Antitrust Amnesty, Game Theory, and Cartel Stability

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I. INTRODUCTION

While most areas of antitrust law breed controversy over which types of business conduct should be illegal, there is one area of relatively broad consensus: price-fixing cartels should be condemned. Cartels injure consumers by raising prices. For example, a cartel of producers of the amino acid lysine increased prices by 70% within the cartel’s first six months of operation and relatively quickly doubled prices.\(^1\) Cartels create allocative inefficiency by reducing production in order to raise market price, and they encourage productive inefficiencies by protecting inefficient manufacturers, which can increase the average production costs in an industry.\(^2\)

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* Professor of Law, Chicago-Kent College of Law. The author wishes to thank Dick Craswell, Gillian Hadfield, Herb Hovenkamp, Dan Klerman, Mark Lemley, Allison Morantz, Mitch Polinsky, Tony Reese, participants at workshops at Stanford Law School and the Center in Law, Economics, and Organizations at the University of Southern California Law School, as well as the participants at the Symposium on The Antitrust Enterprise: Principle and Execution, held on April 1, 2005 at the University of Iowa College of Law, for their comments on previous drafts. All remaining mistakes are the author’s alone.
\(^1\) James M. Griffin, Deputy Assistant Attorney Gen., Antitrust Div., Dep’t of Justice, The Modern Leniency Program After Ten Years: A Summary Overview of the Antitrust Division’s Criminal Enforcement Program (Aug. 12, 2003), available at http://www.usdoj.gov/atr/public/speeches/201477.htm (also noting that the citric acid and graphite electrodes cartels increased prices by 30% and 60%, respectively).
Yet some disagreement remains about the most efficient mechanism for detecting, punishing, and deterring cartels. While some commentators have argued that cartels are inherently unstable and will inevitably dissolve without active antitrust enforcement, others have advocated a more aggressive approach. The primary focus of current cartel-fighting efforts has been to offer amnesty to the first cartel member to defect and expose the price-fixing conspiracy to federal prosecutors.

The Antitrust Division of the Department of Justice (DOJ) reformed its amnesty policies in 1993. Its Corporate Leniency Policy (amnesty program) has been the “most effective generator of cartel cases and is believed to be the most successful program in U.S. history for detecting large commercial crimes.” Before the new program, the government received one application each year from firms willing to expose a cartel in exchange for leniency. Currently, the government is receiving three applications each month. The new policy has led to the exposure of international cartels in marine transportation services, graphite electrodes, bromines, and vitamins, resulting in over one billion dollars in fines. These fines represent a sea change in antitrust penalties. Individual firms whose cartel activities have been exposed through the amnesty program have paid fines over $100 million, including Hoffman-LaRoche’s agreed-to fine of $500 million for its participation in the vitamin cartel.

The purpose of my inquiry is to examine why the Corporate Leniency Policy has been so successful and, based on that discussion, to suggest changes that would increase the program’s effectiveness even further. It is intuitive that if the government offers an incentive to confess, then confessions will increase. But the mechanism by which the amnesty program works is far more complicated and nuanced. Using a series of prisoner’s dilemma models, this Article argues that government policies work by creating distrust among cartel co-conspirators. Understanding this mechanism will facilitate reforms to make antitrust law in general, and the DOJ’s amnesty program in particular, work more effectively.

This Article presents a paradox. The conventional wisdom holds that imposing high penalties should deter illegal cartelization and that rewarding minor players who confess their role in a price-fixing conspiracy can help unravel a cartel. Thus, it seems counterintuitive to expect that policies making it easier for the worst antitrust criminals to escape all criminal and most civil liability would enhance deterrence and destabilize existing cartels. Yet proper application of game theory models suggests that extending

5. Spratling, supra note 3, at 800.
7. It is particularly important to understand how the amnesty program succeeds, as commentators encourage prosecutors to replicate the program in other areas. See, e.g., Richard Gruner, Avoiding Fines Through Offense Monitoring, Detection, and Disclosure: The Race for Amnesty, 1230 P.L.I. CORP. 77, 82 (2001) (“Indeed, the success of the DOJ’s antitrust amnesty program suggests that federal and state prosecutors in all fields should consider similar techniques for encouraging corporate reporting of internal misconduct and thereby expanding the range of criminal law enforcement in corporate settings.”).
Antitrust Amnesty, Game Theory, and Cartel Stability

amnesty even to cartel ringleaders (who have often profited the most from the illegal activity, sometimes for decades) makes cartels more fragile. Perhaps even more counterintuitively, the theory shows that an antitrust leniency program would have a greater destabilizing effect on price-fixing cartels if the first firm to confess receives full amnesty even though antitrust prosecutors, through their own investigation prior to any confession, had already acquired sufficient evidence to convict the firm of criminal price-fixing.

Part II introduces the basic prisoner’s dilemma model and explains its relevance to the prosecution of price-fixing. Part III explains the mechanics of the Antitrust Division’s amnesty program. This Part argues that the program works by creating distrust in a manner that makes confession the dominant strategy in a prisoner’s dilemma game. Finally, Part IV proposes additional ways to increase distrust among cartel members by expanding eligibility for amnesty.

II. THE PRISONER’S DILEMMA MODEL

A prisoner’s dilemma exists when two parties pursue their own individual interests and act in a rationally selfish manner, which results in both parties ending up in a worse position than if they had cooperated and pursued the group’s interests instead of their own. In the classic prisoner’s dilemma, two suspects have committed both a major crime and a minor crime. The police have sufficient evidence to convict both of them for the minor crime, but not enough to sustain convictions for the major crime. The police are interrogating the suspects about their role in the major crime. Neither of the prisoners has confessed, but the confession of either would be enough to convict the other of the major crime. The police want to convict at least one—and hopefully both—of the prisoners for the major crime, so they offer each the same deal: “If you confess and provide evidence against your partner, then you’ll get no jail time for either the minor or major crime and he’ll get a three-year sentence. However, if he confesses and you don’t, you’ll get the three-year sentence and he’ll walk. But, if both of you confess, we won’t need your testimony and both of you will get a two-year sentence. Finally, if neither of you confesses, then you’ll each get one year in prison on the minor crime. Your partner is being offered the same deal.”

The offered deal is commonly depicted by the following matrix (Table 1):

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<td>Confess</td>
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Under this scheme, each prisoner pursuing his own short-term self interest should confess. From Prisoner A’s perspective, if Prisoner B confesses, then Prisoner A can either confess (and receive two years in prison) or not confess (and receive three years in prison). Framed in this manner, Prisoner A should confess in order to receive less time in
prison. Conversely, if Prisoner B does not confess, then Prisoner A can either remain quiet and receive one year in prison on the minor crime or can confess and avoid imprisonment altogether. In this situation, Prisoner A should confess since no prison time is preferred over one year in prison. Thus, if Prisoner B confesses, Prisoner A is better off confessing, and if Prisoner B does not confess, Prisoner A is still better off confessing. This makes confession a dominant strategy since Prisoner A is better off confessing regardless of what Prisoner B does.\(^8\)

However, prosecutors have offered Prisoner B the same deal and, similarly, confession is his dominant strategy. If each prisoner pursues his dominant strategy and confesses, then both prisoners will be worse off than they could be. When both prisoners confess, each will receive two years in prison for the major crime. However, if the prisoners were to cooperate and neither confesses, then each would receive only a one-year prison sentence for the minor crime. This means that the mutual pursuit of the dominant strategy results in a Pareto inferior outcome since both prisoners could improve their position if the two could shift from the Confess-Confess outcome (two years in prison for each) to the Don’t Confess-Don’t Confess outcome (one year in prison for each).

A. Prosecutors’ Efforts to Create a Prisoner’s Dilemma

When investigating a crime for which there is insufficient evidence to secure a conviction, the prisoner’s dilemma is the prosecutor’s best weapon. It is significantly easier to secure a conviction when one or more members of a conspiracy has confessed. This is especially true in cases of criminal price-fixing conspiracies, which are difficult to prove in the absence of testimony from a cartel participant.\(^9\) In addition to providing powerful firsthand evidence of the cartel’s operation, the confessor can lead prosecutors to other admissible evidence that proves the existence of the cartel beyond a reasonable doubt.\(^10\) The conundrum for authorities is how to convince a cartel member to break ranks and cooperate with the government investigation. The most efficient way to do this is to create a prisoner’s dilemma.

The prisoner’s dilemma is usually a game theoretical model used to explain behavior having nothing to do with prosecutors or prisoners. But in the case of cartel investigations, the language of the model maps the reality of our inquiry. Antitrust prosecutors are attempting to secure confessions from price-fixing suspects. The prosecutors offer each suspect a deal: cooperate in exchange for leniency. They also

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8. A dominant strategy exists if a player is better off picking a particular option regardless of which course her partner selects. Conversely, if a player could be better off changing her decision after she knows of her partner’s choice, then no choice dominates the other under all circumstances and there is no dominant strategy, and thus no true prisoner’s dilemma.

9. Compare United States v. Andreas, 216 F.3d 645 (7th Cir. 2000) (convicting executives for participating in lysine cartel), and United States v. Taubman, 297 F.3d 161 (2d Cir. 2002) (convicting Sotheby’s CEO for role in auction house cartel), with In re Baby Food Antitrust Litig., 161 F.3d 112 (3d Cir. 1999) (finding firms not liable for price-fixing in baby food market despite strong circumstantial evidence of a price-fixing agreement).

10. It is particularly important to have evidence of intent in a criminal price-fixing case. United States v. U.S. Gypsum Co., 438 U.S. 422 (1978). Intent can perhaps best be established through the testimony of co-conspirators.
announce that every suspect is being offered the same deal.

Unfortunately, antitrust prosecutors lack something that the prosecutors in the theoretical model possess: leverage. In the basic prisoner’s dilemma model, the prosecutors have sufficient evidence to convict both prisoners of a minor crime. This fact is critical because it means that both prisoners will serve some jail time even if neither confesses to the major crime. The absence of a provable minor crime would eliminate the prisoner’s dilemma.

In most antitrust prosecutions, government attorneys do not have evidence to convict price-fixing suspects on other lesser charges. It might seem that the government could find leverage in the relatively minor crimes that are often ancillary to a price-fixing scheme. The leverage to create a prisoner’s dilemma may be found in such minor crimes as knowingly signing representation letters with falsehoods to outside audits. For example, in the auction house price-fixing case, Sotheby’s CEO, Dede Brooks, signed a six-page letter to Sotheby’s outside auditors, Deloitte & Touche, that stated there had been no violation of any laws or regulations by Sotheby’s management. By signing the document, Brooks violated federal law. However, prosecutors could not use this minor crime to secure leverage over Brooks because it was derivative of the antitrust violation; her signature on the letter to Deloitte & Touche was a crime only because of the price-fixing conspiracy. In other words, the government would have to show the major antitrust violation in order to establish the relatively minor crime of denying the commission of an antitrust violation.

In the context of price-fixing conspiracies, the absence of a provable minor crime means that firms may reasonably calculate that it is more profitable to continue the cartel than to expose it. Continuing the cartel means a stream of cartel profits. That is why the firms entered the cartel in the first place. Confessing first means no prison for the executives engaged in price-fixing. But so long as the cartel is stable and undetected, nobody is going to go to prison. No prison with cartel profits is preferred over no prison without cartel profits. If no member of the cartel has confessed and the cartel appears stable, then self-interest counsels against defection.

Without the leverage of a minor crime, the payoffs are as follows (Table 2):

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12. The relatively minor crime of mail fraud can flow from an antitrust violation. See, e.g., United States v. Sw. Bus Sales, 20 F.3d 1449 (8th Cir. 1994).
14. Id.
15. The language in this Article does not distinguish between firms and the individual executives who make the decisions. There are some important distinctions, such as the fact that firms do not serve prison time; convicted executives do. I intend to explore the relationship between firms and individuals—and how antitrust law can attempt to create and exploit divergent interests between the two—in an upcoming paper that continues my larger project on the role of distrust in deterring, destabilizing, and exposing cartels.

For purposes of this Article, it should suffice to say that the fact that the firm and the individual decisionmakers are separate entities does not undermine the proposed model. First, in many cartels—such as those involving sole proprietors—the individual and the firm are one and the same. Second, the interests of the firm and the individual are largely aligned because the individual officer or employee has the same rank preferences (and intensity of preference) of the four outcomes as do the firms. I will explore this fully in an upcoming article on decoupling the interests of price-fixing firms and their executives.
Table 2: Prisoner’s Dilemma Matrix Without Leverage (measured in prison terms)

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The chart suggests that there is no strictly dominant strategy. The worst outcome, three years in prison, occurs when a firm refuses to cooperate with prosecutors when its partner has confessed. Thus, each firm is still better off confessing if its partner has confessed. But so long as one’s partner does not confess, a firm will not get prison time. Thus, the chart does not dictate that a firm should either confess or not confess when its partner is silent. It would seem to have little incentive to confess in this circumstance.

