide evidence, because of inability to pay, or because other investigations were deemed to be of a higher priority. These reasons are defensible ones, but other reasons may reflect unfavorably on the Division. Objective, disinterested analysis could help pinpoint or rank the causes, but the present lack of information does not permit such research.

E. Price-Fixing Remedies

Introduction

In recent years both the number of cartels discovered and the size of the penalties imposed have been rising. Together these facts might strike some as being contradictory, even a paradox. Yet, these facts can be reconciled by evidence suggesting that even today's higher penalties are still lower than most cartels' expected illegal profits.

The weight of the evidence suggests that historical and current present price-fixing penalties substantially under-deter cartel violations (Connor 2007b). Under-deterrence arises from flaws in the design of the U.S. Sentencing Guidelines for price fixing, from

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most often news that an investigation was closed without indictments arises from company press releases; private firms, including subsidiaries of foreign defendants are not obligated to reveal such information. Leading antitrust law firms "inside the Beltway" in Washington, DC seem to be better informed than other law firms, potential plaintiffs, or investors.

the generous Division discounts from the Guidelines, and from relatively weak government and private anti-cartel enforcement abroad.[147]

Corporate Fines

The starting point for plea bargaining is the U.S. Sentencing Guidelines (USSGs) of the U.S. Sentencing Commission. The AMC (2007) final report does a good job of explaining the current rules for fining corporate cartel members, but it contains no analysis of the Division adherence to those rules. The ABA (2005:8) contends that the Guidelines' presumption (crafted in the mid 1980s) that the typical cartel[148] achieves a 10% overcharge was unsupported by empirically sound research.[149] Indeed, the most comprehensive study of the subject concludes that the typical (median) overcharge is about 22-25%, and the mean average overcharge is probably 31%-49% (Connor and Lande 2005, Connor 2007a). Thus, cartel price effects are *two to five times as high as* the USSC assumed, so naturally applying the USSC's Guidelines under-deter this behavior.[150] The Division itself agrees that the 10% presumption may be too low.[151]

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[147] An analysis of 1998-2004 EU cartel decisions likewise concludes that deterrence is not being served. "Finally, the fines imposed by the EC Commission are not based on estimates of the offenders' gain or victims' losses…[T]he Commission makes no attempt to estimate the overcharges or to concede that it is possible to do so. As a result… it would seem doubtful that the fines, even at their present historically high levels, deter price fixers." See also Connor (2006a) on optimal deterrence and the vitamins cartels.

[148] It is not clear whether the 10% is a mean average or a median average, but most likely it is the former.

[149] While it is likely that some empirical data were examined, in retrospect it appears likely that the sample was small and confined to a few years in the late 1970s or early 1980s.

[150] The mean overcharge was much higher: 31to 49% of affected sales for all episodes observed and 78% for all episodes with non-zero price effects (Connor and Lande 2005: Table 5).

[151] See Hammond's (2005: 9) testimony before the Antitrust Modernization Commission ("Several recent empirical studies show that the [Sentencing] Commission's original estimate of a 10-percent overcharge…may in fact be too low").

The USSGs then double the presumed overcharge to obtain the base fine of 20% of affected sales. Doubling of the presumed overcharge is justified by the desirability to include the dead-weight loss as harm to society, by the absence of pre-judgment interest on fines, and by the fact that the probability of discovery of secret cartels is far less than 50%.[152]

These are weighty matters. The dead-weight loss alone adds as much as 50% to the overcharge amount. The absence of pre-judgment interest results in large declines is the inflation-adjusted value of penalties when they are paid, especially when the rate of inflation is high or when payments to recipients take place years after the injuries occurred. For example, the failure to adjust for prejudgment interest in the *Vitamins* case cut the net present value of penalties in half (Connor 2006a). Finally, because the probability of detection of secret cartels is commonly believed to be less than 33%, an optimal fine must be at least treble to harm caused. Note that these are not overlapping factors – they are *multiplicative*.[153]

The USSGs employ a 10%-of-sales-overcharge assumption as a *proxy* for the actual overcharge so as to avoid delaying sentencing due to the presumed complexity[154] of calculating overcharges case-by-case. The Guidelines already allow the Division to adjust the base fine if the actual overcharge is significantly different from 10%.

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[152] The ABA's (2005:8) assertion that the doubling has no theoretical support is puzzling. Doubling was probably introduced to apply to all property crimes that are federal felonies in order to add a deterrence element.
[153] Suppose that for a particular cartel the dead-weight loss is 20% of the overcharge, prejudgment interest would double the penalties, and the probability of discovery is 25%. Then the optimal monetary penalty for that cartel would be (1.25)x(2.0)x(4.0) = 10 times the overcharge.
[154] The ABA (2005:9) may be correct in asserting that the complexity of analyses of overcharges is no longer as slow and burdensome as it was before 1990 (see also Connor 2007d).

Retaining the doubling is consistent with and parallel to the alternative sentencing provision (18 U.S.C. § 3715(d)), which allows for corporate fines to be equal to double the harm/double the gain from price fixing.

It is important to note that the double-the-harm standard has been applied to ascertain fines in only a handful of cartel cases. Rather, appealing to the alternative sentencing provision is mostly a device to escape the statutory limits on fines in big cases. In an analysis of a large sample of plea agreements, Connor (2007d) finds that only four to six firms were fined at double the harm, which is a concessionary negotiated amount lower than the actual overcharges. Therefore, nearly all the Division fines are in principle based on the USSGs that incorporate an unrealistically low overcharge assumption.

In the few cases where the alternative sentencing provision has been used as the sole basis to calculate a defendant's fine, the Division has taken and expansive interpretation of the gain or loss needed to justify an appropriate fine. A cartel-fine calculation can invoke the principle of joint and several liabilities when calculating a damages-based fine under the alternative fine statute. That is, each putative member of the cartel would be assessed a starting-point liability equal to double the entire market overcharge, less any fines already paid by defendants that pleaded guilty earlier. As happens in private litigation, it is the cartel members with the smaller cartel-market shares that would be the most threatened by this method of calculation, which provides a stronger incentive to cooperate than fines based on company-specific overcharges.

