



School of Law

# **ANTITRUST SANCTIONS**

**Douglas H. Ginsburg, U.S. Court of Appeals  
for the District of Columbia**

**Joshua D. Wright,  
George Mason University School of Law**

***Competition Policy International*, Vol. 6, No. 2,  
pp. 3-39, Autumn 2010**

**George Mason University Law and Economics  
Research Paper Series**

**10-60**

This paper can be downloaded without charge from the Social Science  
Research Network at [http://ssrn.com/abstract\\_id=1705701](http://ssrn.com/abstract_id=1705701)



**CPI** COMPETITION POLICY  
INTERNATIONAL

Volume 6 | Number 2 Autumn 2010

# Antitrust Sanctions

Douglas H. Ginsburg

U.S. Court of Appeals

&

Joshua D. Wright

George Mason University

School of Law

# Antitrust Sanctions

---

*Douglas H. Ginsburg & Joshua D. Wright\**

In this article, we first discuss traditional deterrence theory as applied to optimal criminal antitrust penalties. Then we evaluate both the U.S. and EU experience with ever-increasing corporate fines and the available empirical evidence on the deterrent value of cartel sanctions. In the next part we turn to our claim that the conventional wisdom of ever-increasing corporate fines to solve the problem of under-deterrence is misguided. The determination of the optimal sanction for price-fixing should be guided by two principles: (1) the total sanction must be great enough, but no greater than necessary, to take the profit out of price-fixing; and (2) the individuals responsible for the price-fixing should be given a sufficient disincentive to discourage them from engaging in the activity. We propose altering the distribution of criminal sanctions for corporations and the individuals who fix prices on their behalf, and introducing sanctions for negligent officers and directors consistent with our two fundamental principles. Finally, we discuss the experience with debarment as a sanction in other contexts, and how it might operate in the context of U.S. antitrust enforcement.

---

\*Respectively: Circuit Judge, United States Court of Appeals for the District of Columbia Circuit, and Associate Professor, George Mason University School of Law and Department of Economics. We gratefully acknowledge the research assistance of Eric M. Fraser, Jan Rybnicek, and Judd Stone and helpful comments from John Connor, David K. Kessler, Bruce Kobayashi, Abel Mateus, and participants at the American Law and Economics Association Annual Meeting.

## I. Introduction

Antitrust authorities across the world are increasingly concerned with fighting cartels, especially international cartels.<sup>1</sup> Countries previously without cartel prohibitions, including many in Latin America, Asia, and Africa, have in recent years adopted antitrust laws and begun to enforce them. Countries with long-standing cartel prohibitions have adopted corporate leniency policies and increased the resources they dedicate to antitrust enforcement, with the result that more cartels than ever are coming to light and being sanctioned. This development has also spurred closer cooperation among national enforcement agencies.<sup>2</sup> The widespread introduction of more aggressive efforts to detect and prosecute cartel activity has led to dramatically larger corporate fines and a slow but growing movement toward criminalization.<sup>3</sup>

Antitrust laws and enforcement agencies have largely followed the conventional wisdom that the primary cure for insufficient deterrence of hard-core cartel activity, such as price-fixing, is to increase corporate fines. For example, the United States and the European Union have in recent years pointed with pride and a sense of accomplishment to the large and increasing fines levied upon companies that participate in cartels.

In the United States, the statute governing fines for antitrust offenses was amended first in 1987 to provide the option of a fine set by doubling the greater of the defendant's gain or the victims' losses.<sup>4</sup> At that time, antitrust fines set without using this alternative option were capped at \$100,000 for individuals and \$1 million for corporations.<sup>5</sup> It was amended again in 1990 to increase the maximum personal fine to \$350,000 and the maximum corporate fine to \$10 million,<sup>6</sup> and yet again in 2004 to increase the maximum personal fine to \$1 million, the maximum corporate fine to \$100 million and the maximum jail sentence from three years (which it had been since 1974) to ten years.<sup>7</sup> The maximum fine that the European Commission may impose upon a company that violates the EU's competition laws is 10 percent of the company's global turnover but, under the 2006 EC Guidelines, in most cases hard-core cartel offenses warrant baseline fines up to 30 percent of relevant sales, which can be adjusted upward with virtually no limit.<sup>8</sup>

In both the United States and the EU, the average corporate fine has increased dramatically over the last 15 years. The EU has gone from collecting an average corporate fine of EUR 2 million in 1990-94, to EUR 46 million in 2005-09; U.S. average corporate fines have grown almost a hundredfold from \$480,000 during 1990-94, to \$44 million more recently.<sup>9</sup>

Despite the large and ever-increasing corporate fines, cartels—particularly international cartels—remain a substantial problem, and recidivism among price-fixers is not infrequent. The impossibility of observing how many cartels go undetected renders the empirical evidence that bears upon the issue subject to more

than one interpretation, but the data are largely consistent with cartel formation rates that, despite the growth in fines and the introduction of corporate leniency programs, imply current antitrust sanctions are an insufficient deterrent.

Although the corporation is the current focus of deterrence, there are in fact two potential targets for antitrust sanctions: The corporation and the individual who fixes prices on its behalf. There also two sources of antitrust sanctions: Law enforcement, which may fine both types of offenders, incarcerate individuals, and, as we propose, debar them from serving as corporate officers or directors; and the market, which imposes reputational penalties upon both types of offenders. The challenge for antitrust law is to coordinate these various corporate and individual sanctions to achieve the optimal total sanction.

We believe determination of the optimal sanction for price-fixing (and other cartel activities) should be guided by two fundamental principles. First, the total sanction must be great enough, but no greater than necessary, to take the profit out of price-fixing. If the expected value of price-fixing net of legal sanctions is positive, that is, if price-fixing is profitable, then the market will produce it. This point illustrates the complex interactions between corporate and individual sanctions. Where the conduct is profitable to the firm, and therefore increases its

DESPITE THE LARGE AND  
EVER-INCREASING CORPORATE  
FINES, CARTELS—PARTICULARLY  
INTERNATIONAL CARTELS—REMAIN  
A SUBSTANTIAL PROBLEM,  
AND RECIDIVISM AMONG  
PRICE-FIXERS IS NOT INFREQUENT.

share price, it is more likely that both firm and the individual perpetrator are rewarded rather than penalized by the market, thus increasing the total sanction necessary to provide optimal deterrence.

Whether the first principle is satisfied depends, in part, on the level of sanctions imposed upon the corporation. With an appropriately calibrated corporate sanction, reputational penalties imposed upon the corporation

and its agents will reduce the individual fines and jail sentences necessary to achieve the desired level of deterrence.<sup>10</sup> On the other hand, if the corporate sanction exceeds this level, then it risks over-deterrence by providing an incentive for excessive corporate monitoring and compliance expenditures that are ultimately passed on to consumers in the form of higher prices and foregone products and, in any event, is likely inefficient. This point remains valid even if the optimal level of cartel activity is zero.

The second principle is that the *individuals* responsible for the cartel activity, whether they are engaged in, complicit with, or negligent in preventing the price-fixing scheme, should be given a sufficient disincentive to discourage them from engaging in that activity.<sup>11</sup> The U.S. Antitrust Division reasonably believes that “individual accountability through the imposition of jail sentences is the single greatest deterrent” to cartel activity.<sup>12</sup> A survey done for the U.K. Office of Fair Trading confirms that criminal penalties are the penalties of greatest con-

cern to business people.<sup>13</sup> A penalty scheme that is faithful to the first principle implies that at least part of the disincentive for the responsible individual will be market-based; the career prospects for a convicted price-fixer should be diminished, and certainly not enhanced, by his record of price-fixing. Because reputational sanctions are likely to be highly imperfect, however, it is important that the sanction be targeted directly at the responsible individuals, and not at their employers. The sanctions should also be proportional to fault. That is, the individual perpetrator should face a more serious sanction than the director or officer who negligently supervised the perpetrator. Note that although the first principle focuses upon calibrating sanctions to the optimal level of deterrence, the second principle emphasizes the efficient allocation or mix of deterrent capital between the corporation and the individuals who act on its behalf.

While in principle there is certainly some fine or a combination of fine and jail time sufficiently high to deter individuals from price-fixing, the available anecdotal and quantitative data suggest further increasing the fines imposed upon corporations is not likely to solve the problem. It is here that we offer an alternative solution: De-emphasize fines for publicly traded corporations and, instead, debar individuals responsible for price-fixing from further employment in a position from which they could again violate or negligently enable their subordinates to violate the antitrust laws. As we shall argue below, imposing ever-higher corporate fines is misguided; criminally sanctioning the persons directly engaged in or complicit with price-fixing and debarring negligent directors and officers whose conduct do not warrant a greater sanction would deter more price-fixing than would increasing the fines levied upon the corporation that employed them. Debarment has already been authorized as a sanction for price-fixing in some countries, including the United Kingdom, Australia, and Sweden, and has been proposed by the Competition Commission of South Africa.<sup>14</sup>

WHILE IN PRINCIPLE THERE IS CERTAINLY SOME FINE OR A COMBINATION OF FINE AND JAIL TIME SUFFICIENTLY HIGH TO DETER INDIVIDUALS FROM PRICE-FIXING, THE AVAILABLE ANECDOTAL AND QUANTITATIVE DATA SUGGEST FURTHER INCREASING THE FINES IMPOSED UPON CORPORATIONS IS NOT LIKELY TO SOLVE THE PROBLEM.

Our proposal to reform antitrust sanctions for price-fixing has two key components: the overall level of deterrence, which entails making debarment and jail time available to enforcement agencies that do not now have those options, and the mix, as opposed to the level, of criminal sanctions. Guided by the two fundamental principles set out above, we propose to shift sanctions away from the corporation and toward perpetrators and other responsible individuals.

In Part II we discuss traditional deterrence theory as applied to optimal criminal antitrust penalties. In Part III we evaluate both the U.S. and EU experience with ever-increasing corporate fines and the available empirical evidence on the deterrent value of cartel sanctions. In Part IV we turn to our claim that the con-

ventional wisdom of ever-increasing corporate fines to solve the problem of under-deterrence is misguided. We propose altering the distribution of criminal sanctions for corporations and the individuals who fix prices on their behalf, and introducing sanctions for negligent officers and directors consistent with our two fundamental principles. In Part V we discuss the experience with debarment as a sanction in other contexts, and how it might operate in the context of U.S. antitrust enforcement. Part VI concludes.

## II. Traditional Deterrence Theory and Optimal Antitrust Penalties

The economic analysis of optimal legal sanctions and criminal punishments is built upon the foundational insight that penalties should be sufficient to induce offenders to internalize the full social cost of their crimes.<sup>15</sup> In a simple setting where detection of crimes and enforcement of the law are both perfect (probability of punishment = 1) and costless, the optimal sanction will be equal to the total social harm of the crime. In the more realistic setting in which the probabilities both of detection and of punishment are less than perfect and enforcement costs are positive, optimal penalties must exceed the social cost of the crime so that the expected sanction facing each potential violator is equal to the harm his violation will cause. This economic insight of optimal penalty theory is captured in our first principle. Because the furtive nature of cartel activity reduces the probability of detection and successful prosecution, the optimal total sanction must consist of a fine equal to the perpetrator's expected gain from the violation multiplied by the inverse of the probability of detection (plus the variable enforcement costs of imposing the sanction, which we ignore henceforth). The key insight of the economic approach to optimal penalties generally,

THE KEY INSIGHT OF THE ECONOMIC APPROACH TO OPTIMAL PENALTIES GENERALLY, WHICH APPROACH APPLIES WITH FULL FORCE TO ANTITRUST SANCTIONS, IS THAT THE PENALTY MUST BE SUFFICIENT TO RENDER THE EXPECTED VALUE OF THE ILLEGAL BEHAVIOR EQUAL TO ZERO.

which approach applies with full force to antitrust sanctions, is that the penalty must be sufficient to render the expected value of the illegal behavior equal to zero.

