

# Leniency and Whistleblowers in Antitrust\*

GIANCARLO SPAGNOLO

*Consip Research Unit,  
Stockholm School of Economics,  
L.E.A.R., and C.E.P.R.*

Prepared for LEAR's conference on  
**Advances in the Economics of Competition Law**  
Rome, 23-25 June 2005.

PRELIMINARY AND INCOMPLETE  
June 15, 2005

## Abstract

We review the recent evolution of leniency programs for cartels in the US and EU, survey their theoretical analyses, and summarize/evaluate the scarce empirical and experimental evidence available. We then look at the related experience of protecting and rewarding whistleblowers in other fields of law enforcement, survey the economic literature on these schemes, and assess likely costs and benefits of introducing them in antitrust besides leniency programs. We conclude with a list of desiderata for leniency programs, simple suggestions how to improve current ones and how to introduce whistleblower schemes, and an agenda for future research. The issues discussed are relevant to the fight of other forms of multiagent organized crime - like auditor-manager collusion, financial fraud, or long-term corruption - that share with cartels the crucial features that well designed leniency and whistleblower programs exploit.

JEL CLASSIFICATION: K31, K42, L13, L44

KEYWORDS: Amnesty; Antitrust; Cartels; Collusion; Corruption; Competition policy; Deterrence; Fraud; Immunity; Leniency; Organized crime; Risky cooperation; Snitches; Self-reporting; Whistleblowers.

---

\*Financial support from the Swedish Competition Authority is gratefully acknowledged. The views expressed are only the author's own and do not necessarily coincide with the views of CONSIP SpA.

# 1 Introduction

The last ten years have witnessed what one could call, with no exaggeration, a revolution in competition policy and antitrust enforcement, "the leniency revolution". Since the DoJ's new leniency policies were introduced in 1993 (the *Corporate Leniency Policies*) and 1994 (the *Individual Leniency Policy*), and they began displaying their effects, antitrust authorities' "normal way" to detect and hopefully deter cartels has radically changed, from buyers' complaints, audits and dawn raids, to well designed leniency policies and self-reporting cartel participants.

The achievements of the US leniency policies are described in a number of public speeches by the DoJ staff (available at <http://www.usdoj.gov/atr/public/criminal.htm>) and in several international reports (e.g. OECD 2002, 2003). Since their introduction, an unprecedented number of cartels has been detected and successfully prosecuted, enormous fines have been levied against participants, and several top executives from different countries have served jail sentences in the US. This led Australia, Canada, the European Union, France, Germany, New Zealand, the UK, Sweden and other countries to introduce analogous programs.

The leniency revolution also led an increasing number of somewhat more prudent and skeptical economists to try go beyond the surface of number of cartels detected and amount of fines levied, to try understand in depth how these programs actually work, what are their likely (positive and possibly negative) economic effects, and whether they can be improved upon in a way or another.

In this paper we review the recent evolution of leniency programs, in particular in the US and the EU; we survey theoretical economic analyses of leniency programs; and we summarize and evaluate the scarce empirical and experimental evidence available on the subject. Following recent proposals, we then look at the related experience of protecting and rewarding whistleblowers in other fields of law enforcement; survey the economic literature on these schemes; and assess the case for introducing them, beside leniency programs, in antitrust. We conclude with a list of desiderata for leniency programs, some suggestions how to improve current ones and introduce whistleblower schemes, and an agenda of open issues for future research.

The discussion is relevant to the fight of many other forms of multi-agent organized crime - including financial fraud, auditor-manager collusion, and corporate crime in general - because, we will argue, these share with cartels the crucial features that well designed leniency and whistleblower programs allow to exploit. In fact, the debate in antitrust has been paralleled, or followed at short distance, by a debate on the design of whistleblowers schemes against financial crime sparked by the recent episodes of corporate mismanagement, from Enron to Parmalat, and by the consequent introduction of the Sarbane-Oxley Act.<sup>1</sup>

---

<sup>1</sup>We will refer to this debate when analyzing whistleblower schemes.

## 2 Important preliminaries

### 2.1 What is special about cartels, corporate crime, and organized crime in general?

Cartels are a form of illegal activity involving the joint, coordinated effort of many agents. In this sense, cartels can be considered as a mild form of *organized crime*, certainly not the most harmful. Analogous form of organized crime where multiple agents interact in time are long-term corruption, collusion between agents and supervisors (e.g. between auditors and management, regulators and regulated firm, etc.), large scale frauds (like financial ones), most kinds of illegal trade (in drugs, arms, people...), and terrorists', mafias', and gangs' activities. As emphasized in Spagnolo (2000a,b), cartels and these forms of organized crime share three fundamental features that distinguish them from the standard, isolated criminal acts committed by an individual wrongdoers that is at the core of the economic literature on public law enforcement stemming from Becker's (1968) seminal contribution<sup>2</sup>.

- The first feature is that cooperation among several agents is required to perform the illegal activity, so that problems of free riding, "hold-up", "moral hazard in teams", and opportunism in general are pervasive (each individual wrongdoer could "run away with the money" and must be prevented from doing it). These problems are especially severe in criminal organizations because these suffer of an intrinsic "governance problem": to curb opportunism of its individual members and ensure internal cooperation they cannot rely on explicit contracts enforced by the legal system as legal organizations do. Stigler (1960) made forcefully this point for cartels, arguing that they are intrinsically unstable because of the individual cartel member's incentive to profit from "cheating" on the cartel, i.e. to undercut others cartel members by offering profitable secret price cuts to their customers.
- The second important feature is that organized criminal activity typically takes the form of "ongoing relationships": instead of isolated criminal acts with given benefit and harm, familiar from models à la Becker, organized crime delivers *flows* of present and expected future benefits and costs. This is a direct consequence of the first feature. Since free riding and individual opportunism cannot be limited by explicit contracts enforced by the legal system, internal cohesion of the criminal organization must be ensured by the agents themselves. That is, the illegal agreements that sustain the criminal organization must be "self-enforcing". And the typical way to ensure this is long term interaction, i.e. developing in time a reputation for being tough and/or establishing relational contracts sustained by the expectation of future gains from continued cooperation. In both cases, a dynamic, continued activity is essential. Again, Stigler (1964) made this point for cartels, arguing that besides being profitable, to be feasible a cartels must, among other things, be able

---

<sup>2</sup>Polisnky and Shavell (2000) offer a rich survey of this literature. See also Garoupa (1997).

to monitor cartel members' compliance with the collusive agreement and credibly threaten to react with analogous price cuts, so that these will not to "cheat" by undercutting the others. And, as we know from Friedman (1971, 1976), Shapley (1978), and Rubinstein (1980), in a dynamic relationship a credible punishment against a firm that defects today is the return to competition in the future, i.e. loss of future gains from the illegal activity. This is why, as cartels, many other forms of organized crime *must* take the form of - or be conducted within - long-term dynamic criminal *relationships*.<sup>3</sup>

- The third, crucial feature is that cooperating wrongdoers, by acting together, inevitably end up having information on each others' misbehavior that could then be reported to third parties. This third feature is in turn a consequence of the first two, and is at the very hart of the effects of leniency programs. When crime is committed by a single agent, this is the only individual that has information, and unless he talks to others or there were witnesses, nobody can betray him. With cartels and organized crime, instead, each wrongdoer possesses information on the others' wrongdoing and can potentially can be induced to reveal it. How to extract this freely available information is the main issue in the optimal design of leniency programs.

These three peculiar features of cartels and organized crime generate analogous, dynamic incentive structures for the agents involved, and are crucial to the optimal design of law enforcement policies (that in turn requires a dynamic analytical framework able to identify the effects of law enforcement policies on sustainability of self-enforcing illegal relationships).

## 2.2 Leniency programs: "nothing new under the sky"?

Leniency policies, or programs, reduce sanctions against colluding firms that report information on their cartel to the Antitrust Authority and cooperates with it along the prosecution stage ensuring that former partners are convicted. Copies of the US Leniency Policies and of the EU 2002 leniency Notice are attached at the end of this chapter. Among their common features are that only the first party that self reports is eligible to automatic, full immunity from sanctions; that parties self-reporting second can still obtained reduced forms of leniency<sup>4</sup>; and that benefits from reporting are higher if the report takes place before an investigation has begun, and rapidly fall the later the report takes place during the investigation.

---

<sup>3</sup>In some countries and periods, Mafias have played the role of illegal state, of "legal system for illegal deals", developing a reputation of (real) toughness and using it to act as third party enforcement agency for non-self-enforcing illegal transactions. See Gambetta and Reuter (1995) for a nice description of how Sicilan Mafia enforced compliance with illegal bid-rigging agreements among "legal" firms in the procurement construction industry.

<sup>4</sup>In the EU the second party that collaborates may obtain a partial reduction in sanctions if it provides additional information that is valuable to prosecution; in the US firms that did not report first can still obtain reductions in sanctions by pleading guilty.

Schemes "of this kind" have always been used in war situations. Julius Cesar's mot *Divide et Impera* reflects his strategy to win and rule his empire by weakening coalitions of resisting tribes by striking deals with few of them and inducing them to break the front. Similarly, Nazi occupants used rewards to "snitches" or leniency for them or their relatives, to fight resistance in France and Italy. And very recently, Saddam Hussein and his sons, as well as some Al Quaida terrorists, have been located with the same system.

In law enforcement, offering captured wrongdoers a lenient treatment in exchange for information valuable to prosecution has been a standard tool used for centuries practically everywhere. The tool was particularly useful in the fight of multi-agent organized crime, as of course information from one wrongdoer is then more valuable, it may imply the detection and conviction of many others. The fact that leniency/information exchanges at the prosecution stage as been "standard practice" for centuries is also witnessed by how natural it appeared to Albert Tucker in 1950 that casting in terms of Prisoner's Dilemma the strategic situation studied by Merrill Flood and Melvin Dresher at the Rand Corporation would easy its understanding by a Stanford psychology class.

Promises of prizes or leniency before the prosecution stage has also often been used. Bounties for "wanted" criminals have been common in many different countries and historical periods, and often did not distinguish whether it was a gang member or an innocent witness (or a bounty killer) to turn in the wanted. More recently, promises of leniency and protection against collaboration to not-yet-detected individuals have been used in the US and Italy to fight Sicilian Mafia, again in Italy to fight Red Brigades' terrorists, and are still routinely used (and misused) in the US to fight drug-dealing and related crimes.<sup>5</sup> And, as we will see in detail later on, schemes that reward whistleblowers with part of recovered funds have been used to reduce the cost of law enforcement agencies since the thirteen century England.

*So what's new about leniency programs in antitrust?*

In our view, the feature that makes antitrust leniency problems somewhat special, apart from the new field of law enforcement they are directed to, is their being "general" and "public". They are "general" in the sense that they apply to anybody who is in a certain situation and behaves in a certain way. They are "public", in the sense that, even in the US, where prosecutorial discretion has always allowed for exchanges of leniency against evidence, they take the form of codified and publicly advertised policies. Codification is actually instrumental to both generality and publicity, and helps reducing uncertainty and discretionality, two aspects that greatly discourage self-reports. Publicity is crucial for leniency programs because their principal aims, in my view, are:

- i) to elicit information on (and from) cartels not under investigations and nor yet detected in other ways; and
- ii) to deter (prevent) cartel formation by reducing trust among potential coconspirators

---

<sup>5</sup>The misuse occurs when prosecutors and courts rely exclusively (or mainly) upon a testimony obtained in exchange for leniency. A useful introduction to this incredible practice is at <http://www.pbs.org/wgbh/pages/frontline/shows/snitch/>. Throughout the paper we will assume that the party applying for leniency must report "hard information" against his partners to obtain it, and that his testimony is not required/admitted.

with the increased likelihood that one of them could turn the others in.