While this method is not commonly used, it appears to be consistent with the language of the alternative fine statute.[155] Official testimony by the Deputy Assistant Attorney General for Antitrust strongly supports the idea that joint and several liability is to be the basis for calculating the loss or gain under the alternative sentencing provision (Hammond 2005: 10-12).[156] It is for this reason that the Division professes to be somewhat unconcerned about the *Booker* requirement that now requires prosecutors to present evidence of either the volume of commerce or the total cartel gain or loss that is beyond a reasonable doubt.[157]

After the base fine has been ascertained, the Guidelines specify several *culpability factors* that can augment or decrease the base fine for a defendant.[158] The *aggravating factors* are: the size of the company, whether top managers were involved, recidivism[159], violation of court orders, and obstruction of justice. The first three factors are commonly applied, but the latter two are unusual.[160] The *mitigating factors* are: an effective corporate antitrust compliance program during the conspiracy, self-reporting, cooperation with the investigation, and acceptance of responsibility. Credit is rarely

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[155] I have come across only one sentencing memorandum that uses the language of joint and several liabilities.

[156] Hammond quotes from the "plain language" of 18 USC §3571(d), which states that the "gain" is pecuniary gain derived by "any person" from the offense. The "loss" he defines as the "cumulative loss to all the victims of a conspiracy caused by all the coconspirators" (p.11). He also supports this interpretation by citing the 1984 and 1987 legislative history of the statute. Finally, he cites the 1999 court decision in *United States v. Andreas* (1999 WL 116218 (N.D. Ill.)) that supports the joint-and-several-liability interpretation of an individual guilty of cartel conduct.

[157] No court challenge has been mounted to a proposed fine imposed on a corporate cartelist, mostly because guilty plea agreements explicitly require defendants to give up their rights to an appeal.

[158] In the 2007 Guidelines these factors are discussed in §8C2.5, which specifies the points to be added (up to 12) or subtracted (up to 8) to the base *culpability score* of 5. These points are then converted into summary *culpability multipliers* in §8C2.6. A score of 10 or higher implies the multipliers are 2.0 and 4.0;

[159] The Division looks back 10 years for U.S. price-fixing convictions only; recidivism within five years gets a double score. It does not consider older convictions not prior convictions outside the United States. Mergers and asset acquisitions are taken into account in tracing prior violations. Ignoring foreign convictions seems to run contrary to notions of international cooperation in cartel prosecutions.

[160] These generalizations are based on a large sample of plea agreements collected by Connor (2007c).

given for the first two factors.[161] When all these culpability factors have been determined, a minimum and a maximum multiplier are ascertained from a conversion table.

To illustrate, if a defendant has more than 5000 employees, its top executives managed the cartel, it was a recent recidivist, and it does not affirmatively accept responsibility, then the culpability multipliers are 2.0 to 4.0. These are the largest multipliers possible. Suppose, however, that a company has less than 200 employees, no involvement of top executives, no history of recidivism, and offers full cooperation. In this latter case, the culpability multipliers are 0.75 to 1.2, which are among the lowest possible.

Once the Guidelines' fine range is determined, up to two downward adjustments are made. We call these adjustments partial leniency, because they are not available to full leniency (amnesty) recipients. First, the Division offers discounts for cooperation with its investigation. Because less than 1% of all corporate defendants insist on a trial, 99% receive these "cooperation discounts' for their value-added inculpatory information. Even the last to cooperate in an eight-member cartel gets a discount.[162] Second, defendants with a limited ability to pay are given additional discounts or are allowed to pay their fine in installments. About one-third of all corporate defendants get special ability-to-pay treatment.[163]

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[161] Really effective compliance programs lead to self-reporting, and most self-reporting results in an amnesty award, which nullifies the need for a fine. See also footnote above.

[162] 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 Guidelines' range.

[163] By contrast, the EU offered culpability adjustments to only 56% of the companies fined for price fixing in 1998-2007; ability-to-pay reductions affected 6.0% of fined companies (Veljanovski 2007: 11-12)

Partial amnesty results in very large fine discounts. From a sample of 86 plea agreements of corporate price fixers during 1995-2007, the average discount from the maximum Guidelines' fine is 69% to 76%.[164] Put another way, without partial leniency discounts, the Division fines would have been three time higher than the actual fines imposed.

The Division makes upward adjustments in two situations. First, when a qualified guilty firm is discovered to have failed to apply for Amnesty Plus, it is assessed a "penalty Plus" close to the upper end of the Guidelines' range. Second, for more than 50 large, highly culpable, guilty firms since 1996, the upper end of the suggested fine range exceeded the statutory cap. From 1990 to 2004, the cap was $10 million. If a proposed fine exceeds to Sherman Act maximum, then the Division appeals to the *alternative sentencing* felony provision (§ 3715(d)) to impose large fines. However, the *Booker* decision limits applying this approach, because since early 2005 sentencing must be supported by evidence beyond a reasonable doubt. Nevertheless, we believe that the alternative sentencing provision should be retained.[165]

On several occasions since January 2005 the Division has finessed the high burden of proof by *negotiating* a mutually satisfactory overcharge figure in order to apply the

[164] Naturally, the sample excludes amnesty recipients and a small number of fines above the maximum USSG fine.
[165] The AAI (2006a) and the ABA (2006) are in essential agreement on this point, and the AMC (2007) was moot on any changes.

alternative sentencing provision.[166] When relying upon a stipulated overcharge rate, the Division is likely obtaining cartel fines below the level that could be proved by the preponderance of the evidence; moreover, stipulated overcharges might make the work of proving higher overcharges in follow-up private suits more difficult for plaintiffs; however, using stipulated numbers relieves the Division from the daunting task of submitting economic evidence that is persuasive beyond a reasonable doubt.

We note with approval that at least two AMC Commissioners agreed that tougher fines are needed for international cartels:

> "Commissioners Carlton and Garza believe further consideration should be given to increasing treble damages in international price-fixing conspiracies where certain victims of the conduct may not seek compensation in U.S. courts through operation of the Foreign Trade Antitrust Improvements Act." (AMC 2007: 245).