Within this framework, therefore, the central determinants of the optimal antitrust sanction are the probabilities that price-fixing is detected and that an enforcement action is successful. In the simplest model of optimal antitrust penalties, the trebling of damages implies a detection rate of less than 33 percent. Although

it is inherently difficult to determine the actual detection rate because some cartels go undetected, the best available estimate places the rate much lower, between 13 and 17 percent.<sup>16</sup> Although that estimate is somewhat dated, as it was based upon data from cartels indicted by the U.S. Antitrust Division between 1961 and 1988, more recent estimates based upon data for the EU sug-

gest a detection rate consistent with the low end of that range.<sup>17</sup> On the other hand, there is some evidence the detection rate in the United States has increased by as much as 60 percent in recent years as a result of the corporate leniency program;<sup>18</sup> although there are no comparable data for the EU, the effect of its corporate leniency program should be similar. Therefore, assuming a prior detection rate of about 15 percent in both the EU and the United States, the current rate would be approximately 25 percent.

The relatively low probability of detection raises the probability of under-deterrence and hence the need for increased sanctions. At the same time, care must be taken lest excessive penalties deter efficient conduct and cause corporations to overinvest in compliance.<sup>19</sup> The pertinent question is whether antitrust sanctions and the threat thereof impose costs greater than necessary to deter cartel activity.<sup>20</sup> There are two important potential sources of over-deterrence in criminal antitrust sanctions. The first is the possibility that criminal penalties will be used to deter socially efficient conduct, such as non-collusive vertical restraints, which could be mistakenly attacked as price-fixing.<sup>21</sup> Although the antitrust statutes could be used that way, there is no modern support for extending criminal penalties to non-cartel activity, nor is there evidence that this potential for mischaracterization has led to a reduction in socially efficient business practices. Accordingly, we strongly favor the modern *de facto* limitation of criminal penalties to cartel activities, such as naked horizontal price-fixing, bid-rigging, and market division.<sup>22</sup>

THE PERTINENT QUESTION IS WHETHER ANTITRUST SANCTIONS AND THE THREAT THEREOF IMPOSE COSTS GREATER THAN NECESSARY TO DETER CARTEL ACTIVITY.

A second potential source of over-deterrence involves agency costs. A firm incurs agency costs to the extent its incentives diverge from those facing its employees and agents. Because agency costs create an environment that facilitates criminal conduct by the firm's agents, corporate fines are meant to provide a counter-incentive for the corporation to monitor, detect, and prevent crimes committed by its agents.<sup>23</sup> If the fine is greater than the total social cost of the crime, however, it will induce the firm to make excessive, *i.e.*, socially inefficient, investments in monitoring and prevention.<sup>24</sup> The social costs of the monitoring and compliance expenditures made in response to an increase in antitrust fines raise the firm's marginal costs and are passed on to consumers in the form of higher prices—a detriment that must be weighed against any potential increase in the probability of detection when assessing the optimal level of deterrence.<sup>25</sup>

To our knowledge, however, there is no empirical evidence that suggests consumers anywhere are currently paying the cost of an overzealous cartel enforcement regime.<sup>26</sup>

Attention to agency costs in determining the optimal antitrust penalty brings to light the key distinction between the level of penalties required for optimal



deterrence and the efficient allocation of those penalties as between the corporation and its agents. The simple model of optimal antitrust penalties ignores that distinction as well as a number of other complications. For example, reputational sanctions in the employment market can reduce the requisite level of legal sanctions.<sup>27</sup> The risk preferences of individuals and the possibility of legal error also alter the optimal sanction. Finally, other penalties—particularly the

TO OUR KNOWLEDGE, HOWEVER,  
THERE IS NO EMPIRICAL EVIDENCE  
THAT SUGGESTS CONSUMERS  
ANYWHERE ARE CURRENTLY PAYING  
THE COST OF AN OVERZEALOUS  
CARTEL ENFORCEMENT REGIME.

costs incurred by defendant corporations in private suits for damages—are also relevant to identifying optimal antitrust penalties because they, too, influence firm behavior *ex ante*.<sup>28</sup>

The standard economic approach to optimal sanctions suggests that, because fines and damage awards are transfers that do not reduce social welfare, monetary sanctions should be

used as often as possible; alternative sanctions are called for only to the extent fines provide insufficient deterrence. This approach, therefore, leads to an antitrust enforcement system with a low probability of detection, very high fines, and very few cartels. There are a number of reasons, however, to believe fines alone will not provide sufficient deterrence and alternative sanctions such as imprisonment, which is costly, and debarment, which is not costly, should also be used in antitrust enforcement.<sup>29</sup>

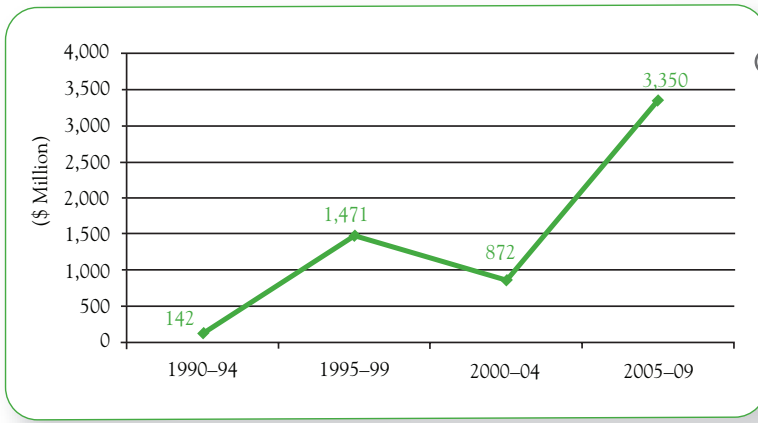
As both a theoretical and a practical matter, given the inherent uncertainty about the probability of detection and other key empirical inputs, it is likely impossible to pinpoint the optimal level of total antitrust sanctions, much less to identify precisely the mix of the potentially available sanctions that would lead to the uniquely efficient level of deterrence. Still, the economic framework is useful for thinking about the tradeoffs between various types of sanctions and their likely consequences.

### III. Are Cartels Being Underdeterred? The Experience in the United States and the EU

The bulk of scholarly opinion is consistent with the view that despite ever-increasing levels of corporate fines and longer jail sentences, cartel activity is currently under-deterred.<sup>30</sup> Whether current sanctions under-deter is ultimately an empirical question, however, and the rate of cartel formation over time is unobservable, which makes impossible any confident conclusion about whether current sanctions are over-detering, under-detering, or just right. Nonetheless, the experience in the United States and the EU with ever-increasing fines gives some reason to doubt the efficacy of further extending this approach or, indeed, of maintaining the status quo.

## A. INCREASING FINES IN THE UNITED STATES AND THE EU

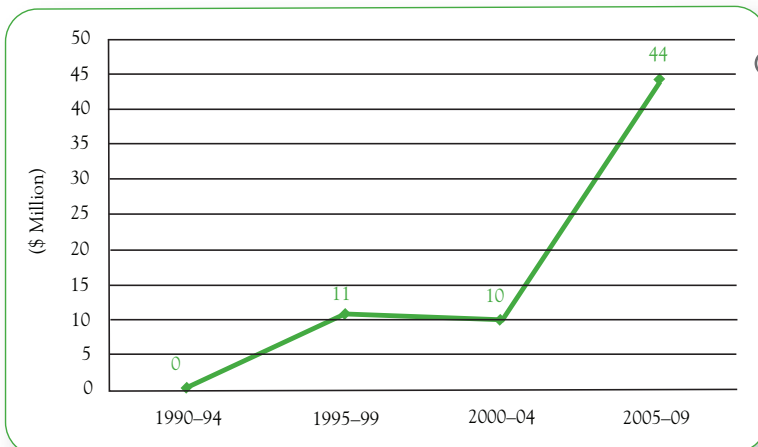
In the United States, corporate fines have increased dramatically since 1990. As Figure 1 illustrates, the enforcement agencies are clearly exercising their enhanced statutory authority, for total corporate fines collected by the Antitrust Division have increased from \$142 million during the period 1990-94 to \$3.35 billion during 2005-09. Annual average total fines collected increased from \$28 million during the period 1990-94 to \$670 million during 2005-2009, an increase of more than 2000 percent.



**Figure 1**

United States  
Antitrust Division  
Total Corporate  
Fines 1990-2009

As Figure 2 illustrates, this upward trend in corporate fines over the last 20 years, and especially the last decade, is significant. Average corporate fines have increased almost 10,000 percent from \$480,000 during the period 1990-94 to over \$44 million during 2005-2009. The trend is not the product of a small number of extremely large fines, but rather includes 73 fines of more than \$10 million during 1996-2009, 18 of which were more than \$100 million.



**Figure 2**

United States  
Antitrust Division  
Average Corporate  
Fines 1990-2009

The EU now fines price-fixers even more aggressively than does the United States.<sup>31</sup> As shown in Figure 3, total EU corporate fines in the last quinquennium were almost EUR 10 billion, or 27 times what they had been in 1990–94, reflecting an even greater rate of growth than that of total U.S. corporate fines. The United States collected more in fines only during 1999, which may reflect simply that the United States fined Hoffman-La Roche for its participation in the vitamin cartel in 1999 whereas Europe did so in 2001.

**Figure 3**

EU Total Corporate Fines 1990–2009

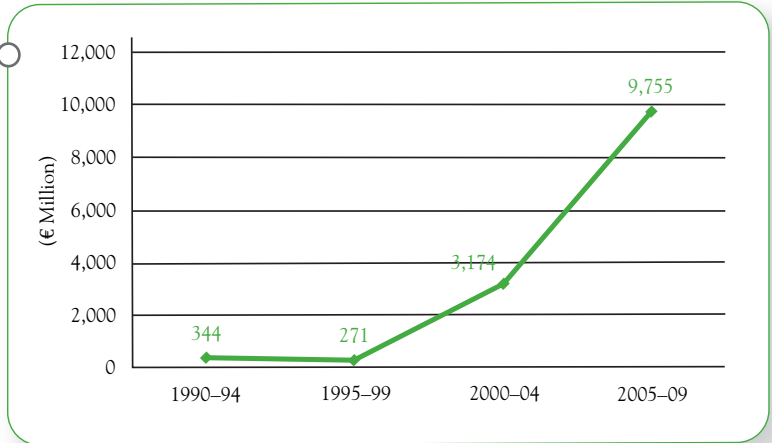
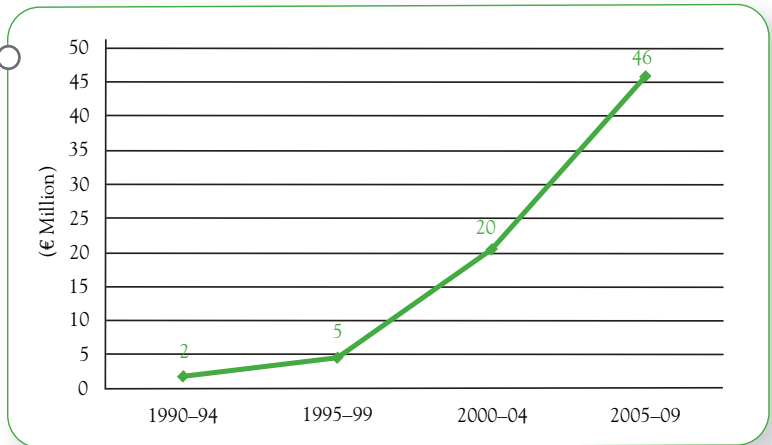


Figure 4 shows that average corporate fines in the EU increased from less than EUR 2 million during the period 1990-94 to more than EUR 45 million during 2005-09. Over the same interval, total fines levied upon corporations each year went from EUR 19 million to EUR 450 million, representing an increase of almost 24 times.