Both these objectives require that the programs is public, transparent, and very well advertised in the legal and - above all - business community. This is perhaps one reason why DoJ officials are (and should) be spending so much time going around at business and lawyers meetings to present the results of these programs in terms of detected cartels. The third function of leniency programs, facilitating prosecution through exchanges of leniency against information *after* a cartel has been detected in other ways and put under investigation, does not require so much publicity; post-detection leniency/information exchanges can be done, as they have always been done (with plea bargaining in Anglo-Saxon countries and Prisoner's Dilemma style promises in other systems), with direct, private tailor-made agreements between prosecutors and the specific individual wrongdoers. In this regard, LPs bring little novelty to law enforcement.

### **2.3 The objective of (antitrust) law: what is a "success" in law enforcement?**

Most antitrust practitioners, prosecutors and lawyers, and most casual observers have celebrated leniency programs as a terrific success. Can we be really sure that leniency programs are such a success? We believe they are, but we don't *know* it. To answer this simple question, that few have asked in the policy debate, we have to clarify what exactly is a success in antitrust law enforcement against cartels, and to do this we must start from the objectives of antitrust laws. The discussion may appear redundant to many readers, but our personal experience is that there is a lot of confusion around, in particular between instruments and objectives, that makes a short introductory discussion worthwhile.

As for most other laws, the main objective of antitrust law enforcement against cartels is avoiding that the outlawed course of action - collusive product market agreements - takes place (there are secondary objectives though, like victim compensation, fairness, etc.). This general objective can take two forms:

- the first and most important one is *ex ante deterrence*, i.e. preventing cartel formation with the threat of sufficiently heavy expected sanctions against violators, and with other mechanisms that make cartels either unprofitable, or not sustainable;

- the second and secondary one is *ex post deterrence* (or desistance), i.e. ensuring that those among the cartels that could not be deterred *ex ante* that are then detected by law enforcers are induced to interrupt the illegal practice, either by the threat of even higher sanctions for repeat offenders or other tougher mechanisms, or by incapacitation through imprisonment.

*Ex ante* deterrence is the most important objective because it may be achieved for a very large number of potential law infringements and at a much lower social cost. Cartels that are not detected *ex ante* will either go undetected, in which case they directly reduce social welfare for the time of their existence; or they are detected at some point by law enforcers, who then prosecute them, so that the direct cost of society is reduced by the shorter life of the cartel (provided *ex post* deterrence is achieved), but the additional,

substantial social costs of prosecution are incurred.<sup>6</sup>

Potential cartels that law enforcement deter *ex ante* (prevents from forming) do not imply these costs, and *ex ante* deterrence does not require that law enforcement agencies detect each particular potential violators, as is the case for *ex post* deterrence. *Ex ante* deterrence acts generally, hence on a much large number of potential infringements. For these reasons, *ex ante* deterrence is, and must be the by far primary objective of law enforcement.

Note that if we abstract from its effects on deterrence, prosecution is a pure cost to society. The main reason why a "rational" society should systematically and consistently prosecute detected law violators is to achieve deterrence, possibly *ex ante* one, by determining the credibility and size of the threat in term of expected sanctions. If prosecution had no deterrence effects, e.g. because sanctions are extremely low (e.g. lower than gains from the infringement), from a purely economic/rational point of view it should simply be avoided.<sup>7</sup>

The preceding discussion should have clarified that since law enforcement is a costly activity for the society, the success of a (antitrust or other) law enforcement policy should be principally measured by the welfare increase from its *deterrence effects*, particularly *ex ante* ones, relative to its costs. A general problem, therefore, in evaluating the appropriateness and effectiveness (success) of law enforcement policies, is that it is hard (though not impossible) to estimate their deterrence effects, as it requires identifying and measuring the costs of events that did not take place but that would have taken place in the absence of the law enforcement policy.

Going back to our leniency revolution, what we observed in the last decade is a steep increase in the number of detected and successfully prosecuted cartels and in the size of sanctions. This tells us something about the change in prosecution costs (their total increased substantially), and perhaps about expected fines, but little about changes in deterrence. We are quite confident and optimistic about the fact that in the US this increase in convictions and prosecution costs fed up into increased deterrence, but clearly we don't *know* this.<sup>8</sup>

For example, consider a situation in which sanctions are so low that cartels would continue be formed even if the probability of being convicted was close to one. Suppose now that the probability of conviction before the introduction of leniency programs was

---

<sup>6</sup>These costs include, among other things: the budget of involved courts and agencies, plus the cost of distortionary taxation required to finance them; the costs of prosecution/litigation not included in those budgets, like the cost of defence lawyers and the time loss of their clients; the social costs of Type I mistakes, i.e. of convictions of innocents; and the costs of imposing sanctions on (rightly or wrongly) convicted parties.

<sup>7</sup>Again we are exaggerating to clarify. Of course there are other reasons to prosecute criminals, including pursuing "justice", which directly produces utility in a society of justice-lovers; and obtaining compensation to victims. But the main motive is of course deterrence, and in case of cartels this objective appears even more dominant.

<sup>8</sup>Perhaps the strongest indication that US Antitrust Policy is having deterrence effects (and that the EU one is not) is the observation that some recently uncovered international cartels chose to collude and meet in all markets around the world but the US one (see Hammond, 2004).

one-sixth, and that the introduction of a well designed, effective leniency program doubles the fraction of convicted cartels to one-third, and even reduces per-conviction prosecution costs of one-fourth. In this case, assuming that convicted cartel start again colluding after conviction because of the low fines, the introduction of the effective leniency programs causes a net social loss, as it increases prosecution costs of about half their pre-lenieny amount. In such a situation, if sanctions cannot be drastically raised, the second best policy is not to introduce leniency programs, but rather to stop wasting resources in trying enforce cartel prohibitions with risible sanctions. Note that although this example may appear somewhat extreme, someone who does not know that the sanctions are too low to deter cartels would observe exactly what we observe today, a sharp increase in the number of detected and convicted cartels. And if he is as optimistic as we are, this observer will also conclude that yes, deterrence and welfare must have increased with such effective programs.

To conclude, although fighting enemies inducing "betrayal" is a consolidated practice, we still cannot be sure that current leniency policies are the success they are claimed to be. The optimistic view that the increase in convicted cartels reflects an increase in cartel deterrence is highly plausible, but the actual change in active cartels caused by the Corporate Leniency Policy is not directly observable, so that in principle the observed increase in convicted cartels could be due to an increase in cartel activity (in fact, this is a conclusion of the only econometric analysis of leniency programs we are aware of, Brenner (2005), for the EU between 1996 and 2002). And even if we were sure that current leniency programs do increase cartel deterrence, we do not know whether differently designed ones would have done better. This calls for theoretical, experimental, and econometric analysis.

## 2.4 The social costs of cartels

In the remainder of this paper we will write under the assumption that the cartels we are talking about are bad for society and should ideally all be deterred. We assume this to simplify, and because in most cases cartels are indeed welfare reducing. It is important to keep in mind though, that most cases are not all cases. There are situations in which competition harm consumers, and agreements to restraint competition, as cartels, may end up increasing welfare. In particular, when non-contractible and not immediately observable qualitative aspects are very important in terms of gains from trade, competition may do more harm than good. Lande (1983) first provides examples of cartels that should not be deterred because their social benefits outweigh social costs. Stiglitz (1989) notes that investments in high product quality supply backed by reputation are worth if there are supracompetitive profits to win in the future thanks to a good reputation. Otherwise, 'cheating' on quality and reputation is always preferred by firms; but future rents are incompatible with perfect competition! Kranton (2003) and Fershtman and Pakes (2000) present formal models of dynamic oligopolies where reducing competition by fixing prices is beneficial for both producers and consumers. In a dynamic procurement framework, Spagnolo and Calzolari (2005) find that when non-contractible quality is sufficiently important, a collusive agreement among competing suppliers may deliver

the first best, leaving both buyer and sellers better off. And many years ago, Schumpeter suggested that too much competition in a market (rather than for the market) may be bad for investment and innovation, while in contemporary society growth is more and more about innovation.

## 3 Leniency programs: stylized facts

### 3.1 The evolution of US LPs

The US DoJ introduced a leniency policy for cartels already in 1978, but the old policy was much less generous than the new one, both in terms of reductions in sanctions awarded to spontaneously reporting firms, and to the possibility to apply when firms are already under investigation. It was also not very transparent, not at all "automatic", leaving the DoJ with much discretion, and prospective applicant with a lot of uncertainty on the likely outcome of an application. As a result, very few firms applied for leniency.

In 1993, the programme was changed significantly, making the scope of amnesty clearer and broader. In particular, Section A of the new *Corporate Leniency Program* made the awarding of complete amnesty *automatic* under the condition that no investigation is underway before the applicant comes forward, and possible even after an investigation has begun as long as at the time of the report the DoJ does not have already sufficient evidence. Also, as long as reporting is a "truly corporate act", amnesty is granted to all individual officers, directors, and employees of the applicant firm who cooperate with the investigation.

These revisions had a profound impact on the programme. The number of applications multiplied twentyfold and was accompanied by a dramatic increase in the magnitude of the penalties imposed, leading to fines totalling over \$1.5 billion being imposed just between 1998 and 2002. Leniency applications appear directly responsible for successful prosecutions in several high profile cases, ranging from anticompetitive behavior in fine art auctions over marine construction and graphite electrodes to vitamins. According to the OECD (2002, 2003), the dramatic increase in leniency applications is also due to the substantial increase in sanctions, both corporate and individual fines and jail sentences, that took place in recent years. But the two forces clearly operate together, reinforcing each other. The improved evidence from leniency programs allowed to obtain higher sanctions, and these increased the effects of leniency programs in terms of better evidence. The combination of high sanctions and guaranteed amnesty has created strong incentives for corporations to come forward spontaneously.

Since the introduction the new leniency policy, an unprecedented number of cartels has been detected and successfully prosecuted, enormous fines have been levied against participants, and several top executives from different countries have served jail sentences in the US. Moreover, according to Scott Hammond, Director of Criminal Enforcement of the DoJ Antitrust division, more than 50% of the leniency applications are now spontaneous reports before an investigation is opened, falling within Section A of the Corporate Leniency Policy (personal communication). In his words, "over the last five years, the

Amnesty Program has been responsible for detecting and prosecuting more antitrust violation than all of our [other investigating tools]" (2001). Similar statements can be found in Spratling (1998, 1999).

**UPDATE** The Division has obtained fines of \$10 million or more against U.S., Dutch, German, Japanese, Belgian, Swiss, British, Luxembourgian, Norwegian, and Liechtenstein-based companies. In 34 of the 40 instances in which the Division has secured a fine of \$10 million or greater, the corporate defendants were foreign-based, whereas previously, in 1993, only one percent of corporate defendants were foreign-based and there were no prosecutions involving international cartel activity. According to the Department of Justice, these numbers reflect the fact that the typical international cartel likely consists of a U.S. company and three or four of its competitors that are market leaders in Europe, Asia, and throughout the world.