However, this chart misses the true complexity of the decision whether to confess or not because it focuses solely on time in prison. In reality, business decisionmakers care about more than just avoiding prison. Firms want to maximize profits while minimizing any risk of prison time. Thus, the prisoner’s dilemma matrices need to take into account two different currencies, length of sentence and amount of money. Factoring money into the decisionmaking calculus makes confession seem significantly less attractive.

There are several significant disincentives for firms to expose their participation in a price-fixing cartel. First and foremost, firms generally join cartels in order to maximize profits. Price-fixing can result in hundreds of millions of dollars in surplus profits for firms, depending on the product market. Confession would necessarily lead to the dismantling of the cartel and eliminate the possibility of participating in cartels in the future because a firm that exposes one cartel will not be trusted to participate in future cartels, even in different product markets. Thus the decision to confess can cost millions in foregone cartel profits.

Second, beyond these opportunity costs, confession will open up the cartel participants to private antitrust lawsuits. For over a century, all victorious private plaintiffs in Sherman Act litigation were entitled to treble damages. This provided a powerful incentive not to violate antitrust laws, or at least not to get caught. It also provided a reason not to search out federal prosecutors before there was an ongoing investigation or other external pressure to strike a deal. The Antitrust Criminal Penalty Enhancement and Reform Act of 2004 eliminated the trebling of damages in follow-on private lawsuits for the first firm in a price-fixing conspiracy to confess and secure

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16. In reality, confession would appear to be a weakly dominant strategy because if there is any risk of one’s partner confessing, then one should confess.
17. If firms cared only about the risk of prison time, there would be no toxic dumping, criminal securities fraud, etc.
19. See Leslie, supra note 2, at 643-45.
amnesty from the DOJ. While this reduces the marginal disincentive to seek amnesty, confession still operates as an admission of liability. Private individuals need only prove their damages to recover for the cartel overcharges. Single damages can still run into the hundreds of millions of dollars.

Third, a confession of price-fixing implicates more than just antitrust laws. Whenever a firm confesses to violating antitrust laws, it may simultaneously be admitting to securities laws violations if relevant officials within the firm knew about the cartel activities and made misrepresentations in the firm’s public filings or statements.

Fourth, beyond liability under American antitrust laws, firms must contend with competition laws in other jurisdictions. In the context of international cartels, by confessing its antitrust violations to American authorities a firm may invite competition law agencies in other countries to investigate and prosecute cartel activities outside of the United States. The penalties under non-American competition law regimes are relatively less severe than those of the Sherman Act, but they are still significant. The European Union secured fines of $105.4 million against the firms in the lysine cartel, $132 million against the members of the carton board conspiracy, and $248 million against participants in a cement price-fixing ring. These foreign penalties can provide a significant disincentive to exposing one’s cartel in search of amnesty from the Antitrust Division.

Finally, there are disincentives to confessing that a simple calculation of probable fines and prison time does not reflect. The first is the disruption to the firm of being prosecuted: having valuable time, resources, and attention diverted to the tasks of internal investigations and the firm’s defense and probably losing employees and corporate officers. Second is the harm to reputation. The ultimate decision to confess will reflect badly on both the corporation and the individuals who were involved in the price-

20. Development and Promulgation of Voluntary Consensus Standards, Pub. L. No. 108-237, Title II, 118 Stat. 661, 665-69 (2004). This detrebling is currently an experiment, as a sunset clause provides that the detrebling component of the new law will expire after five years. Id.

21. Klawiter, supra note 6, at 757-58 (“The pendency of a U.S. criminal investigation often spawns a Canadian criminal investigation and enforcement action as well as a European Commission investigation and fine.”).

22. Donald I. Baker, The Use of Criminal Law Remedies to Deter and Punish Cartels and Bid-Rigging, 69 GEO. WASH. L. REV. 693, 701 (2001). Also, aggregate Canadian fines for recent cartel activity exceeds $100 million Canadian dollars. Id. at 704.

23. In Empagran, the Supreme Court interpreted the Foreign Trade Antitrust Improvements Act (FTAIA) to mean that the Sherman Act does not reach strictly foreign price-fixing cartels. F. Hoffman-LaRoche Ltd. v. Empagran S.A., 542 U.S. 155 (2004). In so holding, the Court noted that if American antitrust laws were to provide a treble damage remedy to foreign purchasers victimized by foreign price-fixing, then it would provide a disincentive for cartel members to participate in a foreign country’s antitrust amnesty program. Id. (citing amicus briefs by the governments of Canada, Germany, and Japan).

24. Klawiter, supra note 6, at 758.

Finally, the impact on the company of prosecutions of its corporate officers, including the firing, suspension and incarceration of these officials, has had serious consequences that cannot be measured in monetary terms. Special committees of the board of directors often have the sad duty to sort through these issues and reprimand, dismiss, or punish top executives who may have been involved in the illegal conduct.

Id.
fixing. Unlike mafia bosses, whose families and associates probably know or suspect that crimes may be occurring, most antitrust violators are seen as law-abiding members of their communities. Confessing to a felony is a mark of shame. More importantly to some, the conviction will limit individual career opportunities. For example, when Mick Andreas, the heir apparent to helm ADM, was convicted for price-fixing in the lysine market, he became ineligible to succeed his uncle as CEO.

When one factors in these additional costs, which are unrelated to direct punishment for federal antitrust violations, it becomes clear that confession is not a dominant strategy. Table 3 expresses the rank preferences for cartel participants in a situation where each firm considers the total costs of cooperating with the Antitrust Division. The rank preference matrix reflects the fact that each cartel member does not want to simply avoid prison time; she wants to avoid prison time while maximizing her profits. Profits are maximized by continuing to earn cartel profits while avoiding criminal fines and private treble damage lawsuits.

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This chart better illustrates the absence of a dominant strategy. The worst outcome is still to remain silent while a partner confesses. This will result in a maximum prison sentence, along with the destruction of the cartel and the cessation of cartel profits, exposure to private and foreign antitrust liability, potential non-antitrust violations, and loss of reputation. However, a firm’s best outcome is achieved when neither firm confesses. If a firm’s partner has not confessed, then that firm should not confess either. Mutual non-confession means that both firms can continue to fix prices and earn substantial profits. Although confession may secure amnesty for a firm, the confession will destroy the cartel and expose the confessor to numerous lawsuits and other costs. So long as one’s partner does not confess, a price-fixer generally can feel confident that it is not going to be convicted and will not serve prison time. It is preferable to not serve prison time while earning cartel profits (that is, to not confess) than to avoid prison while incurring private liability (that is, to confess). Under these circumstances, each firm is best off mimicking its partner’s response to the government’s offer. This is a coordination

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25. While I don’t personally believe that antitrust violations inflict sufficient reputational harms, they nevertheless do inflict some.
There are two potential equilibria: mutual non-confession and mutual confession. This means that neither player has a dominant strategy. Thus, by definition, confession is not a dominant strategy. Prosecutors should try to find a way to manipulate the firms’ incentives to create a prisoner’s dilemma where confession is the dominant strategy. Before discussing whether prosecutors can construct such a prisoner’s dilemma in the price-fixing context, the following section will introduce potential solutions to the prisoner’s dilemma. An understanding of prisoner’s dilemma solutions will facilitate Part III’s attempt to create a prisoner’s dilemma that is unsolvable—or at least not easily solved.

B. Prisoners Solving Their Dilemma

Even if antitrust prosecutors could construct a true prisoner’s dilemma, this would not automatically force confessions from price-fixing suspects. There are at least three ways that prisoners can solve their dilemma: contract, force, and trust. First, the participants in a prisoner’s dilemma could reach their preferred joint outcome where neither confesses if they could make binding commitments to cooperate, and thus to not confess. In day-to-day business transactions, a party to an agreement may find it in her short-term best interest to simply breach a contract, especially if the other party has already performed. Absent contract law, many business relationships would take on the characteristics of a prisoner’s dilemma. Contract law solves the prisoner’s dilemma by permitting the parties to commit to cooperation and putting teeth into these promises through the imposition of penalties against a party who defects. Breach is not the dominant strategy in an economy with strong contract law. Of course, for contract law to be a solution to the prisoner’s dilemma, the particular promise must be one that courts will enforce. Therein lies the problem for firms suspected of cartel behavior. An agreement to stonewall prosecutors would be void against public policy. If the non-confessing firm tried to sue the confessing firm for damages, no court would allow the claim. Indeed, proof of an agreement not to cooperate with authorities could be circumstantial evidence of a pre-existing agreement not to compete on price.

Second, the players could conceivably force each other to not confess through threats of violence. One solution, most associated with organized crime, is to kill the snitch. If the price of confession is death, not confessing becomes a dominant strategy regardless of the numbers in the prisoner’s dilemma matrix. While this solution to the prisoner’s dilemma no doubt exists for some criminal enterprises, it is probably not relevant to price-fixing conspiracies. Business people have used shaming against firms

27. See infra notes 65-104 and accompanying text (discussing prosecutors’ strategy for preventing coordination among price-fixers).
29. If there were no remedy for breach, firms would be less likely to put themselves in a vulnerable position and efficient exchanges would not take place.
31. Id. (“Therefore if agreements arrived at in cooperative games are to make a difference in the choice of strategies, they must be enforceable agreements.”).
that violate a cartel’s norms, but such social sanctions are a far cry from a mob hit.

Third, the players in a prisoner’s dilemma could try to establish a sufficient level of mutual trust. In order to reach a result where neither player confesses, they must find a way to cooperate with each other. Cooperation, in general, requires the participation of people who are both trusting and trustworthy. However, mutual trust may be hard to achieve, especially when it is in each individual’s short-term best interest not to cooperate. It is easy to see why a person would not cooperate in the absence of trust. The worst outcome for a player in a prisoner’s dilemma scenario is to cooperate when one’s partner defects—often called the sucker outcome. Without mutual trust, a player is less likely to risk being made the sucker and therefore will not cooperate with the other parties in agreeing not to confess. When distrust permeates a group it can “block even the attempt at cooperation” among group members. Trust is necessary in some situations to meaningfully discuss the possibility of coordinating responses. Because the solution to the prisoner’s dilemma requires people to cooperate when their individual self-interest is to defect, it is essentially a game of trust.

Experimental evidence supports the proposition that trust is a solution to the prisoner’s dilemma. Results from prisoner’s dilemma tournaments, in which each player employs its particular strategy against each other player seriatim, show that distrusting strategies fail in the long run and more trusting strategies prevail. When players utilizing trusting strategies are paired up, they solve the prisoner’s dilemma in experiments and achieve greater gains than those using distrusting strategies. Mathematical modeling provides similar results. Trust may not appear to be rational.
since, by definition under a prisoner’s dilemma structure, each person is better off defecting.\textsuperscript{44} But this is a short-term payoff. When the players trust each other, then it is rational to cooperate because the expected gains for each player are greater in the long run.\textsuperscript{45}

Although there are many possible definitions of trust,\textsuperscript{46} the core characteristic in most definitions of trust is a willingness to be vulnerable vis-à-vis another person.\textsuperscript{47} To trust someone is to put yourself in a position where they could harm you, for example, by taking a possession that you’ve entrusted to them, by telling them a personal secret that you do not want exposed, or by participating in a criminal conspiracy with them where they could turn state’s evidence. The Pareto superior outcome of mutual non-confession requires each player to not confess and thus to render itself vulnerable to the other player defecting in exchange for leniency. The only way that both players can achieve this preferred result is if each trusts the other not to confess, not to exploit the other’s vulnerability. Seen in this light, the prisoner’s dilemma is a game of trust.\textsuperscript{48}