The Division can take several steps on its own to expand potential fines that do not require new legislation. They include: filing more multiple counts,[167] substituting the global affected sales of cartels members in place of U.S. sales when computing the base fine, apply the principle of joint and several liability to maximum fines, using the upper end of the Guidelines' range as the starting demand in plea negotiations, apply strong culpability multipliers to recidivists, and requiring cartel fines to include pre-plea interest. Perhaps Congressional guidance on its intent might be needed for some of

[166] These compromises may be the result of formal analyses of price effects or possibly less demanding methods to arrive at an acceptable overcharge estimate.
[167] There were 16 vitamins cartels. Most of them were treated as separate violations by the EU for sentencing purposes, but treated as only three cartels by the Division (Connor 2007d).

these practices, such as starting plea negotiations at the bottom of the fine range instead of the middle and giving firms double credits for cooperation (once through the culpability multiplier and once through cooperation discounts). Other improvements concern the U.S. Sentencing Guidelines (USSGs) themselves.

The Division ought to support reconsideration by the USSC of the assumptions and methods embedded in the USSGs. First of all, the 10%-overcharge assumption is no longer justified and should be raised to 20 or 30%, with the latter applying to international conspiracies (Connor and Lande 2005). Second, because this study finds that bid rigging results in systematically lower percentage overcharges than classic price fixing, the Guidelines higher multiplier for bid rigging offences ought to be removed. This is a change with which the AMC agrees (*ibid.*). Third, the base fine can also be raised by using more expansive sales concepts: one can substitute either world-wide sales in the defendants' line of business, global sales of a defendant's sales in all lines of business (a concept close to the EU's method of capping fines) or domestic sales of the entire cartel in place of domestic affected sales of only one participant (AAI 2006b). The last substitute approach – a joint-and-several-liability concept -- was considered but not recommended by the AMC.[168] Instead, the AMC recommended no change, except "making explicit" the existing rules that a 10% overcharge is a rebuttable assumption for the Division prosecutors. Broadening the sales definition used to

[168] Hammond (2005) argued strongly for this more expansive interpretation of sales. The ABA (2005) 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 USSGs require a fine above the Sherman Act cap. The ABA further noted that no court decision contradicts the Division sales interpretation.

calculate the base fine will place the Division prosecutors in superior initial bargaining positions than under the present USSGs.

There are several characteristics of the USSGs and their implementation that call into question whether proportionality among defendants is observed in plea agreements. Preliminary findings of an empirical study of the Division fine discounting by Connor (2007c) show that negotiated plea agreements tend to follow the Division policy by offering smaller discounts to members of cartels that delay coming to agreement and by adjusting that penalty for the size of the cartel's membership. However, there three findings that run contrary to stated the Division discounting policy:

> "First, neither the size of a defendant's affected commerce nor the duration of its collusion raises or lowers cooperation discounts. Second, Asian and European defendants receive distinctly lower cooperation discounts than corporate defendants from North America … Third, two measures of price-fixing recidivism are unrelated to the cooperation discounts of the sampled cartelists" (*ibid.* p. 2).

The Division discounting practices for price fixers signing guilty pleas seem overly generous and non-proportional. Until more precise criteria are developed and promulgated by the Division for awarding cooperation discounts, the cooperation multiplier in the USSGs should be dropped.

Individual Penalties

The Division depends almost entirely on fines and prison sentences to punish individual price fixers. As previously stated, it is the Division's creed that individual penalties are far more efficacious than corporate fines.[169] That is, individual penalties, especially imprisonment, are close equivalents in deterrence power.

Unfortunately, while a notable escalation in corporate fines is undeniable, a consensus among various trends in the severity of individual fines for price fixing in 1990-1997 is not evident. Individual fines are miniscule, and fines per person constant or declining. The number of persons (especially foreign executives) incarcerated is up as is the proportion of defendants imprisoned. However, the number of prison-days imposed per person is flat; the number of carve-outs of officers of guilty corporations is also flat.

Too Generous Fine Discounts?

The Division's 1993 Corporate Leniency Program has resulted in the forgiveness of tens of millions of dollars in potential fines for full-leniency recipients, but the anonymity of the recipients prevents an accurate assessment of the amounts. In the EU, the amount of forgiven fines for amnestied defendants (which is low by U.S. standards) can be precisely calculated. Amnesty reductions have accounted for a very substantial 25% of

[169] It is difficult to interpret this belief in precise, measurable terms. 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. What the Division seems to imply is that the expectation of a possible felony conviction with substantial jail time has more deterrent power than a typical fine for a large corporation; or, put another way, executive's value avoiding a month in prison at millions of dollars. This hypothesis is believed to be untested.

actual 1998-2007 cartel fines (Veljanovski (2007: 13).[170] Additionally, the EU granted discounts for cooperation (partial leniency) to 144 defendants that were worth 37% of the actual total fines.

In the case of U.S. defendants that received partial leniency for cooperation, the Division fine partial-leniency discounts are estimated to be $2 to $3 billion, or 50 to 70% of the actual total fines imposed. Forgiveness on such a scale has resulted in a significant decline in the deterrence power of expected fines. An intensive review by Congress or the USSG of the standards for awarding leniency discounts is warranted.

Appeals of Cartel Sanctions Are Low

Although this chapter has been critical of the over-use of guilty pleas in cartel enforcement, it must be admitted that this procedure has the advantage of few appeals of fines imposed.

When a defendant signs a guilty-plea agreement, so long as the plea is accepted by a federal judge, it waives many rights constitutionally guaranteed to criminal defendants: these rights include the presumption of innocence, to plead “not guilty,” to a jury trial, to appeal the stipulated sentence, and to appeal its conviction if found guilty at trial. It is rare that a plea agreement is not accepted by a judge.[171]

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[170] Fines that would have been imposed by the EU but for amnesty and other leniency were €9,935 million; the actual total fines imposed by the EC after leniency discounts were €6,133 million. Thus, amnesty and other leniency discounts of €3,802 million were 62% of actual fines!