Prison sentences also increased radically. In FY 02, defendants in cases prosecuted by the Division were sentenced to a record number of jail days, more than 10,000 in all, with the average jail sentence reaching more than 18 months. In the last four years, over 80 years of imprisonment have been imposed on antitrust offenders, with more than 30 defendants receiving jail sentences of one year or longer, more than in the previous decade combined.

Even after all this success, concerns remained in the Antitrust Division and among commentators (e.g. Rey 2001; Spagnolo 2000a,b) that the prospect of treble-damage civil lawsuits was dissuading some antitrust wrongdoers from participating in the programme. In particular, cartel participants had to weigh the benefits of immunity from criminal prosecution against the strong likelihood of federal and state treble-damage claims based on their admitted wrongdoing. Furthermore, leniency programme participants might find themselves liable not only for triple the damages suffered by customers that they dealt with, but also for three-times the damages of their coconspirators' customers under joint and several liability rules.

Perhaps to address these concerns, on June 22, 2004, President Bush signed into law H.R. 1086, which includes the Antitrust Criminal Penalty Enhancement and Reform Act that has substantial implications for cartels and related civil actions; criminal penalties for antitrust violations; and the process by which courts approve Department of Justice consent decrees.

The new legislation limits the total private civil liability of corporations that have entered into leniency agreements with the Antitrust Division (combined with that of their officers, directors, and employees who are covered by the agreement) to actual damages "attributable to the commerce done by the applicant in the goods or services affected by the violation" plus attorneys' fees, costs, and interest. That is, corporations that meet the specified conditions are no longer liable for treble but only single damages. Under the new legislation, leniency programme participants are no longer jointly and severally liable for damages suffered by their coconspirators' customers. The legislation will, conversely, increase the potential liability for cartel participants that do not obtain leniency because they may be jointly and severally liable for twice the actual damages suffered by customers of the leniency applicant, which that wrongdoer has avoided through its cooperation.

The legislation also dramatically increases potential criminal penalties for violations of Section 1 of the Sherman Act. Congress's stated purpose here was to make criminal penalties for antitrust offenses more consistent with the severe penalties for white collar offenses. Maximum statutory penalties are increased as follows:

- criminal fines for corporations from \$10 million to \$100 million;
- criminal fines for individuals from \$350,000 to \$1 million; and
- prison sentences from three to ten years.

### 3.2 Evolution of the EU LPs

The European Commission was probably the first Jurisdiction to follow the example of the DoJ, introducing a Leniency program in 1996. As happened with the first US Leniency Policy, this first program was not very effective in eliciting spontaneous reports from cartel members, as the amount of fine reduction was uncertain and discretionary. In February 2002 the Commission revised its six year old Leniency Program and also started offering automatic immunity from fines to the first member of a cartel that self-reports before an investigation is opened. In the year following the February 2002 revision a clear "structural break" occurred in the path of reports, as more than twenty application for leniency were filed, most of which were immunity applications made spontaneously before any investigation was started (Van Barlingen, 2003). In contrast, in the six years between 1996 (when the first EU Leniency Program was introduced) and 2002 only 16 applications for leniency were filed, of which just three led to the granting of immunity (Van Barlingen, 2003). This trend forced DG Competition to undertake an internal reorganization in 2004, without which it would not have been able to handle all the cartel cases that are being spontaneously reported.

**Mario Monti:** "Since adoption of the revised Leniency Notice in 2002, the Commission received 92 immunity applications and applications for reduction of fines which so far led to over 38 conditional immunity decisions. As to the distinction between the different types of applications, it should be noted that only one application for full immunity can be granted for each cartel. Apart from that several applications are usually received in the same case, sometimes competing ones. **While many of these applications lead to inspections as they provide the first evidence of a cartel infringement, the Commission has also received applications on the occasion of inspections launched on the Commission's own initiative.** In these cases, the application – if successful – enables the Commission to determine the exact scope of a cartel infringement (for example its geographic scope, where previous information related only to cartel activities in a particular Member state)." (Answer given by Mr Monti on behalf of the Commission to EU Parliament (written question: P-2432/04), 17 November 2004; bold mine).

**More recent evidence:** Under the new Notice, in the three years since its entry into force on 14 February 2002, DG Comp has received about **140** leniency applications. Of these, about **75** were for immunity, i.e. before an investigation started, and about 65 for a reduction of fines. Of the **75** immunity applications, about **55** have been granted. Most of

these have led to investigatory measures. Most of the remaining 20 immunity applications are still being processed, some others have not been granted. (Personal communication, Bertus Van Barlingen, DG Comp, 13 June 2005).

### 3.3 The Italian experience with the "Pentiti" program

Achievements, problems, and mistakes in the design...

.....  
.....

### 3.4 The view of law enforcers

According to the staff of competition authorities, and in particular of the most experienced one, the DoJ, the main issue about leniency programs is how to "...build a leniency program that will cause a company to come forward and voluntarily report its participation in a cartel that has gone previously undetected". (Hammond 2004, p. ...)

Summarize Hammond 2004 on Optimal LPs

Main effect: direct, increased rate of cartel detection, accompanied by easier prosecution and higher fines

Interpretation by DoJ: race to the courthouse - reducing trust –

Leniency (and whistleblower) stronger potential benefits are direct, in term of increase *detection* and *deterrence* through reduction in trust and stability.

## 4 Economic theories of leniency

From a theoretical viewpoint, the Prisoner's Dilemma game is perhaps the first and best known model of a leniency/information exchange: the sanctions for a detected wrongdoer are reduced to induce him to confess and prove guilty his former partner(s). The Prisoner's Dilemma refers to a situation in which the joint law violators have already been detected, and leniency seeks to elicit additional information to facilitate prosecution, much like what happens in plea bargaining.

As argued before, the distinctive feature of leniency policies is instead their potential to directly deter organized crime by a) inducing undetected wrongdoers to spontaneously self-report and "turn in" their partners when the law enforcement agency has no information about the crime; and b) discouraging cartel formation with the increased likelihood that our point a) will be their conclusion, i.e. "undermining trust" between wrongdoers with the increased risk that one of them will unilaterally report to enjoy the benefits of the leniency program, which are typically restricted to the first reporting party.

Despite the prominence of the Prisoner's Dilemma game in economics and the importance of organized crime in society, until very recently there was no systematic economic investigation of the effects of leniency programs on long-term, dynamic forms of organized crime like large scale frauds or cartels. Focusing on individual wrongdoers committing

occasional crimes, Louis Kaplow and Steven Shavell (1994) elegantly show how reducing sanctions against wrongdoers that spontaneously self-report lowers law enforcement costs by reducing the number of wrongdoers to be detected. These authors also show that when agents are risk averse, offering leniency to wrongdoers that self-report increases welfare by reducing the overall risk agents bear. Both these insights apply to leniency policies in general. Arun Malik (1993) discusses the role of self-reporting in reducing auditing costs in environmental regulation; while Robert Innes (1999) discusses the value of the early remediation of damages that fine reductions for self-reporting wrongdoers allow for. Fred Koffman and Jacques Lawarrée (1996) offer a first model how collusion can be prevented setting up a Prisoner’s Dilemma: in a static principal-supervisor-agent model à la Jean Tirole (1986), they propose to bring in a second supervisor and structure the two supervisors’ incentives as a Prisoner’s Dilemma, so the second supervisor has incentives to report the first one in case he entered a collusive agreement with the agent.

These papers highlight important benefits that a lenient treatment of self-reporting wrongdoers may bring about, but they are static models, most of them of single agent crime, that cannot capture the potential and dynamic effect of leniency on cartels linked to their three crucial features discussed in section 2.1. Most importantly, collusive agreements between price fixing firms, like those between auditors and managers or CEO and captured directors, are typically long-term, dynamic, and self-enforcing, and a correct understanding of a dynamic phenomenon requires an analogously dynamic analysis.<sup>9</sup>

## 4.1 Leniency programs and cartel prosecution

The first, seminal paper explicitly addressing the effects of leniency policies on cartels in an appropriately dynamic analytical framework is **Massimo Motta and Michele Polo (2003)**. In their rich model, an Antitrust Authority with limited budget allocates resources between inspection and prosecution activities. A leniency program can be introduced that is or is not open to colluding firms that begin collaborating only during prosecution.

Motta and Polo’s model is much in the spirit of the plea bargaining literature. The model focuses on the design of current leniency programs, hence it limits attention to fine reductions. There is an exogenous budget of the Antitrust authority, that can be allocated to its different tasks, detection and prosecution of detected cartels. Detection of a cartel by the Antitrust Authority leads to conviction only with some probability.

### **EXPAND DESCRIPTION**

The model is designed to answer a specific question: whether firms that report information when being already under investigation should or not be also eligible to some leniency. Their main focus, therefore, is on the value of Section B of the Corporate Leniency Policy, relative to firms already under investigation, and their central result is that

---

<sup>9</sup>Using a static model to analyze an intrinsically dynamic phenomenon as cartels, perhaps substituting endogenous self-enforcement constraints with exogenous assumptions, neglects what Stigler (1960), Friedman (1971), Rubinstein (1980) and many others taught us, and misses the core of the problem: how law enforcement affects the (endogenous) sustainability of the cartel.

allowing firms under prosecution to obtain some leniency in exchange for collaboration may indeed increase deterrence by making prosecution more effective, thereby allowing to free resources from the prosecution stage and allocate them to the inspection activity (they assume that the Antitrust Authority is benevolent and would not sit on the laurels of the increased number of successfully prosecuted cartels).

To obtain this central result, on which we fully agree, Motta and Polo assume that firms sustain collusive agreements with grim trigger strategies, and *that a defecting firm cannot be convicted for having taken part to a cartel* nor can report information on former partners. Under these assumptions, leniency programs appear unable to induce agents to spontaneously self-report. This leads Motta and Polo to draw other three, less intuitive conclusions:

(a) that to have any effect a leniency program *must* be open to firms under investigation;

(b) that the same lenient treatment should be offered to all firms that apply for leniency, independent of which one reports first (under their assumptions removing the "first comer rule" – the benefit of being the first firm to report – has no cost); and

(c) that leniency programs are second-best, so that if the Antitrust Authority has sufficient resources to deter cartels through fines and inspections, it should not introduce leniency programs.

These three conclusion, besides being in our view counterintuitive, are in contrast with the DoJ statements on what are the crucial aspect of a good leniency program discussed earlier. Moreover, these results neglect what we think is core issue in the design of leniency problems, their potential to cleanly, directly deter organized crime by 1) inducing undetected wrongdoers to spontaneously self-report and “turn in” their partners, and 2) preventing cartel formation by undermining trust between wrongdoers with the increased risk that one of them then reports to enjoy the benefits of the leniency program; a potential deterrence effect that, contrary to leniency offered during prosecution, has no countervailing negative effects on expected fines.