There are actually two separate potential prisoner’s dilemmas for every cartel member. The first dilemma is whether to cheat on the cartel by producing more than one’s allotted output and selling it below the cartel’s fixed price. By agreeing to limit its production and raise its price, each firm allows itself to be vulnerable to its partners who may cheat on the cartel agreement. While cheating maximizes the defector’s short-term profits, it destabilizes the cartel and reduces one’s expected profits in the long-run. The second prisoner’s dilemma—the one relevant to this discussion—is the decision whether to expose the cartel to the government in exchange for immunity from prosecution. Both dilemmas require some level of trust from the parties: each firm must trust its partners not to cheat on the cartel and not to defect. Firms that cannot trust each other are unlikely to

\begin{itemize}
\item \textsuperscript{44} Gordon Tullock, The Prisoner’s Dilemma and Mutual Trust, 77 ETHICS 229, 230 (1967); see also Margaret L. Paris, Trust, Lies, and Interrogation, 3 VA. J. SOC. POL’Y & L. 3, 32 (1996) (“The prisoners’ dilemma game illustrates not only that the rewards of cooperation are impossible without trust, but also that trust is difficult to obtain if one insists on perfect rationality.”).
\item \textsuperscript{45} See Morton Deutsch, Trust and Suspicion, 2 J. CONFLICT RESOL. 265, 279 (1957) (“Mutual trust can occur even under circumstances where the people involved are overtly unconcerned with each other’s welfare, provided that the characteristics of the situation are such as to lead one to expect one’s trust to be fulfilled.”).
\item \textsuperscript{46} Leslie, supra note 2, at 529-32 (discussing calculative versus emotional trust).
\item \textsuperscript{47} Annette Baier, Trust and Antitrust, 96 ETHICS 231, 235 (1986) (“Trust . . . is accepted vulnerability to another’s possible but not expected ill will (or lack of good will) toward one.”); Gregory A. Bigley & Jone L. Pearce, Straining for Shared Meaning in Organization Science: Problems of Trust and Distrust, 23 ACAD. MGMT. REV. 405, 407 (1998) (“When the terms ‘trust’ and ‘distrust’ have been evoked in the social sciences, they almost always have been associated with the idea of actor vulnerability.”); Sirkka L. Jarvenpaa & Emerson H. Tiller, Customer Trust in Virtual Environments: A Managerial Perspective, 81 B.U. L. REV. 665, 672 (2001) (“The rational choice perspective conceptualizes trust as a willingness to be vulnerable based on rational calculative judgment.”); Niklas Luhmann, Familiarity, Confidence, Trust: Problems and Alternatives, in TRUST: MAKING AND BREAKING COOPERATIVE RELATIONS 94, 97 (Diego Gambetta ed., 1988) (“Trust . . . requires a previous engagement on your part. It presupposes a situation of risk.”); Roger C. Mayer et al., An Integrative Model of Organizational Trust, 20 ACAD. MGMT. REV. 709, 712 (1995); Denise M. Rousseau et al., Not So Different After All: A Cross-Discipline View of Trust, 23 ACAD. MGMT. REV. 393, 395 (1998) (“Trust is a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another.”).
\item \textsuperscript{48} WRIGHT, supra note 39, at 341 (“A second key feature of the Prisoner’s Dilemma is the importance of trust. It is crucial that when your partner and you assure each other you will stay mum, you believe each other.”).
\end{itemize}
make themselves vulnerable to each other and thus probably will not participate in a long-lived cartel arrangement.

Thus, the critical issue for most cartels is how to create a level of trust sufficient to establish and maintain a stable cartel. In order to use trust to solve the first prisoner’s dilemma, participants in price-fixing conspiracies develop trust-facilitating mechanisms. These include the nurturing of personal relationships among rivals, the use of goodwill gestures among cartel members, price transparency, frequent communication, financial interdependence (such as cross-ownership and/or interlocking directorates), the creation of a group identity and social norms of cooperation, and the touting of one’s cartel experience and reputation for not cheating on cartel relationships. I have argued elsewhere that antitrust law works to keep cartels from forming or surviving by prohibiting most of these trust-facilitating devices.

In theory, trust may be harder to establish with respect to the second prisoner’s dilemma. How does a firm convince its co-conspirators that it is not talking to the government? To reduce distrust regarding cheating on the output or price fixed by the cartel, a firm can open its books and allow its partners to review all sales figures, which can be audited and verified. But similar transparency cannot be recreated in an effort to prove that one is not cooperating with a government investigation. In normal business relations, the classic way to address a lack of trust is to enter a binding contract. But, as noted, a contract not to cooperate with federal antitrust authorities in the investigation of a crime would not be legally enforceable, and thus could not be used to shore up an absence of trust. And while personal, or so-called emotional, trust may play a role in some antitrust conspiracies, many cartels are composed of businesspeople with no pre-existing personal relationships.

Creating trust in order to solve this second prisoner’s dilemma most probably occurs through the profitability of the cartel itself. Once a cartel is established and operating, it can generate billions of dollars in illegal overcharges to customers. If a firm were to inform the authorities about the cartel, the exorbitant profits would stop. That is a powerful incentive to cooperate with one’s cartel partners and not confess to government prosecutors. Knowing that successful cartelization benefits all conspirators, a firm may be willing to put itself in a vulnerable position—to trust its rivals not to confess—in order to secure cartel profits. Over time, this mutual vulnerability can evolve into a deep-seated trust among conspirators that keeps them from confessing.

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49. Such gestures include voluntarily forgoing sales so that a cartel partner may have the sale, even though the transaction falls outside the cartel agreement. See Leslie, supra note 2, at 569-71.

50. This makes monitoring the cartel easier and cheating more difficult.

51. Leslie, supra note 2, at 565-98.

52. Id. at 622-31.

53. But see infra notes 106-107 and accompanying text (explaining why it may be easier for firms to solve the second prisoner’s dilemma because they have generated trust by solving the first prisoner’s dilemma).

54. Leslie, supra note 2, at 612-15 (noting examples of cartels—including those in steel, vitamins, and lysine—reporting sales figures and employing outside auditors).

55. Hardin, supra note 37, at 519.

56. See generally KURT EICHENWALD, THE INFORMANT (2000) (discussing the lysine cartel); MASON, supra note 13 (discussing the auction house price-fixing cartel).
C. Summary

In the absence of enforceable contracts and credible threats of violence, trust is the best solution to the prisoner’s dilemma for firms. This means that antitrust prosecutors seeking to motivate confessions have two related goals. First, they should try to create a prisoner’s dilemma in which confession appears to be the dominant strategy. Second, they should insure that the cartel members are unable to generate sufficient mutual trust to solve that prisoner’s dilemma. In the event that a true prisoner’s dilemma cannot be created, prosecutors should attempt to destabilize the cartel by making confession seem like the best available strategy even if it is not dominant. These tasks can be accomplished by offering incentives to price-fixers who confess and by creating distrust among cartel partners. The next Part lays out the government’s antitrust amnesty program and explains how instability can be created even without proof of a minor crime.

III. CREATING CARTEL INSTABILITY THROUGH ANTITRUST LENIENCY GUIDELINES

Prosecutors are best off when both players have a dominant strategy of confessing. However, absent a minor crime that gives prosecutors leverage against the players, there is no dominant strategy for the prisoners. The task for antitrust enforcers is to create a prisoner’s dilemma whereby each player shares the same dominant strategy: to confess their participation in the cartel and turn state’s evidence against their former cartel partners. The Antitrust Division has attempted to do just that by offering significant rewards to firms that expose cartels. This Part reviews the amnesty program and shows how it creates a scenario that approximates the prisoner’s dilemma by manipulating the ability of cartel members to trust each other.

In 1993, the Antitrust Division announced its revised Corporate Leniency Policy. The new policy differed from its predecessor in many important ways. First, while amnesty was previously discretionary, amnesty was now considered “automatic” in the absence of a pre-existing government investigation into price-fixing. Second, amnesty could be available under some circumstances even if the government had initiated an investigation into possible price-fixing before the price-fixer confessed. Third, although

57. Enforceable contracts are essentially a substitute for trust. See Daniel A. Farber & John H. Matheson, Beyond Promissory Estoppel: Contract Law and the “Invisible Handshake,” 52 U. CHI. L. REV. 903 (1985). Parties to a bargain need not trust each other if they know that in case of defection (that is, breach), they will be fully compensated. See Carol M. Rose, Giving, Trading, Thieving, and Trusting: How and Why Gifts Become Exchanges, and (More Importantly) Vice Versa, 44 FLA. L. REV. 295, 314 (1992) (“The law of contract acts as a substitute for the threat of individual retaliation or group ostracism. The specter of my legal enforcement makes you keep your agreement, and permits me to trust you . . . .”). Thus, even when parties affirmatively distrust each other, the presence of a meaningful contract law regime can allow them to bargain and assent with some degree of confidence. Paris, supra note 44, at 16; Rousseau et al., supra note 47, at 393 (describing a “contract” as “a legal means for avoiding risk where trust is not particularly high”).


59. Spratling, supra note 3, at 803. I have used quotation marks because there were still limits on who could qualify for amnesty, so it was not truly automatic. It was automatic for those who qualified.

60. MASON, supra note 13, at 251 (“Previously, a price-fixer who wanted amnesty in exchange for testifying against a co-conspiring competitor was obliged to bring his information to the Antitrust Division before any investigation had begun.”).
only the first confessor receives so-called automatic amnesty, subsequent confessors within a cartel would receive discounts on their criminal fines based on their order of confession. The only way for a qualifying firm to insure no criminal fines or imprisonment would be to confess first and provide evidence against one’s cartel partner, but among subsequent confessors, early confessors would receive better deals than later ones.

The first two changes—making amnesty automatic and allowing the possibility of amnesty when a confession comes after the beginning of a government investigation into possible cartelization—make the policy more effective by increasing the certainty of amnesty. A firm is much less likely to confess to price-fixing—and thereby disband its cartel, forego cartel profits, and expose itself to private liability—if it is unsure whether or not it will actually receive amnesty. The 1993 changes attempt to induce confessions by reducing the government’s discretion to refuse full amnesty. However, while the new policy does increase the probability of leniency, in reality amnesty is not truly automatic even for the first confessor. For example, as Part IV will discuss, according to the policy, a firm that either initiates the price-fixing conspiracy or serves as the cartel’s ringleader is not eligible for amnesty. Furthermore, a firm must show that it took prompt and effective action once it realized its employees were fixing prices with competitors. These limitations on the availability of amnesty may, in some circumstances, significantly reduce the incentive to confess. Nevertheless, the new policy has a net effect of increasing the certainty of amnesty for some would-be confessors, and this has led to an overall increase in amnesty applications.

A. Using Distrust to Create a Prisoner’s Dilemma

To create a prisoner’s dilemma, confession must be a dominant strategy. This means that each firm must be better off confessing regardless of what its partner does. This will not be easy to do. It is clear that if one firm confesses, then the other firm is better off confessing. The harder issue is how to make it in each player’s best interest to confess when its partner has not. This is essentially impossible given the analysis in Part II, which shows that both firms are better off when neither confesses.

The way to try to approximate a prisoner’s dilemma is to introduce a temporal element into the game. In the traditional prisoner’s dilemma, which is a static game, each player is faced with a binary choice: confess or don’t confess. The prisoners make their decisions simultaneously in a defined iteration, and one player cannot know the other player’s move before making her move. Each prisoner cares what her counterpart does because that will determine her punishment, but she does not care when her counterpart acts within each defined iteration. There is no temporal element. In the real world, suspects do not make decisions in defined iterations. If all confessions are treated the same, each player can take a wait-and-see approach. If one’s partner does not confess,

61 See infra notes 67-77 and accompanying text.
62 Spratling, supra note 3, at 800.
63 CORPORATE LENIENCY POLICY, supra note 58.
64 Id.
65 This assumes that the government will not discover sufficient evidence to successfully prosecute the price-fixers if none of them confess.
remain silent. If a suspect gets wind that the partner is cooperating, he can confess in exchange for leniency at that point.

By rewarding the first confessor with amnesty, the amnesty program reduces the wisdom of the wait-and-see strategy for cartel members. Unlike in the basic prisoner’s dilemma model, it is no longer enough to confess; a firm must confess before other firms do in order to maximize the gains from confession. There are essentially three possible actions: confess first, confess second, or do not confess. Confessing first is highly preferred over confessing second. Thus, if either player believes that the outcome of mutual non-confession is not going to happen, then it had better confess first.

The Antitrust Division has also harnessed the power of sequencing beyond the first confession by giving descending discounts to subsequent confessors. Although the most significant component of the written leniency policy is amnesty for the first confessor, antitrust authorities have wisely applied the policy so that each subsequent confessor receives a reduction in criminal fines. The government gives descending discounts on fines to cartel confessors based on the order of confession. For example, when the graphite electrodes cartel unraveled, the first confessor paid no criminal fines, the second paid $32.5 million, the third paid $110 million and the last ponied up $135 million.

Although this example shows the absolute size of the fine increasing, in reality the mechanism for rewarding earlier confessors is a function of each cartel member’s volume of commerce in the cartelized market. For example, in the vitamin cartel, France’s Rhone-Poulenc confessed first and paid no criminal fines. Switzerland’s Hoffman-La Roche and Germany’s BASF Aktiengesellschaft were treated as tying for second place. Hoffman paid a fine of $500 million and BASF a fine of $225 million. While these represented hefty criminal fines, under the U.S. Sentencing Guidelines the firms faced maximum fines of $2.6 billion and $818 million, respectively. While Hoffman paid significantly more than BASF, the fines were comparable as measured in volume of commerce, each fine representing approximately 15% of the firm’s relevant volume of commerce. Under the Sentencing Guidelines for Organizations, the base fine for a firm convicted of illegal price-fixing is 20% of the volume of commerce, which the Antitrust Division calculates as “the entire volume of a company’s sales in the relevant product during the period of the alleged conspiracy.” With available multipliers, the fine can increase to 80% of the volume of commerce.