**Figure 4**

EU Average Corporate Fines 1990–2009

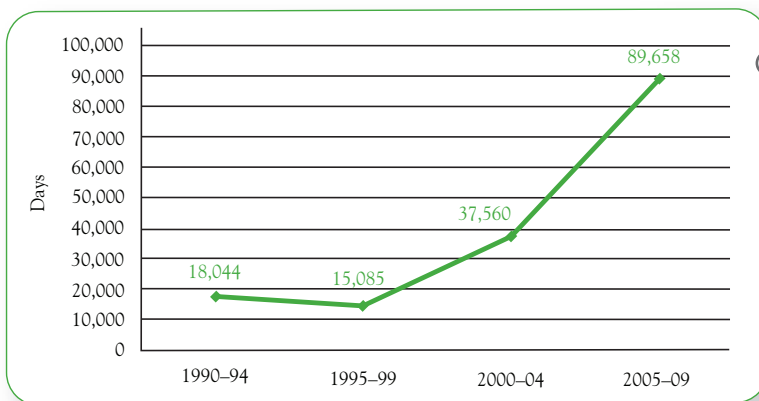


A critical question for our purposes is whether the greatly increased level of fines since 1990 has resulted in increased deterrence. Professor Connor finds that while “[i]nternational cartel discovery rates have been increasing since 1990, from four to six per year in the early 1990s to about 35 per year in 2003-2005,” detected instances of price-fixing remained relatively frequent from 1990 to 2005, extracting from consumers (in constant 2005 dollars) aggregate overcharges exceeding \$200 billion, with an average overcharge of \$2.1 billion per cartel.<sup>32</sup>

The significance of the increase in aggregate cartel fines is ambiguous. Perhaps enforcement agencies are becoming more successful in discovering and prosecuting price-fixers; or perhaps companies are even more frequently fixing prices despite the increase in the average fine. If the best way to deter price-fixing is to increase fines, then we should expect the number of cartel cases to decrease as fines increase. At this point, however, we do not have any evidence that a still-higher corporate fine would deter price-fixing more effectively. It may simply be that corporate fines are misdirected, so that increasing the severity of sanctions along this margin is at best irrelevant and might counter-productively impose costs upon consumers in the form of higher prices as firms pass on increased monitoring and compliance expenditures.

## B. INCREASING JAIL SENTENCES IN THE UNITED STATES

Corporate fines are not the only sanction imposed in the United States. As Figure 5 demonstrates, since 1990 the U.S. Antitrust Division has been sending more individuals to jail for longer periods of time, but the number of individuals sentenced has increased at a lesser rate than have fines.<sup>33</sup>



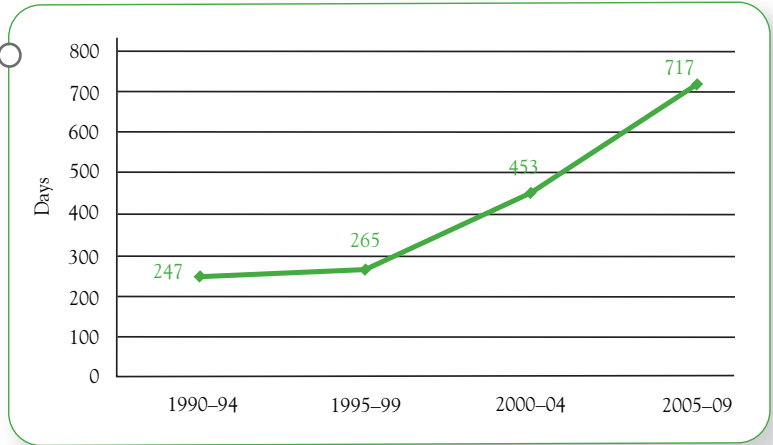
**Figure 5**

US Antitrust  
Division Total  
Incarceration  
Days 1990–2009

Perhaps more important, as Figure 6 shows, the average length of the sentence meted out also increased, especially after 2004, when the maximum lawful sentence was increased from three to ten years.<sup>34</sup>

**Figure 6**

US Antitrust  
Division Average  
Jail Sentence  
1990–2009



Comparable data are not available for the EU because there is no provision for imposing any sanction—fine or jail time—upon an individual. In some instances, however, individual sanctions may be sought by the competition agency of a member country.

**C. THE PROLIFERATION OF CRIMINAL ANTITRUST SANCTIONS AROUND THE WORLD**

Over the last decade a number of countries have increased the sanctions for cartel offenses. Penalties include not only corporate and individual fines but also jail sentences and debarment.

Fines imposed by national competition agencies can be quite significant. The U.K. Office of Fair Trading assessed an average corporate fine of £4.7 million during the period 2001–06.<sup>35</sup> During the same period, the German Bundeskartellamt collected a total of EUR 969.2 million in corporate and individual fines.<sup>36</sup> The French Competition Council imposed fines of EUR 2.0 billion from 2001 to 2008 and EUR 631.3 million in 2008 alone.<sup>37</sup>

National competition laws have also increasingly authorized incarceration for cartel offenses. For example, public prosecutors in Germany obtained a 34-month sentence for bid rigging in the *Pipes Cartel* case.<sup>38</sup> The Appendix summarizes the availability of antitrust sanctions in 39 countries. In 18 of those countries, competition laws authorize prison time for price-fixing. Criminal sanctions, however, are rarely imposed outside the United States and now Canada, where fines have been the usual penalty but imprisonment is now more frequently being sought. The overwhelming majority of these penalty regimes provide for both corporate and individual fines, while a few provide for debarment.

## D. ARE CONVENTIONAL PENALTIES DETERRING CARTELS?

There is no indication that the dramatic increase in both corporate fines and the average length of jail sentences has resulted in a significant decline in cartel activity. Corporate fines are unlikely to efficiently deter conduct by an individual employee because he will internalize almost none of the fine imposed against his employer. The data are consistent with this understanding. While it is impossible to quantify what, if any, effect the increase in criminal antitrust sanctions has had upon the level of cartel activity, the available data on the duration of price-fixing conspiracies, on stock price movements in response to cartel-related indictments, and on recidivism among companies all suggest current penalties under-deter.

The best available estimate of average cartel duration, from a study of 40 recent cases brought either by the U.S. Antitrust Division or the European Commission, is six years.<sup>39</sup> Although the sample of cartels leading to indictments is biased, there is no *a priori* reason to believe the sample selection biases upward the estimate of average cartel duration.<sup>40</sup> That these cartels persisted undetected for so long suggests price-fixing may be more profitable than was previously thought,<sup>41</sup> which in turn suggests the need for greater sanctions if cartels are to be deterred.

Stock price movements following indictments for price-fixing also suggest inadequate deterrence. A well-documented empirical regularity, both across jurisdictions and over time, is that share values in indicted firms initially fall significantly. The most recent studies evaluating EU antitrust enforcement find a large loss of value upon the initiation of an enforcement action, only a small fraction of which can be attributed to fines and legal costs.<sup>42</sup> Similar results obtain in the United States. For example, the total loss of stock market capitalization for a sample of firms indicted from 1962 to 1980 is approximately \$2.18 billion (in 1982 dollars), less than 13 percent of which can be attributed to fines, private treble damages, and other legal costs.<sup>43</sup> A similar loss of value following indictments of publicly traded firms was found in a study spanning 1981 to 2000.<sup>44</sup> One reasonable interpretation of these findings is that the residual loss in value is associated with the expectation that the price of the firm's products will drop to the competitive level, with a concomitant loss of monopoly profits.<sup>45</sup> The share price data also suggests a strong incentive for recidivism; even after accounting for fines and legal costs, price-fixing remains profitable.

Indeed, subsequent studies demonstrate that the stock prices of the overwhelming majority of indicted firms return to pre-indictment levels within one year.<sup>46</sup> Again, this result holds for indictments between 1962 and 1980 as well as between 1981 and 2000. Given the substantially greater corporate fines imposed

THERE IS NO INDICATION THAT THE DRAMATIC INCREASE IN BOTH CORPORATE FINES AND THE AVERAGE LENGTH OF JAIL SENTENCES HAS RESULTED IN A SIGNIFICANT DECLINE IN CARTEL ACTIVITY.

in the latter time period, the consistency of the stock price recovery across both periods suggests increased fines did not significantly increase cartel deterrence.<sup>47</sup> Regardless of the interpretation assigned to the initial post-indictment decrease in the stock price,<sup>48</sup> the systematic recovery of pre-indictment stock prices within a year suggests current sanctions have no more than a transitory impact upon market outcomes and little, if any, deterrent value.

Recent recidivism data in Figure 7 are also consistent with the view that sanctions are not adequately deterring cartel activity.

**Figure 7**

The World's  
Leading  
Recidivists

Company	Number of Judgments Worldwide 1990–2009
BASF	26
Total S.A. (TotalFina, Elf, Atofina)	18
F. Hoffman-La Roche	17
Azko Nobel	14
Aventis	14
ENI	14
Shell	14
Degussa (Evonik)	13
Bayer	11
Mitsubishi	10
Mitsui	10

Source: Connor & Helmers, Statistics on Private Int'l Cartels, 1990-2005 (Working Paper, 2008)

Professor Connor has identified seven companies that averaged about one or more judgments annually over the 15-year period 1990-2005. In addition to these exceptionally persistent recidivists, he found 86 companies with three or more judgments worldwide in this period. For the same 15-year period the filings of the U.S. Antitrust Division alone include three cases against Bayer and two each against Hoffman-La Roche, Degussa (now Evonik) Chemical, and Archer Daniels Midland, which again tends to suggest there is a problem with recidivism.<sup>49</sup>

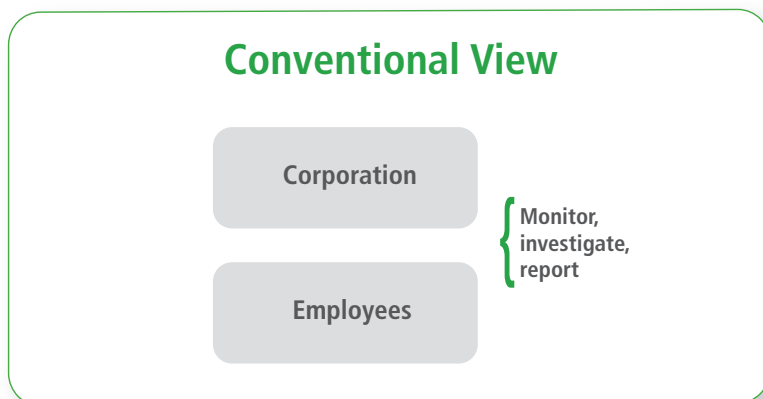
Evaluating these data, Connor concludes that although “[m]onetary sanctions imposed upon international cartelists since 1989 have been the highest in antitrust history ... extensive recidivism implies that present cartel sanctions are inadequate to deter cartel formation.”<sup>50</sup> He calculates that “even under the most optimistic assumptions about discovery, lenience, and prosecution rates, the

average conspirator can reasonably expect to make a profit on the typical global price-fixing scheme .... To ensure optimal deterrence of global cartels, total financial sanctions should be four times the expected global cartel profits (the overcharge).”<sup>51</sup> This conclusion is remarkably consistent with our earlier estimate that perhaps twenty-five percent of cartels are now detected.

If one accepts that cartels are being under-deterred, then Connor’s prescription reflects the prevailing view of how to solve the problem: Increase corporate fines, *simpliciter*. In our view, however, the prevailing view is in need of re-examination and is almost certainly wrong. Instead of expecting ever-larger corporate fines to reduce cartel behavior, we believe an alternative approach that shifts deterrence efforts away from the corporation and toward the individuals responsible for the violation will provide greater deterrence than does the current approach. We expect the increase in deterrence to be particularly large where individuals are not held criminally or civilly liable for their role in price-fixing. As for the United Kingdom, we think it is on a better trajectory than either the United States or the EU for reasons that appear below.