Indeed, a crucial new feature of the Corporate Leniency Policy, in our view the most crucial new feature, is its “Amnesty Program” – Section A – that “automatically” awards full immunity from sanctions to the first, and only the first cartel member that spontaneously reports information before an investigation is opened or before the DoJ has sufficient evidence that is likely to result in a sustainable conviction. **(Together to the "Amnesty Plus", the first scheme with monetary rewards. EXPLAIN)**

According to DoJ officials, it is precisely this new feature that has led so many companies to spontaneously come, and often rush forward with information on their cartel in the last years. According to Scott Hammond, Director of Criminal Enforcement of the DoJ Antitrust Division, more than 50% of the leniency applications to the DoJ are spontaneous reports before any investigation is opened, falling within Section A of the Corporate Leniency Policy (personal communication). In his words, “over the last five years, the Amnesty Program has been responsible for detecting and prosecuting more antitrust violation than all of our [other investigating tools]” (2001). Similar statements can be found in Spratling (1998, 1999). This view appears consistent with the exponen-

tial increase in reported cartels that has taken place in Europe since the Commission, in February 2002, revised its six years old Leniency Program and also started offering full automatic immunity to the first member of a cartel that self-reports before an investigation is opened (see Section XX on Evidence).

## 4.2 Leniency programs and cartel deterrence

### SHORTEN!!!

**Spagnolo (2000a)** was a (somewhat emotional and admittedly rough) reaction to Motta and Polo's results (a), (b), and (c). To verify their robustness, Spagnolo (2000a) studies a stylized dynamic model of self-enforcing collusive/criminal agreements within a law enforcement system, that builds on Motta and Polo (1999), but focuses on deterrence and on spontaneous self reports, in the spirit of Gary Becker (1968) and Kaplow and Shavell (1994), rather than on leniency/information exchanged at the prosecution stage.

To better focus on Motta and Polo's conclusion (b), Spagnolo (2000a) excludes the possibility to obtain leniency after an investigation has been opened, purposely abstracting from the costs and benefits of this practice identified by Motta and Polo, and restricts focus only to the sections of LPs reserved to firms reporting spontaneously when their cartel has not been detected. The focus, therefore, is on the main effects of leniency program according to DoJ staff: their ability to undermine trust between coconspirators and induce "races to report".

The first version of the model, Spagnolo (2000a), builds on Motta and Polo's work and inherits what we regard as its most troublesome assumption, largely responsible for the three conclusions above: that if a cartel member unilaterally defects, undercutting the cartel price, he cannot be convicted for his past collusive activities anymore. This rather unrealistic assumption directly hides one of the most immediate effects of leniency and leads to a doubtful "irrelevance result" derived both in Spagnolo (2000a), Motta and Polo (2003), and Rey (2003)...

**State the "irrelevant result"....**

**Real world...EU-DoJ Policy...Hinlopen (2003)...Cyrenne (1999)...Buccirossi-Spagnolo** In the revised and extended versions **Spagnolo (2004)** this assumption is dropped and several possible situations regarding the sanctions expected by a defecting firm are considered. Allowing for a positive expected fine for a firm that defects from its cartel, the paper uncovers a number of previously unnoticed effects of leniency policies.

- The paper shows that absent leniency programs, law enforcing agencies should commit not to target agents that unilaterally defect from collusive strategies, and should make this policy public. The reason is close to the logic of leniency: if agents know that they will not be fined for their past wrongdoing if they defect from the collusive agreement, they are more prone to do it, which makes such agreements harder to sustain.<sup>10</sup>

---

<sup>10</sup>The result is different but closely related to that of Cyrenne (1999). Cyrenne shows that if antitrust Authorities use price wars as signals of the presence of a cartel, they may end up stabilizing cartels *by*

- Contrary to Motta and Polo’s conclusion (b), the paper shows that an optimal leniency policy is indeed restricted to the first party that reports, as in real world leniency programs. Allowing more agents to obtain leniency reduces deterrence by reducing the number of wrongdoers that must pay the full fine, without having any countervailing positive effect.
- The optimal policy of course also maximizes fines. High fines are now valuable not only because they reduce the expected value of collusive-criminal relations, as in Becker (1968), but also because they allow to offer higher rewards to agents that self-report by both financing the reward and preventing agents to exploit it.
- Spagnolo (2000a) and (2004) allow for positive rewards for parties that self report, and show that unless fines are exogenously constrained to be very small, the optimal policy offers the first reporting agent a reward equal to the sum of all fines paid by his former partners. Maximal rewards to the first reporting party maximize the deterrence effect of the law enforcement policy, and finite fines and rewards are shown to implement the first best, complete and costless deterrence.

Since political and institutional constraints may prevent offering rewards, it is important to also analyze “moderate” leniency programs, where only reduced fines are allowed, but no rewards, as in reality. Moderate leniency programs are “low powered” incentives, and as such they may not achieve the first best, but they are definitely not irrelevant. Spagnolo (2004) identifies three, previously unnoticed, direct and clean deterrence effects of (current) moderate leniency programs, all based on increasing incentives for firms to defect from their cartel:

- The first is a *protection from fines* effect, present as long as the reduced fines of the moderate leniency program are below the expected fine of a defecting agent that does not report. By increasing the expected payoff of an agent that defects and reports above that of an agent that just defects, the moderate leniency program tightens wrongdoers’ incentive constraints.
- The second is a *protection from punishment* effect, present when collusive/criminal agreements are sustained by optimal two-phase, stick-and-carrot punishment strategies à la Dilip Abreu (1986) and repeated offenders are punished harder than first time ones. A report then raises fines and reduces expected profits from further collusion, which in turn limits the costs agents are willing to incur – the strength of the punishment they are willing to implement – to discipline defections in the first place.

---

*increasing the strength of the punishment phases that deter unilateral defections (see also Harrington 2004). Relatedly but differently, Spagnolo (2004) shows that by prosecuting firms that unilaterally defected from a cartel, Antitrust Authorities may end up stabilizing cartels by reducing firms’ expected gains from unilaterally defecting.*

- The third and most important identified reason why even moderate leniency programs may have deterrence effects is that they can make the illegal agreement more *risky*. As often stressed by DoJ officials, leniency may generate “breakdowns in trust” among wrongdoers. To capture this effect, we introduce *strategic risk* considerations in the spirit of John Harsanyi and Reinhardt Selten (1988). It is shown that moderate leniency programs always strictly increase the riskiness of entering/sticking to a given collusive/criminal agreement relative to abandoning it. Moreover, we find that riskiness increases strictly more when eligibility to the program is restricted to the first reporting party, offering further support to DoJ officials’ claim that the first comer rule is crucial in generating breakdowns of trust in cartels and the consequent rushes to report.

**Aubert, Kovacic and Rey (2004) follow** Spagnolo’s modelling choices, addressing crucial issues linked to the internal organization of firms and its relation with leniency and whistleblower schemes. Spagnolo (2004) does not distinguish between collusion individuals and organizations, and his abstract models can be applied to gangs, cartels of individual professionals, or collusion among firms indistinguishably. Aubert et al. (2004) also considers rewards for (guilty or innocent) whistleblowers in Antitrust enforcement, but dig deeper on the consequences of these schemes when colluding parties are multiagent organizations, and each agent can individually report information on its organization’s wrongdoing.

They study a somewhat simpler model that allows them to address an important complementary issues: the social costs potentially linked to individual leniency programs where the employees of a firm can blow the whistle against their own firm and cash a reward.

They consider the costs and benefits of creating an agency problem between firms and their employees by allowing the latter to directly cash rewards when they blow the whistle and report their own firm’s collusive behavior to the law enforcing agency.

**EXPAND,  
DETAILS**

The authors note, among other things, that many of the inefficiencies attributed to rewarding whistleblowers, such as forcing firms to reduce employees’ rate of turnover or to adopt a more "innocent" internal image, are additional costs linked to collusive behavior that end up increasing cartel deterrence.

They also discuss several explanations for the puzzling fact that firms continue keeping much "hard" information on their cartel at the risk of being detected by competition authorities. Among the explanations considered are that firms want to have instruments to obtain leniency in case the cartel breaks down because of an exogenous (e.g. productivity) shock, and to persuade cartel partners that they did not undercut the agreement in situations of uncertainty and imperfect information.

**RESTRUCTURE  
DRAW POLICY IMPLICATIONS**

.....

### 4.3 Plausible negative side effects

**Buccirossi and Spagnolo (2001)** develop the first model of the effects of pure leniency on fraudulent sequential asymmetric transactions, such as corruption, manager/auditor collusion etc. They characterize the effects of different levels of reduced sanctions on sequential illegal transaction (e.g. an exchange of bribe against an illegal favour) between two asymmetric parties. In their model the illegal partners can optimally choose both the level of the bribe, the amount of hard evidence produced, and the timing of the transaction (who delivers first) after having observed the parameters of the law enforcement systems. They show that the moderate forms of leniency typically implemented in the real world could have the counterproductive effect of facilitating illegal transactions. The possibility to obtain a reduced sanction by self-reporting can be used as a credible threat to enforce otherwise unenforceable illegal deals. The parties can voluntarily produce and store hard information on their illegal agreements, and the first party that perform can force the second party to comply and reciprocate by credibly threatening to report the crime in case of non-compliance. Moreover, they show that even in corrupt relationships where transactions are frequently repeated, moderate leniency programs increases the parties ability to punish deviations thereby stabilizing the illegal arrangements.

**Spagnolo (2000b)** shows that when leniency programs are introduced in the antitrust legislation in the form they currently take, there are occasional market games like the Bertrand oligopoly and multi-unit auctions where the threat of reporting the cartel to the Antitrust Authority in case one member of the cartel defects from collusive strategies becomes a credible one. The leniency program can then be used as a discipline device to enforce price-fixing agreements in occasional simultaneous competitive situations where no collusion could be sustained in the absence of Antitrust law. This effect is shown to be much reinforced by procurement regulation that separates the auction stage from the contracting stage. The separation between the two stages ensures that when after a defection from a cartel other firms report under the leniency program, the auction is nullified an re-run under closer supervision. Then there are absolutely no gains from defections that could induce firms to break the occasional cartel.

This effect can easily be eliminated by...

**COMPLETE**

**Cristopher Ellis and Wesley Wilson (2002)** develop a model of the current leniency programs in Antitrust that offers a new perspective. They show that a moderate leniency program may induce firms to report information in order to damage competitors and obtain a strategic advantage.

**EXTEND DESCRIPTION.**

Their result, together with our, helps explain the rush of cartel breakdowns with spontaneous reports that has taken place in the US these last years.

They also find that leniency programs may end up having the perverse effect of stabilizing those cartels that it could not deter.

**EXTEND DESCRIPTION,**

This effect is different from....

.....but it reinforces the results in and Buccirosi and Spagnolo (2001) and Spagnolo (2000a) that badly designed leniency programs may be somewhat "dangerous".

#### 4.4 New developments and alternative methodologies

- Equilibrium reports: **Harrington 2005, Alexander and Reiffen 2004 (static)**  
Observing or non observing reports in equilibrium: anticipated programs, unanticipated ones, exogenous shocks in benefits and probabilities, learning, mistakes, Abreu vs. Green and Porter
- Timing games: **Motchenkova 2005a,b**
- Agency and leniency: **Festerling 2005, Buccirosi-Spagnolo 2005**
- Leniency and price path: **Harrington and Chen 2005,**
- Others: **Hinlopen ??, Fees and Walzl 2004a,b (static, collusion not endog...)**

## 5 The "evidence"

Almost no empirical and experimental analyses!!!

