GLOBAL ANTITRUST PROSECUTIONS OF MODERN INTERNATIONAL CARTELS

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Abstract

International cartelists face investigations and possible fines in a score of national and supranational jurisdictions, but the three with the most consistent legal responses to global cartels are the United States, Canada, and the EU. This paper examines the antitrust fines and private penalties imposed on the participants of 167 international cartels discovered during 1990-2003. While more than US$ 10 billion in penalties has been imposed, it is doubtful that such monetary sanctions can deter modern international cartels. The apparently large size of government fines is distorted by one overwhelming case. Moreover, deterrence is frustrated by the failure of compensatory private suits to take hold outside of North America and the near absence of fines in most Asian jurisdictions. Without significant increases in cartel detection, in the levels of expected fines or civil settlements, or expansion of the standing of buyers to seek compensation, international price fixing will remain rational business conduct.

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Introduction

Despite the evident antitrust successes in sanctioning international cartels since 1990, skepticism still is expressed about whether current enforcement regimes are capable of serving the aims of antitrust. A narrow construction on the purpose of antitrust laws limits it to maximizing consumer welfare and efficiency; a broader interpretation gives some weight to income redistribution, small business protection, or dispersion of political and economic power. However, under either stance the aims of antitrust are served by competition policies that deter recidivism. Deterrence is both the most commonly accepted legal-economic theory that justifies the passage of antitrust laws and the practical foundation of anticartel sanctions across world jurisdictions.

While deterrence may have improved marginally in the 1990s, scholars of modern international cartels believe that current competition policies cannot fully deter them because they are "...oriented towards addressing harm done in domestic markets... [or] merely prohibit cartels without [sufficiently strong sanctions]" (Evenett *et al*. 2001: 1222). Connor and Lande (2004) find that cartel overcharges are so high and conspiracies so durable that current U.S. public and private monetary sanctions provide inadequate deterrence. International cartels are more difficult to convict and as a group even more harmful to customer welfare than domestic collusion. *Global* cartels – those that operate across multicontinental markets – typically reap monopoly profits in some jurisdictions with weak anticartel enforcement.[1] Moreover, empirical evidence from recent years demonstrates a significant degree of continued cartel formation and multiple corporate convictions for price fixing. It would appear that either greater sanctions ought to be applied or that a multilateral approach implemented in order to approach optimal deterrence of international price fixing.[2]

Although there is a small literature that examines prosecutions of individual cartels or anticartel efforts in single jurisdictions, none has examined the global effort to deter cartels. The purpose of this paper is to describe the magnitude and trends in global antitrust sanctions imposed on modern international cartels. By doing so, this paper can contribute critical information for the on-going debate about the effectiveness of global antitrust sanctions to deter international price-fixing conduct.

Scope

The focus of this paper is on all types of monetary and penal antitrust sanctions that have been imposed on discovered private international cartels between January 1990 and July 2003.

Monetary sanctions include *fines* imposed by antitrust authorities on both corporations and individuals. Monetary sanctions also include *payments* made by defendants in private suits to both direct and indirect buyers of cartelized products; most often these payments are made as a result of *settlements* made out of court prior to trial, but in a few cases are *litigated judgments* of a trial judge or jury. Sanction amounts do not include the legal fees and costs of defendants, which may be substantial but are almost never revealed. However, payments made by defendants to settle private class-action suits do include the legal fees and costs incurred by plaintiffs in prosecuting their cases.[3]

This paper analyses only what Evenett *et al*. (2001) call "Type I" and the OECD calls "hard-core" cartels. A *cartel* is a group of two or more independent sellers who agree to fix or control prices or output in a given market (Dick 1998). *International* cartels are those that have participants from two or more countries[4]; the qualifier does not refer to the geographic scope of the cartel's agreement. *Type I* or *private* cartels are those that operate without the protection of national sovereignty. Thus, legally registered export cartels are not private, nor are cartels established by parliamentary statutes or by treaties among nations. Private cartels may contain state-owned or controlled corporations, but if such cartels can be prosecuted under the antitrust laws of any jurisdiction, they are considered private schemes.[5]

Finally, this paper examines only those international cartels that were "discovered" between January 1990 and July 2003. By *discovered* it is meant that they are prosecuted by a recognized antitrust authority, found liable for damages in a private suit, pleaded guilty to a criminal indictment, or agreed to pay damages in an out-of-court settlement.[6] The choice of 1990 is somewhat arbitrary, but is meant to capture the beginning of the current level antitrust sanctions in the United States[7], the EU[8], and Canada.[9]

The next section of this paper presents a broad historical summary of anticartel enforcement, followed by a brief literature review and descriptions of anticartel enforcement rules in the principal jurisdictions. The next empirical sections lay out the cartel data set, enforcement patterns 1990-2003, and measures of effectiveness of sanctions.

A Sketch of Anticartel Enforcement

Nations in nearly every corner of the world have adopted antitrust laws, and virtually all of these laws make price fixing illegal under most circumstances (Wells 2002). Prior to World War II only the United States had an effectively enforced antitrust law, the Sherman Act, but there were few significant U.S. prosecutions until the mid 1940s (Berge 1944, Stocking and Watkins 1948). By the mid 1960s at least two dozen countries had antitrust laws and "were engaged in serious efforts to control restrictive practices" (Edwards 1967:5). Research shows that by 1996, 70 countries had adopted competition laws; these countries comprised about 78% of world output and 86% of the value of world trade (Palim 1998). Of course, the effectiveness of enforcement of these laws varies widely as do the legal standards and sanctions available.

Attempts to collude on market prices or output are probably as old as markets themselves (Piotrowski 1933). Formal international cartels, on the other hand, are the more recent historical phenomena. The first wave of international cartels began during an economic downturn in

Germany in the 1870s; the potash syndicate is one of the better studied cartels of this era (Schroeter 1994, Newman 1948). Many of the first U.S.-based international cartels began about the same time (Jones 1900, Elliott *et al*. 1937). Very few if any of these pioneering institutions survived World War I, but many were re-established by the early 1920s only to disband again in 1939. These "interwar" cartels typically were centered in Europe, though many of the patent-pooling schemes had U.S. corporate members.[10] Most of the interwar cartels were organized to allocate exclusive territories to its members – monopolies for domestic commerce and market quotes for inter-nation trade to the rest of the world.[11] From 1943 to 1949, the U.S. Department of Justice convicted dozens of international cartels and won nearly all of the criminal cases (Wells 2002: 96-116, 125-136). From 1950 until 1995, the DOJ launched few cases against alleged international cartels, and the few that it brought to trial resulted in embarrassing losses.[12]

Modern international cartels -- those discovered since 1990 -- have some distinct characteristics. In recognition of the key industry positions attained by East Asian manufacturers in many lines of business since 1960, most modern cartels have had to include Asian corporations as members. Similarly, a large number of international cartels have sought to control markets in what business marketers call The Triad – North America, Western Europe, and the most industrialized nations of East Asia.

Another unique feature of modern international cartels is the fact that they were formed by companies that were aware of the antitrust risks. Since the adoption of effective Anticartel laws by the European Union in 1958 and at least fitful enforcement by a few East Asian nations, international cartelists have had to weigh the benefits of monopoly profits against some probability of being apprehended and punished for collusion.[13] Inarguably, the antitrust authorities of Canada, the EU, and the United States implemented new policies and procedures in the 1990s that significantly increased the probability of detection and the harshness of penalties directed at international cartels compared with the preceding decades. These authorities reallocated enforcement resources toward prosecution of such cartels, increased cross-authority coordination, adopted more effective automatic leniency and "amnesty plus" programs, imposed higher corporate fines, and in some jurisdictions applied individual criminal penalties (Connor 2001, OECD 2002, Wils 1998, ICPAC 2000, Spratling 2001, Klawiter 2001, Kolasky 2002). As the decade of the 1990s progressed, the speeches of top antitrust officials began to acquire a tone of triumphantisim rather than concerned calls for reform in the face of a cartel onslaught (Nanni 2002, Hammond 2001b, Monti 2002, Pate 2003, Klein 1999). Economists previously critical of antitrust enforcement because of the presumptive natural fragility of cartels and because of its excessive public and private costs now concede that prosecution of cartels its an eminently rational pursuit for governments (Shughart and Tollison 1998).[14]

Literature Review

Analyses of the antitrust prosecutions and convictions of single legal jurisdictions are commonplace. Gallo *et al*. (2000) have reviewed the enforcement of the Sherman Act by the U.S. DOJ for the period 1955-1997. This paper describes the number antitrust cases by type and outcome over time, but it collects only limited information on the characteristics of the prosecuted cartels. Examining only *per se* horizontal violations, a category that corresponds closely to cartels, Gallo *et al*. find a total of only 34 international cases during 1955 to 1989,

which represents merely 2.3% of all such cases. During the Reagan and first Bush administrations, the international rate dropped to 0.4%, but in the late 1990s the rate exceeded 50% (Connor 2001). Gallo *et al.* also provide information on the size and duration of U.S.-prosecuted cartels. The average number of defendants was about four, but dropped to less than two in 1980-1997. The average size of affected sales was 870 million 1982 dollars; again, the average size was much smaller during 1980-1994 ($120 million) than before. The average duration of the conspiracies was 5.4 years, with no trend over time. Finally, this study gives summary data on fines and prison sentences imposed in criminal cartels cases. The total fines imposed on 2908 companies during 1955-1997 was $305 million (approximately 440 million 1995 dollars), two-thirds of which was imposed after 1989. In addition, 1431 individuals were fined a total of $30 million.