## IV. Our Proposal

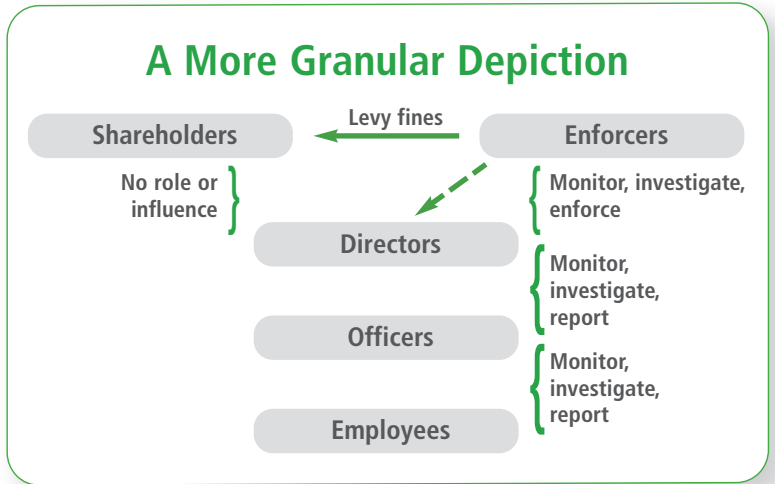
The model of the firm reflected in the approach currently taken by the antitrust enforcement agencies implicitly views “the corporation” as an entity looming above and apart from its employees, which view envisions the corporation as monitoring, investigating, and reporting their misdeeds. Therefore, it is no surprise that the standard economic approach to penalties, as applied by the enforcement agencies, yields a policy that focuses upon the corporation.



Whatever the merits of the conventional view as applied to a closely held corporation, a more granular model of the publicly traded corporation brings into clearer focus the incentives and abilities of the individuals who operate within



and on behalf of the firm. In this model, the directors oversee the officers, who manage the employees. The shareholders are passive investors; they have no influence over the day-to-day operations of the firm. Public authorities (and, in the United States, plaintiffs' class action lawyers) monitor, investigate, and enforce the antitrust laws but, because they are firm outsiders, they have less information and exert less direct influence over employee behavior than do the senior managers and the directors.



The granular model makes it easier to see why a shift from further increasing penalties for corporations in favor of increasing the sanctions imposed upon the individual employees (at whatever level) who engage in price-fixing is likely to be the more cost-effective way to increase deterrence. Shareholders cannot prevent price-fixing by employees of the corporation. Their options are to hold or to sell their shares and, insofar as possible price-fixing is relevant to their decision, they will choose between holding and selling based upon whether price-fixing is likely to increase the corporation's earnings and hence the market value of their shares.

IN SUM, AS MATTERS NOW STAND,  
NEITHER SHAREHOLDERS NOR  
DIRECTORS AND OFFICERS HAVE  
AN INCENTIVE TO PREVENT  
PRICE-FIXING AS LONG AS  
IT REMAINS PROFITABLE  
FOR THE CORPORATION.

Corporate officers and directors also reap gains from the corporation's participation in a cartel. They may capture some of the gains in the form of increased compensation and perquisites, and the increased value of shares in the corporation enhances their reputations and career opportunities.

In sum, as matters now stand, neither shareholders nor directors and officers have an incentive to prevent price-fixing as long as it remains profitable for the corporation. And, as we have seen, even at their present enhanced level, corpo-

rate fines seem not to take the profit out of price-fixing. The level of corporate fines could, of course, be increased yet again but that makes sense only if it is likely to be the most cost-effective way of achieving an additional quantum of deterrence.

Although imposing a criminal penalty upon a director or an officer would provide him with an incentive to prevent price-fixing, it makes more sense to target the actual employee who fixes prices for two reasons. First, that employee is directly responsible for the price-fixing; sanctioning a director or officer deters price-fixing only if he is able to stop the employee. Second, because an employee has less to gain from price-fixing than does a director or officer, a smaller sanction is required to deter the employee. It is true that price-fixing still occurs in jurisdictions where it is now a criminal offense, but that more likely suggests current penalties are insufficiently severe, not that imposing criminal sanctions upon individuals will have little additional deterrent value.

We assume the probability of detection is relatively fixed for the foreseeable future: Competition agencies have no shortage of resources for uncovering cartels and they have fine-tuned their leniency programs through experience. Still, the evidence suggests that cartel formation is insufficiently deterred. The question how best to increase deterrence therefore comes down to this: Is increasing corporate fines or increasing individual sanctions more likely to increase deterrence by a given amount at a lower cost?

We think it clear the time has come to increase individual sanctions rather than corporate fines. In reality, it is shareholders, not the abstraction called “the corporation,” who bear the economic burden—such as it is—of corporate sanctions. It was their agents, however, in management and on the board of directors who violated the law or who may have been in a position to prevent the violation; they should be the focus of the law’s efforts to deter price-fixing.<sup>52</sup>

Our more granular depiction of the firm has implications also for the role of compliance programs in evaluating optimal criminal antitrust penalties. If a company has made a reasonable effort to comply with the antitrust law, and an employee nevertheless engages in price-fixing, then it makes no sense to fine the corporation, or to sanction the directors or officers.<sup>53</sup> On the other hand, if the directors or officers were negligent in performing their duty to supervise the employee who actually fixed prices, then they should be held accountable along with the perpetrator. Boards of directors of publicly held companies routinely task a committee of board members—most often the audit committee but sometimes a special committee—with responsibility for corporate legal compliance. Such a committee should and ordinarily does insist that management implement an antitrust compliance program. If the board of a corporation that participates in a cartel has failed to do that, or has neglected to monitor management’s continued adherence to the program, then it is only sensible to inquire whether the

directors were negligent to the point that they, too, should be sanctioned in some way proportionate to their role in the corporation's violation.<sup>54</sup>

In theory at least, the means by which shareholders constrain management is through the oversight provided by the directors, who are fiduciaries and are supposed to act as the shareholders' representatives. That is why a state supreme court recently heard a shareholder's derivative suit against the board of directors of Micron Technology on the theory that the board had failed to prevent known price-fixing by the company's managers.<sup>55</sup> It is notoriously difficult for a derivative suit to succeed, however, and shareholders are rarely able to exert control over their board through the annual election of directors. In short, shareholders simply cannot prevent or deter a corporate employee from price-fixing or a board of directors from negligently failing to notice—but the law, properly targeted, could do so.

With our more granular model of the firm as our foundation, we turn to our proposal for the design of optimal antitrust penalties. Three groups are implicated: the perpetrator, the directors and officers responsible for antitrust compliance, and the corporation (as a stand-in for the shareholders).

Clearly, the actual perpetrator should face the traditional criminal sanctions—jail and fines, to which we would add debarment. There is ample evidence that jail sentences significantly deter individuals in general and business executives in particular.<sup>56</sup> The deterrent value of a prison sentence is supplemented by the prospect of a decrease in income and in employment opportunities incurred by an individual who has been convicted of price-fixing.<sup>57</sup> Adding debarment to the mix of potential penalties imposes a direct opportunity cost upon the perpetrator and increases both the likelihood and the magnitude of the reputational sanction. It also reduces the length of incarceration required, as well as the amount of the personal fine necessary, to achieve any given level of deterrence. Both debarment and incarceration protect the public from recidivism by a particular individual. Because incarceration involves significant social costs,<sup>58</sup> however, debarment as a complement to incarceration is more likely to achieve the desired level of individual deterrence at a lower social cost than would additional jail time.

To the extent they are culpable, directors and officers responsible for overseeing operations and implementing antitrust compliance programs should also be held accountable for their performance.<sup>59</sup> Of course, those who discharge their responsibility appropriately should not be sanctioned at all. Those who perform these tasks negligently, however, should be fined and debarred for a period of years.<sup>60</sup> Similarly, those who are complicit in a price-fixing scheme without rising to the level of a perpetrator—such as an aider or abettor—should also be both debarred and fined.<sup>61</sup>

The essential tenet of our proposal is that shifting incremental cartel sanctions away from corporations and toward the individuals who engage in price-fixing or are responsible for monitoring antitrust compliance will enhance deterrence. The addition of debarment incident to that shift complements the usual antitrust sanctions for individual violators, *i.e.*, a sentence including fines and jail as well as the reputational penalty incurred in the job market. Debarment, moreover, has some unique advantages as an antitrust sanction.

THE ESSENTIAL TENET OF OUR PROPOSAL IS THAT SHIFTING INCREMENTAL CARTEL SANCTIONS AWAY FROM CORPORATIONS AND TOWARD THE INDIVIDUALS WHO ENGAGE IN PRICE-FIXING OR ARE RESPONSIBLE FOR MONITORING ANTITRUST COMPLIANCE WILL ENHANCE DETERRENCE.

The first advantage is that debarment, like jail, imposes a direct and substantial opportunity cost upon individuals who engage in price-fixing. Indeed, an Office of Fair Trading report presents survey evidence that in the United Kingdom, after criminal penalties, disqualification from serving as a corporate officer or director is the sanction most likely to motivate compliance.<sup>62</sup> Debarment also achieves its deterrent value at a lower social cost because an executive will be equally deterred by a long prison sentence or by a shorter prison sentence (which is less costly to society than is a longer one) and debarment (which is effectively costless to society).<sup>63</sup>

The second and indirect advantage is that debarment enhances the likelihood and magnitude of the reputational sanction imposed by the job market. Increasing reputational penalties would not only enhance deterrence but would also reduce the required level of fines and jail time necessary to achieve any given level of deterrence.<sup>64</sup> To the extent an individual is wealth constrained and therefore unable to pay a large fine, debarment would further improve the efficiency of deterrence.

## V. Debarment in Other Settings

Although the United States has relied upon a mix of corporate fines and individual penalties, including fines and incarceration, neither the United States nor the EU has used debarment to deter price-fixing; indeed, as mentioned before, EU competition law does not provide for any sanction against any individual. Several countries, however, either now do or in the near future may debar those persons who engage in antitrust violations. For example, the Competition Commission of South Africa is seeking the authority to apply for a court order barring a person convicted of price-fixing from serving as a corporate director. Similarly, under the 2009 Amendments to the Australian Trade Practices Act, an individual who violates either the competition laws (the Trade Practices Act) or the securities laws (the Corporations Act) may be disqualified from managing

a corporation. In Sweden, a law effective since November 1, 2008 authorizes a court to issue a disqualification order (or “trading prohibition”) at the request of the Competition Authority. This order bars an individual who has participated in a cartel from managing any business for a specified period.<sup>65</sup>

The United Kingdom appears to be the only jurisdiction that has any experience with debarment as a remedy for an antitrust violation,<sup>66</sup> and that experience is thus far limited to one case.<sup>67</sup> Under the Company Directors Disqualification Act of 1986, a regulator may apply for a court order disqualifying a company director from again acting as a director or participating in the management of any U.K. company for up to 15 years. The OFT acquired this authority in 2002 when the United Kingdom made participation in a cartel a criminal offense.

The Disqualification Act applies to a person if “a company of which he is a director commits a breach of competition law,” which means participates in a cartel and “his conduct as a director makes him unfit to be concerned in the management of a company,” which means his conduct “contributed to the breach of competition law,” “he had reasonable grounds to suspect that the conduct of the undertaking constituted the breach and he took no steps to prevent it,” or “he did not know but ought to have known that the conduct of the undertaking constituted the breach.”<sup>68</sup>

A disqualification order provides the named individual “shall not be a director of a company ... or in any way, whether directly or indirectly, be concerned or take part in the promotion, formation, or management of a company.”<sup>69</sup> The Act has been applied for almost 25 years in contexts other than antitrust, with dozens of disqualification orders issued in 2009 alone,<sup>70</sup> so there should by now be a substantial body of precedent informing terms that are facially unclear, such as what it means indirectly to “take part in the ... management of a company.”<sup>71</sup> Thus far, the single example involving debarment of an antitrust violator is the *Marine Hose* case, which is also the only criminal competition case to go to judgment in the United Kingdom. The court sentenced three individuals to jail terms of two to three years for their participation in the cartel and, upon the petition of the OFT, entered disqualification orders of from five to seven years against each of the three defendants.