### 5.1 Two natural experiments

#### 5.1.1 US 1993

**Change in number of applications:**

- Before 1993, one application for leniency per year
- After 1993 changes, up to three per month, a twenty-fold increase on average

**Main 1993 changes in the LP:**

1. *Increased generosity/transparency*: more certain leniency of the program for prospective applicants, *automatic* full amnesty for the first applicant, making clear in advance the benefits of cooperation to the amnesty-seeker;
2. *Extended coverage I*: amnesty made available to the first reporting party even after an investigation has been opened, provided the DoJ does not yet have evidence likely to result in a sustainable conviction;
3. *Extended coverage II*: amnesty obtained by the first reporting firm (if it reports as a corporate act) applies now to all its directors, officers, and employees that collaborate.

4. *Positive rewards:* under the "Amnesty Plus" program, firms/managers under prosecution for one cartel are invited to unveil other cartels they are or were involved; if they reveal a new cartel, not only they receives full amnesty with respect to this second cartel, they also gets a reduction in sanctions on the first cartel, a net reward.

**Other important information:**

- Simultaneously, increasingly large criminal fines and lengthy prison sentences
- More than half leniency applications come in before an investigation has began (personal communications, Scott Hammond and Gregory Werden)

**Conclusion:** it is not easy to distinguish the relative contribution of these four factors, all of which probably contributed in determining the twenty-fold increase in leniency applications after 1993; but the more than half applications made before an investigation is opened, leading to the detection of previously unknown cartels, should be linked to changes 1, 3 and 4.

### 5.1.2 EU 2002

In the six years between 1996, when the first EC Leniency Program was introduced, and 2002, only 16 applications for immunity were filed, of which just three led to the granting of immunity. Under the new Notice, in the three years since its entry into force on 14 February 2002, DG Comp has received about **140** leniency applications. Of these, about **75** were for immunity, i.e. before an investigation started, and about 65 for a reduction of fines. Of the **75** immunity applications, about **55** have been granted. Most of these have led to investigatory measures. Most of the remaining 20 immunity applications are still being processed, some others have not been granted. (Personal communication, Bertus Van Barlingen, DG Comp, 13 June 2005).

- **In summary:** Leniency applications and cases of immunity granted increased ten-folds (1000%) with the 2002 Notice.
- **2002 Main Change:** The main change between the two Notices is the increased fine reduction, certainty, and automatism of section A, reserved to firms that report before an investigation is opened. (Both the 1996 and the 2002 Notices allowed for leniency applications from firms already under investigation.)
- **Conclusion:** The EU natural experiment suggests that the crucial part of a leniency program is the one reserved to spontaneous applications from cartels not yet under an investigation, that must be credible and transparent; the second section of the leniency programs, relative to firms that apply after an investigation, appears somewhat less important.

## 5.2 Laboratory experiments and econometric studies

*Experiments.* A recent paper by **Josè Apesteguja, Martin Duwfemberg and Reinhard Selten (2004)** compares experimentally the performance of moderate leniency and rewards in a one-shot Bertrand setting analogous to Spagnolo (2000b).

### DESCRIBE WELL

The authors conclude that moderate leniency appears to work better than rewards as a cartel deterrence mechanism, although for unclear reasons. This study is a very important first step in the experimental direction. Unfortunately, its results are somewhat hard to interpret and relate to the literature and particularly to real world competition policy against long term cartels, because of two drawbacks of the experimental design.

The first, minor drawback is that subjects were not allowed to 'learn the game' by playing it repeatedly, so that misunderstandings and mistakes may have affected outcomes, as happened in early experimental studies of public good contribution (). Indeed, the dynamic equilibria of the games they are playing are not immediate for non-trained

The second, more fundamental drawback of the experimental design is the simple, elegant, but rather unrobust and unrealistic set up chosen:

- a) one-shot game;
- b) homogeneous Bertrand competition;
- c) extreme/unrealistic rules for setting fines...

Equilibria and interpretation of results change completely with infinitesimal changes in the games' parameters, with  $\epsilon$  product differentiation, with  $\epsilon$  minimum fines, with  $\epsilon$  stickiness of consumers.

Alternative robust interpretation....

### DESCRIBE WELL

In my reading, therefore, this experiment confirms that subjects do understand the subtle reasoning required to use of reporting as a threat to enforce collusion in *occasional* interactions, as in Spagnolo (2000b) and Buccirosi and Spagnolo (2005), which is an interesting and important insight. However, because of the mentioned problems, the experiment cannot tell us anything about the effectiveness of leniency or bonus schemes against long term, hard-core cartels.

More experimental work, therefore, appears highly needed, particularly with repeated interaction.

*Econometrics.* The only attempt we are aware of to evaluate the effects of LPs econometrically is that of **Steffen Brenner (2005)**...

### DESCRIBE WELL

## 6 A role for rewards to whistleblowers?

Spagnolo (2000a) and (2004) and Aubert et al. (2004) suggest that rewarding conspirators that blow the whistle and turn in their former partners would greatly increase cartel deterrence and reduce the cost of antitrust law enforcement. Others have shown skepticism

about this possibility, because of the possible increase in various types of costs rewards could bring about. As already mentioned, rewards and protection for whistleblowers are common in other field of law enforcement, but are somewhat different from the schemes proposed in the above mentioned papers. Whistleblowers programs, at least those we are aware of, are protection and (possibly) compensation schemes aimed at eliciting information from employees or other persons that come to know of the existence of a crime, *but who did not take part to it*. Leniency programs and the reward/bounty schemes proposed for cartels by Spagnolo and Aubert et al., are instead (also) directed to firms and individuals that did take part to the cartel or a similar illegal conspiracy, they are aimed at eliciting also the information that *guilty* parties possess.

For the sake of clarity, in reminder of this chapter we will name *pure* whistleblowers schemes those programs directed only at *innocent* individuals that happen to become informed about a crime, but that did not take part to it. In the next section we look briefly at two famous pure whistleblower schemes, the False Claims Act and the recent Sarbanes-Oxley Act.

## 6.1 Whistleblowers programs in other fields

### 6.1.1 *Qui tam* provisions under the US False Claim Act

**History (SHORTEN)** While several schemes that protect and reward whistleblower are in place<sup>11</sup>, the most famous and successful of these programs is the US False Claim Act against frauds to the federal government (the Sarbanes-Oxley Act, discussed later one, is probably catching up with fame, but not with performance). It states that “Whether or not the Government proceeds with the action, if the court finds that the action was brought by a person who planned and initiated the violation of section 3729 upon which the action was brought, then the court may, to the extent the court considers appropriate, reduce the share of the proceeds of the action which the person would otherwise receive under paragraph (1) or (2) of this subsection, taking into account the role of that person in advancing the case to litigation and any relevant circumstances pertaining to the violation. If the person bringing the action is convicted of criminal conduct arising from his or her role in the violation of section 3729, that person shall be dismissed from the civil action and shall not receive any share of the proceeds of the action. Such dismissal shall not prejudice the right of the United States to continue the action, represented by the Department of Justice.”

The words *Qui tam* come from ‘*Qui tam pro domino rege quam pro se ipso*’, which means ‘he who brings an action on behalf of the King, as well as for himself’. *Qui tam* provisions allow whistleblowers to file lawsuits against companies and individuals who defraud the government, in order to recover damages on the government’s behalf. The organized use of whistleblowers in law enforcement in terms of *Qui Tam* suits appears to originate in 13th century England, when, due to the lack of an organized police force,

---

<sup>11</sup>In the US, a reward of 10% recovered funds is/was offered to individuals that report episodes of tax evasion.

English common law adopted various qui tam provisions in order to enforce the King's laws. To make such actions attractive, a bounty was paid to the private party who enforced the law. The founders of the United States followed the English example and included qui tam provisions into most of the penal statutes enacted by the Continental Congress, America's first ruling body. On March 2 1863, the False Claims Act, also known as the 'Lincoln Law', was passed by Congress at the urging of President Abraham Lincoln, following the report of widespread military contractor fraud at the expenses of the Union Army. The law applied not only to military, but all government contractors. The False Claims Act was designed to motivate whistleblowers to come forward by offering them a share of the money recovered, and provided both criminal and civil penalties.

The statute remained almost unchanged until 1943, when the Congress modified the qui tam provisions in reaction to what were considered 'parasitic' relators. As a result of these changes, whistleblowers could not bring claims that were based on evidence that was already known to the government, regardless of whether the government would bring a claim and of the fact that the whistleblower was the original source of the evidence. In addition, the whistleblower's share in the gains of a successful trial was reduced to a maximum of 10% if the government helped with the litigation, and a maximum of 25% if it did not help. As a consequence, very few cases were brought forward or could be sustained by whistleblowers, and the False Claims Act fell into almost complete disuse.

In the mid-1980s the False Claims Act was revised by Congress, following reports of large-scale fraud against the government, especially by defence contractors. Particularly prominent in the press were examples of contractors charging prices like \$640 for toilet seats, \$7600 for coffee makers, and \$1075 for bolts. In 1985, the Department of Defence stated that 45 of the largest 100 defence contractors, including 9 of the top 10, were under investigation for multiple fraud offences. At the same time, the effectiveness of government enforcement strategies was greatly reduced by the lack of resources and the unwillingness of citizens with knowledge of fraud to blow their whistle for fear of losing their jobs. In 1986, Senator Charles Grassley and Howard Berman persuaded Congress to react. In order to give more incentives for whistleblowers to come forward and for private attorneys to use their own resources to investigate fraud, the False Claims Act was amended to include the provision of treble damages, mandating the defendant to pay a successful qui tam relator's his or her legal expenses, increasing the relator's share to 15-30% of total recovery, and protecting relators from retaliation. The 1986 amendments to the False Claims Act have proved very effective in terms of generated government recovery. It is now working to discourage fraud in many other areas, such as prescription drug purchases, natural resource contracts and low-income housing.

**How does it work and statistics (UPDATE AND SHORTEN)** Cases that can be filed as qui tam actions regard false claims that are either directly or indirectly presented to the Government for "paying or approval". A "claim" is defined as: "...any request or demand which is made to a contractor, grantee, or other recipient if the United States Government provides any portion of the money or property which is requested or demanded, or if the government will reimburse such contractor, grantee, or other recipient

for any portion of the money or property which is requested or demanded." Along with a complaint the qui tam relator must also file a "written disclosure of substantially all material evidence and information the person possesses." To determine if the case will join in the lawsuit, the department of Justice (DOJ) has 60 days to investigate. The DOJ can also request the court grant extensions to give more time (cases have been kept under seal even for two or three years before the DOJ made a decision), although a relator has the right to challenge extension requests and to have the seal lifted. Once a complaint is filed, the DOJ will assign the case to an investigative agency that has jurisdiction over the allegations. The Government investigators will conduct a preliminary investigation based on the information disclosed by the relator, during the period of time the complaint is under seal. This usually includes: a comprehensive interview of the relator and review of the relator's records (if any exist), an interview of any corroborative witnesses, review of appropriate government records and interviews of government officials. Once the preliminary investigation is completed, the results are analyzed by the DOJ in order to determine whether it will join the lawsuit. In this preliminary period, the DOJ has a number of options among which to choose: it may or not join in the lawsuit, it may try to dismiss the action, or to settle it before a formal investigation. Though, usually the DOJ restricts its choice between joining or not. If the DOJ declines to join in a qui tam action, the relator has the right to investigate and prosecute the case. If the Government does not join and the relator is successful in pursuing the case, the relator, generally, will receive a larger percentage of the award.

As for its effects, Table 1 shows the development of the number of qui tam cases filed in the period from 1987 to 2003. Since 1987, the number has increased from 33 first to 533 in 1997, where it peaks, after which it decreased to settle at 326 in 2003, roughly ten times the 1986 figure.