Similar less detailed compilations of prosecution statistics are available for other jurisdictions, but analyses for international cartels are few. Burnside (2003) compiles a list of all (66 to 71) cartel decisions taken by the EC from 1969 to 2002; Guersent (2004) summarizes cartel conduct and EC sanctions taken against 19 international cartels from July 2001 to December 2003. Perhaps the fullest survey of modern international cartels appears in a lengthy working paper by two of the profession's most active researchers on cartels, Levenstein and Suslow (2002). The paper aims at describing the structure of cartel markets (numbers, concentration, and demand features) and assessing three dimensions of cartel performance: stability, duration and "profitability," the last equivalent to overcharges. Levenstein and Suslow (2002: Table 15) cite several studies of the interwar period and collect information on 35 international singe-episode cartels prosecuted by the DOJ and EC from 1990 to 2001. While their 2002 monograph employs in part data taken from prosecutors' statements, it does not document the antitrust consequences of the cartels' behavior. A more recent paper by Levenstein *et al.* (2003) does cite antitrust fines for two modern cartels in Table 2, but it does not aim to analyze cartel sanctions in a cross-sectional manner.

The Organization of Economic Co-Operation and Development (OECD) for several years has had an active program for the consideration of a common policy approach towards international cartels. Its report *Hard Core Cartels* reports on a unique survey of its member countries' experiences in sanctioning such cartels (OECD 2003). The EU and 14 members provided data (fines, affected commerce, or harm) on 38 convictions of 27 international cartels; while most of these data are public knowledge, some are unique (*ibid.* Annex A). These data have been incorporated into the present paper[15].

Anticartel Sanctions in Three Jurisdictions

This section describes the legal sanctions that can be imposed on cartels in the three most active antitrust jurisdictions[16]. The major features of international cartel enforcement are outlined in Table 1 and will be discussed in this section.

Feature						
	US DOJ	US FTC	US Private Parties	EC DG-COMP	Canada Competition Bureau	Other National Authorities
Type of Law	Criminal[a]	Civil	Civil	Civil	Criminal	Civil
Maximum corporate fines	$10 mil. or double US damages [a]	single US damages	triple US damages	10% of company global sales	20% affected commerce	Varies, most 10% company sales
Maximum prison sentence	3 years [a]	NA	NA	NA	5 years	Varies, most none
International cartels sanctioned:						

Table 1. General Features of Anticartel Laws and Sanctions, 1990-2003

International cartels sanctioned:						
Number [c]	36	1	17 [d]	34	17	51
Corporate monetary ($ million)	2250	100	4050	3649	93	1446
Managers convicted	99 [b]	0	0	0	3	0

[a] More than 95% of all cartels are prosecuted as criminal violations in the United states. The maximum statutory fine was raised to $100 million in April 2004.
[b] About 30% are fugitives and the rest convicted.
[c] Includes a small number of official investigations.
[d] Probably an underestimate due to lack of reporting, but mostly small settlements.

The United States

"Naked" cartels, those arranged through direct explicit communications between independent firms, are *per se* violations of U.S. law; no amount of evidence concerning circumstances in the industry or effects of the agreement on markets will be considered evidentiary in determining guilt (Hovenkamp 1999). If the conspiracy is serious enough and the evidence of intent strong

enough, corporations and individuals may be charged by the DOJ as a criminal matter. All other parties that have standing to bring suits against price fixers, including other federal agencies and state attorneys general, may file only civil complaints[17].

The DOJ has a panoply of sanctions that can be imposed on guilty cartelists. Injunctions or cease-and-desist orders can prohibit certain conduct, but this is rarely used for naked cartels. A form of corporate probation is also possible but seldom seen. Structural relief, such as mandatory divestitures or restructuring of governance structures, can be undertaken, but most courts are loath to order such extreme measures. By far the most common U.S. Government sanctions are corporate fines, individual fines, and incarceration of responsible managers.

After a cartel participant agrees to plead guilty or is found guilty at trial, the US DOJ prepares a sentencing memorandum that is submitted in open court to the supervising judge (Connor 2001:56-65). The memorandum, whose terms have been negotiated with the defendant, describes how the DOJ has applied the Federal Sentencing Guidelines to the particular defendant's antitrust offense[18]. First, a base fine is calculated by finding 20% of the company's sales of the cartelized product during the conspiracy; in principle the affected commerce could be global in scope, but in practice only U.S. sales are used. Second, a pair of culpability multipliers is determined by reference to tabulated values in the Guidelines. Various aggravating factors raise the multipliers (size of company, whether bid rigging was alleged, involvement of top officers, a previous conviction for a similar offense, etc.), while mitigating factors lower them (cooperation with the DOJ's investigation, acceptance of responsibility, and the existence of a good antitrust training program). The highest possible multiplier is 4.0, and the lowest is 0.75, which means that a company can be fined as much as 80% of affected commerce. Third, a company can apply for leniency: under DOJ policy the first applicant can receive a 100% discount (i.e., amnesty), while the second and third to apply get substantial but progressively smaller discounts. Finally, all participants that agree to plead guilty almost always negotiate further discretionary discounts for cooperation[19]. In practice, the cooperation discounts for international cartels typically range from 40 to 90% of the maximum fine specified by the Guidelines (*ibid.* 360-375).

The DOJ's notable success in prosecuting international cartels after 1995 may be traced to several amendments to the law and improved investigatory techniques (Connor 2001, Baker 2001). First, the Sherman Act's penalties were steadily increased by amendments in 1955, 1974, 1987, and 1990 (Connor 2003: Table 8). In 1974, corporate fines were increased twenty-fold and participation was made a *felony* (prison sentences were raised from a maximum of one year to three years). In 1987, a federal judicial commission further raised the possible fines on corporations up to a maximum of double the cartel's overcharge, a level that could far exceed the previous statutory cap of $1 million[20]. Larger personal fines also became feasible.[21] In 1990, the Sherman Act received a centennial "birthday present" of a $10 million maximum statutory corporate fine from the Congress[22]. Thus, from 1974 to 1990, the maximum corporate liability from government fines rose from $50,000 to potentially *six times* the cartel's overcharge.[23]

Second, around 1993 an enforcement policy shift took place in the DOJ that placed a higher priority on investigating international antitrust violations and that instructed the FBI to employ all the tools of their trade to collect evidence[24]. Armed with enhanced powers to sanction firms

and their managers, prosecutors bargained hard to obtain confessions and to "flip" conspirators into useful witnesses against their co-conspirators. The 1993 revision of the DOJ Corporate Leniency Program described below was a particularly important investigative innovation. Prosecutors became sophisticated in their use of amnesty, leniency, or other blandishments to induce cooperation by exploiting the Prisoners' Dilemma.

Third, the DOJ has introduced a number of methods of cooperating with other jurisdictions (ICPAC 2000, Pate 2003). Protocols between agencies permit sharing of information on cartel investigations or enforcement actions, subject to restrictions set by national laws on confidentiality. More formal treaties (Mutual Legal Assistance Treaties) can facilitate joint investigations, and other bilateral treaties can legalize extradition of cartel managers indicted for antitrust crimes. Informal regular meetings of enforcement officials have fostered the exchange of effective investigatory techniques, such as the corporate leniency program. The International Competition Network has been joined by dozens of antitrust authorities; top officials now meet once a year to exchange views and initiate projects of mutual interest.

The Sherman Act authorizes private suits for treble damages and reasonable legal costs (Hovenkamp 1999). In theory, these awards provide for compensation (the overcharge), for the costs and risks of private investigation and legal costs, and for punitive a punitive component[25]. Plaintiffs have the burden of proof that the illegal activity occurred, that the economic harm was a direct result of the illegal conduct, and of the size of the damages; proof requires the use of reasonable methods and the support of the preponderance of the evidence. Changes in court rules in the 1970s made filing class actions easier and facilitated larger awards. Today, the largest private cartel cases are initially organized as class actions, and most are settled out of court with few details about the evidence publicly revealed.[26] The large majority of cartel civil suits follow criminal convictions; a small number settle prior to convictions; and a few successful private suits have no parallel government cases. Since 1977 only direct purchasers have had standing to sue for these damages, but in about half of the states of the United States indirect purchasers can sue for damages.[27] Indirect buyers of cartelized products can also receive compensation through suits initiated in federal court by state attorneys general who often form a class action. Therefore, the maximum U.S. liability facing corporate price fixers from government and private prosecutions after 1990 was *twelve times* the overcharge.