One need not look only to the United Kingdom for significant experience with debarment as a legal sanction. At least since the early 1980s, the U.S. Securities and Exchange Commission has routinely negotiated consent decrees barring a person accused of violating the securities laws from serving as an officer or director of a public company for a stated period of years.<sup>72</sup> Similarly, the Federal Trade Commission has regularly negotiated consent decrees amounting to judicial debarment orders against individuals and businesses accused of violating the consumer protection laws the agency is charged with enforcing.<sup>73</sup>

The U.S. Department of Justice should consider taking a similar approach to sentencing individuals convicted of a criminal violation of § 1 of the Sherman Act. We are aware of no reason for which the Department needs to wait for statutory authority to get started, as did the SEC, by negotiating consent orders providing for debarment.<sup>74</sup> Prosecutors might, for example, if the conditions for leniency are met, agree to allow individual defendants to reduce or avoid jail time, in return for debarring them from working as a manager or director of any publicly traded corporation or for any company in a particular industry if it is either located in or sells into the United States.<sup>75</sup>

Negotiated orders of debarment would allow the Antitrust Division to accrue much of the benefit of a prison sentence—publicizing the offense and keeping the offender from recidivating—without undertaking the risk and cost of a criminal trial. The period of debarment should be calibrated to have the same average deterrent effect as jail.<sup>76</sup> Further, as we have pointed out, debarment would bolster currently weak reputational penalties, thereby reducing the need for individual fines, which are less likely to deter efficiently because of individuals' wealth constraints.

FURTHER, AS WE HAVE POINTED OUT, DEBARMENT WOULD BOLSTER CURRENTLY WEAK REPUTATIONAL PENALTIES, THEREBY REDUCING THE NEED FOR INDIVIDUAL FINES, WHICH ARE LESS LIKELY TO DETER EFFICIENTLY BECAUSE OF INDIVIDUALS' WEALTH CONSTRAINTS.

## VI. Conclusions

The press releases of competition agencies worldwide notwithstanding, we think it is questionable, indeed doubtful that a \$100 million fine—or even a fine of over EUR 1 billion<sup>77</sup>—imposed upon a corporation because one of its executives fixed prices serves the primary goal of an antitrust sanction: to deter anticompetitive conduct that injures consumers. When fines are levied against a publicly traded corporation, the persons burdened are consumers and possibly shareholders, two groups almost certainly unable to affect the conduct of the corporation.

It was a corporate executive who conspired to fix prices or allocate the market. It was his superiors in management or on the board of directors who failed to ensure the company operated lawfully. These are the individuals we want to deter. But they will not be deterred as long as consumers and shareholders bear the brunt of antitrust penalties while the directors and officers of the company have too little incentive to prevent violations. ▼

## VII. Appendix: Penalty Regimes for Companies and Individuals

Jurisdiction	Maximum Fines for Companies	Maximum Fines for Individuals	Maximum Prison Term	Debarment	Private Action
<b>European Union</b>					
European Commission <sup>a,b,d,j</sup>	10% of total worldwide turnover; baseline fines of 30% of relevant sales for hard core offenses with no maximum	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<b>Europe: European Union Members</b>					
Austria <sup>e,gg</sup>	10% of turnover of the preceding financial year	Not Applicable	Not Applicable	Not Applicable	Private actions available; third parties may submit claims; follow-on actions available in theory; no class actions available
Belgium <sup>c,hh</sup>	10% of worldwide turnover for preceding financial year	Not Applicable	Not Applicable	Not Applicable	Private actions available; class actions not yet available <sup>hh</sup>
Bulgaria <sup>c,ii</sup>	10% of total turnover for preceding financial; max suggested to be BGN 300,000 <sup>c</sup>	BGN 50,000	Not Applicable	Not Applicable	Private actions available; follow-on actions available; class actions not available
Czech Republic <sup>c,h,i</sup>	CSK 10 million or 10% of total worldwide turnover recorded over last calendar year	Up to CZK 10 mil. <sup>h</sup>	5 years	Prohibition on carrying on business activities <sup>c</sup>	Private actions available; class actions not available
Cyprus <sup>c,ii</sup>	10% of combined annual revenue for preceding year or year within which infringement occurred plus €85K/day if infringement continues	Not Applicable	Not Applicable	Not Applicable	Private actions available; follow-on actions available; class actions not available, though representative actions are <sup>ii</sup>
Denmark <sup>a,c,d,i</sup>	Court may impose fine; no maximum though serious cases often warrant a fine >DKK 15 mil.	No maximum	Not Applicable	Not Applicable	Private actions available; follow-on actions available but rare; <sup>i,c</sup> class actions available

*Continued on next page*

## VII. Appendix: continued

Jurisdiction	Maximum Fines for Companies	Maximum Fines for Individuals	Maximum Prison Term	Debarment	Private Action
Estonia <sup>a, kk</sup>	250 million kroons (€16 million)	500 daily rates/units (calculated by average daily income of offender)	3 years	Not Applicable	Private actions available and follow-on actions available, but not typical; class actions not available
Finland <sup>a, ll</sup>	10% of turnover of the preceding year	Not Applicable	Not Applicable	Not Applicable	Private actions available; follow-on actions available; class actions not available
France <sup>a, c, k, l</sup>	10% of turnover preceding year; €3 mil. if the offender is not a company (i.e., a sole trader)	€75,000	4 years	Not Applicable	Private actions available; follow-on actions available; class actions not available unless brought by consumer ombudsman <sup>ll</sup>
Germany <sup>b, c, m</sup>	(1) 10% of total worldwide turnover, or (2) 5% of total worldwide turnover if infringement is the result of negligence	€1 million (bid-rigging cases only)	5 years	Not Applicable	Private actions available; third parties may submit claims; indirect purchaser standing available
Greece <sup>c, mm</sup>	15% of worldwide turnover preceding financial year	€150,000 or €300,000 (recidivist)	5 years	Not Applicable	Private actions available; follow-on actions available but uncommon; class actions not available
Hungary <sup>a, c, n</sup>	10% of the turnover of preceding financial year <sup>a, c</sup>	Not Applicable	5 years	5 years Applicable Automatic two year debarment for executive officers ruled unconstitutional	Private actions available; follow-on actions
Ireland <sup>a, c, d, o</sup>	Greater of: (1) €4 mil. or (2) 10% of turnover	Greater of: (1) €4 mil. or (2) 10% of turnover	2 years	Not Applicable	Private actions available; follow-on actions available; class actions not available
Italy <sup>a, c, q</sup>	Fine amount depends on gravity and duration of violation, but no more than 10% of the turnover for each entity during prior financial year from the products forming the subject matter of agreement	Not Applicable	Not Applicable	Not Applicable	Private actions available; follow-on actions available; class action available to consumers only <sup>q</sup> (law amended in 2009 take effect in 2010)



Jurisdiction	Maximum Fines for Companies	Maximum Fines for Individuals	Maximum Prison Term	Debarment	Private Action
Latvia <sup>c, mm</sup>	10% of the turnover of preceding financial year; not less than €350 for vertical agreements/ €750 horizontal agreements	Not Applicable  Fine not exceeding 100x minimum daily wage for failure to comply with decisions	Not Applicable  2 years for failure to comply with lawful demands	Not Applicable  5 years deprivation of right to engage in business activity for failure to comply with lawful demands with 2 year minimum	Private actions available; follow-on actions available when failure to conform with decision; class actions available but rare
Lithuania <sup>c, oo</sup>	10% of gross annual income of preceding financial year	Not Applicable	Not Applicable	Not Applicable	Private actions available but not typical; follow-on actions available but not typical; class actions not available
Luxembourg <sup>c, pp</sup>	10% of highest worldwide turnover realized during preceding financial year during which conduct occurred	Not Applicable	Not Applicable	Not Applicable	Private actions available; follow-on actions available but rare; class actions not available
Malta <sup>c</sup>	10% of worldwide turnover	10% of worldwide turnover of company	Not Applicable	Not Applicable	Private action available; follow-on actions available; class actions available
Netherlands <sup>a, b, c, d, u</sup>	May not exceed (1) €450,000 or (2) 10% of total worldwide turnover	Administrative: €450,000	Not Applicable	Not Applicable	Private actions available in principle; settlements brought by a group of claimant can be made binding by the courts; indirect purchaser standing available
Poland <sup>a, c, d, w</sup>	Up to 10% of the revenue earned in the preceding accounting year; or, where there is no revenue, fine up to 200 times the average salary	Not Applicable	Not Applicable	Not Applicable	Private actions available; follow-on actions not available; class actions not available
Portugal <sup>c, q1</sup>	10% of turnover in Portugal during previous year	10% of turnover in Portugal during previous year, subject to special reduction	Not Applicable	Not Applicable	Private actions available; no significant experience with follow-up actions or class actions

*Continued on next page*

## VII. Appendix: continued

Jurisdiction	Maximum Fines for Companies	Maximum Fines for Individuals	Maximum Prison Term	Debarment	Private Action
Romania <sup>c, tt</sup>	10% of the aggregate turnover of the undertaking involved for the preceding financial year	Fines available	4 years	Not Applicable	Private actions available; follow-on actions rare; class actions not available
Slovakia <sup>c, ss</sup>	(1) 10% of the turnover of the undertaking generated in the preceding financial year or (2) €330,000	(1) 10% of the turnover of the undertaking generated in the preceding financial year or (2) €330,000	Not Applicable	Not Applicable	Private actions and follow-on actions available, but rare; class actions not available, but court may join proceedings
Slovenia <sup>c, tt</sup>	10% of the turnover realized the preceding financial year	€30,000	5 years	5 year prohibition from performing occupation	Private actions available; follow-on actions available; class actions not available, but claims may be consolidated
Spain <sup>a, c, v</sup>	Up to 10% of total turnover for the fiscal year preceding the Tribunal's decision	€60,000	Not Applicable	Not Applicable	Private actions available; follow-on actions available; class actions in principle not available
Sweden <sup>a, c, d, aa</sup>	If infringement is intentional or negligent, fine up to 10% of annual turnover	Not Applicable	Not Applicable	Disqualification Orders	Private actions available; follow-on actions available; class actions available
United Kingdom <sup>a, c, d, dd, uu</sup>	10% of total worldwide turnover	Magistrate Court: £5,000 Crown Court: Unlimited	5 years	Competition Disqualification Orders	Private actions available before the Competition Appeals Tribunal (follow-on only) and civil courts; representative actions available before specified bodies; indirect purchaser standing available.
<b>Non-European Union Members</b>					
Norway <sup>a, c, d, v</sup>	Fines available up to 10% of worldwide turnover; penalty payments can be imposed while violation persists	Not Applicable	6 years	Not Applicable	Not Applicable

Jurisdiction	Maximum Fines for Companies	Maximum Fines for Individuals	Maximum Prison Term	Debarment	Private Action
Russia <sup>c, d, x</sup>	15% of company's turnover in market where violation occurred; fine must be at least RUR 100,00 (~\$3,400)	1 million rubles or a fine amounting to the convicted person's salary for up to five years	7 years	Prohibition	Not Applicable
Switzerland <sup>d, c, d, bb</sup>	Up to 10% of the three previous years' turnover realized in Switzerland	CHF 100,000	Not Applicable	Not Applicable	Private action available, but not typical; class actions not available
Turkey <sup>a, c, cc</sup>	Fines at least TRL 200 million and up to 10% of the gross income in the prior fiscal year	5% of the fine imposed on the legal entity	Not Applicable	Not Applicable	Private actions available; follow-on actions available; treble damages
<b>Asia</b>					
Japan <sup>a, d, r</sup>	Administrative surcharge up to 10% of cumulative sales forming the subject of the agreement for the duration of the agreement, up to 3 years; fine up to ¥ 500 million	¥ 5 million	5 years	Not Applicable	Private actions available; follow-on actions available
Korea <sup>a, d, s</sup>	Surcharge up to 10% of the turnover of the relevant product during the relevant period; where there is no revenue, up to KRW 1 billion	If individual engages in cartel activity after agency referral to prosecutor's office, fine up to KRW 200 million	3 years	Not Applicable	Private actions available, no discovery
<b>Oceania</b>					
Australia <sup>a, b, d</sup>	Greater of (1) AUS \$10 million (~ €5 million); (2) if court can determine value of cartel gains attributable to the act or omission then three times the value of that benefit; or (3) if court cannot determine the value of the benefit then 10% of total worldwide turnover during year prior to infringement	Administrative: AUS \$500,000 (€251,710) Criminal: AUS \$220,000	10 years	Director Disqualification Orders	Class actions and representative actions by the ACCC; private parties may opt-out to pursue own claims;