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66. It might seem that confessing first is always the dominant strategy because one never wants to risk being the second, third, or last to confess. But it is far more profitable to belong to a cartel that is never exposed than to expose a cartel. So long as one believes that her cartel is stable and undetected, and will remain so, the pure profit-maximizing firm will quietly cooperate with its co-conspirators. It is only when the cartel member fears that the cartel is about to be exposed (either from within the cartel or by a third party, whether government actor, angry consumer, or other) that confessing first becomes the profit-maximizing strategy.

67. Spratling, supra note 3, at 801.

68. Id. at 803.

69. Id.


71. Klawiter, supra note 6, at 751; see United States v. Hayter Oil Co., 51 F.3d 1265 (6th Cir. 1995) (upholding the government’s interpretation).

72. Kobayashi, supra note 70, at 724. Donald Klawiter explains the process of fine calculation as follows:
generally receives a 50% to 80% discount off of the base fine. Had either Hoffman or BASF come in third or fourth in the race to confess, the fine imposed would have been substantially higher. The third or fourth confessor is typically assessed criminal fines based on 25% to 35% of that firm’s volume of commerce in the affected market. In large international cartels, each slot in the pecking order costs the slower firm tens to hundreds of millions of dollars in additional criminal fines.

Descending discounts are necessary in order to make confession rational in a wider range of circumstances. If only the first confessor were to receive any leniency, then there would clearly be no prisoner’s dilemma. As soon as one member of the cartel confessed, then no other rational firm in the cartel would confess. The second confessor would be admitting liability while not receiving anything in exchange for that admission. Furthermore, if only the first confessor were granted any leniency, this would mean that as time went by each firm would be less likely to confess because over time the probability that another cartel member has already confessed increases. This means that the greater the duration of a given cartel, the greater the likelihood that one’s own confession would be used as an admission of guilt with no countervailing leniency. In sum, if only the first firm gets a deal, then this creates a high incentive not to confess whenever a firm fears that another cartel member has already confessed. In any case, if all confessions did not receive some reward compared to non-confession, then confession would not be a dominant strategy and thus there would be no prisoner’s dilemma.

Once the base fine is calculated, the defendant’s culpability score is calculated. Beginning with a score of five, various factors are assessed that may increase or decrease the score. These factors include the size of the organization, participation or tolerance of the offense by senior management, prior criminal history, obstruction of justice, self-reporting, and acceptance of responsibility. After the culpability score is calculated, the minimum and maximum “multipliers” are applied to produce a Guidelines fine range. For antitrust cases, the multiplier may not be less than 0.75, but can be as much as 4.00. Thus, by multiplying 0.75 times the base fine of twenty percent of the volume of affected commerce, the minimum fine without any departure in any antitrust case will be fifteen percent of the volume of commerce done by the organization, while the maximum fine could be 80 percent of the volume of commerce. The eighty percent calculation would likely be used where the organization goes to trial and is found guilty, and, therefore, does not receive the benefit of the acceptance of responsibility reduction under the Guidelines. The size of this penalty undoubtedly serves as a deterrent to taking these cases to trial because the risk of a very substantial fine increases dramatically.

Klawiter, supra note 6, at 754-55 (citations omitted).

73. Gary R. Spratling, The Race for Amnesty in International Antitrust—If You Don’t Come in First, the Rewards for Second Place Are No Small Consolation, 16 INT’L ENFORCEMENT L. REP. 710, 715 (2000); Connor, supra note 4, at 372-73.

74. Spratling, supra note 3, at 804.

75. This is precisely why, under the traditional prisoner’s dilemma scheme, even when one prisoner confesses, the other prisoner will receive two years in prison (instead of three) if she confesses as well.

76. More work needs to be done on how to set the proper level of these sequential discounts in order to maximize the pressure to confess. If the subsequent discounts are too large, then there is less urgency to confess quickly. If the subsequent discounts are too small, then there is less incentive to confess second or third. This Article does not attempt to determine the proper discount for later confessors because it is impossible to do so in the abstract. In reality, the appropriate level of discounts is going to vary from cartel to cartel. It will be a function of a particular cartel’s stability, including barriers to entry, duration, and the level of trust among the cartel’s membership. Cartels that are relatively unstable do not require high discounts to encourage confession.

77. There are, of course, other reasons to reward later confessions beyond the need to create a prisoner’s
However, the descending discounts alone do not create a true prisoner’s dilemma. When a cartel is perceived as stable by its participants, each firm will perceive a rank-measured structure as follows (Table 4):

<table>
<thead>
<tr>
<th>Cartel with ‘n’ number of firms</th>
<th>If no one has confessed</th>
<th>If 1 firm has confessed</th>
<th>If 2 firms have confessed</th>
<th>If 3 firms have confessed</th>
<th>…</th>
<th>If n-1 firms have confessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confess</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>…</td>
<td>1</td>
</tr>
<tr>
<td>Don’t Confess</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>…</td>
<td>2</td>
</tr>
</tbody>
</table>

The relative ranks in the second column reflect the fact that when a cartel is stable—that is, its participants trust each other not to confess—silence is preferred over confession. Confession is still not the dominant strategy because if one’s partner is never going to confess, then one is better off not confessing either. Absent an impending antitrust investigation, all cartel members will prefer to remain silent and continue fixing prices. This course of action will maximize their expected profits while minimizing their exposure to private litigation. In short, the stable cartel is a hard nut to crack so long as the members trust each other.

After that trust is betrayed and one cartel member has sought amnesty, then the chart indicates that confession is the preferred decision for the remaining scenarios. Beginning in the third column, if exactly one other member of the cartel has confessed, then each other firm is better off confessing immediately. There is no meaningful possibility of the cartel surviving at this point. Thus, confessing does not eliminate a potential stream of cartel profits; that stream has dried up. The cartel is over and the most important decision left to consider is the exit strategy. If no other firms confess at this juncture, one of two outcomes will result. Either no other member of the cartel will confess and the initial defector will testify and provide other evidence against the non-confessing firms, or another member of the cartel will confess second and take the second most-desired spot in the confession queue. Under either scenario, cartel profits are definitely gone and one’s criminal conviction is virtually assured. However, if a firm confesses second, then prosecutors and judges will afford it a significant amount of leniency. The firm’s executives may be able to avoid jail time and the criminal fine will be dramatically reduced. Most importantly, confessing second secures a firm a better deal than confessing third, fourth, or not at all.

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dilemma payoff structure. It might not be sufficiently easy to convict the remaining members of the cartel. For example, the first confessor might not be a credible witness against the non-confessing cartel members. Also, the government gets more documents with each confession. The first confessor may not be the cartel member with the best notes that can be used as leverage over the non-confessing members and as evidence against them at an antitrust trial. The second and third confessors will help the prosecutors build a better case against any holdouts. See Gruner, supra note 7, at 84 (“[T]hese reports tend to assist prosecutors in developing cases based on complex, widespread misconduct that would be difficult to investigate properly without extensive cooperation on the part of one or more insiders.”).
If two other members of the cartel have confessed, then a firm should race to the authorities and confess third. With two former cartel members providing evidence against the non-confessing members, the likelihood of conviction increases even further. If a firm confesses third, instead of fourth or later, then it will receive a relatively higher discount off of its base criminal fine. Table 4 demonstrates that once one cartel member confesses, an earlier confession in the sequence of confession is always preferred. These results should hold true no matter how many firms are in the cartel.\(^78\)

Not reflected on this chart is the fact that if one’s partner has not confessed but will in the future, one should confess immediately. When a cartel member is about to confess, all firms will cease to earn cartel profits. Thus, the opportunity cost of forgone cartel profits that would ordinarily be a deterrent to confessing first is no longer an issue. Similarly, the first confession will undoubtedly open up all cartel-participating firms to private liability—both foreign and domestic, antitrust and non-antitrust—and thus these other deterrents to confession vanish. When exposure seems inevitable, each firm must choose between immunity (confess first), a reduced sentence (confess second), and a lengthy sentence (no confession). Immunity is preferred. A fast confession is the best strategy in this scenario.

Confession is the preferred decision unless a firm believes that no other cartel member has confessed \(\text{and}\) that none of its co-conspirators are about to confess. This means that the government must somehow convince at least one firm that another firm is about to confess. Once firms believe that one of their cartel partners is going to seek amnesty, there is a race to confess. Once a race to the prosecutor’s office starts, it can be won by a matter of hours or minutes. Government attorney Gary Spratling has noted that “the [Antitrust] Division frequently encounters situations where a company approaches the government within days, and in some cases less than one business day, after one of its co-conspirators has secured its position as first in line for amnesty. Of course, only the first company to qualify receives amnesty.”\(^79\) But the race only starts once there is sufficient distrust. Without distrust, each firm will continue to abide by the cartel agreement because this maximizes profits and reduces the likelihood of private liability.

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78. Table 4 assumes that the last confessor receives some discount for its confession.
79. Spratling, \textit{supra} note 73, at 713. One legendary race is described as follows:

Very harsh consequences can turn on a very brief delay in reporting an offense. For example, in one case company executives were advised by their antitrust counsel to drop everything and fly to meet with prosecutors. They did so and struck a deal providing for amnesty. As they left the building after reaching this agreement, they met executives and attorneys for one of their coconspirators heading into the building. This second firm missed its chance for amnesty by a matter of minutes.

The following matrix (Table 5) shows how distrust can manipulate the player’s calculations:

**Table 5: Rank Preferences Under Amnesty Program With and Without Trust**

<table>
<thead>
<tr>
<th>Cartel with ‘n’ number of firms</th>
<th>If no one has confessed</th>
<th>If 1 firm has confessed</th>
<th>If 2 firms have confessed</th>
<th>If 3 firms have confessed</th>
<th>. . .</th>
<th>If n-1 firms have confessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confess</td>
<td>If distrust, 1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>. . .</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>If trust, 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t Confess</td>
<td>If distrust, 2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>. . .</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>If trust, 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5 illustrates a firm’s preferences under two different states of affairs: trust or distrust among the cartel members. When firms trust each other, confession is not the dominant strategy, as discussed in Part II. However, in the state of distrust, confession becomes the utility-maximizing strategy. It is not truly a dominant strategy because each firm is not better off confessing regardless of what its partner does. If its partner will never confess, a firm should not confess. The key is that once the relationship is tainted by distrust, each firm will *perceive* that its best strategy is to confess. Thus, the goal of antitrust authorities should be to try to create that state of distrust.

Theoretically, that distrust alone should not spark confessions. After all, so long as no firm has confessed, then every firm knows that all firms are better off if cartel members hold rank and remain silent. This is a stable equilibrium in a coordination game.\(^8^0\) The issue for antitrust prosecutors is how to prevent firms from successfully coordinating and reaching a stable equilibrium of non-confession. Presumably, all cartels start out with all participants not confessing, a stable equilibrium that from the price-fixers’ perspective is both Pareto optimal and Kaldor-Hicks efficient. Distrust does not change the payoffs in the prisoner’s dilemma matrix. Thus, it would seem that distrust should not be able to disturb a stable, efficient equilibrium. But it can. If each player believes that the probability of its partner confessing is zero, then neither player is better off confessing. As the perceived probability of one’s partner confessing increases and the cost of being the sucker increases, it becomes more likely that one’s best move is to confess quickly. Distrust does not change the payoffs and therefore cannot create a true prisoner’s dilemma. But distrust can change the perceived likelihood of the various outcomes in a manner that makes confession rational. While each firm is better off remaining silent if its partner does so as well, each firm is also better off confessing if its partner does. If antitrust prosecutors can convince the cartel members that the probability of their partners confessing is exceedingly high, then price-fixers may perceive confession to be in their best interest.

It may seem odd that a firm would believe that another firm is about to confess, when the model suggests that all firms are better off if no firm confesses. But there are

\(^{80}\) In contrast, in a prisoner’s dilemma mutual non-confession is not a stable equilibrium because each party is better off if he confesses. This leads to mutual confession and both parties are worse off compared to the initial starting point of mutual non-confession.
many reasons that a firm might legitimately fear that a cartel partner is about to confess. First, many firms belong to multiple cartels. A firm should distrust its cartel partners to remain silent if they are in another cartel that is about to be exposed. When the lysine cartel collapsed and its members confessed their price-fixing conspiracy, ADM was the last firm to confess and had little to offer the government, except its participation in the citric acid cartel.\textsuperscript{81} This, in turn, forced the remaining members of the citric acid cartel to confess and pay criminal fines.\textsuperscript{82} Under the government’s amnesty policy, a confessing firm must expose all of the cartels to which it belongs in order to receive leniency. The ADM example teaches the lesson that when a firm believes that its partners’ other cartels are on shaky ground, one’s own cartel might be exposed as well and confessing quickly might be the best strategy. Conversely, the firm that belongs to multiple cartels knows that the other members of those cartels are more likely to perceive it as less trustworthy, and this may provide a particularly compelling incentive to expose its cartels, out of fear that its distrusting partners will attempt to beat it to the prosecutor’s office.

