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Anti-Cartel Enforcement by the DOJ: An Appraisal

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This article evaluates the effectiveness of the Antitrust Division of the U.S. Department of Justice with respect to criminal enforcement of Section 1 of the Sherman Act during 1990-2007. Evidence suggests that cartel penalties are sub-optimal. By all measures, the size of US fines imposed on corporate cartelists has risen since 1990, though relative to other jurisdictions and to private recoveries of damages, the Division is falling behind. Where the Division has no peer is in imposing prison sentences of individual cartel managers. However, in view of the surge in corporate leniency applications, a matter of some concern is the falling numbers of criminal price-fixing cases filed, corporations indicted and fined, and the number of cartel managers charged and fined. In part, these trends may be ascribed to a policy shifts in the early 1990s, but falling numbers may also reflect constrained resources.

The objective of this article is to describe and assess the performance of the Antitrust Division the US Department of Justice (hereinafter 'the Division') with respect to its enforcement of Section 1 of the Sherman Act. I focus on information about the Division's performance since about 1990, largely using traditional indicators that have been employed by academic scholars and the Division itself.[1]

WHAT'S THE PROBLEM?

Private cartels are a form of business conduct that, in a memorable metaphor, has been compared to economic cancer.[2] The Antitrust Division of the U.S. Department of Justice ('the Division') is the sole agency of the federal government empowered to criminally prosecute such cartels. Published studies of the Division's cartel enforcement

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* This article summarizes a 2007 Working Paper by the author, Connor , 'The United States Department of Justice Antitrust Division's Cartel Enforcement: Appraisal and Proposals', SSRN Working Paper, Revised April 26 2008 (with assistance of an AAI Task Force), available at SSRN: http://ssrn.com/abstract=1130204., which was developed over nine months with the assistance of a large and broad-based committee of antitrust experts established by the Directors of the American Antitrust Institute (AAI). The data on enforcement indicators upon which this article is based can be found in that Working Paper. The views and conclusions in this article are the author's own. The author presented many of the contents of this paper at the June 2007 annual meeting of the AAI in Washington, DC. Mr. Scott Hammond, Deputy Assistant Attorney General for Criminal Enforcement of the Antitrust Division, offered a spirited response to the presentation at that meeting, Hammond, speech 2008, http://www.antitrustinstitute.org/archives/files/20080618_pv_aai061808panel2_062320081620.mp3.

[1] This paper also integrates the published and private views of a committee, which I chaired, established by the American Antitrust Institute. Many of the committee's members have had years of experience tracking the activities of the Division from positions inside and/or outside the agency.

[2] M Monti, 'Fighting Cartels: Why and How?' Speech at the 3rd Nordic Competition Policy Conference, Stockholm, 11-12 September 2000 at 1 ("Cartels are cancers on the open market economy…cause serious harms to our economies [and] also undermine the competitiveness of the industry involved.").

are dated.[3] The final report of the Antitrust Modernization Commission spent relatively little space on the Division's anti-cartel efforts and offered few cartel-related recommendations.[4]

Considerable evidence supports the observation that the number, size, and injuriousness of discovered cartels are high.[5] This is particularly true for international cartels, which for decades prior to the mid-1990s were rarely detected by the Division but which since 1995 have comprised the vast bulk of the Division's prosecutions.[6] Rates of annual discovery of international cartels worldwide were five times higher in the mid-2000s compared to the early 1990s.[7] The increasing numbers of cartels being discovered can be attributed to an increase in the number of antitrust authorities effectively enforcing tougher laws against hard-core cartel conduct,[8] in the collective probability of cartel detection by the world's antitrust authorities,[9] or in the total number of cartels in existence.[10] Admittedly, little is known about trends in the total

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[3] See JC Gallo, *et al.* Department of Justice Antitrust Enforcement, 1955-1997: An Empirical Study. *Review of Industrial Organization* 17 (2000) 75-133; see also GAO. *Justice Department: Changes in Antitrust Enforcement Policies and Activities*. Washington DC, the U.S. General Accounting Office (October 1990).

[4] AMC, *Final Report and Recommendations*, April 2007, Washington, DC: Antitrust Modernization Commission.

[5] OECD, *Report on the Nature and Impact of Hard Core Cartels and Sanctions against Cartels under National Competition Laws* DAFFE/COMP (2002) 7, Paris: Organization of Economic Co-Operation and Development, 2003.

[6] See RW Davis, 'International Cartels: Who's Liable? Who's Not?' *Antitrust Source* (May 2002) 1-8, at 1, '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'. See also SJ Evenett, MC Levenstein, and VY Suslow, 'International Cartel Enforcement: Lessons from the 1990s'(2001) 24 *The World Economy* 1221-1245 at p 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'.

[7] 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. JM Connor, 'The United States Department of Justice Antitrust Division's Cartel Enforcement: Appraisal and Proposals' SSRN Working Paper, 2007 (version revised April 26, 2008) at Figure 1, shows that the worldwide rate of discovery of cartels with international membership rose from six per year in 1990-95 to 33 per year in 2004-07.

[8] See JM Connor, *Global Price Fixing (2nd ed)* Studies in Industrial Organization No. 26. Berlin and Heidelberg, Germany, Springer Verlag (2007) at pp 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).

[9] 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. A 2008 revision of JM Connor, 'Optimal Deterrence and Private International Cartels', SSRN Working Paper, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=787927 (April 2007) at 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%, and no rigorous studies suggest that p is rising. However, one new 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%, see NH Miller, 'Strategic Leniency and Cartel Enforcement', unpublished, University of California, Berkeley, November 2007. Also, Hammond, op cit, n 1, asserts that the increase in p due to leniency programs in beyond debate.

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

number of modern prosecutable cartels.[11] However, even if detection rates have risen, it is highly doubtful that they have quintupled. If so, it follows that the number of annual cartel formations is also up since the early 1980s.[12]

There is a paradox here. Monetary penalties, government and private, US and non-US, became much higher after the mid-1990s.[13] Contrariwise, the number of cartels being discovered each year and the number of firms that are price-fixing recidivists continues to rise.[14]

ENFORCEMENT PERFORMANCE

Top officials of the Division profess satisfaction in public statements about the agency's performance with respect to all of its missions.[15] Legal commentators also

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[11] However, Levenstein and Suslow, see M Levenstein and V Suslow, 'What Determines Cartel Success?' Working Paper 02-001, Ann Arbor, Michigan, University of Michigan Business School, January 2002, and M Levenstein and V Suslow, 'What Determines Cartel Success?' Journal of Economic Literature 64 (March 2006): 43-95, note that US 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.

[12] 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.

[13] JM Connor and G Helmers, 'Statistics on Modern Private International Cartels' (January 2007) Working Paper 07-01. Washington, DC. American Antitrust Institute (showing that government and private penalties in all antitrust jurisdictions are increasing and that the number of cartel recidivists is in the hundreds).