The European Union

The European Commission's Directorate General for Competition (DG-COMP) is the world's second most powerful antitrust authority.[28] The EC's international-cartel decisions take an average of four years after U.S. prosecutions are announced (Connor 2003: Table A.3). EU law treats antitrust violations solely as civil infractions by business entities.[29] Individual conspirators are not personally liable for monetary penalties or prison sentences (Connor 2001:81-91). In this sense the powers and procedures of the DG-COMP resemble those of the U.S. Federal Trade Commission more closely than the U.S. DOJ's Antitrust Division.[30]

Prior to the strengthening of the Sherman Act's sanctions during 1974-1990, the EC's formal authority to impose fines for major cartel violations was considered superior to the DOJ's powers. Since the signing of the Treaty of Rome, corporate members of cartels have been subject to maximum fines of 10 percent of sales in the one year prior to the year in which the EC

makes its decision. The EC's fines can be based on the *global* sales of an offending firm in *all* its lines of business, but in practice cartel fines tend to be correlated with a violator's EU sales in the affected line of business only (Connor 2001:401-407).[31] Harding and Joshua (2003) state that EU fines are supposed to incorporate both compensatory and punitive components, the latter to serve deterrence (p. 240).

The EU adopted guidelines in 1998 for calculating firm-by-firm fines (Harding and Joshua 2003: 240-252)[32]. First, the EC considers the "gravity" of the offense. Although a matter of discretion, cartels are usually placed in the "very serious" category, which is the highest of three levels of antitrust infringements. Cartels with large damages that are geographically widespread add to the gravity. The fine calculations base for the most serious infringements start at €20 million. Second, to account for disparities in the power of fines to deter, relatively large companies are fined more than smaller participants: in several global cartels, companies in the upper half of the cartel's size distribution had their fines doubled. Third, fines are increased by 10 percentage points per year for each year the cartel is effective. Fourth, these three factors result in a base fine (called a "basic amount") for each company that is adjusted for culpability; upward for cartel leaders and downwards for various mitigating factors[33]. Fifth, under the EU's Leniency Notice, violators are given 10% to 50% discounts for their degrees of cooperation. In a few cases, amnesty has been granted. Finally, after applying the last four steps, the Commission ensures that fine amount does not exceed 10% of global sales in the year prior to the date of the decision.

There is no provision for private compensatory suits under EU law. Some Member States have laws that permit private suits for single damages in their national courts, but such suits remain "rare" (Harding and Joshua (2003: 238). The few private actions that have been brought in the EU have faced highly uncertain outcomes and numerous practical barriers, such as the absence of class actions. Similarly, a handful of EU nations (UK, France, Ireland, Norway) have criminalized price fixing and the EU seems to be moving slowly in that direction, but instances of incarceration seems to be unknown (*ibid.* 258-262).

Canada

The Canadian Competition Bureau (CCB) together with the Ministry of Justice enforces criminal laws similar to those in the United States, and its prosecutions tend to follow those in the United States by about year (Connor 2003: Table A.3)[34]. Naked cartel violations are crimes treated in effect as *per se* illegal acts. Persons can be fined and imprisoned, but this power is used quite sparingly. The CCB is a small agency that cooperates closely with the U.S. DOJ. Its indictments of global cartels usually followed those announced by the DOJ after a lag of six months to one year. As in the United States, the CCB has imposed record antitrust penalties,[35] typically representing 10 to 20 percent of Canadian sales during the affected period.

Canada is one of the few jurisdictions outside the United States with effective private antitrust remedies (Goldman *et al.* 2003). As in the United States, private actions usually follow upon government indictments. Introduced in 1976, private suits were little used until Ontario issued formal class-action rules in 1992. Now at least four other provinces have such laws, but plaintiffs from any part of Canada may join a provincial suit. "The situation in Canada

increasingly reflects that of the United States and, in the event of a conviction of and international price fixing case in the United States … the commencement of one or more class actions in Canada … is now a virtual certainty" (*ibid.* p. 7).

Modern Private International Cartels: The Data

In common with nearly all other empirical studies on cartels, this paper considers only *discovered* cartels. Studies that depend on discovered cartels may suffer from sample selection bias[36]. These cartels were clandestine and members typically attempted to cover up or destroy evidence of their meetings and communications (Spratling 1999)[37]. Suggestions in the cartel literature are that only about 10% to 30% of all such conspiracies are discovered and punished[38]. Undiscovered cartels are probably more durable than discovered cartels and may differ in some other economic characteristics[39].

Data sources and descriptive statistics for the international cartels analyzed in this paper are explained in Connor (2003:11-18). There are 167 cases. Most of these cartels have been fully prosecuted or have had several participants prosecuted or indicted; the greatest amount of information is available for these cases[40]. All private cartels with international membership that were discovered between January 1990 and July 2003 are in the sample; cartels protected by sovereignty or multilateral treaty are excluded.

The industry distribution of the observed international cartels seems to match the industries occupied by the earlier cartels (Connor 2003: Appendix Table 8). More than 90% of affected sales occurred in the manufacturing sector, and more than 95% of those manufacturers are industrial inputs: intermediate materials, components, or capital goods. By far the largest group of cartelized manufactures is chemicals, which accounts for virtually half of affected sales in the sector. During the conspiracies, these international cartels had global or regional sales of at least $436 billion (Connor 2003: Appendix Table 7). In terms of geographic impact, only 10% of the sales of all international cartels confined their operations to the NAFTA region; another 35% of affected sales occurred within the EU (i.e., the European Economic Area). About half of the sales of markets affected by cartels involved what will be termed *global* cartels. On average, these global cartels derived less than one-quarter of their sales from North America, one-quarter from Europe, and one-third from Asia.

Antitrust Enforcement Patterns, 1990-2003

This section presents original data on the prosecutions by the U.S., Canada, and EU of international cartels, many of them global in scope.[41] The purpose is to show the pattern of anticartel enforcement by government agencies of three jurisdictions that have the most active programs to deter price fixing. These data are necessary to develop a fuller understanding of the potential for effective cartel deterrence in the long run.

General Trends

A standard textbook on antitrust policies written in the early 1980s asserts that "… the strict [U.S.] policy against price fixing largely exempts foreign cartels, even if they have U.S. members ... and probably affect prices in the United States" (Shepherd 1985)[42]. The early 1990s represent a major watershed in international cartel enforcement policies and effort. From 1945 to late 1996, U.S. prosecutions of international price-fixing schemes were rare and almost inevitably unsuccessful. Since 1995, the U.S. DOJ has had a large number of legal victories against harmful, secretive global cartels. The Antitrust Division, closely followed by its sister competition agencies in many other jurisdictions, has steadily expanded its investigatory methods, powers to negotiate guilty pleas, and harshness of penalties for non-cooperative violators.

The competition unit of the European Commission (EC) has also pursued a rising number of investigations of alleged cartel violations since the 1980s[43]. Most price-fixing cases pursued by the EC are international in the sense used in this paper, i.e., the corporate participants hail from two or more nations and involved schemes that significantly affected trade between the member states of the EU. However, the great majority of these cases have involved companies and geographic areas totally within the jurisdiction of the EC. Therefore, the EC has not had as many difficulties prosecuting international cartels as the United States and Canada.

For Europe, prosecution of cartels has involved an intensification of effort and greater harshness of sanctions after 1995. The EC's first decision against a secret cartel was adopted in 1969 (Monti 2002)[44]. The total amount of cartel fines imposed from 1969 to 1995 was €500 million in 33 cases (i.e., about 1.4 cases and $23 million per year on average). Beginning in 1996, the EC offered discounts on fines for companies that cooperated in cartel investigations and met certain other conditions. From 1996 to 2001, 24 cartel decisions were handed down and €2800 million in fines were imposed on 160 companies. In February 2002, a revised leniency program was implemented; it offered quicker decisions on discounts and the possibility of full immunity; in that year alone 9 cases were decided with fines of €1038 million (approximately $980 million). Therefore, the EC's anticartel activity 1995-2001 has comprised 88% of all the fines imposed since the EU was formed.

Three changes in the nature of anticartel activity may be noted in Europe after 1995. First, the EC has become deeply involved in investigating and prosecuting *global* cartels for the first time. Of the 28 global cartels fined by the EC, all but two were sanctioned after 1995 (Connor 2001: Appendix Table 3). Second, the EC has for the first time formally and extensively investigated international cartels with the direct cooperation of antitrust authorities outside the EU. There are at least 13 examples of such joint investigations (*ibid.* Table 7). U.S.-EC joint efforts are the most common, the first 1997. In 2000, the first global cartel investigation involving four jurisdictions was launched. Third, the competition directorate was reorganized in 1998 to create a special unit devoted to anticartel activity; a second unit was established in 2002 (Monti 2002:1-2). Fourth, the 1996 and 2002 leniency programs (discussed in greater detail below) were highly productive. From 1996 to 2001, more than 50% of all conspiring companies received leniency for their cooperation. In early 2002, the EC was receiving two leniency applications per month (*ibid.*).