[171] There appears to be only one such case. In early 1998, a year after another cartelist was amnestied, Showa Denko Carbon , Inc. agreed to be the first firm to plead guilty in the massive *Graphite Electrodes* case (Connor 2001: 492). It negotiated a $29-million fine, which was 79% below the maximum and 55% below the minimum Guidelines range. Later in 1998 at a sentencing hearing in U.S, District Court in Philadelphia, the supervising judged balked at

One great advantage of reliance of plea-bargaining over either criminal trials or civil administrative procedures is that the time and expense of appeals is avoided. This is no small advantage. Consider the position of the European Commission, which employs an administrative-hearing method of prosecution. For EU cartel decisions made from 1998 to September 2007, fully 90% of its 50 decisions were appealed to the European Court of First Instance (Veljanovski 2007: 13). Of the decided appeals, 59% resulted in fine reductions that averaged 19%, not because of the Guidelines themselves, but because the Court concluded that the EC had not followed its Guidelines correctly. These appeals were costly not only to the EC's Legal Service but also to the plaintiffs.[172]

Weak Government Anti-Cartel Enforcement Abroad Reduces Deterrence

The AMC report praises the assistance of foreign antitrust authorities to the Division in anti-cartel enforcement:

> "Today, more than 100 countries have adopted competition laws ... [T]his development has helped the United States in its fight to stamp out international cartels."(Appendix).

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the large discount. Despite the unusual personal appearance of AAG Joel Klein to argue the case, the judged tacked on $3.5 million to Showa's fine.

[172] The EC is now considering introducing plea negotiations, primarily because it has an unsustainable backlog of cartel-leniency applications. By late 2005, the EC had received more than 167 applications, which implies that the applicants believed they had knowledge of scores of hitherto undiscovered secret cartels (Kroes 2006: 3). Based on the rate of previously approved applications, 100 to 120 new cartels will have to be investigated. As the Competition Directorate of the EC (DG-COMP) can only decide on five to ten cartel cases per year under its traditional cumbersome administrative procedures, it was searching for new, more expeditious methods to clear the backlog (*ibid.* p. 5).

Specific evidence of the value of such assistance is scanty and anecdotal. The Division has participated in about a dozen joint international raids on suspected global cartels with the EU, Canada, Australia, Japan, South Africa, or Korea, a development that probably has reduced the destruction of inculpatory documents in some cases. However, sharing of information useful for prosecutions appears limited to a few countries that have signed Antitrust Mutual Assistance Agreements (AMAAs). Moreover, outside of the EU and Canada, Connor's (2004) study finds little evidence of significant multiple-jurisdictional fining of cartels.

In most parts of the world outside North America and the EU, government enforcement of cartel laws is weak (Levenstein et al.2003). Although increasing, less than 3% of all cartel fines in 1990-2007 were imposed there (Table 2). Even in Japan, which has an old and well-staffed antitrust agency, cartel enforcement is weak (Chemtob 2000). The populations of countries with ineffective or no antitrust laws suffer proportionately higher injuries from global cartels than do the citizens of countries with strong antitrust enforcement (Clarke and Evenett 2003).

Weak Private Enforcement Abroad also Reduces Deterrence

Private settlements in North America are important components of the global effort to deter cartels. Private treble-damages suits against cartels in the United States and single-damages suits in Canada yield monetary penalties that are on average several times the Division and the Canadian Bureau of Competition (CBC) fines (Connor 2007f). Worldwide, private settlements accounted for at least 42% of total monetary penalties

on international cartels (*ibid.* Table 3). Most Division prosecutions spark follow-on U.S. private suits, and the same phenomenon has occurred in Canada since the late 1990s (Low and Wakil 2004, Goldman 2003). As previously noted, about one-third of a sample of large private antitrust suits are successful in obtaining large payouts even when no Division or CBC fines have been levied (Lande and Davis 2007). When one sums both cartel fines and private settlements, total corporate penalties, while still sub optimal, are somewhat closer to optimal punishment levels.

While private antitrust suits provide much needed supplementary deterrence for North American conspiracies, they are by and large absent in other jurisdictions. As a result, the relatively high monetary penalties seen in North America are not duplicated abroad. This in turn has an adverse effect on deterrence of international cartels that operated in North America and other jurisdictions.

While a few nations other than the United States have laws permitting treble damages, there are no known examples of effective private rights of action in practice. For example, Taiwan permits treble damages in theory, but so many other impediments exist that such suits seem not to exist (Connor 2007e). Several other jurisdictions besides Canada permit and encourage single-damages private actions, such as Australia (since 2006) and the UK (since 2005). However, only the *vitamins* case has so far resulted in damages being paid in Australia. In the UK during 2000-2005, there were about 19 private suits directed against price fixers, of which 18 resulted in modest

monetary payments to the plaintiffs (Rodgers 2007).[173] For many years, all the cartel-fining decisions of the EU have carried statements exhorting injured parties to seek compensation from the just-fined defendants.[174] While substantive changes are in the offing in the near future, the absence of discovery, the inability to form class-actions, rules against contingency fees for counsel, and other conditions militate against effective private rights of action in the EU and most other jurisdictions.

One solution to the under-development of private suits abroad is to give standing to non-U.S. injured parties in U.S. courts (Connor and Bush 2007). The Division opposed this solution, arguing that it would adversely affect its corporate leniency program (Kovacic *et al.* 2002). This claim is logical but fails to balance the reduction in amnesty applications against the obvious increase in deterrence that such suits would generate. While adverse court decisions in 2005-06 regarding the Foreign Trade Antitrust Improvements Act (FTAIA) have for the moment placed a damper on this approach, plaintiffs' attorneys are exploring the limits of these decisions and Congressional action amending the FTAIA might overturn these rulings (Fox 2005).

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[173] A new toughened UK competition law in 2005 will make private suits more frequent after 2005. In Denmark several municipalities obtained a large settlement from members of the *district heating pipes* cartel, the first such suit in that country. In Germany a private suit for cartel damages in the cement industry is in court.

[174] The November 2007 EU press release announcing fines imposed on the *Nitrile Rubber* cartel had the following language: "Action for damages: Any person or firm affected by anti-competitive behaviour as described in this case may bring the matter before the courts of the Member States and seek damages, submitting elements of the published decision as evidence that the behaviour took place and was illegal. Even though the Commission has fined the companies concerned, damages may be awarded without these being reduced on account of the Commission fine. A Green Paper on private enforcement has been published (see IP/05/1634 and MEMO/05/489)."