---

Year	Number of cases filed
1987	33
1988	60
1989	95
1990	82
1991	90
1992	119
1993	132
1994	222
1995	277
1996	363
1997	533
1998	470
1999	482
2000	367
2001	310
2002	320

**Table 1: Qui tam cases filed (by fiscal year)**

(Source: Department of Justice, through 9/30/03)

Table 2 illustrates the recoveries in those qui tam cases pursued by the government. The sum of recoveries increased more or less steadily from \$355,000. 1997 is a peak year, both for number of cases filed and for recoveries, which reach \$622.7 million.

---

Year	Recoveries
1988	\$355,000
1989	\$15 million
1990	\$40 million
1991	\$70 million
1992	\$134 million
1993	\$171 million
1994	\$379.6 million
1995	\$245 million
1996	\$125 million
1997	\$622.7 million
1998	\$432.7 million
1999	\$454 million
2000	\$1.2 billion
2001	\$1.16 billion
2002	\$1.06 billion
2003	\$1.39 billion

**Table 2: Recoveries in qui tam cases pursued by DOJ (by fiscal year)**

Immediately after 1997 recoveries fall again, before rising dramatically to \$1.2 billion in 2000, while the total number of cases filed decreased. The highest level of recoveries yet was achieved in 2003, at \$1.39 billion, and was achieved at a comparatively low level of cases filed, which shows that rewards for whistleblowers are reaching astronomical numbers without causing much of a problem.

Recoveries in cases declined by the U.S. Department of Justice and pursued by relators start at \$35,431 in 1998, roughly 10% of the recoveries in cases pursued by the government, and in 2003 are at \$85 million, 6.12% of the recoveries helped by the government. In between these dates they fluctuate greatly. In general, recoveries in cases declined by the Department of Justice fluctuate much more than those accepted and are also much lower, which implies that sustaining and winning a case without the government's support is very hard, and/or the screening activity of the Department is precise in selecting most important cases (we will talk extensively about the importance of an intermediary agency screening out weak or crazy cases).

---

Year	Recoveries
------	------------

1988	\$35,431
1989	0
1990	\$75,000
1991	\$69,500
1992	\$994,456
1993	\$5.9 million
1994	\$1.8 million
1995	\$1.8 million
1996	\$14 million
1997	\$7 million
1998	\$29.2 million
1999	\$62.5 million
2000	\$1.8 million
2001	\$125.6 million
2002	\$26 million
2003	\$85 million

**Table 3: Recoveries in cases declined by DOJ (by fiscal year)**

Of the total number of qui tam cases filed since 1987, the government pursued only 750, or 14.47% (see Table 4). Of these, 27, or 3.6%, were dismissed without recovery. Of the cases the government declined, 82.32% were dismissed without recovery, further supporting the view that qui tam cases need government screening and support.

Total number of qui tam cases filed	4,294
Intervened or otherwise pursued	750
Active	79
Settled or judgment	639
Inactive	3
Unclear	2
Dismissed, no recovery	27
Declined	2,653
Active	268
Settled or Judgment	153
Inactive	10
Unclear	38
Dismissed, no recovery	2,184
Under Investigation	891

**Table 4: DOJ's decision on qui tam cases**

Table 5 shows, firstly, the share of total recoveries won in cases supported by the government and those who were not. 95.3% of the total recoveries of \$7.87 billion were recovered in cases the Department of Justice entered. Relator's awards vary from a total of \$89 million in cases declined by the Department of Justice to a total of \$1.2 billion when

pursued by the government. In addition, this table illustrates that *of the qui tam cases where there was a recovery, the average recovery was \$5.8 million, whereas the average relator's award in these cases was \$1 million, which makes an average of 17.24% of the recoveries going to the relators.*

**UPDATE OR CANCEL**\_\_\_\_\_

Total amount recovered where there is an associated qui tam case	\$7.87 billion
Total amount recovered in cases that the Department of Justice (DOJ) entered or otherwise pursued	\$7.5 billion
Total amount recovered by relators in cases declined by DOJ	\$362 million
Relators' awards when DOJ intervened in or otherwise pursued the case, in cases where shares have been determined (total)	\$1.2 billion
Relators' awards when government declined to intervene (total)	\$89 million
Average relator's award in qui tam cases (both entered and declined) where there has been a recovery	\$1 million (as of 11/99)
Median relator's award in qui tam cases where there has been a recovery (does not include cases delegated to U.S. Attorneys' offices)	\$183,000 (as of 12/97)
Average FCA recovery in qui tam cases (both entered and declined) where there has been a recovery	\$5.8 million (as of 11/99)
Median recovery in qui tam cases where there has been a recovery (does not include cases delegated to U.S. Attorneys' offices)	\$915,000 (as of 12/97)

**Table 5**

**6.1.2 The Sarbanes-Oxley Act**

**6.1.3 Tentative conclusions**

- VERY LARGE QUI TAM REWARDS WITHOUT SERIOUS ADMINISTRATIVE COSTS LINKED TO INFORMATION FABRICATION
- INTERMEDIATION OF AN AGENCY USEFUL AND NECESSARY TO SCREEN OUT BAD APPLICATIONS, FOR THE BENEFIT OF SOCIETY AND BADLY INFORMED WHISTLEBLOWERS
- DETAILS OF THE DESIGN ESSENTIAL FOR THE PROGRAM'S SUCCESS,  
In particular: protection, hard evidence vs testimonies, completeness of cooperation, etc.

**6.2 Economics of whistleblowers**

**6.2.1 Pure whistleblowers schemes**

There is an extensive **sociological** literature on WBs **REFERENCES**. Main points:

1. WBs are useful, have a (documented) terrible working and social life after reporting, hence they neerrewarded and protected.

2. Rewards for WBs may induce a bad climate in organizations reducing trust, cooperation and efficiency (e.g. Dworkin, T.M. and J.P. Near (1997))

**Legal literature on pure whistleblowers:**

**Depoorter and De Mot 2004,**

**Brikley 2003....**

The first **economic** analysis of pure whistleblowers schemes we are aware of is **Tokar (2000)**. In this model, a firm may or not behave illegally; an employee may or not blow the whistle if the firm behaved illegally, and may or not invent a false claim by fabricating information when the firm behaved legally; and the court may makes Type I and Type II errors. The deterrence effects of the whistleblower program depend on the precision of the court (the quality of the signals it observes) and the size of the reward for the whistleblower. If rewards are too low, then employees never files and the company behaves illegally has it is sure that it will not be convicted. When the quality of signals is high (the probability of mistakes is low) sufficiently high rewards lead the fir to behave legally, as the employee files only when the firm behave illegally. With very high rewards and noisy signals the employee always files in the hope to get a reward, hence the firm is led to act illegally. **ADD CRITIQUE**

- Other recent papers:

**Schmidt, M. 2003**

**Heyes 2004**

**Buccirossi-Palumbo-Spagnolo 2005**

### 6.2.2 Mixed (guilty) whistleblowers schemes, but static analyses

Legal analyses: **Kovacic 2001**

Economic analyses:

**Acemoglu 1995**

**Felli 1996,**

**Koffman-Lawarree 1996**

**Leppamaki 1997**

**Cooter-Garoupa 2001**

**Berentsen et al. 2005**

**Rothschild 2005**

- Contrast with dynamic analyses, Spagnolo (2000a, 2004), Aubert et al. (2004).

## 6.3 Policy implications

No robust counterindication to rewarding informants in Antitrust emerges from the empirical observation of other (well designed) experiences, nor from economic and legal analyses of whistleblowers. Main counterindications are small, as already discussed in Spagnolo

(2004) and Aubert et al. (2004), provided the program is appropriately designed, caring that.... details.

## 7 Conclusions

- Features of Optimal Leniency Programs
- Simple Improvements for Current LPs
  - Remove "Restitution",
  - Protect more from damages,
  - "One-stop"
  - Continue participation to help agency collect evidence,
  - Etc.
- Powering LPs with Reward/Bounty schemes is feasible and worthwhile
- Open issues for further research
  - Experiments and econometrics
  - International coordination
  - Optimal sanctions with leniency and whistleblowers
  - etc.

## 8 References

### References

- [1] Abreu, Dilip, (1986), "Extremal Equilibria of Oligopolistic Supergames," *Journal of Economic Theory* 39(1), 191-225.
- [2] Abreu, Dilip, (1988), "On the Theory of Infinitely Repeated Games with Discounting", *Econometrica* 56, 383-396.
- [3] Apesteguia Jose; Duwfemberg, Martin and Reinhard Selten. "Blowing the Whistle", mimeo, Universities of Arizona, Bonn and Navarra.
- [4] Aubert, Cecile; William Kovacic and Patrick Rey, (2004), "The Impact of Leniency Programs on Cartels," manuscript, IDEI Toulouse.
- [5] Becker, Gary, (1968), "Crime and Punishment: An Economic Approach," *Journal of Political Economy* 76(2), 169-217.
- [6] Benoit, Jean-Pierre and Juan, Dubra, (2003), "Why Do Good Cops Defend Bad Cops?", manuscript, NYU
- [7] Berentsen, Aleksander, Bruegger, Esther and Loertscher, Simon, (2005), "On Cheating and Whistleblowing", Economics Department, University of Basel
- [8] Brenner, Steffen, (2005), "An Empirical Study of The European Corporate Leniency Program", manuscript, University of Berlin
- [9] Brickey, Kathleen, (2001), "From Enron to Worldcom and Beyond: Life and Crime after Sarbanes Oxley Act," Washington University in St. Louis, School of Law, wp n. 03-06-01.
- [10] Buccrossi, Paolo, and Spagnolo, Giancarlo (2001), "Leniency Programs and Illegal Exchange: How (Not) to Fight Corruption" Working Papers in Economics and Finance No. 451, 20 Stockholm School of Economics (Available for download at [www.hhs.se](http://www.hhs.se) and [www.ssrn.com](http://www.ssrn.com)).
- [11] Buccrossi, Paolo; Palumbo, Giuliana, and Spagnolo, Giancarlo. "Whistleblowers and Financial Fraud", manuscript, Lear, Bank of Italy and Stockholm School of Economics.
- [12] Buccrossi, Paolo. and Giancarlo, Spagnolo, (2005), "Optimal Fines in the Era of Whistleblowers: Should Price Fixers Still Go to Prison?", forthcoming in Goshal, V. and J. Stennek (Eds.), *The Political Economy of Antitrust*, Amsterdam: Elsevier.