The final qualitative change in EU anticartel enforcement is the devolution of such activity exclusively from the EC to the national authorities of its member states. Similar to the federal-state concurrent enforcement in the United States, the EC has fostered the involvement of the member states in prosecuting conspiracies that operated within one nation's boundaries. At least 32 international cartels have been fined by European national antitrust authorities, all since 1997 and 80% of them since 1999 (Connor 2003: Appendix Table 3). Most of these cartel prosecutions have been pursued under the national antitrust laws of the member states, but in one case the Netherlands prosecuted an international cartel using Article 81 of the EU Treaty.

The acceleration in annual rates of discovery of international cartels is quite impressive. Recall that "discovery" means the first date that a formal investigation becomes publicly known, which in some cases is also the date that sanctions are levied. In the case of global-scope cartels, only four more were discovered prior to 1996 (Figure 1). By the late 1990s, the rate of discovery of global cartels was more than six times faster than the early 1990s. After 1999, the rate had risen to seven per year – nine times faster than a decade earlier.

The rate of discovery is accelerating even more rapidly among international cartels that functioned in only one country.[45] In the early 1990s, only 2.2 international cartels were being discovered each year, most in Canada or the United States (Figure 2). In the early 2000s, more than 13 of this type were being uncovered each year, the vast majority in Europe by the national authorities. Eight cartels have been prosecuted by authorities outside North America and the EU (Australia, Hungary, the Czech Republic, Japan, Korea, and Chile), all since 1998.

The prosecutorial success of the U.S. DOJ and the EC's DG-COMP have encouraged other national agencies to focus more resources on anticartel enforcement, to adopt new laws strengthening investigatory powers or raising sanctions, and to reorganize the antitrust authorities. More vigorous enforcement is noted since the mid 1990s in Australia, South Korea, and selected East Asian countries (Round 2002). The UK has made the most sweeping changes; in 2003 price fixing was criminalized, fines were raised, and prison sentences of up to five years were made possible.

Figure 1: Rates of Discovery: Global-Scope Cartels

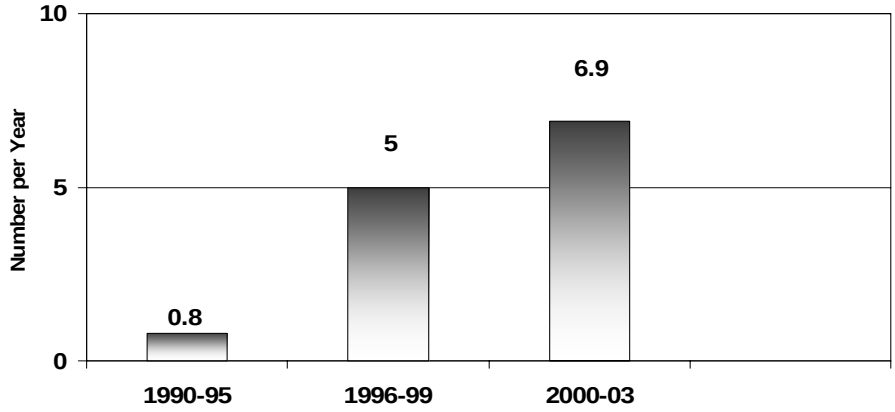
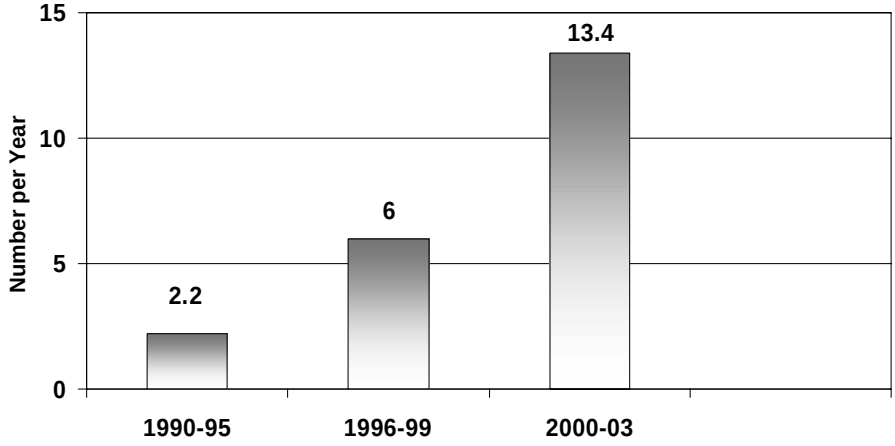


Figure 2. Rates of Discovery: Single National Market Scope



Antitrust authorities have been goaded into action by the disrespect shown by cartelists to competition laws and those who enforce them. Speech after speech by top antitrust officials betrays a visceral antipathy for global price fixers. The global conspirators are consistently described in highly emotive language as brazen, cold-blooded, contemptuous of the law,

disdainful of their customers, and eager to ignore company antitrust compliance policies (Hammond 2002, Spratling 1999, Monti 2002).

The U.S. Department of Justice

Once the threat of global conspiracies came to be recognized by the newly appointed head of the Antitrust Division in 1992-1993, the agency reordered its priorities fairly quickly. Prior to 1995, less than 1 percent of the corporations accused of criminal price fixing were foreign-based firms; after 1997, more than 50 percent were non-U.S. corporations. Fines imposed on global price fixers escalated steeply from 1996 to 1999, with new record amounts collected nearly every year. In 1999 alone, the $900-million-plus collected from international price fixers was far more than the entire 108 years of U.S. antitrust enforcement. Nearly four-fifths of the DOJ's fines for criminal price fixing were imposed on non-U.S. firms in the late 1990s. The use of personal fines and prison sentences has also escalated; since 1995, the U.S. government has sent more than 30 executives to prison for price-fixing, and a high proportion are not U.S. citizens.

During 1980-1999, the Antitrust Division convicted more than 50 price-fixing crimes per year on average.[46] Until late 1996, nearly all the cases prosecuted were domestic schemes that involved modest sales in the affected markets. Indeed, during the 1980s, more than 80 percent of the price-fixing cases involved bid-rigging, mostly construction firms colluding on government projects or suppliers to local school districts; fewer than 15 percent were directed against conventional corporate cartels.

After 1990, enforcement patterns returned to the more traditional pattern of prosecuting horizontal collusion by corporate perpetrators. More importantly, starting with the lysine cartel in September 1996, the most important U.S. price-fixing convictions have been global conspiracies. Ten such cartels were fully or partially prosecuted during, 1996-1999.[47] Total corporate fines imposed in the ten food-and-feed cartels were $1,326 million on 33 multinational corporations (five more companies were granted amnesties). In addition, the U.S. DOJ has convicted members of ten global cartels in other markets. Food-and-agricultural cartels accounted for 81 percent of the cartelized sales and 85 percent of all the fines on discovered international cartels.

During 1970-1999, the DOJ has obtained corporate fines from a high share (83 percent) of the corporations found guilty of criminal price fixing. The global cartels prosecuted in the late 1990s were clearly all fairly serious cases because all of them resulted in fines for the corporate participants.[48] Indeed, *all* cartel members were fined except for those offered amnesty (Nanni 2002).[49]

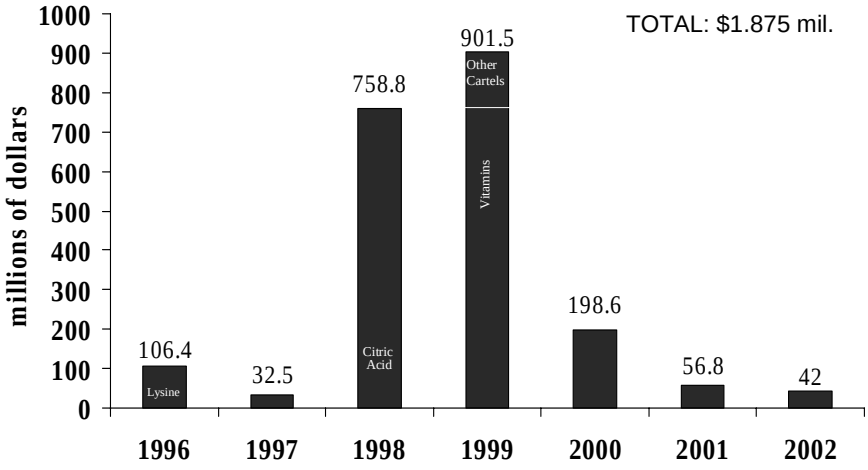
The DOJ has imposed sanctions on violators involved in 36 international price fixing cartels since 1990. A total of 118 corporations have paid fines or were liable to pay fines.[50] Of the 118 guilty firms, 23 were not fined; they either received amnesty or in a few cases settled with the government through non-monetary means such as consent decrees. As not all of these cases are closed, it appears that another 35 or so companies will either plead guilty or insist on a trial after mid 2003. Thus, the average international cartel case generates about four corporate convictions. Total fines have amounted to $2,250 million (Connor 2003: Appendix Table 2). With 95

companies fined, the average per company is $24 million, but the range is quite large and skewed toward smaller fines. Twenty of the companies or 21% received fines of $1 million or less, whereas 38 (40%) companies are members of the DOJ's "Ten-Million-Dollar Club."