Alternative but similar approaches to improving deterrence have been proposed by Connor, Lande, and two Commissioners on the AMC. Connor and Lande (2007) suggest amending the USSGs to reflect the higher overcharges attained by international cartels. Instead of a base fine of 20% of affected sales, they propose a 50% base fine consistent with recent empirical analyses of actual overcharges.[175] A similar change in the Division fining practices that requires no changes in the law would be to replace *domestic* affected commerce with *international or global* affected commerce when calculating the base fine for the USSGs. Connor (2007) estimates that such a change would at least triple the recommended fines for members of global conspiracies. Finally, in a dissent from the majority opinion of the AMC, two Commissioners recommend amending the Sherman Act by raising the multiplier in certain private suits against international cartelists:

> "Commissioners Carlton and Garza believe further consideration should be given to increasing treble damages in international price-fixing conspiracies where certain victims of the conduct may not seek compensation in U.S. courts through operation of the Foreign Trade Antitrust Improvements Act" (AMC 2006: 245).

Neither of these proposals discriminates in principle against non-U.S. cartel defendants, because international cartels are generally comprised of both U.S. and non-U.S. firms.

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[175] It must be noted that the Division already has the authority to raise the USSG's "10% presumption" if it has reason to believe that a cartel's overcharge is significantly higher. To do so, it would have to perform an overcharge analysis prior to the end of guilty-plea negotiations. It may already do a rough overcharge calculation for most of its big cases, because since January 2005 and the *Booker* decision, one sees more stipulated overcharges in guilty-plea agreements.

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

Because dollar-for-dollar, fines and settlement have equivalent impacts of cartel deterrence, we believe that the Division has an obligation to assist private rights of action as far as it is legally able. Although it has the power to recommend restitution and injunctive relief, the Division does so only rarely and usually only when convicting bid rigging against governments. When the Division knows that a private suit is unlikely, restitution could be requested on top of fines. At times the Division seems motivated to shield defendants from the full force of private litigation in order to keep a guilty plea agreement from unraveling.[176]

While it is not uncommon for the FTC to join with the state attorneys general in antitrust prosecutions, a reasonable search did not turn up a single instance of such alliances involving the Division. In other cases, when private suits are initiated, members of the plaintiffs' bar have several complaints about unnecessary delays and blockages mounted by the Division. Legal impediments are particularly severe in international cartel actions (Adams and Metlin 2002). We note that some courts have overridden concerns about comity and required foreign antitrust authorities to produce documents

[176] In 1996, the Division secured a guilty plea and the first $100-million fine from Archer Daniels Midland Co. for its role in the global lysine and citric acid cartels (Connor 2007). Despite fairly clear audio-tape evidence of a parallel conspiracy in the corn fructose market (by far the largest of the three markets), the Division offered to conclude its investigation of corn fructose as a concession to ADM. After nine years of litigation, with no assistance from the Division, private plaintiffs concluded settlements worth $611 million.

held abroad to plaintiffs in private suits.[177] Yet, the Division typically resists turning over amnesty-application documents.[178]

One major issue in the *Empagran* decision was whether “wholly foreign purchases” by injured parties from international cartels should be given standing in U.S. Courts.[179] Permitting such private rights of action would raise monetary penalties on international cartels and therefore improve deterrence. However, raising private penalties would also create a trade-off for the operation of the Division’s Leniency Program by making amnesty applicants almost assuredly targets of civil damages suits.[180] 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.[181]

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 wholly foreign transactions

[177] In *Vitamins* the court ordered both the European Commission and the Canadian Bureau of Competition to turn over documents they had received in the course of amnesty applications (Goldman 2005: 6). Since that time, the EC has changed its process to “paperless” presentations of leniency applications.
[178] Indeed, in recent years the Division, along with the European Commission, has changed the amnesty application process to an oral one, because transcripts of oral testimony are not discoverable.
[179] See Davis (2002) (surveys the state of the law on antitrust liability in international cartel conduct), Davis (2004) (a nice overview and critical analysis of the Supreme Court’s *Empagran* decision), and Connor and Bush (2008) (for a review of the legal and economic issues).
[180] Prior to applying for amnesty, a cartelist might judge its chance of being exposed to well under 50%; after applying its chance of paying a fines becomes nearly zero, while its chance of paying civil penalties rises close to 100% It was this concern that caused the civil liability of amnesty recipients to be detrebled when the Sherman Act was amended in 2004.
[181] 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 wholly foreign transactions (Carlton 2007). Ultimately, he appears to prefer having jurisdictions outside the United States “develop and enforce their own strong laws against cartels” (Carlton 2007: 172).

(Carlton 2007).[182] It is reasonable to be concerned about the loss in international cartel deterrence caused by the inability of injured parties located outside North America to bring private rights of action.

There may indeed be trade-offs among deterrence, leniency-policy effectiveness, and comity, but the sizes of those trade-offs requires empirical research to formulate wise anticartel policies.[183] We therefore proposes that the Division, the USSC, the OECD, or the Congress should sponsor definitive research by disinterested parties on the net benefits of permitting standing to *Empagran*-type plaintiffs under alternative institutional arrangements.[184] The results of this research should inform the Division in writing future amicus briefs and the Congress in devising enabling legislation.

G. Interaction with Cartel Cases Brought by Other Antitrust Authorities

The Division has a complicated relationship with state AGs in antitrust matters. It appears that the Division generally prefers to prosecute cartels on its own rather than cooperate with the States. The FTC, on the other hand, has shown a greater proclivity to work in alliances with the states in antitrust matters. In the novel *Mylan Laboratories*

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[182] Ultimately, he appears to prefer having jurisdictions outside the United States "develop and enforce their own strong laws against cartels (Carlton 2007: 172).

[183] In its *Empagran* decision 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 matter…do so simply and expeditiously?"

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

cartel[185] case, such an alliance established the FTC's authority to seek disgorgement of illegal cartel profits for the first time.

Other than *Mylan* the FTC has taken on no cartel cases that might have risen to the level of hard-core collusion. The FTC does prosecute a few civil price-fixing cases, mostly in industries where it has superior industry expertise. Coordination between the Division and FTC in civil price-fixing matters is generally smooth.

One restraint on the Division prosecutions of international cartels that demands attention is the limited number of countries with which the United States has extradition treaties that can apply to criminal antitrust violations by individuals. In most cases extradition is not possible because the foreign country has not criminalized antitrust. In other cases extradition treaties exist but cannot be activated.