Second, a cartel participant may rationally fear that one or more of its cartel partners have experienced a change of heart (or leadership) and now believes that engaging in felonious price-fixing is wrong. In some cases, a firm’s outside counsel or directors may discover the price-fixing and force a confession. In a similar vein, despite the numbers in a payoff matrix that demonstrates a shared mutual preference for non-confession, a cartel member may simply become more risk averse and wish to end its participation in a criminal enterprise in the most cost-effective manner possible, which is confession.\textsuperscript{83}

Third, a rational cartel participant might fear that its partner is about to confess because the latter believes—correctly or incorrectly—that the cartel is about to be exposed by something else, such as a government investigation or a disgruntled former employee of its own or any other cartel member.\textsuperscript{84}

Fourth, and perhaps most likely, a firm may misread ambiguous facts and incorrectly believe that another member of the cartel has confessed or is about to confess (for one of the reasons laid out above). Miscommunications are common among cartel members. Members are often quick to believe that another firm has cheated on the cartel agreement. In many historical cartels, such misunderstandings have led to price wars, as no firm wants to be the sucker.\textsuperscript{85} The trade associations of the depression era attempted to stop such misunderstandings. For example, the Wool Institute prevented accidental price wars by requiring that rumors of cheating be “referred to the Institute, instead of causing immediate retaliation.”\textsuperscript{86}

\begin{footnotesize}
\begin{itemize}
\item[81.] CONNOR, supra note 4, at 365; JAMES B. LIEBER, RATS IN THE GRAIN: THE DIRTY TRICKS AND TRIALS OF ARCHER DANIELS MIDLAND 36 (2000).
\item[82.] EICHENWALD, supra note 56, at 559.
\item[83.] See Leslie, supra note 2, at 645-46 (discussing the downsides of attempting to withdraw from a price-fixing conspiracy without confessing).
\item[85.] Joel M. Podolny & Fiona M. Scott Morton, Social Status, Entry and Predation: The Case of British Shipping Cartels 1879-1929, 47 J. INDUS. ECON. 41, 45 n.4 (1999); see also Wiley, supra note 11, at 1925 (citing Ronald I. McKinnon, Stigler’s Theory of Oligopoly: A Comment, 74 J. POL. ECON. 281, 281 (1966)) (describing the impact of such “Type I” errors on Axelrod’s prisoner’s dilemma tournaments).
\item[86.] SIMON N. WHITNEY, TRADE ASSOCIATIONS AND INDUSTRIAL CONTROL 82 (1934); David Genesove & Wallace P. Mullin, Rules, Communication, and Collusion: Narrative Evidence from the Sugar Institute Case, 91
\end{itemize}
\end{footnotesize}
cooler heads to prevail and cartels to be stabilized. But these calming strategies employed when firms fear cheating by a cartel participant cannot work as effectively when firms fear that their partners are about to confess. A firm cannot necessarily wait to confirm its fears because distrust starts a race for amnesty; hours—even minutes—count. The firm that waits to have rumors of dissention disproved may find itself last in line at the Antitrust Division.

Fifth, one firm may fear that its partners perceive it will confess for these same reasons and confess preemptively. A firm’s cartel partners may incorrectly perceive that it has had a change of heart or become more risk averse. Even if a firm has no intention of confessing—because it perceives its employees to be loyal and its other cartels (if any) to be secure—it would be rational for that firm to confess first if it feared its suspicious partners were about to confess.

Finally, confession appears rational when a firm distrusts its partners and mistakenly believes that another member of the cartel has already confessed. Because it is better to confess second rather than third, fourth or not at all, a firm may race to be second and discover that it is the first to confess.

In sum, while distrust alone should not change the joint preference for non-confession—when coupled with other events and possible misunderstandings—distrust can lead firms to confess their participation in illegal price-fixing schemes. We know that this happens because dozens of firms have been the first to confess.

Thus, distrust serves two critical purposes. First, it may move the players closer to an environment where confession seems to be the utility-maximizing option. Second, it prevents firms from solving the coordination problem that they now face. If antitrust authorities can generate enough distrust, they can simultaneously approximate a prisoner’s dilemma and prevent its solution. In order to make confession rational, the antitrust authorities need to convince a firm that either its partner has confessed or is about to.

**B. Creating Distrust**

Through high sanctions and the Antitrust Division’s amnesty program, the American antitrust regime helps foment distrust in at least two distinct, but related, ways. First, it creates incentives to confess while reducing the costs of confessing. Second, it significantly increases the costs of not confessing first when another does. The distrust-inducing effects of each of these will be discussed in turn.

1. **The Incentive to Defect**

People in a coordination game or a prisoner’s dilemma are less likely to trust each other when the benefits of defecting (confessing) are relatively high. For example, a prisoner would probably not turn state’s evidence against his partner in exchange for shaving a week off of a three-year prison sentence, but he would confess in exchange for no prison time. Knowing that prosecutors are offering one’s partner an attractive deal
should give all players cause for concern. As it becomes more rational or beneficial for one’s partner to confess, one should trust her less. And, because one has been offered the same deal, one’s partner should trust him less. Once he knows that she trusts him less, that should make him trust her even less. There is a vicious cycle of distrust until someone confesses. Not surprisingly, the experimental literature on prisoner’s dilemmas demonstrates that increasing the reward for confession increases the number of confessions. The goal is to convince a suspect that it is in his best interest to confess by convincing him that it is in his partner’s best interest to confess.

Beginning with the 1993 changes in the amnesty program, antitrust law has helped sow distrust among firms participating in price-fixing conspiracies by rewarding confession. The first firm that confesses receives the most important prize of all: immunity from criminal prosecution. Yet one significant disincentive to confessing remained over which antitrust prosecutors had no control: private treble-damage lawsuits. Even if a firm could qualify for amnesty, it would still open itself up to private lawsuits that could cost the firm millions to hundreds of millions in liability. The fear of treble damages probably deterred firms from exposing cartels in which they participated. Indeed, because antitrust law provides no right to contribution, a relatively small player in a cartel could theoretically be on the hook for treble the amount of all damages inflicted by a cartel. This provided a powerful disincentive to be the first firm to confess a price-fixing cartel to the DOJ because follow-on litigation created the possibility of liability far in excess of triple the confessing firm’s illegal profits. Congress responded to this problem with the Antitrust Criminal Penalty Enhancement and Reform Act of 2004, which reduces the damages recoverable by a private antitrust litigant against an amnesty-qualifying first confessor to only the single damages actually attributable to that firm.

This increases distrust among the cartel members by reducing private liability for the confessor and making confessing first a more attractive option. Under the new

87. While cartelists perceive this as a vicious cycle, antitrust authorities and consumers view this as a virtuous cycle.

88. See David Sally, Conversation and Cooperation in Social Dilemmas, 7 RATIONALITY & SOC’Y 58, 75, 86 (1995).

89. The lure of treble damages is intended to encourage private plaintiffs to do the necessary investigations and incur the litigation costs in order to disgorge ill-gotten gains, to punish violators, and to deter future violations of the antitrust laws. However, treble damages are probably not necessary to motivate follow-on litigation since a criminal conviction conclusively establishes civil liability. Private plaintiffs need only prove standing and damages.


91. Some may worry that reducing liability for the first confessor could create a risk of lying—of a competitor falsely claiming that it belongs to a cartel in order to impose greater costs on its competitors. This does not appear to be a significant risk. First, no firm is going to be convicted based on a competitor’s confession alone. Mere testimony of one competitor will be insufficient to get a grand jury indictment, let alone a conviction. Prosecutors will need corroborative evidence and they generally secure it. In the auction house price-fixing cases, the Christie’s CEO had documented the illegal agreements in 600 pages of handwritten notes, which compelled Sotheby’s CEO to confess as well. In the lysine case, FBI agents secured hours of audio and videotape of the lysine manufacturers allocating volume in the international market.

Second, the “confessing” firm is undoubtedly going to be liable for damages in private antitrust litigation, as well as potential securities law and foreign antitrust violations. But the targeted firms will stand a very strong chance of escaping private liability for the reasons mentioned above.
law, the first confessor cannot pay more than the actual damages it inflicted on antitrust plaintiffs.92

In sum, confessing first can eliminate criminal fines and reduce private liability from treble damages to single damages. This gives every firm an incentive to defect and thus reduces the trust among cartel members.

2. The Cost of Betrayal

As noted above, trust is the willingness to make oneself vulnerable. This willingness is a function of the risk and impact of betrayal. When the negative impact of being betrayed is low, one is more trusting. For example, most people would probably be willing to lend five dollars to a colleague without any receipts, paperwork, or collateral. Increasing the cost of betrayal makes people more wary and less trusting. Thus, the person willing to lend five dollars without a receipt would not do the same with $50,000. She would want a paper trail, something enforceable in court. She would be less trusting because the stakes are much higher. In the context of a prisoner’s dilemma, this cost of betrayal is the cost associated with the worst outcome—cooperating when the other player defects. The experimental literature shows that increasing the cost of being the sucker increases defection rates, that is, more prisoners confess.93 Players are more likely to trust if they would suffer very little in response to any betrayal of their trust. But when the cost associated with the sucker outcome becomes sufficiently high, it becomes rational to distrust the other players and forego cooperation even though cooperation would yield higher gains than confessing.94

Under the amnesty program, confessing is not a dominant strategy because each firm is better off not confessing if none of its partners confesses. One way of ensuring confession even though it is not technically a dominant strategy is to make the cost of guessing wrong as to the other cartel members’ behavior unacceptably high. Even if the probability of another firm confessing is very low, if the penalty imposed for incorrectly predicting that the other firm will not confess is sufficiently high, then a rational firm will confess first simply to avoid the high cost of confessing second or last. This is essentially a way of creating distrust by increasing the cost of betrayal.

The costs of betrayal—of having one’s cartel partner confess—are quite high and have recently increased. The Antitrust Criminal Penalty Enhancement and Reform Act of 2004 increased the maximum prison sentence for an antitrust felony from three years to ten years. Imprisonment is becoming more common for cartelists; in fiscal years 1999

Third, there do not appear to be cases of false confession. In most cases, all firms eventually plead guilty. This makes sense given the incentives to confess laid out above. When there are criminal trials, it is generally individuals trying to avoid responsibility when the firms that those individuals work for have already pleaded guilty. See, for example, the ADM and Sotheby’s cases.


93. RAPOPORT & CHAMMAH, supra note 30, at 192.

94. See Hardin, supra note 37, at 497; Bernard Williams, Formal Structures and Social Reality, in TRUST: MAKING AND BREAKING COOPERATIVE RELATIONS 1, 6 (Diego Gambetta ed., 1988).
and 2000, fifty individuals were imprisoned for price-fixing. The potential for a significant amount of prison time for executives who fail to confess first is important because it reduces the amount of distrust necessary to destabilize a cartel. It may be perfectly rational to not confess and take a chance on trusting one’s co-conspirators if confessing first will save one only from a minimal prison sentence. But when the potential prison sentence is a decade, it is less likely that a price-fixing executive will roll the dice and not confess. The cost of being wrong is too high and this makes it harder to trust the other members of the cartel (who will also be more concerned about a ten-year sentence than a shorter one).

The 2004 Act also increased fines for antitrust crimes to $100 million for corporations and $1 million for individuals. Yet even this does not represent a true statutory maximum. Should the $100 million figure underrepresent the damages actually imposed by a cartelist’s behavior, antitrust prosecutors can always take advantage of the twice-the-gain, twice-the-loss provision, whereby authorities can seek a fine equal to either twice the gain achieved by a price-fixer or twice the loss imposed by a price-fixer, even when these figures exceed the Sherman Act’s stated maximum fine. Antitrust authorities have in fact made effective use of this standard, as some commentators argue that the desire to escape these heightened penalties has motivated many cartelists to attempt to be the first confessors.