[14] There are differences of opinion about the degree of cartel recidivism, but these differences do not account for rising numbers since 1990. For example, SD Hammond, 'Statement of the Department of Justice on Criminal Remedies before the Antitrust Modernization Committee', November 3, 2005, at p 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., a company is a recidivist only if Section 1 of the Sherman Act was violated within ten years of the current charge. JM Connor, 'A Critique of Partial Leniency for Cartels by the U.S. Department of Justice', SSRN Working Paper, revised May 26 2008, [at 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 US recidivism. Another careful study by Veljanovski, C Veljanovski, 'European Commission Cartel Prosecutions and Fines, 1998-2007: A Statistical Analysis' London: Case Associates (September 2007), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1016014, of EC prosecutions since 1998 only finds that about 30% of all decisions contain recidivists, narrowly limited to prior EU Article 81 infringements.

[15] SD Hammond, 'When Calculating the Costs and Benefits of Applying for Corporate Amnesty, How Do You Put a Price Tag on an Individual's Freedom?', speech at the 15th Annual National Institute on White Collar Crime, San Francisco, California, March 8, 2001; SD Hammond, 'Cornerstones of an Effective Leniency Program' (2004) speech downloadable at the U.S. Department of Justice website www.usdoj.gov; SD Hammond, 'Statement of the Department of Justice on Criminal Remedies before the Antitrust Modernization Committee', November 3 2005; SD Hammond, 'Recent Developments, Trends, and Milestones in the Antitrust Division's Criminal Enforcement Program', address before the Cartel Enforcement Roundtable, ABA Section of Antitrust Law, 2007 Fall Forum, Washington, DC (November 16, 2007); GR Spratling, 'International Cartels', speech before the American Conference Institute's 7th National Conference on the Foreign Corrupt Practices Act. Washington, DC (December 9, 1999) and GR Spratling,

perceive there is little to criticize about federal cartel enforcement.[16] Indeed, for decades the Division has largely been lionized for its aggressive campaign to rid the nation and the world of cartels.[17] Moreover, many of the Division's cartel traditional practices and innovations, such as its leniency program, have been imitated by foreign antitrust authorities.[18]

From time to time, scholars have undertaken empirical studies of antitrust enforcement in the United States.[19] Various measures of enforcement effort and performance supplied by the Division have been employed by these authors: Division budgetary resources, case handling, and corporate and individual penalties. Attention to multiple dimensions of enforcement over a long period ought to lead to a more balanced assessment than reliance on only a few indicators covering a short period. A

'Detection and Deterrence: Rewarding Informants for Reporting Violations', *George Washington Law Review* 69 (December 2001) 798-823.

16 '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…' see MG Whitener, 'Editor's Note: The End of Antitrust?' *Antitrust Magazine* 22 (Fall 2007) 5. Whitener is Editorial Chair of the American Bar Association's *Antitrust* magazine. Similarly, WE Kovacic, 'The Modern Evolution of U.S. Competition Policy Enforcement Norms'. *Antitrust Law Journal* 71 (2003) 377-478 at pp 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 anti-cartel enforcement between the so-called Harvard and Chicago Schools of antitrust (S Martin, 'Remembrance of Things Past: Antitrust, Ideology, and the Development of Industrial Economics', in V Ghosal and J Stennek (eds.). *The Political Economy of Antitrust.* Amsterdam, North-Holland (2007)).

17 An early panegyric is a book by Berge (W Berge, *Cartels: Challenge to a Free World (1st ed)* Washington, DC, Public Affairs Press (1944). More recent optimistic assessments of U.S. cartel enforcement may be found in D Klawiter, 'After the Deluge: The Powerful Effect of Substantial Criminal Fines, Imprisonment, and Other Penalties in the Age of International Criminal Enforcement', *George Washington Law Review* 69 (2001) 745-765, DA Balto, 'Antitrust Enforcement in the Clinton Administration', *Cornell Law Journal and Public Policy* 9 (1999) 61 and RE Litan and C Shapiro 'Antitrust Policy during the Clinton Administration', Working Paper CPC01-22, Berkley, Competition Policy Center, University of California (July 2001) at 3 ('… the Division had unprecedented success during the Clinton years … in prosecuting price fixers').

18 GR Spratling and D Jarrett Arp, 'The Status of International Cartel Enforcement Activity in the U.S. and Around the World', address at the American Bar Association Section of Antitrust Law, Fall Forum, Washington, DC (November 16, 2005).

19 A massive study of the years 1955-1997 appears in Gallo *et. al.*, op cit, n 3; it is an elaboration of a classic study of RA Posner, 'A Statistical Study of Antitrust Enforcement', *Journal of Law and Economics* 13 (1970) 365-419. RH Lande, and JP Davis, 'Benefits From Private Antitrust Enforcement: An Analysis of Forty Cases', paper presented at the AAI Symposium *Future of Private Antitrust Enforcement* Washington, DC (December 10, 2007) focus on large private settlements resolved since 1990. Connor, John M, 'Global Antitrust Prosecutions of Modern International Cartels' The J of Industry, Competition, and Trade 4 (September 2004): 239-267, and Connor, op cit, n 9, examines antitrust enforcement with respect to international cartels 1990-2007 by the Division, all other antitrust authorities, and private plaintiffs. A GAO report, op cit, n 3, covering 1970-1989 uses most of the same indicators.

supplementary approach is to compare the Division's performance with other active antitrust authorities, such as the European Commission (EC).[20]

Agency Resources

The Antitrust Division is one of the smaller agencies of the federal government, with a budget of $148 million in 2007, which is only 0.8% of the Justice Department's budget.[21] Measured by the growth in 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 increased every year but one; during 1990-2002.[22] 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. While the 1990-2007 budget trend is overall favourable, combined with federal civil service limitations, it may be insufficient to attract and retain the best and the brightest professionals.[23]

In terms of personnel, the Division grew very slowly since 1990 and is still below levels authorized in the late 1970s.[24] With the major share of the Division's budget devoted to employee compensation, the slow rise in positions implies that budget increases have gone mainly to try to attract and hold professionals. Employee compensation rose about 2% faster than inflation during 1990-2007.[25]

Focusing solely on the Division's own employees misses the investigatory support provided by the FBI in criminal cases, a practice that dates back to at least the 1970s. For criminal investigations, a large number of FBI investigators may be employed to

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[20] Unless otherwise noted, all the indicators cited in this article may be found in Tables 1 and 2 of Connor, 'The United States Department of Justice Antitrust Division's Cartel Enforcement: Appraisal and Proposals', SSRN Working Paper, Revised April 26 2008 (with assistance of an AAI Task Force), available at SSRN: http://ssrn.com/abstract=1130204. To better capture true trends, the data are grouped into four periods: three semi-decades from 1990 to 2004 and the last three years 2005-07.