Beginning in 1996 with a top executive of Ajinomoto, one of the two ringleaders of the *Lysine* cartel, the Division has indicted dozens of Japanese citizens for criminal price fixing. All but a few have chosen to remain fugitives residing in Japan rather than submit to U.S. court jurisdiction. Japan, which has itself not imprisoned price fixers since the early 1950s, remains a haven for these fugitives; the same can be said for most of Europe.[186] This is all the more puzzling because there is a valid extradition treaty between the United States and Japan and between the United States and several

[185] Mylan Labs collusively obtained an exclusive supply contract from an Italian chemical manufacturer for an essential ingredient needed to make a generic drug, thereby monopolizing the generic drug's market in the United States.
[186] Recent developments in the UK suggest that this country is no longer a safe haven (Peel 2007).

EU member states. Apparently, there are insuperable legal obstacles for the Division to extradite fugitives, or the U.S. State Department is unwilling to support extradition for antitrust crimes for comity reasons.

When the United States successfully prosecuted the *Auction House* cartel, two U.S. officers of Sotheby's received jail sentences. The highly culpable Chairman of Christie's, a UK citizen and resident, got off scot-free because the Division determined that extradition was not feasible. Subsequently the UK criminalized its competition law and passed the Extradition Act of 2003. In a more recent UK case that generated a great deal of press attention, Ian Norris, CEO of a UK defendant in the global *Graphite Electrical Products* cartel, is about to be extradited to the United States. In a decision that will be appealed to the House of Lords, Norris is likely to become the first UK citizen extradited for price fixing to the United States (Tait 2007). Finally, in December 2007, a deal was announced between the United States and the UK concerning the incarceration of three UK citizens arrested for price fixing in the United States (Peel 2007). The three will be transferred to the UK, plead guilty in a UK court, and serve their prison sentence in the UK – the first incarceration for price fixing in UK history.[187]

H. Does the Division Have Sufficient Resources and the Most Efficient Mix?

The Division is the oldest and largest antitrust authority in the world, but given the scope of its responsibilities it may not have sufficient resources to carry out its main

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[187] It is reported that the United States reserves the right to extradite should the UK court issue a prison term less than the Division wanted.

missions.[188] Only about 200 of the Division professionals are earmarked for cartel enforcement. The large backlog of cases, the reluctance to litigate, and the tendency to offer excessive concessions in order to quickly settle plea agreements – all are signs of an organization trying to stretch a smaller labor pool than is optimal.

Relative to the size of the U.S. economy, many other foreign antitrust authorities are actually better endowed (Connor 2007d).[189] A substantial increase in the Division positions and budget seems justified, perhaps a 25% to 50% increase in professional positions to handle criminal matters. Even with such an increase, the Division's staff handling cartel matters would still be smaller than those handling mergers and monopoly matters and smaller than the number available in the Division of the late 1970s (Table 1).

IV. RECOMMENDATIONS

This section lists a number of recommendations for the consideration of the leaders of the Antitrust Division, the U.S. Sentencing Commission, appropriate committees of the U.S. Congress, and the U.S. Presidential administration taking office in January 2009. The proposals are feasible and relatively low in cost relative to the benefits. Most require no legislation.

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[188] One might add that the reputation for honesty and impartiality in the Division is above reproach. The temptations for abuse are evident, as a recent scandal in the Greek antitrust authority shows (Carassava 2006).

[189] 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. For example, both the German and Dutch antitrust authorities have about 300 employees. Some overseas antitrust authorities combine the work of the Division and US 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 FTC each have more than 300 employees for economies 9% the size of the United States' economy.

A. Public Cartel Enforcement Information

1. The public of the EU and Canada contain far more details about the conduct and harm caused by cartels (see, e.g., Harrington 2006). By contrast, details about size, conduct, and injuries caused by cartels released by the Division are sparse to the point of absurdity. The Division should reveal more of what it knows about these matters, either in plea agreements or in follow-up studies using anonymous data.[190] And it should aim to publish all sentencing agreements on its Web page.

2. After securing its criminal convictions, the Division should also inquire, and publicly report details on how cartels were able to collude. The ultimate test of a successful conviction is the post-cartel trend in prices, especially several years after conviction. For any successful cartel prosecution, the Division should report two to five years after the completion of the prosecution the state of competition in a large sample of industries. More rigorous empirical analysis will help foster antitrust policymakers' and the greater antitrust community understands of the structural and dynamic factors leading to cartelization.[191]

3. Price fixing and mergers may be related. The Division should study whether any cartel member had acquired any competitor, large customer, or supplier in the affected industry in the five years before, or at any time during, or immediately after the violation.

[190] The Division issued a relatively detailed, well illustrated 99-page annual report of its activities for FY1999, the first in three years [available at http://www.usdoj.gov/atr/public/4523.pdf]. Despite its obvious advocacy value, the idea lapsed.
[191] An example of cartel research that has withstood the test of time is Hay and Kelley (1974), which was based on the Division's internal records.

If so, the agency should report what action, if any, antitrust enforcers had taken in reviewing that earlier acquisition, identify the reasons for not challenging it, and what impact, if any, that earlier acquisition had on the industry's state of competition.

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

5. We suggest that the Division's Workload statistics be expanded to give greater insights about its cartel enforcement over time, for example: FTEs of assistance from the FBI and other investigative agencies, the number of FTEs seconded to other agencies or foreign antitrust authorities, number amnesty applications received and accepted, other reasons for opening investigations (complaints, Amnesty Plus, screening evidence, etc.), and the number of investigations closed and general reasons for such.

6. We suggest that, like the EU competition authority, the Division announces the opening of a formal investigation and, in the event of no prosecutions, its closing. These announcements can be very brief, mentioning only the industry and whether international cooperation is involved. At a minimum, defendants that have been cleared but are concerned about unfavorable rumors ought to have the option of having closing of an investigation announced by the Division.

B. Introduce Innovative Cartel Detection Procedures

1. The Antitrust Division is the world's leader in implementing and refining corporate cartel leniency programs. Perhaps the Division should revisit its policy of keeping successful amnesty applicants confidential. The EU's policy of identifying them ought to be studied for negative impacts. Their names become known within a few months anyway.

2. There is, as far as we know, an unutilized individual leniency policy. It is time that the Division revised it, perhaps along the lines of offering bounties to whistleblowers and proposed by Kovacic (2001). At a minimum, the Division should study the effectiveness of Korea's cartel-bounty policy.