Continued on next page

## VII. Appendix: continued

Jurisdiction	Maximum Fines for Companies	Maximum Fines for Individuals	Maximum Prison Term	Debarment	Private Action
New Zealand <sup>a, d, vv</sup>	The greater of NZ\$ 10,000,000, 10% of corporate turnover, or if court can determine value of cartel gains attributable to the act or omission then three times the value of that benefit	NZ\$ 500,000; indemnification is prohibited	Not Applicable	Not Applicable	Private actions available; representative actions available
<b>Middle East</b>					
Israel <sup>e, d</sup>	ISL 4 million (~ €700,000) plus ISL 26,000 (~ €4,800) for each day offense persists	ISL 2 million (~ €350,000) plus ISL 13,000 (~ €2,400) for each day offense persists	3 years; 5 years if substantial damage	Not Applicable	Private actions available; class actions available
<b>Africa</b>					
South Africa <sup>d, z</sup>	No more than 10% of turnover in South Africa and the firm's exports from South Africa in the preceding year	R 500,000 (proposed)	10 years (proposed)	Proposed Legislation	Not Applicable
<b>South America</b>					
Chile <sup>e, d</sup>	Up to 30,000 annual tax units (~ US \$27 million)	Up to 30,000 annual tax units (~ US \$27 million)	Not Applicable	Not Applicable	Private follow-on actions available; class actions possibly available
<b>North America</b>					
Canada <sup>a, d, e</sup>	Up to CAD 25 million per count (as of March 2010)	CAD 25 million per count	14 years	Not Applicable	Private actions available; class actions available
Mexico <sup>a, d, ff, t</sup>	1.5 million times the minimum general wage prevailing in Mexico City (~ US \$6.5 million) for serious offenses, up to 10% of annual sales or 10% of assets, whichever is greater	7,500 times the minimum general wage prevailing in Mexico city (~ US \$ 30,000)	Not Applicable	Not Applicable	Private follow-on action available

Jurisdiction	Maximum Fines for Companies	Maximum Fines for Individuals	Maximum Prison Term	Debarment	Private Action
United States <sup>a,b,d,ee</sup>	(1) \$100 million (~ €76 million), or (2) if authorized by alternative sentencing statute, fines up to twice the gain derived from the criminal conduct or twice the loss suffered by the victims	Criminal: (1) \$1 million (€779,277), or (2) twice the gain/harm	10 years	Not Applicable	Class actions available; private parties may opt-out to pursue own claims; Cartelist faces joint and several liability; treble damages in the event of judgment; indirect purchaser standing not available

### Appendix Sources:

- a Organisation for Economic Co-operation and Development (OECD), *Fighting Hard Core Cartels: Harm, Effective Sanctions and Leniency Programmes (2002)*, available at <http://www.oecd.org/dataoecd/41/44/1841891.pdf>.
- b Office of Fair Trading, *An Assessment of Discretionary Penalties Regimes (2009)*, available at [http://www.offt.gov.uk/shared\\_offt/economic\\_research/oft1132.pdf](http://www.offt.gov.uk/shared_offt/economic_research/oft1132.pdf).
- c Antitrust Encyclopedia, available at [http://www.concurrences.com/rubrique.php?id\\_rubrique=512](http://www.concurrences.com/rubrique.php?id_rubrique=512) (last visited April 29, 2010).
- d Scott D. Hammond, Deputy Assistant Att’y Gen. for Crim.. Enforcement, Antitrust Div., Dep’t of Justice, Presentation at The 24th Annual National Institute on White Collar Crime (Feb. 25, 2010), available at <http://www.justice.gov/atrp/public/speeches/255515.htm>.
- e Brett Bolton & Kate Williams, *Australia*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 14–21 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>
- f Barry Zalmanowitz & Susan Paul, *Canada*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 44–49 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- g José Manuel Bustamante & Nicholas Mocarquer, *Chile*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 50–54 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>
- h Arthur Braun & Dagmar Bickova, *Czech Republic*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 65–69 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- i Christian Karhula Lauridsen & Gitte Holtsø, Denmark, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 70–73 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- j Simon Holmes & Philipp Girardet, *European Commission*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 83–91 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.

- k Natasha Assadi-Tardif & Delphine Cohen, *France*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 98–104 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- l Natasha G. Assadi-Tardiff & Marc Levy, *France: Cartel Regulations*, in THE EUR. ANTITRUST REV. 2010, available at <http://www.globalcompetitionreview.com/reviews/19/sections/69/chapters/754/france-cartels/>.
- m Alexander Rinne & Tilman Siebert, *Germany*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 105–110 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- n Judit Budai & Miklos Boronkay, *Hungry*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 117–123 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- o David Hourihane, *Ireland*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 128–133 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- p Michal Halperin & Yuval Sasson, *Israel*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 113–118 (2009), available at [http://www.meitar.com/files/downloads/cartels and leniency 2009.pdf](http://www.meitar.com/files/downloads/cartels%20and%20leniency%202009.pdf).
- q Mario Siragusa & Cesare Rizza, *Italy*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 134–141 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- r Erika Wantanabe, *Japan*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 142–148 (2010), available at [http://www.noandt.com/publications/pdf/ICLG\\_Cartels2010\\_Japan.pdf](http://www.noandt.com/publications/pdf/ICLG_Cartels2010_Japan.pdf).
- s Sung Born Park & Paul S. Rhee, *Korea*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 149–154 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- t Jorge A. Sanchez-Davila, *Mexico*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 172–177 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- u M.J. van Joolingen & S.M.M.C. Vinken, *Netherlands*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 178–182 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3356.pdf>.
- v Olav Kolstad & Henrik Svane, *Norway*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 183–188 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- w Aleksander Stawicki & Bartosz Turno, *Poland*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 189–194 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- x Anna Numerova & Vassily Rudomino, *Russia*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 208–212 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- y Ramon Garcia-Gallardo Gil-Fournier & Manuel Bermudez Caballero, *Spain*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 230–237 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- z Daryl Dingley & Martin Versfeld, *South Africa*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 224–229 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- aa Eva-Maj Muhlenbock & Martin Karlsson, *Sweden*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 238–243 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.

- bb Jurg Borer & Michael Vleck, *Switzerland*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 244–249 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- cc Gonenc Gurkaynak, *Turkey*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 250–256 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- dd Simon Holmes & Philipp Girardet, *United Kingdom*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 257–264 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- ee Ray V. Hartwell, III & David Higbee, *USA*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 265–272 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- ff Jens Erik Gould & Crayton Harrison, *Mexico's Calderon Seeks Stronger Antitrust Law, Fines*, Bloomberg Businessweek, April 5, 2010, available at <http://www.businessweek.com/news/2010-04-05/mexico-s-calderon-seeks-stronger-antitrust-law-fines-update1-.html>.
- gg Dieter Hauck & Esther Hold, *Austria*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 22–26 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- hh Jules Sturck & An-Marie Vandromme, *Belgium*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 27–32 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- ii Vladimir Penkov & Svetlin Adrianov, *Bulgaria*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 38–43 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- jj Olga Georgiades, *Cyprus*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 60–64 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- kk Ants Mailend & Valdo Poldoja, *Estonia*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 74–82 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- ll Ilkka Leppihalme, *Finland*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 92–97 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- mm Stamatis Drakakakis, *Greece*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 111–116 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- nn Liga Mence & Janis Loze, *Latvia*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 155–160 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- oo Lina Darulienė & Andrius Bambalas, *Lithuania*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 161–166 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- pp Patrick Santer & Leon Gloden, *Luxembourg*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 167–171 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- qq Mario Marques Mendes & Pedrio Vilarinho Pires, *Portugal*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 195–201 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- rr Ramona Lie & Cristina Voevodski, *Romania*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 202–207 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.

- ss Alena Cernajova & Juraj Steinecker, *Slovakia*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 213–217 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- tt Natasa Pipan Nahtigal & Ziva Juznic, *Slovenia*, in THE INTERNATIONAL COMPARATIVE LEGAL GUIDE TO: CARTELS & LENIENCY 218–223 (2010), available at <http://www.iclg.co.uk/khadmin/Publications/pdf/3380.pdf>.
- uu ABA, *Antitrust Law Developments*, vol. I (6th ed. 2007).
- vv Phil Taylor, Simon Ladd & David Blacktop, *New Zealand*, in PRIVATE ANTITRUST LITIGATION, 116–120 (2009), available at [http://www.bellgully.com/resources/pdfs/Private\\_Antitrust\\_Litigation09.pdf](http://www.bellgully.com/resources/pdfs/Private_Antitrust_Litigation09.pdf).
- 
- 1 In the United States, it has been estimated that over 90 percent of recent fines for antitrust violations are attributable to international cartel activity and said that “the typical international cartel likely consists of a U.S. company and three or four of its competitors that are market leaders in Europe, Asia, and throughout the world.” Scott Hammond, An Update of the Antitrust Division’s Criminal Enforcement Program, Address Before the ABA Section of Antitrust Law Cartel Enforcement Roundtable 2005 Fall Forum 2 (Nov. 16, 2005), available at <http://www.usdoj.gov/atr/public/speeches/213247.htm>.
- 2 OECD, *HARD CORE CARTELS: THIRD REPORT ON THE IMPLEMENTATION OF THE 1998 COUNCIL RECOMMENDATION 30* (2005), <http://www.oecd.org/dataoecd/58/1/35863307.pdf> (stating that “OECD members and observers have found that international cooperation in discovering, investigating, and prosecuting international cartels has reached unprecedented levels”).
- 3 The growing list of nations with antitrust laws providing for criminal sanctions includes Australia, Brazil, Canada, Chile, Germany, Ireland, Israel, Japan, Korea, Poland, Russia, the United Kingdom, and other jurisdictions. See Appendix.
- 4 18 U.S.C. § 3571.
- 5 15 U.S.C. § 1 (1989) (amended 1990).
- 6 Antitrust Amendments Act of 1990, Pub. L. No. 101-588, 104 Stat. 2879 (codified at 15 U.S.C. § 1 (2000)).
- 7 See Antitrust Criminal Penalty Enhancement and Reform Act of 2004, Pub. L. No. 108-237, § 215, 118 Stat. 665, 668 (2004) (codified as amended at 15 U.S.C. §§ 1-3).
- 8 See *Guidelines on the Method of Setting Fines*, Official Journal C 210, Sept. 1, 2006, at ¶¶ 21–27, 32; UK Office of Fair Trading, AN ASSESSMENT OF DISCRETIONARY PENALTY REGIMES (October 2009). Under the new guidelines, the base fine of a recidivist can be increased by up to 100 percent for each previous infringement. See *Guidelines on the Method of Setting Fines*, *supra*, at ¶ 28.
- 9 See Figures 2 and 4, *infra*.
- 10 Jonathan Karpoff, D. Scott Lee, & Gerald S. Martin, *The Consequences to Managers for Financial Misrepresentation*, 88 J. FIN. ECON. 193 (2008) (finding the likelihood of termination or ouster for individuals responsible for SEC and Department of Justice financial misrepresentation enforcement actions increases substantially with the cost of the misconduct to shareholders).
- 11 Cf. Donald I. Baker, *The Use of Criminal Law Remedies to Deter and Punish Cartels and Bid-Rigging*, 69 GEO. WASH. L. REV. 693, 713-14 (2001).
- 12 Scott D. Hammond, Ten Strategies for Winning the Fight Against Hardcore Cartels, Oct. 18, 2005 (Paris Working Party No. 3 Prosecutors Program).