[21] See AG Reports FY2004-FY2007 Performance and Accountability Report of the Attorney General. Washington, DC (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).

[22] The deflator is the Producer Price Index (PPI), which tends to rise more slowly than the Consumer Price Index (CPI). 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.

[23] Adjusted for inflation, the Division's budget per person fell in 2004-07 from 2000-03. 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).

[24] 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. In 1980, there were 939 authorized positions.

[25] In real dollar terms, the average compensation per employee rose faster than 2.0% per year from 1990 to 2002, but has fallen slightly since the 2002 peak.

assist the Division personnel.[26] However, the number of FBI agents available for antitrust work has apparently dwindled since 2000.[27]

Price fixing is one of three general enforcement areas. Numerous public statements by the Division leaders emphasize that price-fixing matters are the Agency's number-one goal.[28] However, the 2000s cartel matters absorbed about 29% of the Division's budget share. Moreover, employment data also suggests that cartels are a significant, but far from dominant, preoccupation of the Division.[29]

An important feature of federal criminal cartel prosecutions in the US is that the Division seldom brings large corporate price-fixers to trial.[30] Rather, the Division relies almost exclusively on grand jury investigations,[31] the threat of indictments by those juries, plea negotiations, and guilty-plea agreements to secure corporate prosecutions.[32] While these procedures are time consuming and laborious, they result in a much larger number of completed cases per employee than would result from larger numbers of labour-intensive trials or commission-type hearings.

Detection of Cartels

One of the most important tasks facing the Division involves the detection of normally clandestine cartel activity. 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 are still significant.[33] Litan and Shapiro assert that information brought to the antitrust agencies by private litigants and state attorneys general assisted cartel prosecutions in the

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[26] 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.

[27] See The FBI Strategic Plan, 2004-2009. Washington, DC (showing that of the FBI's eight strategic priorities, fighting white collar crime was seventh) and AG Report 2007, op cit, n.21, at 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.

[28] See Hammond (2005), op cit, n 15, at 1 ('[General deterrence of cartels is] … the highest priority of the Antitrust Division …').

[29] 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%.

[30] There are no official statistics on numbers of antitrust trials or their outcomes, but see Connor, op cit, n.8. 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.

[31] In a study of several hundred formal hard-core international cartels investigations, only 6% failed to result in a prosecution within about five years, see Connor and Helmers, op cit, n 13.

[32] Every year the Division brings a few individual cartel managers to trial.

[33] The published decisions of the EC almost always mention what initiates a cartel investigation.

1990s.[34] The genesis of the landmark *Vitamins* case is believed to lie with plaintiffs' information.[35] Referrals from the Defense Department and other US government agencies about suspected bid rigging still account for a modest number of investigations.

A 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 internationally.[36] Another problem with relying on tips is that considerable industry expertise is required to decide on which tips reasonably could apply to markets with structures likely to harbour cartels. 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.[37]

As far as can be known, tips of these kinds have become largely supplanted by corporate 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 in attracting applications,[38] primarily because of nearly automatic approval once the first applicant meets a short list of easily predetermined conditions.[39] More recent improvements, Amnesty Plus and Penalties Plus, have further aided cartel detection.[40] A 2004 amendment to the Sherman Act increased the monetary incentives to be an amnesty applicant by de-trebling maximum private damages; it also

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[34] RE Litan and C Shapiro, 'Antitrust Policy during the Clinton Administration', Working Paper CPC01-22, Berkley: Competition Policy Center, University of California (July 2001), at p 5, available at http://129.3.20.41/eps/le/papers/0303/0303003.pdf

[35] Connor, op cit, n 8 at 230-364. Hammond, op cit, n 1, vehemently objects to the idea that the private bar has assisted the Division in detecting or convicting even one international cartel since 1994.

[36] When a cartel fixes prices in most geographic markets around the world, it often engages in conduct that suppresses international geographic arbitrage, see JM Connor, and D Bush, 'How to Block Cartel Formation and Price Fixing: Using Extraterritorial Application of the Antitrust Laws as a Deterrent', 122 *Pennsylvania State University Law Review* ("Winter 2007"/ March 2008) 813-855. 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.

[37] The use of filters for cartel enforcement is discussed in RM Abrantes-Metz, and LM Froeb, 'Competition Agencies are Screening for Conspiracies: What Are They Likely to Find?' *The American Bar Association Section of Antitrust Law Economics Committee Newsletter* (March 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.

[38] Litan and Shapiro, op cit, n 17 at 3-4 (attribute the policy as the major reason for the successful anti-cartel record of the Clinton administration). Hammond, op cit, n 1, calls it 'the greatest investigative tool in [the Division's] arsenal'. The precise number of applications and approvals is not reported by the DOJ.

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

[40] 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.

obligates amnesty recipients to cooperate with private plaintiffs.[41] Finally, joint international raids and information-sharing with foreign authorities provide additional potential tips about secret cartels and help preserve incriminating documents that may reside abroad.

However, whether leniency and related programs have succeeded in their ultimate purposes is unclear. The true standards of success – reductions in cartel formations and durations compared to a no-leniency regime – are most difficult to measure. Economic models are ambiguous and empirical support is absent:

> In reviewing the body of theoretical work, the general conclusion is one of strong support for leniency policies in that they show that leniency can reduce cartel stability. What is much less clear is whether there is evidence in support of this hypothesis … it is unknown how influential leniency programs have been in inducing cartels to collapse or in deterring them from forming.[42]

The Corporate Leniency Program involves a trade-off that may adversely affect general deterrence.[43] 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 collected for price-fixing is reduced compared to a no-leniency regime. Potential defendants are likely to incorporate these reductions when forming conjectures about the size of future penalties.[44] The identity of US 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 US 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.[45] An analysis of all EU cartel decisions that resulted in fines during 1998-

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[41] JM Griffin, 'The Antitrust Criminal Penalty Enhancement and Reform Act of 2004', speech at the ABA Section of Antitrust Law 2006 Fall Forum, Washington, DC, November 16-17, 2006, at 9. Time will tell, but plaintiffs' attorneys are sceptical that the law will significantly improve cooperation.

[42] JE Harrington, 'Optimal Corporate Leniency Programs', *Journal of Industrial Economics* 41 (June 2008) 215-246 at pp 237-238.

[43] In addition there are some game-theoretic models of leniency that suggest that the U.S. policy is inferior to a program that gives a reward to the first firm and no fine reductions to the remaining conspirators, see G Spagnolo, Leniency and Whistleblowers in Antitrust, prepared for P Buccirossi (ed.), *Handbook of Antitrust Economics*. Cambridge, Mass. MIT Press, 2007. This hypothesis has recently received empirical support, see Hamaguchi, Yasuyo, Toshiji Kawagoe, and Aiko Shibata, 'Group Size Effects on Cartel Formation and Enforcement Power of Leniency Programs', unpublished paper, 2008.