- [13] Buccirosi, Paolo. and Giancarlo Spagnolo, (2005), "Corporate Governance and Cartel Deterrence", forthcoming in W.D. Collins (Ed.) Issues in Competition Law and Policy, American Bar Association, Antitrust Section.
- [14] Calzolari, Giacomo and Giancarlo Spagnolo, (2005), "Reputation and Collusion in Procurement," manuscript, University of Bologna and Stockholm School of Economics
- [15] Cindy, R. Alexander and Reiffen, David, (2004), "Regret Without Detection: How Leniency Can Deter Corporate and Organizational Offenses", U.S. Securities and Exchange Commission
- [16] Chen, Joe and Harrington Joseph E. Jr., "The Impact of the Cartel Price Path", Faculty of Economics, Tokyo
- [17] Clarke, Julian L., and Evenett, Simon J., (2003), "The Deterrent Effects of National Anticartel Laws: Evidence From the International Vitamins Cartel", Antitrust Bulletin, Fall, 48, 3, pg. 689
- [18] Comte, Olivier, (1998), "Communication in Repeated Games with Imperfect Private Monitoring", *Econometrica* 66, 597-626.
- [19] Connor, John, M., (2003), "Private International Cartels: Effectiveness, Welfare, and Anticartel Enforcement", manuscript.
- [20] Connor, John, M., (2004), "How High do Cartels Raise Prices? Implications For Reform of Sentencing Guidelines", AAI Working Paper 01.
- [21] Connor, John, M., (2004), "Price-fixing Overcharges: Legal and Economic Evidence", AAI Working Paper No. 04-05.
- [22] Cooter, D. Robert and Garoupa, Nuno, (2001), "The Virtuous Circle of Distrust: A Mechanism to Deter Bribes And Other Cooperative Crimes", The Berkeley Law and Economics Working Papers, art 13
- [23] Depoorter, Ben and De Mot, Jef, (2004) "Whistle Blowing", Working Paper Series, N. 13
- [24] Dworkin, Terry Morehead and Near, Janet P.,(1997), "A Better Statutory Approach to Whistleblowing", *Business Ethics Quarterly* , 7: 1-16.
- [25] Ellis, Christopher and Wilson, Wesley.(2002) "Cartels, Price-Fixing, and Corporate Leniency Policy: What Doesn't Kill Us Makes Us Stronger," manuscript, University of Oregon.
- [26] Feess Eberhard and Walzl Markus, (2004), "An Analysis of Corporate Leniency Programs and Lessons to Learn for US and EU Policies", Department of Economics, Aachen

- [27] Feess, Eberhard and Walzl, Markus.(2004) "Self-reporting in Optimal Law Enforcement when there are Criminal Teams," *Economica* 71, 333-348.
- [28] Festerling, Philipp (2005), "Cartel Prosecution and Leniency Programs", School of Economics and Management, Aarhus University Denmark, manuscript.
- [29] Fershtman, Chaim, Pakes, Ariel, (2000), "A Dynamic Game with Collusion and Price Wars," *RAND Journal of Economics* 31(2), 207-36.
- [30] Fiorentini, Gianluca, and Pelzman, Sam, Eds. *The Economics of Organized Crime*, 1995, Cambridge: C.U.P.
- [31] Friedman, James.(1971)," A Noncooperative Equilibrium for Supergames," *Review of Economic Studies* 38(113), 1-12.
- [32] Gambetta, Diego and Reuter, Peter (1995), "Conspiracy Among the Many: The Mafia in Legitimate Industries", in Gianluca Fiorentini and Sam Peltzman (eds.) *The Economics of Organised Crime* (Cambridge: Cambridge University Press), pp. 116-139.
- [33] Hammond, Scott D., (2000),"Fighting Cartels – Why and How? Lessons Common to Detecting and Deterring Cartel Activity", available for download from <http://www.usdoj.gov/atr/public/speeches/6487.htm>
- [34] Hammond, Scott D., (2004), "Cornerstones of An Effective Leniency Program", U.S. Department of Justice
- [35] Hammond, Scott D.(2000), "Detecting and Deterring Cartel Activity Through an Effective Leniency Program," available for download from [http://www.usdoj.gov/atr/public/speeches/speech\\_hammond.htm](http://www.usdoj.gov/atr/public/speeches/speech_hammond.htm).
- [36] Hammond, Scott D. (2001), "When Calculating the Costs and Benefits of Applying for Corporate amnesty, How do You Put a Price Tag on an Individual Freedom?" available for download from [http://www.usdoj.gov/atr/public/speeches/speech\\_hammond.htm](http://www.usdoj.gov/atr/public/speeches/speech_hammond.htm).
- [37] Harrington, Joseph Jr., (2005), "Optimal Corporate Leniency Programs", JEL Classification L1, L4
- [38] Harsanyi, John, (1995)" "A New Theory of Equilibrium Selection for Games with Complete Information", *Games and Economic Behavior* 8, 91-122
- [39] Harsanyi, John, and Selten, Reinhard, (1998) "A General Theory of Equilibrium Selection in Games" Cambridge MA: MIT Press.
- [40] Healy, Paul H. and G.P. Krishna (2003)"The Fall of Enron", *Journal of Economic Perspective*, 17, (2): 3-26

- [41] Heyes, Anthony G, "Whistleblowers and the Regulation of Environmental Risk", Royal Holloway, University of London
- [42] Hinloopen, Jeroen, (2003), "An Economic Analysis of Leniency Programs in Antitrust Law", *De Economist* 151, N. 4
- [43] Innes, Robert.(1999), "Remediation and Self-Reporting in Optimal Law Enforcement," *Journal of Public Economics* 72(3), 379-393.
- [44] Innes, Robert.(1999), "Self-Policing and Optimal Law Enforcement When Violator Remediation is Valuable," *Journal of Political Economy* 107(6), 1305-1325.
- [45] Kaplow, Louis, and Steven Shavell.(1994), "Optimal Law Enforcement with Self-Reporting of Behavior," *Journal of Political Economy* 102(3), 583-606.
- [46] Kobayashi, Bruce, (1992),"Deterrence with Multiple Defendants: An Explantiton for "Unfair" Plea Bargains, *RAND Journal of Economics*, vol 23, N. 4.
- [47] Kobayashi, Bruce, (2004) "Antitrust, Agency and Amnesty: An Economic Analysis of the Criminal Enforcement of the Antitrust Laws Against Corporations" George-Maxon University School of Law
- [48] Koffman, Fred, and Jacques, Lawaree,(1996), "A Prisoner's Dilemma Model of Collusion Deterrence," *Journal of Public Economics* 59, 117-136
- [49] Kornhauser, Lewis A. and Revesz, Richard L.(1994) "Multidefendant Settlements Under Joint and Several Liability: The Problem of Insolvency", *Journal of Legal Studies*, vol XXIII
- [50] Kranton, Rachel E. , (2003), "Competition and the Incentive to Produce High Quality", *Economica*, 70, 385-404.
- [51] Landes, William M.,(1983), "Optimal Sanctions for Antitrus Violations", *The University of Chicago Law Review*, vol 50, N. 2,
- [52] Leppamaki, Mikko, (1997), Ch 3, "An Economic Theory of Collusion, Blackmail and Whistle-Blowing in Organisations", PhD thesis, London School of Economics
- [53] Malik, Arun, (1993), "Self-Reporting and the Design of Policies for Regulating Stochastic Pollution," *Journal of Environmental Economics and Management*, 24(3), 241-257.
- [54] Motchenkova, Evgenia, (2005), "Optimal Enforcement of Competition Law", Ph.D. Dissertation, University of Tilburg.
- [55] Motta, Massimo, and Polo, Michele. (2003), "Leniency Programs and Cartel Prosecution," *International Journal of Industrial Organization*, 21(3), 347-379.

- [56] Muehlheusser, Gerd and Roider, Andreas, (2004), "Black Sheep and Walls of Silence", Working Paper, University of Basel
- [57] O.E.C.D. (2001), New Zealand Report, "Optimal Sanctions in Cartel Cases", DAF/CLP/WP3 14.
- [58] O.E.C.D., (2002), Fighting Hard Core Cartels: Harm, Effective Sanctions and Leniency Programmes, Paris.
- [59] O.E.C.D., (2003), Hard Core Cartels. Recent Progress and Challenges Ahead, Paris.
- [60] O.E.C.D. (2005), "Cartels: Sanctions Against Individuals", DAF/COMP(2004)39.
- [61] Polinsky, Mitchell, and Shavell, Steven. (2000), "The Economic Theory of Public Enforcement of Law," *Journal of Economic Literature*, March, 45-76.
- [62] Rey, Patrick. (2003), "Towards a Theory of Competition Policy," in *Advances in Economics and Econometrics: Theory and Applications*, Eight World Congress, M. Dewatripont, L.P. Hansen S.J. Turnovsky eds., Cambridge University Press.
- [63] Rothschild, R. (2005), "Whistleblowing", manuscript, Department of Economics, Lancaster University
- [64] Schmidt, M. (2003), "Whistle-blowing Regulation and Accounting Standards Enforcement in Germany and Europe, an Economic Perspective," Humboldt University, Discussion Paper n. 29.
- [65] Spagnolo, Giancarlo, (2000), "Optimal Leniency Programs," F.E.E.M. Nota di Lavoro No. 42.00, Fondazione ENI "Enrico Mattei," Milano (Available for download at <http://www.ssrn.com> and <http://www.feem.it/>).
- [66] Spagnolo, Giancarlo, (2000), "Self-Defeating Antitrust Laws: How Leniency Programs Solve Bertrand's Paradox and Enforce Collusion in Auctions," F.E.E.M. Nota di Lavoro No. 52.00, Fondazione ENI "Enrico Mattei," Milano (Available for download at <http://www.ssrn.com> and <http://www.feem.it/>).
- [67] Spagnolo Giancarlo., (2004), "Divide et Impera: Optimal Leniency Programs", CEPR Discussion Paper No. 4840 (available at [www.cepr.org](http://www.cepr.org) and [www.ssrn.com](http://www.ssrn.com))
- [68] Spagnolo, Giancarlo, (2005), "Cartels Criminalization and their Internal Organization," forthcoming in M. Schinkel et al. (Eds.), *Remedies and Sanctions in Competition Policy: Economic and Legal Implications of the Tendency to Criminalize Antitrust Enforcement in the EU Member States*, London: Edward Elgar.
- [69] Spratling, Gary R.(1998), (Deputy Assistant Attorney, Antitrust Division, U.S. Dept. of Justice). "The Corporate Leniency Policy: Answers to Recurring Questions," presented at ABA Meeting, Antitrust Section (Available for download at <http://www.usdoj.gov/atr/public/speeches/1626.htm>.)

- [70] Spratling, Gary R. (1999), "Making Companies an Offer they Shoudn't Refuse", (Available for download at <http://www.usdoj.gov/atr/public/speeches/2247.htm>)
- [71] Stigler, George J., (1964), "A Theory of Oligopoly", *The Journal of Political Economy*, Vol. 72, no 1, 44-61.
- [72] Stiglitz, Joseph, (1989), "Imperfect Information in the Product Market," in Richard Schmalensee and Robert Willig, eds., *Handbook of Industrial Organization*, Volume 1, Amsterdam: Elsevier Science Publishers, 771-847.
- [73] Schroeder, Dirk and Silke, Heinz, (2005), "Requests for Leniency in the EU: Experience and Legal Puzzles", forthcoming in M. Schinkel et al. (Eds.), *Remedies and Sanctions in Competition Policy: Economic and Legal Implications of the Tendency to Criminalize Antitrust Enforcement in the EU Member States*, London: Edward Elgar.
- [74] Tokar, Steven, (2000), "Whistleblowing and Corporate Crime", unpublished manuscript, European University Institute.
- [75] Van Barlingen, Bertus. (2003), "The European Commission's Leniency Notice after One Year of Operation", *Competition Policy Newsletter*, 2,16-21.
- [76] Werden, Gregory J. and Simon, Marilyn J. (1987), "Why Price Fixers Should Go to Prison", *The Antitrust Bulletin*, 917-937
- [77] Zane, Phillip.C, (2003), "The Price Fixer's Dilemma: Applying Game Theory to The Decision of Whether to Plead Guilty to Antitrust Crimes", *Antitrust Bulletin*, 48, pg 1



# Department of Justice

---

## CORPORATE LENIENCY POLICY

The Division has a policy of according leniency to corporations reporting their illegal antitrust activity at an early stage, if they meet certain conditions. "Leniency" means not charging such a firm criminally for the activity being reported. (The policy also is known as the corporate amnesty or corporate immunity policy.)