- 13 UK Office of Fair Trading, *The Deterrent Effect of Competition Enforcement by the OFT* (November 2007).
- 14 Recently proposed legislation in South Africa would allow the Competition Commission to seek a court order debarring an offender from serving as a director of a firm.
- 15 The seminal analysis is in Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169 (1968). See also William M. Landes, *Optimal Sanctions for Antitrust Violations*, 50 U. CHI. L. REV. 652 (1983).
- 16 Peter G. Bryant & E. Woodrow Eckard, Jr., *Price Fixing: The Probability of Getting Caught*, 73 REV. ECON. & STAT. 531 (1991).
- 17 Emmanuel Combe, Constance Monnier, & Renaud Legal, *Cartels: The Probability of Getting Caught in the European Union* 21 (Working paper, 2008), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1015061](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1015061) (estimating a probability of detection between 12.9 and 13.2 percent).
- 18 Nathan H. Miller, *Strategic Leniency and Cartel Enforcement*, 99 AM. ECON. REV. 750, 760 (2009).
- 19 See Becker, *supra* note 14, at 191–193 (describing model for optimal levels of sanctions).
- 20 See Bruce H. Kobayashi, *Antitrust, Agency, and Amnesty: An Economic Analysis of the Criminal Enforcement of the Antitrust Laws Against Corporations*, 69 GEO. WASH. L. REV. 715, 733-734 (2001).
- 21 Mark A. Cohen & David T. Scheffman, *The Antitrust Sentencing Guideline: Is the Punishment Worth the Costs?*, 27 AM. CRIM. L. REV. 331,352-54 (1989).
- 22 We make the simplifying assumption throughout our analysis that criminal penalties will be limited exclusively to naked cartel activity. This assumption should have no effect upon the practical scope of our analysis; we are aware of no criminal cases involving non-cartel activity since 1980, when the Antitrust Division of the U.S. Department of Justice brought such a case based upon resale price maintenance. See *U.S. v. Cuisinarts, Inc.*, Crim. No. H-80-49 (D. Conn. Sept. 17, 1980).
- 23 See Kobayashi, *supra* note 20, at 736-38.
- 24 *Id.* The firm may also have an incentive to increase investments in avoiding detection and conviction. These investments, in turn, reduce the probability of cartel detection and increase the level of the optimal sanction. See Edward A. Snyder, *The Effect of Higher Criminal Penalties on Antitrust Enforcement*, 33 J. L. & ECON. 439, 440 (1990).
- 25 Kobayashi, *supra* note 20, at 736-38.
- 26 There is some evidence of a related form of over-deterrence in other areas of law. While the impact of increased exposure to liability and compliance costs can be small when spread across industries, in particular settings it can be quite large. See Tomas J. Philipson & Eric Sun, *Is the Food and Drug Administration Safe and Effective?*, 22 J. ECON. PERSP. 85, 94–95 (2008) (finding the deadweight losses due to price increases resulting from product liability litigation in the pharmaceutical industry are in the tens of billions of dollars); Paul Rubin & Joanna Shepherd, *Tort Reform and Accidental Deaths*, 50 J.L. & ECON. 221 (2007) (estimating product liability has increased accidental deaths by raising the prices of safety-enhancing goods and services); Richard L. Manning, *Changing Rules in Tort Law and the Market for Childhood Vaccines*, 37 J. L. & ECON. 247, 273 (1994) (concluding the price of vaccines went up twenty-fold after product liability was imposed).
- 27 There is at present, however, little quantitative evidence that antitrust offenders suffer serious reputational losses when convicted. See Cindy R. Alexander, *On the Nature of the Reputational Penalty for*

- Corporate Crime: Evidence*, 42 J. L. & ECON. 489 (1999); see also Jonathan M. Karpoff & John R. Lott, Jr., *The Reputational Penalty Firms Bear from Committing Criminal Fraud*, 36 J. L. & ECON. 757 (1993).
- 28 We put these issues aside for the purpose of our analysis.
- 29 Cf. Gregory J. Werden & Marilyn J. Simon, *Why Price Fixers Should Go to Prison*, 32 ANTITRUST BULL. 917 (1987); A. Mitchell Polinsky & Steven Shavell, *Should Employees Be Subject to Fines and Imprisonment Given the Existence of Corporate Liability?*, 13 INT'L REV. L. & ECON. 239 (1993).
- 30 See, e.g., Yoliya Bolotova & John M. Connor, *Cartel Sanctions: An Empirical Analysis* (Working Paper, Apr. 2008), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1116421](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1116421); Gregory J. Werden, *Sanctioning Cartel Activity: Let the Punishment Fit the Crimes*, EUR. COMPETITION J. 19 (2009); OECD, CARTEL SANCTIONS AGAINST INDIVIDUALS (2003).
- 31 The United Kingdom has also levied large fines. The largest fines in a single case totaled £225 million. See Press Release, Office of Fair Trading, *OFT Imposes £225m Fine Against Certain Tobacco Manufacturers and Retailers Over Retail Pricing Practices*, available at <http://www.of.gov.uk/news/press/2010/39-10> (Apr. 16, 2010).
- 32 John M. Connor & C. Gustav Helmers, *Statistics on Modern Private International Cartels, 1990-2005 37-38* (Working Paper, January 2007), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1103610](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1103610); Miller, *supra* note 18, provides evidence that the introduction of the corporate leniency program in the United States significantly enhanced detection rates and deterrence.
- 33 Total incarceration days in 2005–2009 were about four times what they had been during 1990–1994.
- 34 The average sentence during 2005–2009 is almost twice the average sentence during the 1990–2004 period. The average duration of incarceration increased despite a simultaneous increase in the number of persons sentenced from 73 to 125. In 2009, eighty percent of criminal defendants were sentenced to jail. The average sentence was 24 months. See U.S. Antitrust Division Update 2010, Criminal Program, <http://www.justice.gov/atr/public/update/2010/criminal-program.html> (last visited Sept. 23, 2010).
- 35 UK OFFICE OF FAIR TRADING, AN ASSESSMENT OF DISCRETIONARY PENALTY REGIMES 148 (2009).
- 36 BUNDESKARTELLAMT, OUR ACTIVITIES IN 2005 AND 2006 at 46 (2007).
- 37 Natasha G Assadi-Tardif & Marc Lévy, *France: Cartels*, in EUROPEAN ANTITRUST REVIEW 2010 (2009).
- 38 Florian Wagner-von Papp, *Criminal Antitrust Law Enforcement in Germany: 'The Whole Point Is Lost If You Keep It a Secret! Why Didn't You Tell the World, Eh?'*, forthcoming in CRIMINALISING CARTELS: CRITICAL STUDIES OF AN INTERDISCIPLINARY REGULATORY MOVEMENT, (C. Beaton-Wells & A. Ezrachi, eds., 2010).
- 39 See Simon J. Evenett et al., *International Cartel Enforcement: Lessons from the 1990s*, 24 WORLD ECON. 1221, 1226 (2001); Margaret C. Levenstein & Valerie Y. Suslow, *What Determines Cartel Success?* 44 J. ECON. LIT. 43, 49-50 (2006) (reporting an average cartel duration of five years across several studies, with a range of 3.7 to ten years). Levenstein and Suslow report no trend in average cartel duration over time. *Id.* at 51.
- 40 One possibility is indicted cartels are those that have been in operation the longest, increasing the probability of detection and suggesting the average cartel duration rate is less than prevailing estimates based upon indicted cartels. On the other hand, it is equally plausible indicted cartels are less skilled at keeping their illegal activities covert, which would suggest the average duration is greater than estimated.

- 41 See George Stigler, *A Theory of Oligopoly*, 72 J. POL. ECON. 44, 46 (1964) ("It is a well-established proposition that if any member of the agreement can secretly violate it, he will gain larger profits than by conforming to it . . . . The literature of collusive agreements . . . is replete with instances of the collapse of conspiracies because of 'secret' price-cutting.") In addition to emphasizing the threat to cartel stability posed by the incentive to deviate from collusive agreements with secret price-cutting, economists also viewed skeptically the claim that firms could sustain a price-fixing agreement without government support. See Harold Demsetz, *Two Systems of Belief About Monopoly*, in INDUSTRIAL CONCENTRATION: THE NEW LEARNING 164 (Harvey J. Goldschmid et al. eds., 1974) ("The key to sustained monopoly power is the ability of an industry to restrict or retard the expansion and utilization of productive capacity. Government can offer to industry much greater powers of coercion to accomplish this end than can be supplied by the industry itself.")
- 42 See Andrea Gunster & Mathijs A. van Dijk, *The Impact of European Antitrust Policy: Evidence from the Stock Market 2*, 21–22 (Working Paper, Apr. 2010), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1598387](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1598387) (finding a total market value loss of EUR 24 billion associated with enforcement events, of which roughly seventy-five percent cannot be explained by fines and legal costs); see also Gregor Langus, Massimo Motta, & Luca Aguzzoni, *The Effect of EU Antitrust Investigations and Fines on a Firm's Valuation* (Working Paper, Jul. 2009), available at [http://www.barcelonagse.eu/tmp/pdf/motta\\_fines\\_july09.pdf](http://www.barcelonagse.eu/tmp/pdf/motta_fines_july09.pdf).
- 43 Jean-Claude Bosch & E. Woodrow Eckard, Jr., *The Profitability of Price Fixing: Evidence from Stock Market Reaction to Federal Indictments*, 73 REV. ECON. STAT. 309, 309 (1991).
- 44 John S. Thompson & David L. Kaserman, *After the Fall: Stock Price Movements and the Deterrent Effect of Antitrust Enforcement*, 19 REV. INDUS. ORG. 329 (2001).
- 45 One alternative interpretation is that the announcement of an indictment creates market expectations of lower operational efficiency, perhaps because of the loss of key management personnel, or the risk of future illegal activity that could lead to further prosecution and fines.
- 46 See Thompson & Kaserman, *supra* note 44 (finding the share price of eighty-five percent of the firms in the sample involving indictments between 1962 and 1980 had regained one hundred percent of their pre-indictment levels within one year); Alla Golub, Joshua Detre & John M. Connor, *The Profitability of Price-Fixing: Have Stronger Antitrust Sanctions Deterred?* 11 (Working Paper, Apr. 2005), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1188515](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1188515) (finding the share prices of eighty-seven percent of the firms in a sample involving indictments between 1981 and 2001 had regained one hundred percent of their pre-indictment levels within one year).
- 47 It is possible that the significant increase in sanctions in both the United States and abroad after 2000 has resulted in greater deterrence. We are not aware of any empirical studies that test whether the stock price recovery patterns discussed above continue after 2000.
- 48 One possible explanation of the stock price recovery pattern is the market overreacts to the initial announcement of the indictment before quickly reverting to pre-indictment share price levels. This overreaction hypothesis, however, is not inconsistent with under-deterrence. From an optimal deterrence perspective, the key fact is that equilibrium share prices revert to collusive levels. Further, the overreaction interpretation requires one to believe not only that the market dramatically overreacts to negative information, resulting in short-term share prices reflecting the dissipation of future cartel rents and legal costs despite that the former are transitory, but also that the market has not improved its ability to form accurate expectations over a 40-year period despite experience with hundreds of indictments involving publicly traded corporations.
- 49 Statistics on the Department of Justice Antitrust Division criminal enforcement filings are available at <http://www.justice.gov/atr/public/workstats.pdf>.
- 50 Connor & Helmers, *supra* note 32 at 38. These recidivism data are consistent with earlier studies of

price-fixing indictments finding approximately fourteen percent of firms were repeat offenders. See Bosch & Eckard, *supra* note 43 at 309 n. 1 (evaluating price-fixing indictments from 1962-1980); Richard A. Posner, *A Statistical Study of Antitrust Enforcement*, 13 J. L. & ECON. 365, 394-395 (1970) (finding 46 of 320 corporations indicted for price-fixing violations between 1964 and 1968 had been convicted previously and ten had three or more prior convictions).