[44] That is, when joining a cartel a company factors in the possibility that it may be the first to qualify for amnesty.

[45] 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, see C Veljanovski, 'Penalties for Price Fixers: An Analysis of Fines Imposed on 43 Cartels by the EC Commission', Casenote 41, London: Case Associates (May 2006) at 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.

2004 finds that 90% of the cartels had firms that were granted leniency of some sort, and 31% had amnesty recipients.[46] Partial and total leniency discounts by themselves[47] 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.[48]

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.[49] 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 the leniency discount's billions are optimal financial incentives for the discovery of additional cartels (those not already identified by amnesty recipients) or for revealing more evidence for convictions (beyond that given by amnestied firms). 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 the EC is itself.[50]

The Division has an individual leniency program, but it is rarely mentioned and evidently little used. One proposal to increase discovery of cartels that merits serious consideration is to expand the existing Civil False Claims Act to encourage greater whistle-blowing by individuals about suspected hidden cartel activity.[51] From 1986 to

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[46] See Veljanovski, op cit, n 45 at 511.

[47] 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).

[48] See Veljanovski, op cit, n 45 at 512-513. Even more damning is Veljanovski's, op cit, n 45 at 512, finding that leniency was unnecessary for detection of 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. However, amnesty also provides prosecutors with valuable information that may be necessary to secure convictions.

[49] 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, Giancarlo, 'Leniency and Whistleblowers in Antitrust', prepared for P Buccirossi (Ed), *Handbook of Antitrust Economics*, Cambridge, Mass.: MIT Press (April 2008).

[50] Veljanovski, op cit, n 45, 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.

[51] WE Kovacic, 'Private Monitoring and Antitrust Enforcement: Paying Informants to Reveal Cartels', *George Washington Law Review* 69 (2001) 766-797.

2000 more than $3.5 billion was recovered by the US Treasury from *qui tam* actions, of which $500 million went to individuals.[52] 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.

Numbers of Investigations and Cases

The Division has opened on average almost 100 formal Section 1 investigations annually during 1990-2007, with no trend in these openings evident. Roughly one-third of the Section 1 investigations involve setting up grand juries to consider criminal indictments. 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. Thus, there is a considerable backlog of cartel cases at the Division.

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.[53] Amnesty applications have averaged about two per month 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.[56] The number of all Section 1 cases during 1990-2006 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%.

In parallel to the number of cases, the number of guilty parties charged with criminal offenses also shows a declining or constant trend. The number of corporations charged annually averaged 68 in 1990-1994 and dropped continuously throughout 1995-2007 to a low of only 20 during 2004-2007. Similarly, the number of individuals charged with criminal price fixing averaged 40 per annum during 1995-2007 from a high of 59 per annum in the early 1990s.

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,

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[52] Ibid, at 767.

[53] Hammond (2007), op cit, n 15.

[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, see Hammond (2007), op cit, n 15 at p 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,* op cit, n 3 at p 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.

there was a shift from prosecuting professional organizations for civil violations to targeting corporations for criminal violations.[57] 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. These trends suggest that limited professional resources may be constraining the Division's ability to charge guilty parties and obtain guilty-plea agreements.

A second explanation may be that cartel investigations have become more complicated and labour-intensive in the past 15 years because the range of investigative tools has broadened. The Division makes regular use of consensual covert taping, serving search warrants ('raids'), secret informants, INTERPOL Red Notices, border watches, and foreign assistance requests.[58] 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] The demands on professional prosecutors' time are likely to be greater than before.

An important trend adding to resource demands per case is the sharp turn in the late 1990s[60] toward investigating and prosecuting international cartels.[61] Investigations became more complicated because of the increasing geographic size and increasingly international character of cartel investigations.[62] The Division has formally investigated or convicted approximately 135 international cartels since 1996. During 1980-95, virtually no foreign firms or individuals were punished for criminal price-fixing.[63]

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[57] Gallo *et al,* op cit, n 3 at p 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.

[58] Hammond (2007), op cit, n 15 at p 4.

[59] These numbers include only publicly announced joint investigations. Many US-Canadian joint investigations were handled quietly out of public view. Press sources have noted 15 more joint international raids since 2001, see JM Connor, *Private International Cartels Spreadsheet* (December 2007).

[60] See Connor, op cit, n 8 at pp 72-77 and pp 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.

[61] 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. 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, op cit, n 21, 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; from FY2000 to FY2003 these reports contain a page or two highlighting international-cartel prosecutions; but references disappear after FY2004. Litan and Shapiro agree, op cit, n 17 at p 4.

[62] 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.

[63] Gallo *et al,* op cit, n 3 at pp 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 risky, there are good public-policy reasons for pursuing international cartels.[64] They tend to have large affected sales compared to domestic schemes, are more durable, and have higher percentage overcharges.[65] For the international cartels discovered during 1990-2007 with known sales, total US affected sales were $1.5 trillion.[66] More importantly, the US overcharges generated by these discovered cartels are projected to be approximately $375 billion.[67] The size and injuries of these cartels dwarfs all cartels sanctioned by the Division prior to 1990.[68] Nevertheless, the disparity between a rising number of cartel-amnesty applications coupled with rising Division budget resources to investigate the resulting allegations and a falling number of price-fixing cases filed since the 1990s is puzzling.[69] Some changes during this period ought to have increased the Division's efficiency.[70]

Justice Department resources devoted to cartel-busting may have peaked in the early 2000s. Data on trends of 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%.[71] Responding to the TRAC report, Senator Patrick Leahy, Chairman of the Senate Judiciary Committee, said, 'we must reverse the trend of shifting importing resources away from violent crime and white collar crime'.[72] Investigations and case development may be further constrained

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

[65] Connor and Helmers, op cit, n 13, and JM Connor and Y Bolotova, 'A Meta-Analysis of Cartel Overcharges', *International Journal of Industrial Organization* 24 (2006) 1109-1137.

[66] Connor, op cit, n 7 at Table 2. These sales data include a few international cartels not yet indicted, though the probability of future indictments is above 90%. Public statements of Division officials have mentioned much smaller sales.

[67] JM Connor and RH Lande. 'How High Do Cartels Raise Prices? Implications for Optimal Cartel Fines', *Tulane Law Review* 80 (December 2005) 513-570.

[68] Cf. Gallo, JC, et al, 'Department of Justice Antitrust Enforcement, 1955-1997: An Empirical Study', Review of Industrial Organization 17 (2000): 75-133.

[69] 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.

[70] 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 proportion 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, see Carree, Martin, Guenster, Andrea Maria and Schinkel, Maarten Pieter, 'European Antitrust Policy 1957-2004: An Analysis of Commission Decisions' Amsterdam Center for Law & Economics Working Paper No. 2008-06 (July 17 2008).

[71] TRAC, 'Federal Enforcement Data Show Major Changes in How the Bush Administration Has Enforced the Law', Transactional Records Access Clearinghouse Report 184, Syracuse University (March 6 2008) at p 2.