The temporal pattern of U.S. fines on the 36 international cartels is shown in Figure 3. Fines imposed on the four cartels first prosecuted in 1992-1994 amounted only to $23 million (these are omitted from the figure). Beginning in 1995, the pattern is strongly affected by five big cases: lysine ($92.5 million in 1995), citric acid ($105.4, 1996), graphite electrodes ($433.3, 1998), vitamins ($876, 1999), and the USAID/Egypt construction case ($141.2, 2000)[51]. Indeed, these five cases account for 75% of the fines imposed during 1992-2003.

Clearly, 1998-99 was the peak year for U.S. fines from international corporate price fixers. After 1999, the total fines imposed trail off significantly. In the first half of 2003, only one cartel was fined by the DOJ ($5 million). While this drop off may signal a change in federal Anticartel policy, most of the decline seems to be attributable to the size of affected sales. It is likely that the number of international-cartel cases to be filed in 2003-2004 will be high; in July 2003, the DOJ had 120 grand juries empanelled on price-fixing allegations, of which 50 were international cartels (Pate 2003).

Figure 3. International Cartel Fines Collected, U.S. Dept. of Justice, 1995-2002 Calendar Years



Historically, the DOJ sought prison sentences for individuals in a minority of price-fixing cases; the rate was 23% all price-fixing cases during 1970-1999 (Connor 2001: Table 10). But in the case of *global* cartels, the DOJ obtained prison sentences in 50% of the cases since 1995. Half of the prison sentences are at the felony level of more than 12 months. On average, about three executives plead guilty or are indicted per global cartel. As of 2003, about 30% of the indicted executives not yet sentenced were residing outside the United States and were fugitives; another 10% were U.S. citizens awaiting trial (Connor 2003: Appendix Table 10). The share of long sentences imposed on the cartel ring leaders is particularly striking. In the one case where the

managers resisted making deals for pleading guilty, the lysine cartel, the three ADM executives lost at trial and were sentenced to a collective 99 months in prison; ADM's Vice Chairman was the first person in antitrust history to receive the maximum 36-month sentence.

Criminal indictments and convictions of food-and-agricultural price fixers display an interesting geographic pattern (Connor 2003: Appendix Table 2). Since 1990, total of 559 corporations and 99 individuals have been sanctioned for their roles in about 65 international cartels by U.S. or EU authorities. (There is some double counting of corporations sanctioned for the same infraction by both jurisdictions). The majority of corporate cartelists come from just four countries: Germany, Belgium, the United States, and Japan[52]. The top ten countries account for 80% of all international cartel participants. In the case of global cartels only, the 150 corporations caught participating in these cartels are headquartered in 19 countries, but those from Japan, the USA, Germany, France, and South Korea account for 77% of the total. Relative to the sizes of their national chemical industries, companies headquartered in Japan, South Korea, Switzerland, and the Netherlands seem to be overrepresented.

The executives who are fined or imprisoned for global price fixing by the U.S. DOJ are often at or near the top of their corporate management structures. Yet, in general the fines collected from individual criminal conspirators are modest compared with their corporate salaries (Connor 2003: Appendix Table 10)[53]. The median fine is $50,000. Some non-U.S. companies pay the fines for their convicted executives.

The conviction and imprisonment of non-U.S. executives for criminal price fixing by U.S. authorities is an extraordinary development in antitrust enforcement history. During 1995-2002, the U.S. DOJ has arranged guilty-pleas from dozens of top executives who were nationals of 12 foreign countries: Germany, Belgium, the Netherlands, England, France, Switzerland, Italy, Sweden, Canada, Mexico, Japan, and South Korea (Hammond 2001a). Many of these executives worked in the United States, but some traveled from their residences abroad to submit to the jurisdiction of the U.S. court, plead guilty, and pay fines. Moreover, about ten foreign nationals from Canada, Germany, Switzerland, and Sweden have served significant prison sentences in the United States.

The majority of all price fixers of U.S. prosecuted international cartels are non-U.S. nationals. About 20 executives indicted for global price fixing, the vast majority of them Japanese citizens, have chosen to remain fugitives by residing outside the U.S. territories. On the other hand, at least 12 foreign nationals from Canada, Germany, Switzerland, and Sweden have served significant prison sentences in the United States. One reason for foreigners' willingness to serve time in U.S. prisons is that if they reside or even *pass through* countries that have criminal statutes for price fixing, they may be extradited to the United States (Nanni 2002). The United States has explicit treaties with Canada, Ireland, and Japan that permit extradition for antitrust violations, though none of these has yet been invoked[54]. In 2002, Interpol added U.S. antitrust fugitives to its "Red Notice" watch list for the first time. When foreign executives plead guilty for price fixing, they are frequently granted the right of free passage across U.S. borders for their cooperation.

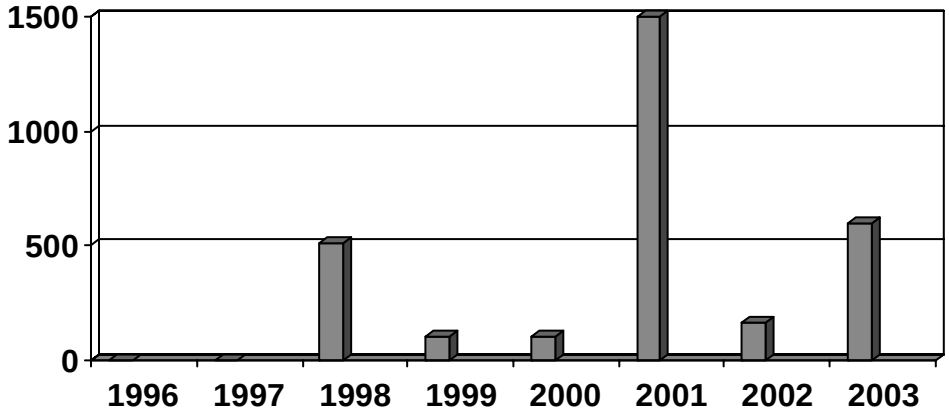
In summary, the financial penalties applied by the U.S. DOJ to global price fixers in the late 1990s were unprecedented in their harshness. Despite an increasing number of amnesties, average corporate fines for members of global cartels in the late 1990s were many times higher than the fines collected in 1990-1996, but declined significantly after 1999. While individual fines remained modest on the whole, managers of global conspiracies were more than twice as likely to receive prison sentences as managers of domestic conspiracies, and the length of the sentences has remained high since about 1998. Corporate and individual sanctions have both declined since the peak year 1999. The main reasons for the escalation in fines in the late 1990s were the extraordinary escalation in legal standards, the expanded size of the markets affected, the high overcharge rates, the longevity of many of the conspiracies, and, if truth be told, the rising intolerance of the judicial system for thieves dressed in expensive suits. This rise is especially notable in light of the fact that, correcting for inflation, average corporate fines were essentially unchanged for the first 90 years of the 20th century.

European Commission

The EC's 1998 guidelines for cartel fines give an exaggerated impression of the degree of precision of the process in practice. Moreover, firms can and usually do appeal the EC fines to the European Court of First Instance, where they often receive modest downward adjustments. Nevertheless, the fines meted out by the EC for 15 cases of global price fixing have reached an impressive $1,852 millions (Connor 2003: Appendix Tables 11 and 12). The first global cartel fined in the 1990s was lysine.[55] This fine of nearly $100 million was the fifth largest ever imposed by the EC and the first of 11 global-cartel fines up to mid 2003. In 2001, decisions were reached in four huge cartel cases with total fines of $1,115 million (together with other antitrust fines, DG-COMP imposed €1.8 billion in fines in 2001). In 2002, the EC announced an historic decision to fine four companies $250 million for global price fixing in the market for the amino acid methionine; this is the first time that the EC has prosecuted a global cartel prior to a U.S. conviction. Another 12 or more global cartel cases under investigation are likely to result in continuing large fines for the next few years.

In addition to global cartels, the EC has been busy with cartels organized within its jurisdiction. Most of these cartels involved conspiracies across national borders, but five of the 19 operated within one member state (Connor 2003: Table 17). The number and size of the EU regional cartels is close to that of the global cartels. Total fines imposed ($1,797 million) was only slightly less than those imposed on the global cartels. The total of EC fines on all types of international cartels is $3,649 million, which is almost double the DOJ's total over the same period.

Figure 4. International Cartel Fines Imposed, European Commission, 1996-2003



The temporal pattern of the EC's international cartel fines is shown in Figure 4. The years 2000-2002 were clearly banner ones; the years 2000-2002 account for 73% of the 1990-2003 total. The 2001 peak year for the EC follows that of the DOJ by two years. However, the size of the fines in 2003 appears to be slowing relative to 2002[56].