51 John M. Connor, *Optimal Deterrence and Private International Cartels* (working paper, May 2005).

52 President Woodrow Wilson made the case for shifting penalties from corporations to individuals in his January 20, 1914 remarks to Congress, in which he proposed what later became the Clayton Act:

We ought to see ... that penalties and punishments should fall not upon business itself, to its confusion and interruption, but upon the individuals who use the instrumentalities of business to do things which public policy and sound business practice condemn. Every act of business is done at the command or upon the initiative of some ascertainable person or group of persons. These should be held individually responsible and the punishment should fall upon them, not upon the business organization of which they make illegal use.

51 CONG. REC., 1963 (1914).

53 William Kolasky, when he was a Deputy Assistant Attorney General in the Antitrust Division, said one of the most startling characteristics of cartels "is that they typically involve ... executives who have received extensive antitrust compliance counseling, and who often have significant responsibilities in the firm's antitrust compliance programs." William Kolasky, Deputy Assistant Att'y Gen., Dep't of Justice, Address at the Practising Law Institute Corporate Compliance Conference (July 12, 2009). Kolasky provided a very troubling anecdote about a then-recent DOJ investigation:

When a top executive at [a] firm arranged a meeting with his chief foreign competitor to discuss exchanging technological information, [the firm's general counsel accompanied him to the meeting as part of the firm's extensive compliance program.] [T]he general counsel must have taken some comfort when [the two executives greeted one another as if they had never met before.] ... Imagine how that general counsel must have felt when he learned, during the course of the [DOJ] investigation, that the introduction ... had been completely staged for his benefit.... In fact, the two executives had been meeting, dining, socializing, playing golf, and participating together and with others in a massive worldwide price-fixing conspiracy for years.

*Id.* The conspirators even used code names to refer to their general counsels.

54 See Restatement (Second) of Torts § 317 (Duty of Master to Control Conduct of Servant). For directors,

no liability exists in the absence of red flags which the exercise of reasonable oversight would uncover. Reasonable oversight entails the creation of reporting systems that provide directors with the information necessary to monitor the corporation and compliance programs that ensure the corporation's adherence to applicable law. The sophistication of any reporting system or compliance program, however, remains a matter of business judgment. ... [O]nce a reporting system or compliance program exists, directors generally bear no liability for losses sustained from any deficiencies absent evidence of gross negligence.

Bryan A. McGrane, *The Audit Committee: Director Liability in the Wake of the Sarbanes-Oxley Act and Tello v. Dean Witter Reynolds*, 18 CORNELL J.L. & PUB. POL'Y 575, 586-87 (2009) (citing *In re Caremark Int'l Inc. Derivative Litig.*, 698 A.2d 959, 970-71 (Del. Ch. 1996). *Cf. In re Fed. Nat'l Mortg. Ass'n Sec. Deriv. & ERISA Litig.*, 503 F. Supp. 2d 25, 37 (D.D.C. 2007) (audit committee liable in private litigation only for extreme recklessness).

- 55 *Orrock v. Appleton*, 213 P.3d 398 (Idaho 2009) (holding shareholder insufficiently pled in a case involving a demand by plaintiff that the Board bring suit would be futile).
- 56 U.K. Office of Fair Trading, *The Deterrent Effect of Competition Enforcement by the OFT 71–72* (November 2007) (survey finding business executives and their lawyers regard criminal penalties as the strongest motivating force for antitrust compliance). Anecdotal evidence also supports the intuitive view that jail sentences are a strong deterrent. See *Hearing on Criminal Remedies Before the Antitrust Modernization Comm’n* (Nov. 3, 2005) (statement of Tefft W. Smith, Partner, Kirkland & Ellis LLP). (“Every antitrust compliance presentation I have seen or delivered begins with the threat of jail for individual executives. It then speaks of ‘large’ fines and, lastly dwells on the—certain—avalanche of treble-damages and joint and several liability for the sales of all the co-cartelers.”)
- 57 This effect, which “appears to be based on stigma” is particularly large for “those whose pre-conviction jobs apparently involve trust.” Joel Waldfogel, *The Effect of Criminal Conviction on Income and the Trust “Reposed in the Workmen,”* 29 J. HUMAN RESOURCES 62, 75 (1994). See also Kent R. Kerley & Heith Copes, *The Effects of Criminal Justice Contact on Employment Stability for White-Collar and Street Level Offenders*, 48 INT’L J. OFFENDER THERAPY & COMP. CRIMINOLOGY 65 (2004); John R. Lott, Jr., *The Effect of Conviction on the Legitimate Income of Criminals*, 34 ECON. LETTERS 381 (1990).
- 58 Operating costs for federal prisons are about \$75 per inmate per day, or \$27,252 per inmate per year. *Federal Probation and Pretrial Services System: Reshaping Lives, Protecting Society*, THIRD BRANCH: NEWSLETTER OF THE FEDERAL COURTS, May 2010, at 5.
- 59 See U.S. SENTENCING GUIDELINES MANUAL § 8B2.1 (describing effective compliance programs). *But see* Amendments to the Sentencing Guidelines (effective Nov. 1, 2010), available at <http://www.ussc.gov/2010guid/finalamend10.pdf> (restricting credit for compliance programs).
- 60 *Fanean v. Rite Aid Corp. of Delaware, Inc.*, 984 A.2d 812, 825–26 (Del. Super Ct. 2009) (“An employer [corporation] is liable for negligent hiring or supervision where the employer is negligent ... in the employment of improper persons involving the risk of harm to others or in the supervision of the employee’s activities”) (quoting *Simms v. Christina Sch. Dist.*, 2004 WL 344015 (Del. Super. Ct. Jan. 30, 2004)). *But see* *Stone v. Ritter*, 911 A.2d 362, 369 (Del. 2006) (“Generally where a claim of directorial liability for corporate loss is predicated upon ignorance of liability creating activities within the corporation, . . . only a sustained or systematic failure of the board to exercise oversight—such as an utter failure to attempt to assure a reasonable information and reporting system exists—will establish the lack of good faith that is a necessary condition to liability.”) (quoting *In re Caremark Int’l Inc. Deriv. Litig.*, 698 A.2d 959, 971 (Del.Ch.1996)).
- 61 Current law in both the United States and the United Kingdom allows for the punishment of aiders and abettors in such a situation. See 18 U.S.C. § 2(a) (2006) (“Whoever commits an offense against the United States or aids, abets, counsels, commands, induces or procures its commission, is punishable as a principal”); U.K. Law Commission, *Inchoate Liability for Assisting and Encouraging Crime* § 1.6 (2006), available at [www.lawgov.uk/docs/lc300.pdf](http://www.lawgov.uk/docs/lc300.pdf); Serious Crime Act, (2007) ch. 27, pt. 2, § 44–46.
- 62 UK Office of Fair Trading, *The Deterrent Effect of Competition Enforcement by the OFT 72* (November 2007).
- 63 We think it unlikely that the reputational effect of a jail sentence continues to increase when the sentence exceeds some modest threshold—perhaps the one year that denotes a felony.
- 64 The deterrent effect of debarment, like that of jail time, will be heterogeneous across individuals. Debarment would weigh more heavily upon individuals with greater firm- or industry-specific skills, for example, or with abilities tailored to managing a publicly-traded corporation. At a minimum, debarment will be a more cost-effective deterrent than incarceration in some cases and will, *ceteris paribus*, reduce the level of fines and of jail time necessary to achieve a given level of deterrence.

- 65 Swedish Competition Act (2008) ch. 3, art. 24.
- 66 The United States has experience with debarring corporations, not individuals, who have been convicted of bid-rigging from bidding again for federal government contracts. See 48 C.F.R. §§ 9.406-1 to 9.406-5 (authorizing debarment); see also, e.g., *Robinson v. Cheney*, 876 F.2d 152 (D.C. Cir. 1989) (affirming debarment order).
- 67 The Office of Fair Trading, we note, is considering expanded use of debarment in the form of competition disqualification orders. See U.K. Office of Fair Trading, *Competition Disqualification Orders: Proposed Changes to the OFT's Guidance* (August 2009).
- 68 Company Directors Disqualification Act of 1986 (as amended in 2002) § 9A. In 1961, then Assistant Attorney General Lee Loevinger testified in favor of punishment for corporate officials who have actual knowledge or "reason to know of an antitrust violation and authority to stop it but who fail to do so." *Legislation to Strengthen Penalties Under the Antitrust Laws: Hearing Before the Subcomm. on Antitrust and Monopolies of the S. Comm. on the Judiciary, 87th Cong. 1st Sess., 14* (1961) (statement of Assistant Att'y Gen. Lee Loeringer).
- 69 Company Directors Disqualification Act of 1986 (as amended in 2002) § 1.
- 70 See, e.g., *Sec. of State for Business, Enter. & Regulatory Reform v. Sainsbury*, [2009] EWHC 3456 (Ch.).
- 71 Company Directors Disqualification Act of 1986 (as amended in 2000) § 1(1)(a). The OFT recently provided guidance indicating directors will be held responsible not only for violations they actually observe but also for those of which they would have had knowledge had they made "reasonable enquiries." See U.K. Office of Fair Trading, *Company Directors and Competitive Laws: A Consultation on OFT Guidance* (October 2010).
- 72 The SEC has had express statutory authority to seek such an order only since 1990, however, when the Congress authorized the courts to issue an order of suspension or debarment in a securities case—upon finding the defendant, regardless whether he consented to debarment, committed a violation "demonstrating unfitness to serve" as an officer or director of a publicly held corporation. See 15 U.S.C. §§ 77t(e), 78u(d)(2) (2006).
- 73 See, e.g., *Plaintiffs' Motion to Enter Revised Permanent Injunction and Final Order as to Defendant Tarzenea Dixon, FTC v. Your Money Access, LLC.*, No. 07-CV-05147-ER. at 5 (E.D. Pa. Dec. 22, 2009), 2009 WL 5177847 (permanently enjoining a defendant individual from payment processing, including ACH debits and credit card transactions); *Consent Decree*, No. 02-5115 at 6 (C.D. Cal. United States v. D.C. Credit Serv., Inc., July 8, 2002), available at <http://www.ftc.gov/os/2002/07/dcsconsent.pdf> (permanently enjoining defendant from debt collection and assisting in debt collection activities); *Stipulated Judgment & Order for Permanent Injunction*, No. 02-cv-01256 (D. Ariz. *FTC v. Corp. Marketing Solutions, Inc.*, Feb. 6, 2003) (enjoining defendant from telemarketing and assisting or facilitating telemarketing); *Stipulated Final Judgment and Order for Permanent Injunction and Other Equitable Relief, FTC v. Universal Greeting Card Corp.*, No. 02-21753 at 3 (D. Fla. Dec. 17, 2002), available at <http://www.ftc.gov/os/2003/01/ugcstipruffeino.pdf> (permanently enjoining defendant individuals from "[r]eceiving any remuneration of any kind whatsoever from . . . any person engaged in the advertising, marketing, promoting, offering for sale, or sale of any business venture").
- 74 It is already clear that unconsented debarment is constitutional. The United States Supreme Court has heard challenges to the constitutionality of debarment as a remedy for bad acts, based upon the due process, *ex post facto*, bill of attainder, and double jeopardy clauses, and has rejected them all. See *De Veau v. Braisted*, 363 U.S. 144, 157–60 (1960) (rejecting such challenges based upon due process, *ex post facto*, and bill of attainder clauses); *Hudson v. United States*, 522 U.S. 93, 105 (1997) (rejecting challenges to debarment based upon double jeopardy).
- 75 By pursuing a civil case, the DOJ could also seek debarment of individuals whose conduct may not

meet the scienter requirements for a criminal charge.

76 Because debarment can be imposed at a lower social cost than incarceration, the DOJ should calibrate the length of debarment at which the average defendant slightly prefers debarment to incarceration.

77 See Sigyn Monke et al, *Commission Imposes the Highest-Ever Cartel Fine (More than EUR 1.3 Billion) on Four Car Glass Manufacturers*, COMP. POL'Y NEWSLETTER, 2009, No. 1 at 59, available at [http://ec.europa.eu/competition/publications/cpn/2009\\_1\\_15.pdf](http://ec.europa.eu/competition/publications/cpn/2009_1_15.pdf).