[72] P Yost, 'FBI Criminal Referrals Plummet', *Associated Press* (March 6 2008).

by the slow growth in professional positions in the Division. Perhaps the Division has enough resources to investigate, but not enough to take large corporate defendants to trial.

Cartel Plea Negotiations, Winning and Losing

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, though guilty, are not criminally indicted and their employees are immune from prosecution.[73]

Win rates are important indicators of performance for the Division.[74] 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%.[75] After 1994, the Division won 99% of its criminal Section 1 cases. About 90% of criminal convictions are obtained by securing guilty pleas.[76] 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.[77]

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 percentage of wins is extremely high for all federal felony cases – 96% in 2003.[78] 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. That is, high win rates could be evidence of an abundance of prosecutorial caution.

One factor responsible 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. Recommended penalties for price-fixing are

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[73] This partition follows Gallo *et al*, op cit, n 3. Perhaps acquittals also should fall into a neutral category.

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

[75] Gallo *et al,* op cit, n 3, at Table XIV. The win rate for civil price-fixing prosecutions was lower in 1955-1997 (77%), but also has increased since 1990.

[76] See Gallo *et al,* op cit, n 3 at pp 108-109. In the past, the Division generally recommended and the courts accepted that price-fixing defendants be allowed to plead *nolo contendere.* In 1978, the Division policy changed; a DOJ memorandum instructed US 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*, op cit, n 3 at 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).

[77] Gallo *et al*., op cit, n.3 at pp.116-118

[78] Bureau of Justice Statistics, *Compendium of Federal Justice Statistics*, 2003, Washington, DC: U.S. Department of Justice, at Table 5.1.

spelled out in great detail in various editions of the US Sentencing Guidelines.[79] 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;[80] 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.

Once the Guidelines' fine range is determined, up to two downward adjustments are made. I 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. Nearly all corporate defendants receive these 'cooperation discounts' for their value-added inculpatory information. Second, defendants with a limited ability to pay are given additional discounts or are allowed to pay their fine in instalments. About one-third of all corporate defendants get special ability-to-pay treatment.[81]

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%.[82] Put another way, without partial leniency discounts, the Division fines would have been three time higher than the actual fines imposed.

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[79] USSG, *Guidelines Manual,* 1987, Washington, DC, US Sentencing Commission. The guidelines themselves may contribute to under-deterrence. The ABA, *Comment Submitted to the Antitrust Modernization Commission re Criminal Remedies* (November 2005) at p 8, contends that the Guidelines' presumption (crafted in the mid 1980s) that the typical cartel achieves a 10% overcharge was unsupported by empirically sound research. However, 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, op cit, n 67, and JM Connor, 'Price-Fixing Overcharges: Legal and Economic Evidence', Chapter 4, pp 59-153 in JB Kirkwood (ed), *Research in Law and Economics (Volume 22),* Oxford, Amsterdam and San Diego, Elsevier, January 2007). Thus, cartel price effects are *two to five times as high as* the USSC assumed, which is one reason for under-deterrence. The Division itself agrees that the 10% presumption may be too low. See Hammond's testimony, (2005) op cit, n 15 at p 9, 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'. 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.

[80] It is important to note that the double-the-harm standard has been applied to ascertain fines in only a handful of cartel cases. Therefore, nearly all the Division fines are in principle based on the USSGs that incorporate an unrealistically low overcharge assumption.

[81] 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, C, 'European Commission Cartel Prosecutions and Fines, 1998-2007: A Statistical Analysis' London: Case Associates (September 2007), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1016014, 11-12).

[82] Connor (2008), op cit, n 14. Naturally, the sample excludes amnesty recipients and a small number of fines above the maximum USSG fine.

Consummated plea negotiations make trials superfluous. The Division only rarely goes to trial in corporate price-fixing cases when the defendants are large corporations.[83] 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 and only one since then.[84] However, the Division has brought more than a dozen individuals to trial for hard-core price-fixing since 1990.[85] The win rate in cartel cases resolved at trial is well below 90%. Trials 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.

Too Generous Fine Discounts?

The weight of the evidence suggests that historical and current price-fixing penalties substantially under-deter cartel violations.[86] Under-deterrence arises from flaws in the design of the US Sentencing Guidelines for price-fixing, from the generous Division discounts from the Guidelines, and from relatively weak government and private anti-cartel enforcement abroad.[87] Two AMC Commissioners agree 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 US courts through operation of the Foreign Trade Antitrust Improvements Act.[88]

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[83] The criminal justice system in general relies less and less on trials, see JW Keker, 'The Advent of the "Vanishing Trial": Why Trials Matter', *The Champion* 29 (September/October 2005) 32.

[84] Connor, op cit, n 8 at pp 72-77. 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 at trial and lost two others, *Appleton Papers* and *Industrial Diamonds* (Connor, op cit, n 8 at pp 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.

[85] 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.

[86] Connor, op cit, n 9.

[87] 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 JM Connor, 'The Great Global Price-Fixing Conspiracy: Sanctions and Deterrence', *Concurrences: Revue des droits de la concurrences* (October 2006) 4 at pp 17-20, on optimal deterrence and the vitamins cartels.

[88] See AMC op cit, n 4 at p 245.

The Division's 1993 Corporate Leniency Program has resulted in the forgiveness of many tens of millions of dollars in potential fines for immunized corporations, but the anonymity of all the recipients prevents an accurate assessment of the amounts. In the EU, the amount of forgiven fines for amnestied defendants (which is low by US standards) can be precisely calculated. Amnesty reductions have accounted for a very substantial 25% of actual 1998-2007 cartel fines.[89] Additionally, the EU granted discounts for cooperation (partial leniency) to 144 defendants that were worth 37% of the pre-discounted fines.

In the case of US 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.

Corporate Cartel 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.[90] The total amount of cartel fines imposed since 1990 is $4.2 billion.[91] 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.[92] Corporate fines per company have also escalated during 1990-2007. 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.

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[89] Veljanovski, op cit, n 81, 13. 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 imposed.

[90] Gallo *et al,* op cit, n 3 at p 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.

[91] Prior to 1960 corporate price-fixing fines were very small, see RA Posner *Antitrust Law (2nd ed)* Chicago, University of Chicago Press (2001). Gallo *et al*, op cit, n 3 at pp 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.

[92] 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 2005-07. The peak year for cartel fines is 1999 ($972 million).