Canadian Competition Bureau

Canadian cartel-enforcement policy shifted in the mid-1990s. Prosecution of large global cartels began in 1998 with the lysine and citric acid cases (Connor 2003: Tables 15 and 15A). The fines imposed on these two cartels were almost double the amount the CCB had collected from all other cases in 1990-1997. By mid 2003, Canada had collected US$85 million in fines from 11 global cartels. Of the 11 cartels, nine followed U.S. convictions and the other two EU sanctions. The setting of cartel fines by the CCB is fairly straightforward; except for amnesty applications, a high proportion of corporate cartelists are fined 20% of Canadian affected sales or slightly lower (Low 2004:19). Questions of degrees of culpability receive minimal attention.

Only one person, the CEO of a Canadian vitamin manufacturer, has been incarcerated. This sentence of 90 days was the first such punishment in many years. Three more cartel managers, from Germany, Switzerland, and Japan, have paid large fines for their roles in the citric acid, vitamins and sorbates cartels. They paid a fines totaling $750,000, which were the third-largest fines in recent antitrust history.

In addition to global cartels, the CCB fined 20 corporations a total of $9 million for *regional* price fixing. Each of the six international cartels involved manufactured products, some of them imported. Nearly all of the companies fined were non-Canadian, which reflects the very high share of Canada's manufacturing sector that is foreign owned. The three international cartels convicted in 1991-1993 (compressed gasses and two forest insecticides) operated solely in

Canada, but the remaining three cartels (fax paper, choline chloride, and sodium erythorbate) were jointly prosecuted with the DOJ in 1994-2001.

Canada does not automatically prosecute all global cartels that are found guilty in the United States. At least eight such convictions have had no Canadian follow-up. For example, four food-ingredient cartels with relative small affected sales fined by the DOJ in 2001 (e.g., maltol, nucleotides) have not yet been prosecuted in Canada. In four other cases (fine arts, carbon fiber, magnetic iron oxide, and the 3-tenors CD), the U.S. prosecutions were quite lengthy and difficult; the Canadian Department of Justice seems to have passed on indicting in order to conserve its resources for cases easier to win.

Canadian fines for international price fixing were imposed predominantly on conspiracies in food and agricultural markets; since 1990, more than 75 percent of the fines have been imposed in these industries. The vitamins cartel was by far the largest case, accounting for 48 percent of all cartel fines imposed in Canada since 1990. Although Canada has a relatively small national market and many of the convicted firms sold cartelized products only through exporting (thus, owning few if any assets in Canada that could have been seized in the event of nonpayment of fines), it has been able to mount a surprisingly effective anticartel campaign using very slim enforcement resources, simple rules for fines, and minimal involvement of Ministry of Justice lawyers. Canada is a model for many smaller industrialized countries that have tough anticartel laws on their books yet have small enforcement resources. Unlike many other areas of law enforcement, the returns to Canada's treasury far exceed the outlays.

Other National Competition Authorities

This section examines the recent but accelerating number of international-cartel prosecutions of national authorities other than the United States and Canada.[57] These agencies have *fined* a total of 40 international cartels and as of 2003 were *investigating* another 11 international cartels (Connor 2003: Appendix Table 3).[58] The average fine imposed per cartel was $38 million, and the median about $11 million. These 51 cartels comprised 29% of the data set constructed for this paper. More than 350 companies have been fined, of which one-third were foreign, a total of $1,446 million by mid-2003. The total fines imposed is somewhat less than either the EU or United States, but an impressive amount given the restricted size of these national economies and the relatively few years of active enforcement.

The EU's member states account for the lion's share of the "other" category. The first such cartel to be fined was the glass-containers case reported by the national antitrust authority of Italy in July 1997. Italy was by far the most aggressive in prosecuting internationally cartels. Italy has prosecuted 16 international cartels since 1997 and is investigating one more; Italy accounts for 35% of the cartels discovered by the "other" national authorities. Italy's rate of discovery has diminished to about two cases per year since 1999, but the national antitrust authorities in the Netherlands and France have become newly energized. All of the Netherlands's authority's cases were launched since mid-2001, shortly after its investigative powers were strengthened. Much of its work is consumed by a major scandal involving big rigging by scores of construction companies of Dutch government building projects. The new found assertiveness of the French national authority is also impressive given that council's formal subjugation to the Ministry of

Finance. Nearly all other national authorities have a large measure of independence from government ministries.

In addition to the 40 cases generated by nine EU members, there are 11 cases associated with eight non-EU countries (two of them, Hungary and the Czech Republic later joined the EU). All of the European cases have involved cartels that fixed prices inside their national borders.[59] Most of the remaining cases are also national-scope conspiracies. The only global-cartel cases prosecuted by a national authority outside North America were lysine, vitamins, and graphite electrodes. Mexico imposed a negligible fine on a couple of the lysine conspirators in the late 1990s, and Australia fined a few of the leading vitamin manufacturers. However, the only antitrust authority to impose substantial fines on global cartels was the Korean Fair Trade Commission (KFTC). In 2002, the KFTC imposed fines of $8.5 million on six companies guilty of graphite-electrodes price fixing and $3.1 million on six vitamins manufacturers. This is a remarkable victory for a new Asian authority.

Jurisdictional Correlations

The fines imposed by the United States, Canada, and the EU are roughly proportional to the sizes of the affected markets' sales in the respective jurisdictions. In the 11 overlapping cases of global cartels available, government anticartel fines were highest in the United States, 28% lower in the EU, and about 6% of U.S. levels in Canada (Table 2). Even more impressive is the high degree to which fines were correlated in size between jurisdictions. The simple correlation between the U.S. and EC fines was +0.96, between the U.S. and Canada +0.96, and between the EC and Canada +0.99. Thus, corporate members of global cartels can use their fines imposed by the U.S. DOJ, usually the first to act, to predict with a high degree of certainty what their fines will be a year or two later in the EU and Canada.

Table 2. Eleven Global Cartels with Corporate Fines Imposed by U.S., EC, and Canada, 1996-2003.

Cartel	U.S.	EC	Canada
	Million U.S. dollars		
Lysine	92.5	97.9	11.5
Citric Acid	110.4	120.4	7.9
Vitamins	906.5	756.9	64.0
Sodium gluconate	32.5	51.2	1.6
Graphite electrodes	436.0E	172.0	15.5
Sorbates	132.0	-- [+]	5.1
Nucleotides	9.0	21.1	--
Vitamin B3	29.7	--	2.5
Isostatic graphite	15.4	51.0	0.4 [+]
Fine art auctions	52.9	20.1	--
Methyl glucamine	--	2.83	0.34
Total	1,816.9	1,308.3	108.8

Sources: Connor (2003: Tables A.1-A.12).
+ = more fines likely pending
-- = as of 2003, zero fines by this jurisdiction
E = Estimated
Note: These are the only global cases for which two or more jurisdictions had imposed fines by mid-2003.

Given the near absence of private antitrust litigation in Europe and considering the size of the EU's market, the total liabilities of cartelists operating in Europe are overall quite a bit lower in practice than an otherwise identical violation punished under U.S. or Canadian laws.

Private Suits

Despite a thorough search of business and legal news sources, satisfactory information could be gleaned about only 17 private U.S. federal-court settlements or trials since 1990, where the defendants were alleged members of international cartels. Nine were global and eight were regional NAFTA area cartels. Counting the main vitamins case as one observation, information is available on 47% of U.S.-prosecuted global cartels and 36% of the NAFTA regional cartels. Of the remainder, some have private suits pending resolution, some have been settled but were not newsworthy, and a small number had no private suits filed (e.g., in the USAID-construction case the federal government was the only injured party).

Private parties recovered at least $3.5 billion in the nine global cases (from $1 million in sodium gluconate to at least $2 billion in vitamins). Defendants in the eight regional cartels paid about $550 million to plaintiffs, the largest being cosmetics ($199 million) and choline chloride ($147 million). Even though both types are based on only U.S. affected commerce, the average global settlement was eight times as large as the average regional settlement.

Are these recoveries big or small? There are three ways of measuring the relative size of these private rewards: the ratio of the recovery to affected sales, to the overcharge, and to the government's fine (Table 3). Private settlements were roughly double the U.S. government fines. The median settlement rate for the 17 private cases was 13% of affected sales, with the global types four times as high. The median settlement rate as a proportion of the overcharge was 29%, and the global cartel median was 2.6 times as high. The median dollar settlement was about $92 million, but the median global-cartel suit settled for 1.75 times as much. By most measures, global cartels typically yielded settlements that were significantly higher than regional cartels. Although these cartel settlements recovered higher proportions of affected sales than typical domestic price-fixing cases a decade or two ago[60], the typical international-cartel settlement is still far below the triple damages envisioned by the framers of the Sherman Act.

Table 3. The Size of Private U.S. Antitrust Awards, International Cartels 1990-2003

Ratio	Global	Regional
	Percent	
Median settlement/median government fine	175	206
Median settlement/affected commerce	18	1.3
Median settlement/overcharge	76	29

Source: Connor (2003: Appendix Table 6; Tables A.2, A.6, A.8, and A.12).