Beyond criminal fines, the costs of betrayal include even greater civil liability. All firms that do not confess first will almost certainly be liable for treble damages in follow-on private lawsuits. Furthermore, potential antitrust penalties may even exceed the losses attributable to a firm’s actual participation in the cartel because all members of a cartel—regardless of when they joined—may be potentially liable for all price-fixing committed by the other firms in furtherance of the conspiracy. In contrast, if a firm confesses first, then it can eliminate the risk of excessive damages in private antitrust litigation because

95. Of course, the mere risk of any imprisonment should depress the level of trust among conspirators. Independent of the length of imprisonment, the mere fact that an individual has been imprisoned can constitute a significant social stigma on the convicted executive. Gregory J. Werden & Marilyn J. Simon, Why Price Fixers Should Go to Prison, 32 ANTITRUST BULL. 917, 935 (1987) ("[A] major portion of the disutility businessmen experience as a result of imprisonment is the stigma and humiliation associated with incarceration."); see also Leslie, supra note 2, at 647 ("[O]ne’s employability may be limited following the prison term. In addition to the criminal stigma, being out of the loop while in prison can reduce an executive’s business connections, development of relevant skills, and maintenance of necessary personal relationships.") (citation omitted).

96. Before the passage of the Act, I advocated for increasing the penalties for antitrust crimes. Leslie, supra note 2, at 652-53. That suggestion is no longer timely.

97. Donald C. Klawiter, Criminal Antitrust Comes to the Global Market, 13 ST. JOHN’S J. LEGAL COMMENT. 201, 205 (1998) ("Since its success in invoking this provision in the food and feed additives case, the Division has effectively sought to make the ‘twice the gain, twice the loss’ standard the new norm in antitrust cases.").

98. LIEBER, supra note 81, at 116 ("The double-the-loss, double-the-gain provision also scared a lot of companies into cooperating and cutting deals.").

99. Multiflex, Inc. v. Samuel Moore & Co., 709 F.2d 980, 989 n.9 (5th Cir. 1983) ("If a conspiracy had been in effect at the time of the Sedco bidding, parties later entering into that conspiracy properly could be charged with knowledge of, hence liability for, earlier acts of the coconspirators." (citing United States v. Davis, 666 F.2d 195 (5th Cir. 1982))); CHARLES A. BANE, THE ELECTRICAL EQUIPMENT CONSPIRACIES 302 (1973).
the amnesty program eliminates treble damages for the first confessor and limits liability
to single damages caused by that firm itself.

Finally, there are other potential consequences for failing to confess first or
otherwise not cooperating with antitrust authorities. While a firm convicted of price-
fixing may be precluded from bidding on government contracts,\textsuperscript{100} those that cooperate
sufficiently with the government may avoid such preclusion.\textsuperscript{101} Foreign price-fixers who
fail to cooperate with the Antitrust Division may be barred from entering the United
States, a critical inconvenience for some international businesspeople.\textsuperscript{102} The first firm to
confess can generally avoid these sanctions.

The high costs of betrayal can thus cause a cartel to unravel by making every firm
untrustworthy. The higher the criminal fines and other penalties, the less likely firms will
be to trust their partners in a price-fixing scheme. Furthermore, every firm knows that it
is perceived as less trustworthy by its cartel partners because no firm wants to be the
sucker. This creates a vicious cycle of distrust within a cartel because each firm distrusts
its partners who have a strong incentive to confess—to avoid the penalties of being the
sucker—but each firm also knows that it is less likely to be trusted, which further
increases pressure on its partners to confess.\textsuperscript{103}

In sum, the current system creates distrust by rewarding the first confessor with
amnesty from criminal prosecutions and a reduction in civil liability from trebled
damages to simple compensatory damages. At the same time, if a cartel is exposed
through the amnesty program, the firms that failed to confess first will suffer significant
criminal fines, private damages, foreign fines, and liability for derivative non-antitrust
violations. These two efforts—rewarding the first confessor while harshly punishing all
others—work in tandem because increasing the spread between the benefits associated
with confessing and the losses associated with being the sucker makes it harder for
players to create and maintain mutual trust.\textsuperscript{104}

\textbf{IV. MAXIMIZING DISTRUST}

Distrust destabilizes cartels. The amnesty program has done an effective job of
creating distrust and toppling dozens of cartels. Unfortunately, in many cartels it may still
be difficult to create distrust among firms. While competitors may initially find it harder
to trust each other, after they overcome their reluctance and have entered into a price-
fixing conspiracy, the firms may create a wealth of trust. Nothing creates trust like a
history of mutual cooperation.\textsuperscript{105} Most importantly, because creating and maintaining a
successful cartel is itself a prisoner’s dilemma, the firms in a cartel have already solved

\textsuperscript{100} See Robert F. Lanzillotti, \textit{Great School Milk Conspiracies Revisited: Rejoinder}, 17 REV. INDUS. ORG. 343, 352 n.27 (2000).
\textsuperscript{101} \textit{CONNOR, supra} note 4, at 362.
\textsuperscript{102} \textit{Id.} at 510-11. The International Competition Policy Advisory Committee notes that such concessions
were “instrumental in every international antitrust matter . . . [because] freedom to travel into and out of the
United States [is] important to every foreign individual’s decision to cooperate with the U.S. government.” \textit{Id.} See Leslie, \textit{supra} note 2, at 649-50 (discussing program between Antitrust Division and INS).
\textsuperscript{103} Leslie, \textit{supra} note 2, at 652-53.
\textsuperscript{104} See \textit{JAMES S. COLEMAN, FOUNDATIONS OF SOCIAL THEORY} 100-01 (1990).
\textsuperscript{105} Leslie, \textit{supra} note 2, at 542-43, 590-96.
the prisoner’s dilemma once. Firms that solve the first prisoner’s dilemma and thereby create a cartel that successfully fixes prices for a relatively long period\(^{106}\) have developed a reserve of trust that can help them resist the second prisoner’s dilemma of whether to confess in exchange for amnesty.\(^{107}\) A greater effort is needed to create distrust and destabilize these cartels.

This Part discusses possible ways to revise the amnesty program in order to create more distrust among price-fixing firms. Distrust is maximized when every member receives a meaningful reward for confessing first, suffers a substantial loss if another member does confess first, and knows its partners have been offered a deal. Yet under the current policy, not every firm qualifies for amnesty if it confesses. Limitations on the availability of amnesty can have the unintended effect of stabilizing a price-fixing cartel. Unfortunately, expanding amnesty eligibility could also reduce the incentive to confess under some circumstances. The following discussion proposes eliminating three current limitations on amnesty, explains why these changes should create cartel-destabilizing distrust, and examines their potential offsetting effects. Finally, this Part counsels against awarding leniency to price-fixers who do not confess.

\subsection*{A. Amnesty Eligibility for Cartel Ringleaders}

Under the Corporate Leniency Policy, a firm is ineligible for amnesty if it is either the ringleader or instigator of the cartel. In order to qualify for amnesty, the policy requires that “[t]he corporation did not coerce another party to participate in the illegal activity and clearly was not the leader in, or originator of, the activity.”\(^{108}\)

The ringleader of the cartel should, however, be eligible for leniency, because if she is not then others can trust her not to reveal the price-fixing to the government. For example, if she is not eligible for amnesty, then she can approach potential members of the cartel and offer them the opportunity to fix higher prices and tell them truthfully that she cannot betray them by going to the government in search of amnesty because she is not eligible. Her ineligibility makes her more trustworthy. The rational cartelist is much more likely to trust an individual not to confess when confession yields no significant benefit than to trust a cartel member who could escape incarceration and punitive fines by confessing.\(^{109}\) Antitrust law should do what it can to make cartel members distrust each other.

\footnote{106. Antitrust history has witnessed many long-lived cartels. The alkali cartel lasted for over half a century. See \textit{George W. Stocking \\& Myron W. Watkins, Cartels in Action} 430 (1946). Alfred Nobel’s dynamite trust controlled the market for almost thirty years, until the outbreak of World War I. \textit{See id.} at 438. The electrical equipment cartel persevered for several years until the government discovered it. \textit{John G. Fuller, The Gentlemen Conspirators: The Story of the Price-Fixers in the Electrical Industry} 104-05 (1962). The niacin and chloride cartels lasted eleven years and eight years, respectively. \textit{Connor, supra} note 4, at 30.}


\footnote{108. \textit{Corporate Leniency Policy, supra} note 58.}

\footnote{109. Even without the possibility of leniency for the ringleader, cartel members may still harbor some distrust as to whether the ringleader will cheat on the cartel by producing more than its cartel allotment or selling below the cartel price. But most cartel members will be less concerned about the ringleader cheating than the ringleader confessing. Cheating may reduce one’s cartel profits, but a partner’s confession can land one in prison.}
If the ringleader is ineligible for amnesty, this becomes a particularly strong selling point for a firm in a duopolized market trying to induce its rival to join a two-firm cartel. The ringleader has no reason to inform the government about the cartel. The ringleader would open itself up to prison time, criminal fines, restitution, and private lawsuits. Because the ringleader cannot profitably defect on the cartel by telling the government, this means that the follower firm can be relatively secure that the cartel will be stable. The follower firm has little incentive to confess. Given the benefits of maintaining a stream of cartel profits and the risks of private antitrust suits (even with merely single damages, not treble damages), the follower’s payoff is better if neither firm confesses than if it alone confesses. So long as the ringleader has no incentive to confess, neither will the follower.

In a two-firm cartel, there is no pressure to race to antitrust prosecutors in a bid to be the first confessor should the cartel members begin to doubt each other’s trustworthiness. The follower knows that it holds all the cards. If the ringleader cannot confess, then the follower knows that it cannot be sold out. The follower knows that the government is unlikely to strike a deal with the ringleader, who is technically ineligible for leniency. So the non-instigator has insufficient reason to race to confess. The only scenario that the follower needs to worry about is the government discovering the cartel upon its own investigation and prosecuting both the ringleader and the follower without any insider testimony. This may not be sufficient to deter or destabilize most cartels.

It is far easier to trust firms that will suffer losses if they betray that trust. If cartel partners believe that each has too much to lose by confessing, this stabilizes the cartel because all believe that no one will expose the cartel. The ringleader becomes relatively trustworthy because it has less to gain and more to lose by confessing than those cartel members who can secure full amnesty by confessing first. Executives are more likely to engage in cartel conduct when they believe that their partners will not confess because they have too much to lose. For example, the Sotheby’s CEO thought that the auction house cartel was stable and the co-conspirators safe because the Christie’s folks had as much to lose as Sotheby’s if their conspiracy were exposed. In short, just believing that others cannot confess may make executives more likely to enter a cartel.

Furthermore, if the ringleader were eligible for amnesty, this would enhance deterrence because the rival firm would have to consider the possibility that its competitor is setting it up to take an antitrust fall. Antitrust enforcement benefits from

\[\text{\textcopyright{} 2006 Antitrust Amnesty, Game Theory, and Cartel Stability 479}\]

\[\text{in federal prison for up to a decade.}\]

\[\text{110. Examples of such two-firm cartels include the auction house commission-setting cartels and the steel wool scouring pad price-fixing conspiracy. Gruner, supra note 7, at 109.}\]

\[\text{111. In a similar vein, the current rule reduces the probability of a cartel being exposed through the amnesty program because it eliminates one possible confessor. Without amnesty, the ringleader is significantly less likely to confess first. Even if the ringleader fears the follower’s loyalty to the cartel, the ringleader has no incentive to expose the cartel to the government, since it can get nothing in exchange. After all, if the instigator has to pay a meaningful price even when it is the first to confess, then it is less likely to be the first confessor.}\]

\[\text{112. MASON, supra note 13, at 215.}\]

\[\text{113. See United States v. Am. Airlines, Inc., 743 F.2d 1114, 1118-19 (5th Cir. 1984) (involving an executive taping a phone conversation with a competitor who proposed raising prices).}\]
the fear that a firm may form a price-fixing cartel and then expose the conspiracy to federal authorities. Fear deters cartelization. Fear of betrayal by the instigator should increase this marginal deterrence. Additionally, the confession of the ringleader might be the most useful for prosecuting other members of the cartel.

Finally, the ringleader exception introduces uncertainty because it may be unclear who the ringleader is. Antitrust enforcement has recognized the need for a cartel member who is considering confessing to have certainty about securing amnesty by labeling amnesty automatic under the 1993 guidelines for the first confessor, despite the fact that this necessarily reduces prosecutorial discretion. But the amnesty is not truly automatic. Decisionmakers considering whether to confess must be concerned about whether the government will consider their firm to be an instigator or ringleader. The answer is not always clear. For example, who was the head of the lysine cartel? Was it ADM, which entered the market by building excess capacity and threatening to flood the market if the incumbent lysine producers did not let ADM take a lead role in their existing cartel? Or was it Ajinomoto, the head of the Asian cartel that had existed before ADM entered the market? Firms must know whether they are eligible or ineligible for leniency. If they are uncertain, businesspeople will be less willing to end participation in a profitable cartel and endure the consequences of confession. The ringleader exception muddles the inquiry. Eliminating ringleader ineligibility would increase certainty and distrust, and thus, deterrence.