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 from 1990 to 2004.[93] The first $10-million fine was imposed in the Explosives case on September 6, 1995.[94] By the end of 2007, 55 companies had 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 increase in corporate price-fixing fines can be attributed to a renewed tendency of the Division to indict non-US firms. No foreign firms were fined before 1995, but as of mid-2007 about 100 foreign companies have been fined by the Division. 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. In fact, 80% of all corporate fines of at least $10 million have been imposed on non-US 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 had no peer in imposing cartel fines. The Division's only rival in fining cartels was the EU.[95] Up to 1989, the EU's cartels fines amounted to only $30 million,[96] compared to US fines of more than $400 million.[97] After 1994, US cartel fines greatly accelerated.[98] From 1990 to 2007, the Division collected a very impressive $4.1 billion on corporate members of international cartels.[99]

However, from a global perspective, Division-secured cartel fines now represent a modest share of the total. For the 1990-2007 period, U.S. fines are only 17% of all such fines worldwide.[100] After the late 1990s, the EU Commission (EComm) and its Member

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[93] $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.

[94] The first firm to plead guilty and pay a $10-million fine was Dyno Nobel, a US 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.

[95] C Harding and J Joshua, *Regulating Cartels in Europe: A Study of Legal Control of Corporate Delinquency,* New York, Oxford University Press (2003).

[96] Carree *et al*, op cit, n 70, report a total of €42 billion in EU fines for all violations up to 2004, of which about two-thirds or €30 billion was for cartels.

[97] See Gallo *et al,* op cit, n 3 at 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.

[98] From 1955 to 1994, average annual US criminal fines were $13.6 million. During 1995-2007 such fines have averaged $318 million per year, see Connor op cit, n 14 at Table 15.

[99] In this article fines are updated through December 2007 from JM Connor, 'Global Antitrust Prosecutions of International Cartels: Focus on Asia' 31(4) World Competition (2008) 575-605 at Table 15. Note that 96% of all US cartel fines were international.

[100] Although these data refer to international cartels only, the ratios for all cartels are likely to be very similar.

States overtook the Division in the size of such fines. In 2000-2004, EU fines exceeded the Division's cartel fines for the first time – and by a wide margin (200% higher). The EComm running total[101] surpassed federal US total fines in 2005. Cartel fines by all EU authorities have reached $11.6 billion, or 77% of the global total.[102]

The main reason that the Antitrust Division is falling behind the EU is because EU authorities are tackling more and more cartels each year,[103] not necessarily because EU fines are more severe. Evidence for this assertion comes from sanctions on global cartels.[104] Both the Division and the EC had almost the same opportunities to fine most of these cartels, yet EU fines were higher than US fines on global cartels. A careful study by van der Hooft of 26 companies in global cartels fined by both the EU and the Division up to June 2006 concludes that there is no difference in the size of the fines per company imposed by the two authorities.[105] However, a new set of EU fining guidelines implemented in September 2006 suggests that the EU will soon pull away from the Division in the severity of its fines.[106] Veljanovski 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.[107] No similar increase in the severity of US fines is expected.[108]

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[101] By running total is meant the sum of all fines imposed since 1954. See Connor, op cit, n 99 at Table 15.

[102] See Connor, op cit, n 99 and JM Conner, 'Latin America and the Control of International Cartels', in *Competition Law and Policy in Latin America*, DD Sokol (ed), Hart Publishing (forthcoming 2009), showing that 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.

[103] 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, see Connor, op cit, n 99 at Table 5. The EC itself is able to decide on only about five or six hard-core cartel cases per year; it ended about one probe each year during 1990-2007; and in 2007 it had 24 known investigations in process, see JM Connor, Private International Cartels Spreadsheet (December 2007), Russo, F, Schinkel, MP, Guenster, AM and Carree, MA, 'European Commission Decisions on Competition: Landmark Antitrust and Merger Cases from an Economic Point of View' (2007), Amsterdam Center for Law & Economics Working Paper No 2007-04. Available at SSRN: http://ssrn.com/abstract=1004048: 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. From July 2008, the EC's capacity for making cartel decisions is expected to ramp up because it will implement a settlement procedure akin to US plea bargaining, see Commission Regulation (EC) No 622/2008 of 30 June 2008 amending Regulation (EC) No 773/2004, as regards the conduct of settlement procedures in cartel cases, Official Journal L 171/3 (July 1, 2008).

[104] The typical global cartel fixed prices or output on three continents (Europe, East Asia, and North America), see Connor, op cit, n 8.

[105] M van der Hooft, 'Cartels: US fines v. EU fines: Are fines really higher in the US than in the EU?', unpublished paper, University of Baltimore Law School, 2007.

[106] 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.

[107] C Veljanovski, 'New EU Penalty Guidelines: Will the 2006 penalty guidelines decrease fines?' Casenote 43, London: Case Associates (July 2006).

[108] The AMC, op cit, n 4, voted to retain the current structure of the US Sentencing Guidelines. One recommendation of the American Antitrust Institute is to double the 'base fine' for cartelists, which is currently 20% of the firm's affected sales, see AA Foer, (ed), *The Next Antitrust Agenda: The American Antitrust*

Moreover, since the 1970s, government cartel fines have begun to shrink relative to private settlements. Damages recouped by private plaintiffs, which total more than $21 billion, are now almost as high as fines from all the world's antitrust authorities. The vast majority of private damages settlements occur in North America. Settlements in the United States (reportedly at least $18.5 billion) are much higher than the Division fines.[109] The fine-settlement disparity has widened over time.

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

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.[110]

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, there is little evidence of significant multiple-jurisdictional fining of cartels.[111]

In most parts of the world outside North America and the EU, government enforcement of cartel laws is weak.[112] Although increasing, less than 3% of all cartel fines in 1990-2007 were imposed there. Even in Japan, which has an old and well-

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Institute's Transition Report on Competition Policy to the 44th President, Lake Mary, Florida, Vanderplas Publishing (September 2008) at pp 43-44. Which option will be chosen by the US Sentencing Commission is highly uncertain at this time.

[109] These settlements data are from Connor, op cit, n 59, 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, op cit, n 19, 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, see RH Lande, Private communication dated January 16, 2008.

[110] AMC, op cit, n 4.

[111] JM Connor, 'Global Antitrust Prosecutions of Modern International Cartels', *Journal of Industry, Competition, and Trade* 4 (September 2004) 239-267.

[112] M Levenstein, VY Suslow, and L Oswald, 'International Price-Fixing Cartels and Developing Countries: A Discussion of Effects and Policy Remedies', Working Paper 9511, Cambridge, Massachusetts, National Bureau of Economic Research (February 2003).

staffed antitrust agency, cartel enforcement is weak.[113] 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.[114]

Private settlements in North America are important components of the global effort to deter cartels. Worldwide, private settlements comprise almost half of total monetary penalties on international cartels. 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.

Private treble-damages suits against cartels in North America yield monetary penalties that are on average several times US and the Canadian government fines. Most Division prosecutions spark follow-on US private suits, and the same phenomenon has occurred in Canada since the late 1990s.[115] 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.[116] When one sums both cartel fines and private settlements, total corporate penalties, while still sub-optimal, marginally improve optimal punishment levels.