There is little to be said about private cartel suits outside the United States. These types of suits are permitted in Canada, Mexico, Australia, and most EU member states, but are rare in practice (Goldman 2003, Connor 2001: 89, 529-530). These jurisdictions typically permit only single damages, have high burdens of proof, and have low chances of success for plaintiffs. Up to 2003, only one private international-cartel suit has been concluded outside the United States in plaintiffs' favor. Buyers of citric acid in Canada were awarded $6 million, which is a relatively low 2% of the amount received by buyers in the United States[61]. Suits were proceeding in 2003 for several cartelized chemicals in Canada and vitamins buyers in Australia, but no others have been reported by the world's press.

The absence of private suits outside of three countries has a negative effect on deterrence of global cartels, because only about one-fourth of the injuries caused by such cartels occurs in the United States, Canada, and Australia. At present buyers in other parts of the world have no recourse for private compensation in their local court systems, but one possible remedy is to allow foreign buyers standing to sue for treble damages in U.S. courts (Adams and Bell 1999). Foreign buyers who purchase their exports in the United States already have standing, but what of foreign buyers whose purchases take place completely off shore? An important high court decision will decide this issue soon[62].

Concluding Comments

International cartelists face investigations and possible fines in a score of national and supranational jurisdictions. Brazil, Japan, South Korea, Australia, and several member states of the EU have increasingly active anticartel agencies. However, the three jurisdictions with heretofore the most consistent legal responses to global cartels are the United States, Canada, and the EU.

The deterrence effectiveness of the highly touted monetary sanctions imposed on international cartels in the past decade may in fact be in part chimerical. The apparently large size of government fines is distorted by one overwhelming case – the global vitamins cartel. The failure

of compensatory private suits to take hold outside of North America and the near absence of large fines in most Asian jurisdictions also casts doubt on the power of current penalties to deter recidivism by international cartels. Other than the United States and the United Kingdom, few nations have increased their maximum corporate or individual sanctions in the past decade.[63] Without significant increases in cartel detection, in the levels of expected fines or civil settlements, or expansion in the standing of buyers to seek compensation, international price fixing will remain rational business conduct.

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Endnotes

[1] In this paper, international cartels are those with participants from two or more nations, while global cartels are a subset that colludes across two or more of the three most industrialized continents.
[2] One way of increasing sanctions without changing the statutes is to extend standing to foreign buyers to permit them to sue for private damages in U.S. courts. On the Empagram case, see Davis (2003) and Bush et al. (2004).
[3] In the United States, among the 23 largest class-action awards for price fixing in 1972-1999, legal fees ranged from 7% to 36% of the net recovery to the plaintiffs (Connor 2001: 471). This ratio has trended downward over time and by size of the case.
[4] The DOJ definition refers to either corporate (ultimate parent) members (nationality determined by location of the headquarters or country of incorporation) or managers' nationalities. In practice, in this paper corporate composition is the key indicator.
[5] International comity is a principal ingrained in government antitrust decisions (Waller 2000).
[6] By "prosecuted" I mean to include payments of civil penalties for violations of competition regulations as in the EU, criminal indictments, and announced formal investigations. The latter typically result in fines or guilty pleas.
[7] In 1990, the final increase in the U.S. statutory cap on antitrust fines ($10 million per company) became law. In 1993, the DOJ announced a policy of automatic leniency for the first cartel member to confess that met certain predictable conditions, a policy shift that proved widely-effective.
[8] In Europe, Harding and Joshua (2003) conclude that "... European law has over [1890-1990] caught up with American law" (p.270) in the sense that cartels are now subject to "categorical censure". Since the 1970s in Europe, "... the classic price-fixing, market-sharing cartel has... been driven underground and become strongly prohibited... "(p.229). In 1998 the EC issued guidelines for the calculation of price-fixing fines that explained practices being followed during the 1990s (ibid, p. 242). Moreover, in 1996 the EC issued its first leniency notice, which was revised in 2002 in a way that closely mimicked the U.S. policy. Therefore, by the late 1990s, the EU had also developed a set of government Anticartel sanctions for corporations that were similar to those in the United States and Canada (ibid. pp. 216-222).
[9] In 1992, Ontario, Canada passed a major piece of legislation that promulgated rules for private class actions, and other provinces followed soon after (Goldman 2003: 4). A civil remedy was made law in 1976 and affirmed by the Supreme Court of Canada in 1989, but was little used until the 1992 rules change was promulgated (ibid). Passage precipitated a large number of suits against members of international cartels in Canada. Along with Canada's nearly per se condemnation of price fixing as a criminal act, the addition of feasible compensatory suits brought Canada's legal structure very close to the U.S. model.
[10] Only one or two had side agreements with Japanese manufacturers (Kudo 1994). Edwards (1944) found 60% U.S. participation.
[11] In the 1930s, private cartels were estimated to have controlled 40% of world commodity trade. Edwards (1944) enumerated 179 interwar international cartels.
[12] The DOJ settled a case against the uranium cartel with a token *nolo* plea and fine in 1978, even though private treble-damage suits were successful (Connor 2001: 66-69). The government lost in trial when it attempted to convict the leaders in the industrial diamonds (1994) and thermal fax paper (1995) cartels. During 1980-1994, the DOJ brought only four cases (out of 1,025) against international cartels (Gallo *et al*. 2000).
[13] The story of the increasingly effective EU prosecution of cartelists told in Harding and Joshua (2003). Canada, Australia, and South Korea have taken harsh actions against international cartels since 1990. Opinions vary about the dedication of Japan's FTC to fighting cartels (First 1995, Chemtob 2000).

[14] Publications sponsored by the ultra-libertarian Cato Institute, which for years had advocated total abolition of the antitrust laws, now select articles for its magazine that supply libertarian arguments that favor price-fixing enforcement (De Bow 1989) or provide surprisingly moderate assessments of the achievements of U.S. antitrust (Bittlingmayer 2002).

[15] In some cases errors have been corrected and reliable additional facts have supplemented the OECD data.

[16] Further details of the laws and enforcement practices can be found in Connor (2001:49-97)

[17] Under federal law both government prosecutors and private plaintiffs must prove that the cartels affected a minimal amount of interstate commerce. Interstate price fixing can be pursued under state antitrust laws.

[18] Sections 2R and 8C of the U.S. Sentencing Guidelines have been law for price fixing since 1987 (Connor and Lande 2004). A quasi-judicial Sentencing Commission proposes periodic amendments to the Congress [www.ussc.gov/2003 guid]. A June 2004 Supreme Court ruling raised doubts about whether the Guidelines are constitutional. Besides the Guidelines, there is an alternative sentencing provision used occasionally that requires the DOJ to compute the cartel overcharge and double it.

[19] Defendants also can negotiate the span of the conspiracy dates, the definition of the product market, and interest-free staggered payments.

[20] The guidelines for price-fixing fines were strongly affected by submissions of the DOJ staff and optimal deterrence theory. These sentencing guidelines have been frequently revised. In the 1990s the Guidelines begin with a base fine of 20% of affected sales (which is calculated on double-the-harm for an assumed 10% overcharge). The assumed overcharge was doubled in part to allow for the dead-weight social losses generated by price fixing. The culpability factors (increases for recidivism, high-level-management involvement, and big rigging; decreases for cooperation) then allow for a range of corporate fines between 20% and 80% of affected sales. In theory, corporations are liable for at least 14 times higher fines after 1987 than during the late 1970s; in practice, the DOJ typically requests very large discounts for minimally cooperative firms.

[21] The statutory maximum individual fine is $350,000, but under the so-called “alternative sentencing provisions” of 18 U.S.C. § 3571 (d), the U.S. DOJ can calculate a violator’s fine using the overcharge of all the cartel’s members, not just a single company’s (Spratling 1997). The maximum “alternative” fine is $25 million, but this method has been used in only one case.

[22] In April 2004, the maximum corporate fine was raised to $100 million and the maximum prison sentence to ten years.

[23] Government fines can be based on double the overcharges to U. S. buyers, and the DOJ has the discretion to use global affected sales in place of U.S. sales; the former are typically at least three times domestic sales. Treble damages for U.S. direct buyers may be followed by treble damages for indirect purchases in about half of the state courts or in *parens patriae* suits. Based on domestic sales only, the upper limit is six times the overcharge. The U.S. Government has not used global sales to calculate the base fine up to now; it only uses large global sales to adjust the culpability multipliers (Kovacic 2002). However, it may still have the *power* to use global sales for base fines should it wish.

[24] The Antitrust Division of the DOJ has about 900 employees, but it can call upon hundreds of FBI agents for cartel investigations. Prior to 1993, the FBI had treated price fixers with the gentleness accorded a shoplifter, and price-fixing fines had been cheerily paid with all the embarrassment associated with a parking ticket. But after 1992, price-fixing probes had all the trappings of a major conspiracy by the worst types of organized criminals (Eichenwald 2000).