C. Continue Increasing the Certainty and Severity of U.S. Price-Fixing Penalties

1. The USSC should study the question of the assumption in its Organizational Guidelines that cartel overcharges are typically 10% of affected sales or, indeed, total

market sales. We suggest that the presumption should be raised to 20% for North American cartels and 30% for international cartels.

2. The Division has the authority to recommend corporate fines by calculate the base fine using global affected sales, which would significantly increase the fines for members of international cartels. It should use this power in a number of upcoming cases to make its implied threat in past years a reality.

3. The Division should re-examine its practice of starting guilty plea negotiations from the bottom of the Guidelines range, rather than the top, a practice not explicitly sanctioned by the Guidelines. If it does not do so, Congress should hold hearings on the practice and offer guidance to the USSG that clarifies the appropriate starting point and discounting criteria.

4. The absence of prejudgment interest in monetary penalties is a denial of basic financial concepts and only encourages cartelists to delay pleading guilty. The USSC should study whether prejudgment interest should be applied to augmenting corporate fines. We believe it is long overdue.

5. The near absence of corporate prosecutions of cartelists at trial over the past 15 years is a major cause of concern. If guilty defendants believe that the Division's threats to bring them to court are empty bluster, its ability to extract painful fines through

negotiations is compromised. The Division should bring one or two firms to trial each year.

6. States actively seek damages to their state agencies, and Congress amended Section 4A of the Clayton Act to permit the Government to obtain trebled damages, but the Division rarely sues under Section 4A to collect for damages incurred by the federal government as a purchaser from the cartel. More such suits would assist deterrence.

7. Neither private recoveries nor fines are designed to recoup damage to the economy, i.e., the dead-weight loss to society. We propose that the USSC consider revising the Sentencing Guidelines to make fines proportional to harm to the economy.

8. Because of recent Supreme Court decisions, the efficacy of the alternative fining provision (double the harm, double the gain) is in doubt. Congress should raise the Sherman Act maximum soon to $1 billion.

9. The Division has imposed few individual fines above $100,000. It is time to begin imposing more fines closer to the current $1,000,000 statutory maximum. Moreover, in egregious cases, the Division should begin extracting individual fines using the more-generous alternative sentencing law.

10. The Division has indicted many foreign cartel managers who escape justice by remaining abroad, many of them in Japan. Congress needs to prod the State

Department to clarify and strengthen the ability of the Division to extradite foreign residents guilty of criminal cartel conduct.

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

D. Help Improve Detection and Deterrence Internationally

1. The idea of having higher percentage fines for members (domestic and foreign) of international cartels, though well grounded in the empirics of deterrence, may strike some as unjust enrichment for U.S. citizens. We suggest that the portion of such fines above the domestic rate be remitted to assist training in new antitrust authorities in developing countries to more effectively fight cartels, which in the long run will assist U.S. residents through lower rates of cartel formation.

2. The Division should be budgeted by Congress to encourage foreign nations to adopt their own amnesty programs, increase their own fine levels, and criminalize their antitrust laws.

3. Congress should clarify the standing of foreign buyers from international cartels to qualify for private rights of action in U.S. courts, unless the buyers are located in jurisdictions that have such laws already.

E. Expand the Division's Budgetary Resources

1. While not proven in this report, there seems to be some plausible evidence of significant, binding resource restraints on the Division. We recommend that the Division's inflation-adjusted budget grow at a rate of 5% per annum. When the new Presidential administration and Congress prepares the federal budget in 2009, it should consider making the increase retroactive to FY2002, the year in which the Division's budget peaked.

2. The growing gap between private-sector compensation of antitrust lawyers and economists and those professions in the Division is an issue that must soon be addressed. A device must be found to permit salaries of these highly demanded civil servants to escape the rigid limits set by Civil Service regulations.

V. SUMMARY

The Division generally receives good marks for its criminal cartel-enforcement activities, and this comports with the Division's own view of itself. The Congress is generally pleased with the Division's surge in cartel enforcement since 1995; it cites the large cartel fines, increased detection of cartels, and leadership among international antitrust authorities as evidence of success; criticism by the current oversight committees is

largely directed at the Division's merger and monopoly activities (Judiciary Committee 2007). The Division has not increased the number of cartel prosecutions since about 1990 so much as redirected its efforts away from smaller, domestic, bid-rigging schemes with limited economic injuries and toward large international cartels.

The Division is to be commended for its obvious expansion of prosecutions of large domestic and especially large international cartels that have caused serious injury to the U.S. economy. Yet, changes based on the Division's current legal authority would permit the agency to move closer to the kinds of penalties that would better serve the deterrence objective of Section 1 of the Sherman Act. Minor changes in the U.S. Sentencing Guidelines would also advance the deterrence value of monetary fines. To carry out a more aggressive anti-cartel campaign, the Divisions resources will require significant bolstering.

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APPENDIX
ANTITRUST MODERNIZATION COMMISSION *FINAL REPORT*: DISCUSSION AND RECOMMENDATIONS

General Comments:
"Cooperation from other countries can be essential to punishing international cartels that exact hundreds of millions of dollars from U.S. consumers. But the United States has had limited success in entering Antitrust Mutual Assistance Agreements (AMAAs) with other countries. Many believe this is because U.S. law appears to require that those nations agree to allow the United States to use confidential information obtained under such agreements for non-antitrust enforcement purposes. The Commission recommends that Congress amend the International Antitrust Enforcement Assistance Act to clarify that it does not require such a commitment as the cost of entering into an AMAA." (p. viii)

"Today, more than 100 countries have adopted competition laws. On the one hand, this development has helped the United States in its fight to stamp out international cartels." (p. vii)

"Commissioners Carlton and Garza believe further consideration should be given to increasing treble damages in international price-fixing conspiracies where certain victims of the conduct may not seek compensation in U.S. courts through operation of the Foreign Trade Antitrust Improvements Act. In addition, they believe it would be appropriate to reduce the multiplier in cases where conduct is overt because the likelihood of such conduct's evading detection and, if unlawful, being prosecuted is much lower than for covert conduct." (p. 245)

Criminal Remedies:
"First, the Sherman Act nominally makes all violations of Section 1 and Section 2 subject to criminal prosecution. Some violations of those statutes, however, such as "naked" conspiracies to fix prices, rig bids, and allocate markets, are universally condemned as particularly harmful to consumer welfare and without procompetitive effects that might benefit consumers…The DOJ has generally limited its criminal prosecutions to violations of [naked conspiracies].