While a few nations other than the US and Canada have laws permitting recovery of private damages, there are no known examples of significant awards in practice. For example, Taiwan permits treble damages in theory, but because so many other impediments exist, such suits seem not to exist.[117] Other jurisdictions, such as Japan, allow damages suits, but only after its Fair Trade Commission imposes fines, which it rarely does. A few other jurisdictions, such as Australia and the UK, permit single-damages private actions. 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.[118] For many years, all the cartel-fining decisions of the EU

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[113] SM Chemtob, 'Antitrust Deterrence in the United States and Japan', remarks at a conference, Competition Policy in the Global Trading System, Washington, DC (June 23, 2000).

[114] JL Clarke and SJ Evenett, 'The Deterrent Effects of National Anticartel Laws: Evidence from the International Vitamins Cartel', *Antitrust Bulletin* 48 (2003) 289-726.

[115] DM Low & O Wakil, 'Cartels/Criminal Enforcement: Canadian Developments', Paper presented at the Fall meeting, Section of Antitrust Law, American Bar Association (2004) and CS Goldman *et al,* 'Private Access to Antitrust Remedies: The Canadian Experience', address before the Section of Antitrust Law, American Bar Association (April 2-4, 2003).

[116] Lande and Davis, op cit, n 19.

[117] Connor, op cit, n 99.

[118] These data come from a working paper, Rodger, Barry J, 'Private Enforcement of Competition Law, the Hidden Story: Competition Litigation in the UK, 2000-2005' unpublished paper (2007). 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 substantial cartel damages in the cement industry is in court.

have carried statements exhorting injured parties to seek compensation from the just-fined defendants.[119] Now, the EU seems to be well along in developing rules for private single-damages suits.[120] 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 large damages resulting from private rights of action in the EU and most other jurisdictions.

Individual Cartel 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'.[121]

The Division depends almost entirely on fines and prison sentences to punish individual price fixers. It is the Division's creed that individual penalties are far more efficacious than corporate fines.[122]

The total number of individuals charged for Section 1 violations averaged 45 per year during 1990-2006.[123] 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

[119] 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'.

[120] An EU White Paper was issued in April 2008, see EC, White Paper on Damages actions for breach of the EC antitrust rules COM (2008) 165 final, Brussels: European Commission (April 2 2008).

[121] Hammond (2007), op cit, n 15 at p 2. Gallo *et al,* op cit, n 3 at pp 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 high also. For an analysis of the value of imprisonment, see GJ Werden and MJ Simon, 'Why Price Fixers Should Go to Prison', *Antitrust Bulletin* (Winter 1987) 917-937. Hammond, op cit, n 1, opines that the deterrence superiority of prison fines over company fines is so obvious that no empirical verification is needed.

[122] It is difficult to interpret this belief in precise, measurable terms. The principle seems not to apply so much 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. Hammond, op cit, n 1, avers that the present US mix of corporate fines and individual imprisonment makes the overall deterrence power of American sanctions higher than the admittedly higher EU cartel fines.

[123] In the first 64 years of the Sherman Act, only 21 individuals were incarcerated for price fixing, see Posner, op cit, n 19 at pp 389-391.

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. 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 (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 levelled at foreign residents, many of whom become fugitives.[124]

While a notable escalation in corporate fines is undeniable, individual fines are miniscule, and fines per person constant or declining. Total fines on individuals are modest. During 1990-2007, 478 individuals paid criminal fines totalling $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.[125] With two exceptions,[126] no individuals have paid more than the 1990-2004 statutory maximum of $350,000 for price fixing alone.[127] In light of the wealth and high corporate positions of the majority of convicted cartel managers, personal fines are an insignificant potential source of deterrence.[128]

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[124] 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.

[125] Connor and Helmers, op cit, n 31.

[126] 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, see Connor, op cit, n 8. 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.

[127] 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*.

[128] See Gallo *et al*, op cit, n 3 at pp 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.

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. Since 1999, 29 foreign defendants from nine nations have been sentenced to prison, or about 16% of all such sentences.[129] 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 the 1990s, to 17 in 2000-2004, to a high of 24 in 2005-2007.[130] Public 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.[131] An alternative data series developed by the Division shows a much higher ratio of defendants sentenced to jail.[132] 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.[133] This trend is a positive development for cartel deterrence.[134]

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. During 1990-1994 the number of prison-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. 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.[135]

It must be noted that the trends in imprisonment of cartelists noted in the previous paragraph are affected by the Division's leniency and plea-bargaining policies. It is

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.

[129] Hammond (2007), op cit, n 15.

[130] The high average for 2005-2007 depends heavily on the record number of 34 incarcerations in FY2007, see Hammond (2007), op cit, n 15 at pp 2-3. Without the 2007 number, a strong upward trend might not be evident.

[131] 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.

[132] See Hammond (2007), op cit, n 15 at p 3.

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

[134] For a contrary view see ML Denger, 'Too Much or Too Little, a summary of discussion, American Bar Association's Antitrust Remedies Forum', Washington, DC (April 2003).

[135] See Hammond (2007), op cit, n 15 at p 4.

obvious that each of firms convicted had at least one and usually several managers responsible for operating the cartel.[136] 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.[137]

The majority of all cartels prosecuted by the US since 1993 contain a corporate amnesty recipient. 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[138] 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.[139] 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 found that 54% of all corporate guilty pleas had zero carve-outs.[140] For firms with carve-outs, the mean number was 2.2 executives, and there is no clear evidence of an upward trend over time.

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.

U.S. courts are nearly alone in the world in regularly sentencing individuals to jail for price-fixing.[141] Several countries have individual penalties written in their laws,[142] but

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[136] 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, see Connor, op cit, n 8.

[137] 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, See Connor, op cit, n 59.

[138] 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.

[139] In the *DRAM* international-cartel case, 14 officers of the top three corporate defendants were sentenced to prison in 2003-2004.

[140] Connor, op cit, n 14. It is possible that in a few such cases a retired or dismissed rogue employee was responsible.

[141] The EU imposes only corporate civil fines.

only Canada, Australia, Germany, and Israel have regularly imposed fines on individual price-fixers. And only Israel has imprisoned significant numbers of cartel managers.[143] The Division has made efforts to encourage the criminalization of antitrust abroad, with some success.[144]

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.[145] There are few countries with which the US 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 US 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.

Progress is being made in the UK. When the US successfully prosecuted the Auction House cartel, two US 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, was about to be extradited to the US. However, a 2008 decision appealed to the House of Lords turned down the government's attempt to extradite him. Finally, in December 2007, a deal was

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

[143] 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.

[144] In late 2007 the Division made an unprecedented deal with Britain's Office of Fair Trading that resulted in the imprisonment of three individuals for criminal price fixing for the first time in UK history, see M Peel 'Repatriation to Create Legal Landmark', *Financial Times* (December 12, 2007) and R Bell, 'United Kingdom: Nowhere to Hide: First Criminal Cartel Convictions Under The Enterprise Act 2002', *Mondaq Business Briefing* (August 28, 2008). 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 voluntarily agreed to plead guilty in a British court, and each received prison sentences of 30 to 36 months. Hammond, op cit, n 1, is convinced that the failure of non-US jurisdictions to criminalize antitrust is the major reason that global penalties are sub-optimal.