Fortunately, the no-amnesty-for-instigators rule is not strictly followed. After the dust has settled, it appears that the auction house case presents a cartel in which the instigator did, in fact, secure amnesty. Christopher Mason noted:

[T]he real originator of the conspiracy appeared to be Sir Anthony Tennant of Christie’s, not Alfred Taubaum of Sotheby’s . . . . The supreme irony was that the ostensible instigators and orchestrators of the conspiracy—[Christie’s executives] Tennant and Davidge—were getting away scot-free, while American counterparts at Sotheby’s—Taubman and Brooks—faced ruin. 114

This case study illustrates the importance of ringleaders being amnesty-eligible. If Christie’s were truly ineligible for leniency, then it would have little incentive to approach the government and confirm the existence of the cartel. Conversely, if Sotheby’s knew (or firmly believed) that Christie’s could not take advantage of the amnesty program, then it would not feel pressured to expose the cartel before its co-conspirator did. Although flexibility in the application of rules is often a virtue, the success of amnesty programs is generally dependent on certainty.

There are two possible objectives for making cartel ringleaders and instigators ineligible for antitrust leniency. First, instigating a price-fixing conspiracy is so injurious to consumers and to efficiency that the government may not want a firm that engages in such bad conduct to be eligible for leniency. Unfortunately, this justification for the no-ringleaders rule focuses more on short-term spite than long-term deterrence. If making ringleaders amnesty-eligible would expose more cartels, then the greater good is served by affording the first confessor amnesty regardless of its role in either creating or running the cartel. It is important to take a long-term view, and prosecutors do so in other

114. MASON, supra note 13, at 251.
contexts, for example, in order to bring down organized crime, murderers are given leniency in exchange for their cooperation with authorities. By definition, under the amnesty program, a felon is going to escape prosecution.\footnote{Gary Spratling has noted that “the first cartel participants to report in the United States, even those that have illegally taken tens of millions of dollars or more from their victims, will receive the reward of amnesty— they will face no criminal charges and pay zero fines.” Spratling, supra note 3, at 823.}

The proper way to signal antitrust law’s particular displeasure with cartel instigators and ringleaders is to assign higher penalties to them, as the Sentencing Guidelines currently do. This allows greater punishment for the offender who has done something worse. To the extent that making ringleaders eligible for amnesty may reduce the expected cost of cartelization (and thus reduce deterrence), increasing ringleader penalties compensates for this effect and maintains deterrence. This also gives the ringleader a greater incentive to defect first because it has more to lose if someone else confesses first. Knowing that the ringleader has a relatively greater incentive to confess makes the ringleader less trustworthy. This could deter cartel formation. For those cartels that are created, making ringleaders eligible for amnesty increases the probability that non-ringleaders will confess and that cartels will be brought down, with their ringleaders receiving significant punishment.

Second, antitrust agencies want to reduce creation of cartels. One argument is that removing instigators from amnesty eligibility will make people less likely to instigate cartels. This approach, though, is flawed both empirically and theoretically. Even before a formalized amnesty program, firms instigated cartels. The lack of any opportunity to sell out one’s cartel partners in exchange for amnesty did not deter firms from instigating price-fixing conspiracies. And ringleaders are clearly willing to make themselves vulnerable. A cartel joiner may be risk averse but nevertheless willing to participate because it knows the ringleader cannot afford to expose the cartel. Once one appreciates the role of trust and distrust in forming stable cartels, it becomes clear that if ringleaders are ineligible for amnesty, this makes them more credible cartel partners.

In sum, precluding leniency for cartel ringleaders can foster trust among cartel members, while making all firms eligible for amnesty means that no firm can be trusted. In order to maximize distrust, all firms within a cartel should be eligible for the rewards bestowed upon the first confessor.

\textit{B. Amnesty Regardless of Government Investigations}

So-called automatic amnesty is also dependent upon the stage of the government’s investigation into price-fixing, if the government has already opened an investigation at the time a cartel member confesses. In order to qualify for amnesty, one of two conditions must be satisfied: either “the Division has not received information about the illegal activity being reported from any other source,” or, in the event that an investigation has already started, then “[t]he Division, at the time the corporation comes in, does not yet have evidence against the company that is likely to result in a sustainable conviction.”\footnote{CORPORATE LENIENCY POLICY, supra note 58.} Like the no-ringleaders rule, these provisions limiting amnesty may undermine the destabilizing effects of the amnesty program.

There are four reasons why the first firm to confess should receive full amnesty
regardless of the state of any existing government investigation into a suspected cartel. The first is that the government needs to create certainty for would-be confessors. Even if a firm knows that it would be the first confessor, it has significantly less incentive to confess unless amnesty is guaranteed. If a cartel member needs to worry that it would not get immunity even if it confesses first, then this significantly changes the calculus of whether to confess. A firm may be willing to accept private liability in exchange for the certainty of amnesty if it is the first confessor. But it will be less inclined to destroy its cartel and invite private lawsuits in exchange for the possibility of amnesty if it confesses first and the government decides that any investigation into the cartel was sufficiently early to warrant amnesty. The new amnesty policy has been hailed because it reduced the uncertainty over amnesty that existed under the previous program. But, as written, the current policy also creates uncertainty since a firm can never know the state of the government’s own investigation and thus cannot be certain that it will receive amnesty even if it confesses first. If a firm declines to confess because it fears a government investigation has progressed—when in fact none has started—then this provision could deter the exposure of a cartel.

Second, the investigation provision places too much discretion in antitrust prosecutors. Compared to the pre-1993 amnesty policy, a firm today is much more likely to secure amnesty despite an ongoing criminal investigation. Nevertheless, there is not true automatic amnesty. Prosecutors must determine that their own investigation was not far enough along in order to award amnesty to a confessing firm. Yet a price-fixing firm that wants to secure amnesty may not want to trust the government’s own perception of whether prosecutors had sufficient evidence for conviction. After all, prosecutors’ judgments are not always correct. Rational prosecutors would not bring cases unless they thought they had sufficient evidence to sustain a conviction, yet prosecutors nevertheless sometimes lose at trial. So even when the government thinks that it has enough to secure a conviction, it is sometimes wrong. Thus, firms considering confession may be rationally wary that the government may think that it has enough evidence to convict when it does not. The only way to afford firms the necessary certainty is to announce that the first confessor gets amnesty so long as it confesses before an indictment or before the government otherwise publicly announces its investigation.

Third, even if the government has started investigating an industry for possible price-fixing violations, rewarding the first confession is rational since that confession can make the difference between a successful prosecution and disappointment for the

117. Lawrence J. White, Antitrust Activities During the Clinton Administration, in HIGH-STAKES ANTITRUST 15-16 (Robert W. Hahn ed., 2003) (“But previously the leniency policy had applied only if an investigation had not yet begun. Because the potential confessor often did not know whether an investigation had been opened, the uncertainty discouraged confessions.”).

118. MASON, supra note 13, at 251 (“The provision in the Antitrust Division’s amnesty policy that allowed corporations to come clean after a federal investigation had begun had yielded a bonanza of convictions since 1993, when the policy was expanded to protect such Johnny-come-lately criminals willing to grab amnesty at the expense of their co-conspirators.”).


120. Even if the government never abuses its discretion, the mere fact of this discretion is a marginal deterrent to confession by the wary cartelist who wants to confess but is suspicious of the government’s judgment.
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Antitrust Division. Circumstantial evidence or mere suspicion may put the culprits on the prosecutor’s radar screen, but they are usually insufficient to procure a conviction. A confession will provide the prosecutors with inside evidence that will make it easier to convict other cartel participants.\(^{121}\) The first confession also makes the investigation significantly more efficient;\(^{122}\) it can allow the government to secure search warrants in order to obtain incriminating evidence against non-confessing cartel members.\(^{123}\) Furthermore, if the government has a confession in hand, that confession can provide the leverage to secure further confessions by cartel participants. Once a player knows that its partner has confessed, then the only way to avoid the worst outcome is to confess as well. In short, the first confession virtually assures the end of the cartel and increases the likelihood of subsequent confessions and significant fines.

Finally, eliminating the ongoing-investigation rule makes the fear of government investigations more destabilizing. Once the firms in a cartelized market know that the government suspects price-fixing and is investigating, the incentive to confess first increases significantly. The many disincentives to confessing first—the loss of cartel profits, private liability, and non-antitrust liability—no longer impose much deterrent to confession if the cartel is going to be exposed anyway. The belief that the government is investigating one’s cartel can create distrust that leads to the first confession. Fear of a government investigation should create pressure to confess.\(^ {124}\) Indeed, the pressure is greater because the cartel’s firms must race against each other and against the prosecutors if the rule were that to be eligible for full amnesty the first confession must be made before indictments are handed down or the government publicly announces its investigation.\(^ {125}\) Antitrust prosecutors have correctly explained: “If cartel members perceive a genuine risk of detection, then an amnesty program can build on that fear and create distrust and panic among the cartel members.”\(^ {126}\) But a firm that perceives a risk of detection is also likely to fear that a government investigation has advanced to the point that the first confessor will not receive amnesty. If investigations precluded

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121. This is one of the reasons that the government provides a reduction in penalty for the second confessing firm: it may have important evidence that the first confessor did not, such as contemporaneous notes, that will make it easier to convict non-cooperating firms. See Leslie, supra note 2, at 640 (citing HARRY CHANDLER, GETTING DOWN TO BUSINESS: THE STRATEGIC DIRECTION OF CRIMINAL COMPETITION LAW ENFORCEMENT IN CANADA 9 (1994), and CONNOR, supra note 4, at 373).

122. For example, the antitrust authorities touted their deal with Dial: “[J]ust and swift resolution of a matter that otherwise might be complex and difficult to investigate was made possible by early and complete cooperation by one of the participants.” Scouring Pad Maker Will Plead Guilty to Charges of Conspiring to Fix Prices, BNA ANTITRUST & TRADE REG. REP., Nov. 4, 1993, at 585.

123. Spratling, supra note 3, at 801 (discussing the graphite electrodes cartel).

124. Scott D. Hammond, Dir. of Criminal Enforcement, Antitrust Div., Dept’ of Justice, Cornerstones of an Effective Leniency Program (Nov. 22, 2004) (“The more anxious a company is about the fact that its cartel participation may be discovered by the government, the more likely it is to report its wrongdoing in exchange for amnesty.”), available at www.usdoj.gov/atr/public/speeches/206611.htm; see Spratling, supra note 3, at 817 (“[I]f the cartel participants do not fear detection, they will lack any incentive to report their wrongdoing to authorities in exchange for leniency.”).

125. Once the government hands down indictments, then no firm should be eligible for amnesty. But until that event happens, the first firm to confess and cooperate should reap the reward of full amnesty. Of course, the government still wants to encourage confessions, so the first firm to confess after the indictment should be eligible for reduced fines and prison time similar to the second confessor in a pre-indictment race to confess.

126. Hammond, supra note 124.
amnesty, then prosecutors could not harness this distrust. The goal of amnesty policy should be to use distrust to create a prisoner’s dilemma. If a firm believes that the government has already opened an investigation, confession may not be the dominant strategy under the current rule, but it would be under a rule that automatically granted amnesty in exchange for a first confession before an indictment or public announcement.

There are, not surprisingly, sound arguments for restricting amnesty when a confession occurs during the course of an ongoing government investigation. First, one could argue that the government should not confer leniency when it does not need the first confession in order to secure convictions. While it is true that the government would pay a price if it abandoned the no-investigation condition, this is essentially the price for creating a prisoner’s dilemma. In any amnesty program, the government necessarily makes concessions that may appear unnecessary when viewed in isolation. For example, in the basic prisoner’s dilemma model, the inquisitors inform each prisoner that if his partner confesses and he does not confess, he’ll spend three years in prison. However, if his partner confesses and he does as well, he’ll receive only a two-year sentence. The prisoner is getting a break by confessing. It may seem unnecessary to knock one year off of the prisoner’s sentence in exchange for a confession, given that the prosecutors can secure a conviction against him without the confession (as long as his partner confesses). But the government must give credit for even an unneeded confession in order to make confession the dominant strategy. In short, the major price that prosecutors pay in order to create a prisoner’s dilemma is to make deals with suspects who would be convicted even without the deal. In the context of the DOJ’s amnesty program, this means giving leniency to the first confessor even if the government is well into its investigation into possible price-fixing.