"Second, the Sherman Act establishes a maximum fine of $100 million for corporate violations, an amount that was increased from $10 million in 2004. This maximum may be increased through the application of a general criminal provision, 18 U.S.C. § 3571(d), the 'alternative fines statute,' if certain proof burdens are met by the government. The Commission reviewed whether continued use of the alternative fines statute to increase fines was appropriate in antitrust cases in light of the complexity of adducing the necessary proof in antitrust cases and recent Supreme Court decisions requiring that juries determine whether the facts have been proven to a sufficient degree to warrant increased sentences.

"Third, sentences for criminal offenses of the Sherman Act are determined through application of the United States Sentencing Commission's Sentencing Guidelines (Sentencing Guidelines). For corporate antitrust violations, the Sentencing Guidelines set the sentence based on an estimate of the harm the violation caused. The estimate of harm is established through a "proxy," which is set in all cases at 20 percent of the amount of commerce affected by the antitrust violation. This "20 percent harm proxy" assumes the harm caused by the violation bears a direct relationship to the amount of commerce affected by the conduct. The 20 percent harm proxy is adjusted on the basis of a variety of factors, and then is used to

set the final sentence."

Specific Price-Fixing Recommendations:
"40. Congress should provide budgetary authority, as well as appropriations, directly to the Federal Trade Commission and the Antitrust Division of the Department of Justice to provide international technical assistance.

"50. While no change to existing law is recommended, the Antitrust Division of the Department of Justice should continue to limit its criminal enforcement activity to "naked" price-fixing, bid-rigging, and market or customer allocation agreements among competitors, which inevitably harm consumers.

"51. No change should be made to the current maximum Sherman Act fine of $100 million or the applicability of 18 U.S.C. § 3571(d), the alternative fines statute, to Sherman Act offenses. Questions regarding application of Section 3571(d) to Sherman Act prosecutions should be resolved by the courts.

"52. Congress should encourage the Sentencing Commission to reevaluate and explain the rationale for using 20 percent of the volume of commerce affected as a proxy for actual harm, including both the assumption of an average overcharge of 10 percent of the amount of commerce affected and the difficulty of proving the actual gain or loss.

"53. The Sentencing Commission should amend the Sentencing Guidelines to make explicit that the 20 percent harm proxy (or any revised proxy)—used to calculate the pecuniary gain or loss resulting from a violation—may be rebutted by proof by a preponderance of the evidence that the actual amount of overcharge was higher or lower, where the difference would materially change the base fine.

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

TABLES

Table 1. U.S. DOJ Antitrust Division Enforcement Statistics, Annual Averages, Fiscal Years 1990-2007					
	1990-94	1995-99	2000-04	2005-07	1990-2007
Resources:					
Budget (current $ mil)	59	92	126	144	100.8
Budget (1982$ million):	47.8	70.4	88.5	89.7	72.4
Cartels %			28	29	29
Mergers, monopoly %			51	53	52
Compet. advocacy %			4	3	
Positions budgeted [a]	615	815	843	880	778.3
FTEs/budgeted %	--	93	97	97	95
FTEs on cartels %	--	24	28	28	26.4
Budget/position (thousand 1982$)	77.7	86.4	105.0	101.9	93.0
Case Handling:					
Prelim inquiries pending	127	138	139	118	132
Investigations opened	96	94	95	100	95.6
No. §1 cases filed:	83	71	45	34	62.5
Criminal cases	72	55	35	25	49.0
Criminal cases %	95	83	95	89	90.8
Grand juries opened	43	27	29	37	33.8
Grand juries closed	55	29	24	30	35.2
No. appeals filed	15	17	6.2	1.7	10.8
Cases won, number	67	46	27	36	45.4
Cases won %	94	97	99	99	97
Cases pending FY'07 [b]	0	7	35	16	26.1
Corporate sanctions:					
Corps. charged	68	28	22	20	36.3
Number corps. fined	59	27	17	16	31.5
% above $10 mil.	0	20	25	22	9.7
Corp. fines ($ mil.) [c]	28	317	174	560	237.7
% above $10 mil.	0	88	97	97	90.6
% foreign $10 mil.+	0	81	91	87	79.8
Fines/corporation $ mil.	0.5	12.9	10.2	36.8	7.5
Individual sanctions: [d]					
Persons charged	59	36	40	44	44.7
Persons fined	34.4	27.8	22.6	18.0	26.6
Total fines ($ mil.)	1.62	4.39	3.40	7.75	3.91
Fines/person ($ '000)	47	135	150	475	171
No. imprisoned	14.6	11.4	16.6	23.7	15.8

Prison days	3609	5397	7512	16,644	7362
Prison days/person	238	774	458	652	517

a) Highly correlated with FTEs, which are generally 85 to 95% of budgeted positions.
b) There are no cases pending that were filed prior to 1997, suggesting that there is a ten-year limit on open cases. Total pending in September 2007 is 261.
c) The respective sub period cartel fines for the EU are $83.3, $21.2, $338.2, and $1717.1 million; for all 18 years, the annual mean is $415 million.
d) Largely for price fixing, but not all.
Sources: Table: "Sherman Act Violations Yielding a Corporate Fine of $10 Million or More" (8/1/07); "ANTITRUST DIVISION: WORKLOAD STATISTICS" for FY 1990-1996, FY 1997 – 2006, and 1998-2007 (released March 3, 2008); "Appropriation Figures for the Antitrust Division: Fiscal Years 1903-2007" (June 2007); Antitrust Division (2008); Connor (2008).

Table 2. Monetary Penalties Imposed on Corporate Members of International Cartels Discovered January 1990- December 2007

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

a) Includes U.S. fines for a bid-rigging case in Egypt and restitution of $60 million for the U.S. government in the same case.
b) Includes three cases of court-ordered restitution: Norwegian hydro-electric equipment, UK generic drugs, and Danish district heating pipes – the sole such examples Europe.
c) Includes restitution ordered for the Kazakhstan government in a petroleum cartel ($530 million), $0.5 million in the Israeli diamond-transport case, and for the Korean government in a military

fuels case ($86.1 million).

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

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

Source: Connor (2007f: Table 6), adapted from Private International Cartels spreadsheet dated February 8, 2008.