[145] 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, see J Crompton, 'Norris: price-fixing not a common law crime but extradition still possible', 13 March 2008 and JM Joshua, 'Implications of *Norris* for UK-U.S. Extradition and Future Cartel Prosecutions', *The Antitrust Source* (June 2008) 1-11. 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.

announced between the US and the UK concerning the incarceration of three UK citizens arrested for price-fixing in the US.[146] 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.[147]

Informing the Public

Transparency in decision-making assists third parties in making well informed assessments of those decisions. 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.[148]

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. 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.[149] Even with all the sentencing data needed 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.[150] 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 with a high degree of subjectivity that seems to be available to virtually all defendants that agree to negotiate.[151]

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[146] Peel, op cit, n 144 at p 4.

[147] 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.

[148] 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.

[149] Connor, op cit, n 79. 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, see Connor, op cit, n 14; 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.

[150] 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.

[151] 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.

Similar comments apply to plea bargains.[152] 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. Accurate predictions of plea bargaining seem to be restricted to a relatively small number of defense counsel, many of whom are experienced former Division prosecutors.

Unless witnesses choose to reveal it, the existence of a grand jury investigation of a suspected cartel is confidential, as are its deliberations. 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.[153]

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-going investigation is demonstrated by the stock-price reactions for target companies to the news.[154] 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 a witness before a grand jury makes its existence public.

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. The Division customarily treats as confidential the

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[152] WS Grimes, 'Transparency in Federal Antitrust Enforcement' *Buffalo Law Review* 51 (2003) 937-1027. RP Adelstein, 'The Plea Bargain in Theory: A Behavioral Model of the Negotiated Guilty Plea', *Southern Economics Journal* 44 (1978) 488-503 at p 488, says of plea bargaining, '… perhaps no other aspect of the criminal process is so hidden and so little understood'. See also RD Cooter and DL Rubinfeld, 'Economic Analysis of Legal Disputes and Their Resolution', *Journal of Economic Literature* 27 (1989) 1067-1097 at pp 1082-1084, a classic synthesis of the legal-economic literature on legal disputes that covers plea bargaining at a high level of generality.

[153] Other reasons for secrecy are to make witnesses comfortable, reduce the risk of flight of defendants, and prevent corruption of grand jurors.

[154] See Connor, op cit, n 111. 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.

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'.

In a large sample of international cartels, about 6% of all formal Division probes ended without fines or civil penalties.[155] 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.[156]

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 unfavourably on the Division. Objective, disinterested analysis could help pinpoint or rank the causes, but the present lack of information does not permit such research.

CONCLUSIONS

The Division generally receives good marks for its criminal cartel-enforcement activities. 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.[157]

By all measures, the size of US fines imposed on corporate cartelists has risen since 1990, though relative to other jurisdictions and to private recoveries of damages, the Division is falling behind. 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 US Sentencing Guidelines would also advance the deterrence value of monetary fines.

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[155] Connor and Helmers, op cit, n 13.

[156] 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; 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.

[157] Judiciary Committee, 'Oversight on the Enforcement of the Antitrust Laws: Hearing before the Subcommittee on Antitrust', Competition Policy and Consumer Rights of the Committee on the Judiciary of the United States Senate, Washington, DC (March 7, 2007).

Where the Division has no peer is in imposing prison sentences of individual cartel managers: it is the Cartel Jailer for the World.

In view of the fact that the Division receives about 25 corporate leniency applications per year, a matter of some concern is the falling numbers of criminal price-fixing cases filed, corporations indicted and fined, and the number of cartel managers charged and fined.[158] In part, these trends may be ascribed to a policy shift that 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 US economy. Falling numbers may also reflect constrained resources.

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 missions.[159] Less than 30% of the Division professionals are earmarked for cartel enforcement. The large backlog of cases, the reluctance to litigate, and the tendency to offer what appear to be excessive concessions in order to quickly settle plea agreements – all additional signs of an organization trying to stretch a smaller labour pool than is optimal. To carry out a more aggressive anti-cartel campaign, the Divisions resources will require significant bolstering.[160]

Relative to the size of the US economy, many other foreign antitrust authorities are actually better endowed.[161] A substantial increase in the Division positions and budget seems justified, perhaps a doubling of professional positions to handle criminal matters in the next decade or less.

[158] The proportion of applications accepted is not known, but even if only half, that ought to generate at least 50 corporate and 100 individual indictments annually. The actual numbers since 2000 are 20 and 40 respectively.

[159] 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, see A Carassava, 'Bribery Scandal Puts Strain on Greek Leader', *The International Herald Tribune* (October 13, 2006) 3.

[160] This is but one of 22 cartel-enforcement recommendations made to the 44th President of the United States by the Board of Directors of the American Antitrust Institute, see Foer, op cit, n 108 at pp 22-27.

[161] 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, see Connor, 2008, op cit, n 20. 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.

TABLES FOR REVIEW PURPOSES ONLY

Table 1. US 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 end FY [b]	--	19	35 [e]	16	26.1 [e]
Corporate sanctions:					
Corporations charged	68	28	22	20	36.3
Number corps. fined	59	27	17	16	31.5

% above $10 mil.	0	20	25	22	9.7
Corp. fines ($ mil.) [c]	28	317	174	560	237.7
% above $10 mil.	0	88	97	97	90.6
% foreign $10 mil.+	0	81	91	87	79.8
Fines/corporation $ mil.	0.5	12.9	10.2	36.8	7.5
Individual sanctions: [d]					
Persons charged	59	36	40	44	44.7
Persons fined	34.4	27.8	22.6	18.0	26.6
Total fines ($ mil.)	1.62	4.39	3.40	7.75	3.91
Fines/person ($ '000)	47	135	150	475	171
No. imprisoned	14.6	11.4	16.6	23.7	15.8
Prison days	3609	3017	7512	16,644	6701
Prison days/person	238	298	458	646	384

-- = Not available

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

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

c) The respective 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.

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

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

Table 2. Monetary Penalties Imposed on Corporate Members of International Cartels Discovered January 1990- December 2007							
Antitrust Authority Location	**Geographic Scope of Cartel**						
	North America	EU-Wide	European Nations	Africa, Asia, & Oceania	Latin America	Global	Total
	Million nominal U.S. dollars						
FINES:							
U.S. Govt.	260.1			141.2 [a]		3736	4137 [a]
Canada Govt.	53.2	0.7				155.4	209.3
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: *Prosecutions of International Cartels*, *supra* note 10, at Table 6, adapted from Private International Cartels spreadsheet dated February 8, 2008.