Second, if the government-investigation provisions were eliminated, this would increase the number of firms that qualify for amnesty. One effect of this would be to decrease the expected ex ante punishment for any particular cartel member. This could decrease deterrence of cartel formation. However, any decrease in expected punishment could be outweighed by the increased probability of detection caused by increasing the incentives to confess. Furthermore, any reduction in the expected cost of cartel participation can be compensated for by increasing the penalties, which Congress just did. This, coupled with the increased likelihood that a cartel will be exposed and its members punished, could make cartelization less attractive overall.

Finally, it is important to note that granting amnesty to the first confessor irrespective of any pre-existing governmental investigation will not encourage confessions under all circumstances. There will be offsetting effects. In the early months of a price-fixing scheme, it is unlikely that the government will have initiated any investigation—let alone gathered enough evidence to convict the conspirators. This would seem to give cartel members an incentive to confess early, before a government investigation has begun. However, the longer the cartel member waits to confess, the more likely that the government has initiated an investigation of its own. The value of confessing decreases over time because the probability that the government already suspects price-fixing and has gathered sufficient information increases over time. This increases the likelihood that the first confessor will not necessarily receive automatic amnesty and makes the first confession less attractive. Thus, while in the short-run for a given cartel the current provision may increase the incentive to confess, in the long-run
the incentive to confess decreases because with each passing month it becomes more likely that the government has started an inquiry. One cannot say with certainty which effects dominate. However, most rational firms would not enter cartels if they believed that the government would discover their price-fixing agreement quickly, which could mitigate any pressure for confession early in a cartel’s existence. More importantly, for long-lived cartels, which are the most stable and most troublesome, the current government-investigation provisions probably provide a marginal disincentive to confess.

C. The “Prompt Action” Requirement

Another restriction in the amnesty program is that a firm must confess promptly upon discovery of the illegal price-fixing. In order to qualify for amnesty, the program requires that “[t]he corporation, upon its discovery of the illegal activity being reported, took prompt and effective action to terminate its part in the activity.”127 The requirement is an attempt to realize the stated goal of the program to encourage corporations to “report[] their illegal antitrust activity at an early stage.”128

This rule undermines the amnesty program. First, it introduces uncertainty. In the auction house case, the government considered not granting amnesty to Christie’s because the firm had waited two and a half years after being subpoenaed before confessing and handing over its former CEO’s handwritten notes that documented the price-fixing conspiracy.129 If Christie’s believed that it would not receive leniency, it is less likely that the government would have ever obtained the documents that helped secure the criminal conviction of Alfred Taubman, Sotheby’s chairman.

The uncertainty created by the prompt-action requirement is magnified by the fact that the policy does not define what actions a firm must take, let alone what constitutes “discovery” or how “prompt” the action must be. Antitrust Division officials have sought to provide clarity, explaining that termination can include an announcement of withdrawal from the cartel or reporting the cartel to the Division.130 It is harder to conceive of what discovery means when the corporation must “discover” its own actions. For the large public corporation, according to the Antitrust Division, discovery takes place when either the board of directors or counsel becomes aware of the cartel activity. But in the case of a closely held corporation, all of the board members of the firm are considered conspirators. There has been some concern that this could mean that a closely held corporation could never qualify for amnesty.131 This would undermine the amnesty program and completely eviscerate it in cartels where all of the participants are closely

127. CORPORATE LENIENCY POLICY, supra note 58.
128. Id.
129. MASON, supra note 13, at 248-49.
130. Aronson explained that Davidge had been the perpetrator, and that his incriminating documents had come to light only after his departure from Christie’s. He also noted that the decision to hand over the documents had been made by Edward Dolman, the firm’s new CEO, and Jo Backer Laird, its general counsel, who had no prior knowledge of the conspiracy.
131. Id. at 5.
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held. To remedy this problem, the Division has stated that the clock for closely held entities begins when its legal counsel learns of the cartel.\textsuperscript{132} Even so, amnesty is merely a possibility, not a certainty.\textsuperscript{133} And while all of these public pronouncements by DOJ officials are helpful, they are not binding. Furthermore, there is still no definition of “promptly.” If a firm that is considering confessing does not know whether it will qualify for amnesty, it reduces the incentive to confess first.

Second, the prompt-action rule may negate the destabilizing effects of the amnesty program by making some or all firms ineligible for full amnesty. If every firm knows that its co-conspirators are tainted—that its relevant decisionmakers were aware of the cartel and have not reported it promptly—then this stabilizes the cartel.\textsuperscript{134} The first firm to confess will not be guaranteed amnesty and there is less incentive to confess first and less pressure to race to the prosecutor’s office. In short, this rule stabilizes long-lived cartels because no firm would qualify for amnesty. Yet these are the cartels that most need to be destabilized, detected, and punished.

The solution to this problem is relatively simple: A firm should be able to have a change of heart and sell out its cartel partners at any time. There should not be an internal trigger that starts the amnesty clock within each firm. Getting the first confession is critical to prosecuting cartel activity, and certainty of amnesty is often necessary to get that first confession.

As with the proposal to remove amnesty limitations based on government investigations, there could be offsetting effects to eliminating the prompt action requirement. If we assume that there is certainty about when the cartel has begun and about what constitutes “prompt action,” then there is a stronger incentive to confess right before the “prompt action” date is about to pass. But this effect is short-lived. Once the prompt action period has lapsed, there is significantly less incentive to confess first for the remaining life of the cartel. Thus, while there is a window where the current policy could increase deterrence, this window is relatively small and it is unclear precisely where that window is. In contrast, for most of the life of a typical cartel, the current policy diminishes deterrence by failing to harness the power of distrust. In short, even if there is certainty, the prompt action requirement probably does not increase confession incentives overall.

However, the case against the prompt action requirement is even stronger because there is no certainty ex ante about whether a firm satisfies the requirement. Uncertainty about obtaining amnesty could compel firms to remain in cartels. Even if a firm wants out of the cartel, it is unlikely to confess absent a guarantee of amnesty. But a firm cannot simply exit a cartel, because the remaining cartel members will think that the firm has already confessed so they will confess, and the exiting firm will be made the sucker.\textsuperscript{135} If

\textsuperscript{132} See id. at 7-8. (“In the case of a closely held corporation in which the board of directors is never formally advised of the activity, because all members of the board are conspirators, the corporation still may qualify under this provision if the activity is terminated promptly after legal counsel is first informed.”).

\textsuperscript{133} See id. at 5. (“[T]he corporation still may qualify under this provision if the activity is terminated promptly after legal counsel is first informed.”) (emphasis added).

\textsuperscript{134} In order to circumvent the rule that the “prompt action clock” starts when counsel learns of the conspiracy, the members of a cartel can jointly inoculate themselves against the amnesty program by including counsel in price-fixing meetings.

\textsuperscript{135} This follows from the government’s view of empty-chair deterrence. The Antitrust Division has
neither confession nor exit is an attractive option, then even a reluctant firm will remain in the cartel, precisely the result that antitrust law wants to avoid.

D. No Unearned Leniency

While the first three proposals encouraged an expansion of the amnesty program to make more firms eligible for amnesty, this in no way suggests a coddling of price-fixers. This section argues that something must be given in exchange for leniency. Too often, federal judges are lenient to price-fixing defendants without sufficient basis. This undermines the destabilizing effects of the amnesty program.

Distrust is maximized when the cost of betrayal is high. By more than tripling the maximum prison sentence for price-fixing—from three years to ten years—the Antitrust Criminal Penalty Enhancement and Reform Act of 2004 has gone a long way to insuring the wide range of penalties that is necessary to create a successful prisoner’s dilemma. A particular executive might not confess early if the maximum penalty is three years in prison, but she may confess early to avoid the risk of a ten-year prison sentence. However, when judges (or prosecutors) routinely decline to impose the maximum penalty, this effectively contracts the range of penalties, which reduces the distrust-inducing effects of the new antitrust penalty regime.

Unfortunately, the history of antitrust prosecutions is a tale of unearned leniency. For the first 70 years of the Sherman Act’s prohibition on cartelization, federal judges routinely failed to sentence convicted price-fixers to prison. Indeed, judges have historically been exceedingly lenient when doling out punishment to price-fixers. In one of the electrical equipment cartel cases, a 64-year-old convicted executive was given a 30-day suspended sentence, in part because of his age. Sometimes leniency is afforded

argued:

As noted above in the “empty chair” example, once the company terminates the executive’s participation in the cartel and it withdraws from the cartel, it will send a signal to competitors that the race for leniency is on for them as well, and the company will be at even greater risk if it does not promptly report the activity.

Hammond, supra note 124. A firm that simply withdraws from a cartel will also appear to be an empty chair, and could similarly result in confessions, which would leave the withdrawing firm holding the bag. That provides a strong incentive not to withdraw. (The absence of an empty chair does not mean that nobody has confessed because it is possible that the first confessor will continue to participate in the cartel, if the Antitrust Division approves the action in order to secure more evidence against the conspiring firms. See Spratling, supra note 130.)

136. Prosecutors want to make the expected value of confessing greater than the expected value of not confessing. The expected value of not confessing, E(NC), is the [P(you confess) x my prison time if you confess and I do not] + [P(you do not confess) x my prison time if you do not confess and I do not]. The expected value of confessing, E(C), is the [P(you confess) x my prison time if you confess and I do] + [P(you do not confess) x my prison time if you do not confess and I do]. If the maximum prison time for not confessing when you do is sufficiently high, then E(C) > E(NC). But this only works if the government actually seeks the maximum and courts impose the maximum. Cartelists consider the likely prison sentence when deciding whether to join, exit, or expose a price-fixing cartel. If the likely sentence is sufficiently below the maximum, if may appear rational to fix prices and not confess. Antitrust law should be applied in a manner that makes participation in a cartel not cost-beneficial.

137. FULLER, supra note 106, at 194.

138. Id. at 219 (“Never before—aside from the McDonough tool case in 1959—had prison sentences been imposed on men for violation of antitrust law in cases that had not gone to trial.”).
to politically powerful corporations that provide little more than the patina of cooperation with federal authorities.\textsuperscript{139} It is exceedingly rare for convicted price-fixers to be sentenced to the maximum punishment. Defendants generally receive reductions in the range of 50\% to 90\% off of the U.S. Sentencing Guidelines maximum fines (and prison sentences).\textsuperscript{140} Downward “departures appear to be more prevalent in antitrust cases than in virtually any other type of case.”\textsuperscript{141}

The next step in the evolution of antitrust enforcement should be to impose the maximum penalty upon those who do not cooperate. It is not enough to have a high maximum prison time for antitrust violations; there must be a credible threat of the maximum being imposed. In order to increase the incentive for any given member of the cartel to confess, the enforcement regime should increase the likely penalty for not confessing when the other members of the cartel have confessed.\textsuperscript{142} Leniency should not be awarded based on irrelevant factors, such as age. If older executives want leniency, they should be convinced that the only way to receive it is by cooperating with antitrust authorities. Otherwise, the elderly become more trustworthy within a cartel because they have less incentive to confess first, since they will receive leniency in any event. Just as making all firms eligible for amnesty increases distrust, making all individuals potentially liable for the maximum penalty increases distrust.

V. CONCLUSION

Trust is generally a virtue. But trust among conspirators in a cartel leads only to higher prices and inefficiency. Antitrust authorities may be able to destabilize more cartels if they explicitly focus on ways to create distrust among cartel members. The government’s current approach to leniency is an excellent start. This short Article is not intended to diminish the importance or successes of the Antitrust Division’s amnesty program. The program is not broken. But it can nevertheless be improved.

However, the price of destabilizing cartels may include making ringleaders eligible for amnesty, rewarding firms that were slow to admit their wrongdoing, and giving amnesty to the first confessor even when the government already has enough evidence to convict every member of the cartel. While conferring amnesty in such circumstances may appear counterintuitive or unnecessary, such policies should increase distrust among actual and would-be cartelists. The long-term effects of extending amnesty should be deterrence of future cartels and the destabilization of existing ones. Given these payoffs, the price is reasonable.

\textsuperscript{139} See CONNOR, supra note 4, at 561; \textit{id} at 388 (discussing example of “generous deal” given to criminal defendant in citric acid price-fixing case); \textit{id} at 557 (“In economic terms, perhaps the greatest grant of immunity was made to ADM in return for the company’s rather spotty cooperation in the DOJ’s citric acid prosecution.”).

\textsuperscript{140} \textit{id} at 557.

\textsuperscript{141} Klawiter, supra note 6, at 755.

\textsuperscript{142} Some scholars have called on Congress to limit judicial discretion to grant downward departures in price-fixing cases. CONNOR, supra note 4, at 388-89. “One of the simplest ways to improve the deterrence value of the antitrust statutes would be for Congress to tighten the conditions under which downward departures can be granted by the judiciary, to eliminate the tension between the two sentencing guidelines (USSG § 2R1.1 and 18 USC § 3571(d)), or to specify which sales concept ought to be used to calculate damages.” \textit{id}. 