[25] There is a lively debate in the law-and-economics literature over the desirability of treble damages suits. Papers published in the 1970s and 1980s expressed concern that treble damages would encourage buyers to delay suing price fixers in order to increase their legal recoveries – a perverse incentive. Other researchers have suggested “neutral” welfare consequences; that is, private suits result in pure income transfers with no social welfare impacts. The latest word in this stream of the literature is Besanko and Spulber (1999). Their game-theoretic model with apparently reasonable assumptions deduces that treble damages generally leads to positive welfare increases if the probability of conviction and the multiple of damages recovered is high enough.

[26] Plaintiffs that remain members of the federal class have their negotiated settlement approved by the supervising judge, but the amounts are typically not published or widely available. Even for some large

court-approved settlements, press reporting is spotty. After defendants offer a payment to class members, some companies opt out. Settlements by opt-out plaintiffs are confidential unless recipients must report a recovery to their shareholders.

[27] Most states also allow treble damages, but a few smaller multiples.

[28] The DG-COMP has about 500 professionals, half the Antitrust Division's number, but broader legal responsibilities (state subsidies, issuing negative clearances, etc.) than the Division. Moreover, the U.S. DOJ has dedicated investigators in the FBI, whereas DG-4 does its own probes.

[29] Besides the USA and Canada, eight other countries provide for criminal sanctions: Austria, Germany, France, Norway, Ireland, Slovakia, Japan, and South Korea. Australia and the UK are considering such laws (Hammond 2002).

[30] Like the FTC, the EC competition directorate investigates allegations of antitrust violations, holds hearings in which defendants can present their side of the case, makes an initial determination of guilt, recommends sanctions, has those decisions approved by the full commission, and may have its decisions appealed by the guilty parties to two higher courts.

[31] Serious consideration is begin given to imprisonment and personal penalties (Wils 2001).

[32] The method of calculating EU antitrust fines was first made more explicit in an EC decision of January 1998 (Wils 1998).

[33] Similar to U.S. practice, mitigating factors include playing a purely passive role, nonimplementation of the agreement, immediate termination after discovery, and good prior antitrust training programs.

[34] A separate Competition Tribunal can impose divestment or cease-and-desist orders. Canadian laws do not explicitly make cartels *per se* illegal; if a suit is filed, the prosecution must present evidence of monopoly power (Low 2004).

[35] In several cases, except for leniency discounts, apparently to save the costs of economic analysis and litigation, the CCB has imposed identical percentage-of-sales fines on each of the conspirators in global cartels).

[36] There are studies of legal cartels that are presumably free of sample selection bias (Dick 1996, Symeonidis 2002).

[37] Some of the shipping conferences met openly, but hid the extent of their price coordination.

[38] Some cartels are investigated but not indicted because the evidence of guilt is insufficient, other cases have higher priorities, or the statute of limitations intervenes. Presumably, cartelists could reveal their successful, undiscovered conspiracies five years after they terminated without legal liability, but they never do.

[39] However, it is also possible that discovery is linked to characteristics that are of no analytical import for the objectives of the present paper. For example, discovery may be associated only to managerial personality characteristics (e.g., the tendency to become a whistle-blower) that are distributed disproportionately to discovered cartels. If the latter is true, then discovered cartels may be representative of the majority of cartels that are hidden.

[40] However, 39 cases are cartels under investigation prior to indictments, guilty pleas, or the impositions of fines. That is, alleged cartel members have been subject to investigative raids or have been served subpoenas in the United States. The chances of prosecution are judged to be high.

[41] Recall that under the U.S. DOJ's definition of "foreign" or international at least one target (corporate or individual) of an investigation or conviction must have non-U.S. registration, citizenship, or residence. Global cartels are subsets that aimed at affecting prices in three or more continents or consist of members drawn from three or more continents, usually Europe, North America, and Asia.

[42] Shepherd does not mention U.S. government partly decided not to prosecute because the Canadian government was a party to the agreement (Spar 1994, Waller 2000). The participation of foreign governments in cartels greatly complicates prosecutions.

[43] Most price-fixing cases pursued by the EC are international in the sense used in this paper, i.e., the corporate participants hail from two or more nations, and most also involved schemes that affected trade between the member states of the EU. However, the great majority of these cases have involved companies and geographic areas totally within the jurisdiction of the EC. Therefore, the EC has not had as many evidentiary hurdles in prosecuting international cartels as the United States and Canada.

[44] The Quinine cartel of six undertakings was fined ECU 500,000 in July 1969 and the dyestuffs cartel a week later (ECU 490,000). However, the EC proceeded cautiously thereafter by fining only five cartels in the 1970s and 16 in the 1980s (Burnside 2003).
[45] Three cases in this category operated in both Canada and the United States.
[46] The DOJ convicts more than 80% of those indicted for antitrust. Nearly all convictions are through plea bargains rather than trials.
[47] Data in this paragraph from Connor (2002: Tables 3, A.1, A.2, and A.3.).
[48] Table 5 includes every global cartel case filed after September 1996 and largely concluded by mid 2003.
[49] Only one corporate cartel participant risked a jury trial, and it lost badly. Mitsubishi Corp. had very little direct involvement in the global graphite-electrodes cartel, yet it was fined $134 million in 2001.
[50] A few firms were fined more than once. These are double counted.
[51] The USAID-construction case includes restitution, which is treated in this paper as equivalent to a monetary fine.
[52] One unusual case, the Euro-Zone Banks prosecution in the EU distorts the distribution. Excluding this case causes Belgium, Portugal, and Austria to drop out of the top ten countries to be replaced by Italy, South Korea, and Sweden: the top five countries then become the United States (17% of all corporate violators), Germany (15%), Japan (14%), France (9%), and the UK (7%). The individuals sanctioned for initiating and leading international cartels are overwhelmingly from the United States and Japan (65%).
[53] However, there are two noteworthy examples of high fines paid by the ringleaders of global cartels. The first was a fine of $10 million paid in 1998 by the German Chief Executive Officer of SGL Carbon, the instigator of the graphite electrodes cartel. He paid a fine well above the statutory cap of $350,000 to avoid a prison sentence. Second, in 2002, the Chairman of Sotheby's art auction house was convicted at trial for fixing the fees for selling precious works of art. His fine of $7.5 million was the first litigated example of the alternative fine statue being applied for price fixing. This statute permits personal fines of up to $25 million, depending on the size of the overcharge caused by the cartel's operations.
[54] In 2004 the first Japanese manager was extradited for a criminal cartel offense.
[55] The EC's lysine investigation was launched one year after the FBI raids were publicized and four years after the FBI's probe began. The EC's decision was announced on July 27, 2000, four years after the DOJ's convictions. This count of global cartels excludes three shipping conferences fined in 1992 and 1998: the largest fines on the TACA conference were reduced to zero by a 2004 decision of the European court of First Instance.
[56] Four of the five cartels prosecuted by the EC in 2000-2001 operated in the food-and-agriculture sector. As in the United States and Canada, these cartels accounted for the lion's share of fines: 85 percent in the EC case. A recent survey of EC competition-law enforcement did not anticipate these cases (Buccirossi *et al*. 2002). These authors concluded that the DG-COMP's priorities in the agricultural-inputs industry were tacit collusion. Overt price fixing was mainly a concern in the food processing industries.
[57] Besides all the usual journalistic sources, information on these cases was supplemented by visiting the web sites of more than 25 national authorities, many of which have extensive translations into English. Another important source was these agencies annual reports to the OECD, which tend to highlight most of the bigger cartel cases. Convictions by national authorities in the early 1990s are not as well documented as more recent years, so it is possible that the sample may have missed a couple of instances.
[58] The type of cases prosecuted differs somewhat from those in the EU and North America. A fairly large share of these cases involved government bid-rigging schemes. Several cases dealt with sales of drugs or diagnostic devices to national health programs; asphalt, concrete, and other public construction services; and fuels purchased for the military. Seven cases focused on retail gasoline prices; many of these followed recent privatizations of national petroleum companies and withdrawal of government price regulation.
[59] One possible exception is the calcium carbide case investigated by Norway and Germany in 2003-04.
[60] Cohen and Scheffman (1989) provide a useful historical benchmark for actual U.S. price-fixing fines. From 1955 to 1974, the average fines amounted to only 0.4% of the cartel's affected sales. During 1974-1980, when the maximum corporate fine was raised to $1 million, the average price-fixing fines rose to 1.4% of affected commerce. On average, corporations received 86% discounts from the base fine in 1974-1980. A comparable survey of 1988 fines reported average price-fixing fines of only $160,000 per

company, which was a mere 0.36% of the overcharges (Sheer and Ho 1989). Thus, while the fines on "regional" cartels remain about the same as formerly, the fines imposed on modern international cartels are many times higher than the fines imposed earlier on domestic price-fixing conspiracies.

[61] Sales of citric acid in Canada during the conspiracy were about 7% of those in the United States, and overcharge rates were about the same.

[62] Bush et al. (2004) address this issue. Standing for wholly foreign buyers is to be decided by the Court of Appeals of the District of the District of Columbia in late 2004.

[63] Attempts to raise surcharge level for manufacturers in Japan from 6% to 12% appear to have stalled because of industry opposition.