### A. Leniency Before an Investigation Has Begun

Leniency will be granted to a corporation reporting illegal activity before an investigation has begun, if the following six conditions are met:

1. At the time the corporation comes forward to report the illegal activity, the Division has not received information about the illegal activity being reported from any other source;
2. The corporation, upon its discovery of the illegal activity being reported, took prompt and effective action to terminate its part in the activity;

3. The corporation reports the wrongdoing with candor and completeness and provides full, continuing and complete cooperation to the Division throughout the investigation;
4. The confession of wrongdoing is truly a corporate act, as opposed to isolated confessions of individual executives or officials;
5. Where possible, the corporation makes restitution to injured parties; and
6. The corporation did not coerce another party to participate in the illegal activity and clearly was not the leader in, or originator of, the activity.

**B. Alternative Requirements for Leniency**

If a corporation comes forward to report illegal antitrust activity and does not meet all six of the conditions set out in Part A, above, the corporation, whether it comes forward before or after an investigation has begun, will be granted leniency if the following seven conditions are met:

1. The corporation is the first one to come forward and qualify for leniency with respect to the illegal activity being reported;
2. The 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;

3. The corporation, upon its discovery of the illegal activity being reported, took prompt and effective action to terminate its part in the activity;
4. The corporation reports the wrongdoing with candor and completeness and provides full, continuing and complete cooperation that advances the Division in its investigation;
5. The confession of wrongdoing is truly a corporate act, as opposed to isolated confessions of individual executives or officials;
6. Where possible, the corporation makes restitution to injured parties; and
7. The Division determines that granting leniency would not be unfair to others, considering the nature of the illegal activity, the confessing corporation's role in it, and when the corporation comes forward.

In applying condition 7, the primary considerations will be how early the corporation comes forward and whether the corporation coerced another party to participate in the illegal activity or clearly was the leader in, or originator of, the activity. The burden of satisfying condition 7 will be low if the corporation comes forward before the Division has begun an investigation into the illegal activity. That burden will increase the closer the Division comes to having evidence that is likely to result in a sustainable conviction.

C. Leniency for Corporate Directors, Officers, and Employees

If a corporation qualifies for leniency under Part A, above, all directors, officers, and employees of the corporation who admit their involvement in the illegal antitrust activity as part of the corporate confession will receive leniency, in the form of not being charged criminally for the illegal activity, if they admit their wrongdoing with candor and completeness and continue to assist the Division throughout the investigation.

If a corporation does not qualify for leniency under Part A, above, the directors, officers, and employees who come forward with the corporation will be considered for immunity from criminal prosecution on the same basis as if they had approached the Division individually.

D. Leniency Procedure

If the staff that receives the request for leniency believes the corporation qualifies for and should be accorded leniency, it should forward a favorable recommendation to the Office of Operations, setting forth the reasons why leniency should be granted. Staff should not delay making such a recommendation until a fact memo recommending prosecution of others is prepared. The Director of Operations will review the request and forward it to the Assistant Attorney General for final decision. If the staff recommends against leniency, corporate counsel may wish to seek an appointment with the Director of Operations to make their

views known. Counsel are not entitled to such a meeting as a matter of right, but the opportunity will generally be afforded.

Issued August 10, 1993



# Department of Justice

---

## LENIENCY POLICY FOR INDIVIDUALS

On August 10, 1993, the Division announced a new Corporate Leniency Policy under which a corporation can avoid criminal prosecution for antitrust violations by confessing its role in the illegal activities, fully cooperating with the Division, and meeting the other specified conditions. The Corporate Leniency Policy also sets out the conditions under which the directors, officers and employees who come forward with the company, confess, and cooperate will be considered for individual leniency. The Division today announces a new Leniency Policy for Individuals that is effective immediately and applies to all individuals who approach the Division on their own behalf, not as part of a corporate proffer or confession, to seek leniency for reporting illegal antitrust activity of which the Division has not previously been made aware. Under this Policy, "leniency" means not charging such an individual criminally for the activity being reported.

### **A. Requirements for Leniency for Individuals**

Leniency will be granted to an individual reporting illegal antitrust activity before an investigation has begun, if the following three conditions are met:

1. At the time the individual comes forward to report the illegal activity, the Division has not received information about the illegal activity being reported from any other source;
2. The individual reports the wrongdoing with candor and completeness and provides full, continuing and complete cooperation to the Division throughout the investigation; and

3. The individual did not coerce another party to participate in the illegal activity and clearly was not the leader in, or originator of, the activity.

**B. Applicability of the Policy**

Any individual who does not qualify for leniency under Part A of this Policy will be considered for statutory or informal immunity from criminal prosecution. Such immunity decisions will be made by the Division on a case-by-case basis in the exercise of its prosecutorial discretion.

If a corporation attempts to qualify for leniency under the Corporate Leniency Policy, any directors, officers or employees who come forward and confess with the corporation will be considered for leniency solely under the provisions of the Corporate Leniency Policy.

**C. Leniency Procedure**

If the staff that receives the request for leniency believes the individual qualifies for and should be accorded leniency, it should forward a favorable recommendation to the Deputy Assistant Attorney General for Litigation, setting forth the reasons why leniency should be granted. The staff should not delay making such a recommendation until a fact memo recommending prosecution of others is prepared. The Deputy Assistant Attorney General for Litigation will review the request and forward it to the Assistant Attorney General for final decision. If the staff recommends against leniency, the individual and his or her counsel may wish to seek an appointment with the Deputy Assistant Attorney General for Litigation to make their views known. Individuals and their counsel are not entitled to such a meeting as a matter of right, but the opportunity will generally be afforded.

Issued August 10, 1994

## Commission notice on immunity from fines and reduction of fines in cartel cases

(2002/C 45/03)

(Text with EEA relevance)

### INTRODUCTION

1. This notice concerns secret cartels between two or more competitors aimed at fixing prices, production or sales quotas, sharing markets including bid-rigging or restricting imports or exports. Such practices are among the most serious restrictions of competition encountered by the Commission and ultimately result in increased prices and reduced choice for the consumer. They also harm European industry.
2. By artificially limiting the competition that would normally prevail between them, undertakings avoid exactly those pressures that lead them to innovate, both in terms of product development and the introduction of more efficient production methods. Such practices also lead to more expensive raw materials and components for the Community companies that purchase from such producers. In the long term, they lead to a loss of competitiveness and reduced employment opportunities.
3. The Commission is aware that certain undertakings involved in this type of illegal agreements are willing to put an end to their participation and inform it of the existence of such agreements, but are dissuaded from doing so by the high fines to which they are potentially exposed. In order to clarify its position in this type of situation, the Commission adopted a notice on the non-imposition or reduction of fines in cartel cases<sup>(1)</sup>, hereafter 'the 1996 notice'.
4. The Commission considered that it is in the Community interest to grant favourable treatment to undertakings which cooperate with it. The interests of consumers and citizens in ensuring that secret cartels are detected and punished outweigh the interest in fining those undertakings that enable the Commission to detect and prohibit such practices.
5. In the 1996 notice, the Commission announced that it would examine whether it was necessary to modify the notice once it had acquired sufficient experience in applying it. After five years of implementation, the Commission has the experience necessary to modify its policy in this matter. Whilst the validity of the principles governing the notice has been confirmed, experience has shown that its effectiveness would be improved by an increase in the transparency and certainty of the conditions on which any reduction of fines will be granted. A closer alignment between the level of reduction of fines and the value of a company's contribution to establishing the infringement could also increase this effectiveness. This notice addresses these issues.
6. The Commission considers that the collaboration of an undertaking in the detection of the existence of a cartel has an intrinsic value. A decisive contribution to the opening of an investigation or to the finding of an infringement may justify the granting of immunity from any fine to the undertaking in question, on condition that certain additional requirements are fulfilled.
7. Moreover, cooperation by one or more undertakings may justify a reduction of a fine by the Commission. Any reduction of a fine must reflect an undertaking's actual contribution, in terms of quality and timing, to the Commission's establishment of the infringement. Reductions are to be limited to those undertakings that provide the Commission with evidence that adds significant value to that already in the Commission's possession.

### A. IMMUNITY FROM FINES

8. The Commission will grant an undertaking immunity from any fine which would otherwise have been imposed if:
  - (a) the undertaking is the first to submit evidence which in the Commission's view may enable it to adopt a decision to carry out an investigation in the sense of Article 14(3) of Regulation No 17<sup>(2)</sup> in connection with an alleged cartel affecting the Community; or
  - (b) the undertaking is the first to submit evidence which in the Commission's view may enable it to find an infringement of Article 81 EC<sup>(3)</sup> in connection with an alleged cartel affecting the Community.
9. Immunity pursuant to point 8(a) will only be granted on the condition that the Commission did not have, at the time of the submission, sufficient evidence to adopt a decision to carry out an investigation in the sense of Article 14(3) of Regulation No 17 in connection with the alleged cartel.
10. Immunity pursuant to point 8(b) will only be granted on the cumulative conditions that the Commission did not have, at the time of the submission, sufficient evidence to find an infringement of Article 81 EC in connection with the alleged cartel and that no undertaking had been granted conditional immunity from fines under point 8(a) in connection with the alleged cartel.

<sup>(2)</sup> OJ 13, 21.2.1962, p. 204/62. (Or the equivalent procedural regulations: Article 21(3) of Regulation (EEC) No 1017/68 of the Council; Article 18(3) of Council Regulation (EEC) No 4056/86 and Article 11(3) of Council Regulation (EEC) No 3975/87).

<sup>(3)</sup> Reference in this text to Article 81 EC also covers Article 53 EEA when applied by the Commission according to the rules laid down in Article 56 of the EEA Agreement.

<sup>(1)</sup> OJ C 207, 18.7.1996, p. 4.

11. In addition to the conditions set out in points 8(a) and 9 or in points 8(b) and 10, as appropriate, the following cumulative conditions must be met in any case to qualify for any immunity from a fine:
- (a) the undertaking cooperates fully, on a continuous basis and expeditiously throughout the Commission's administrative procedure and provides the Commission with all evidence that comes into its possession or is available to it relating to the suspected infringement. In particular, it remains at the Commission's disposal to answer swiftly any request that may contribute to the establishment of the facts concerned;
  - (b) the undertaking ends its involvement in the suspected infringement no later than the time at which it submits evidence under points 8(a) or 8(b), as appropriate;
  - (c) the undertaking did not take steps to coerce other undertakings to participate in the infringement.
16. Alternatively, the Commission will verify that the nature and content of the evidence described in the list referred to in point 13(b) will meet the conditions set out in points 8(a) or 8(b), as appropriate, and inform the undertaking accordingly. Following the disclosure of the evidence no later than on the date agreed and having verified that it corresponds to the description made in the list, the Commission will grant the undertaking conditional immunity from fines in writing.
17. An undertaking which fails to meet the conditions set out in points 8(a) or 8(b), as appropriate, may withdraw the evidence disclosed for the purposes of its immunity application or request the Commission to consider it under section B of this notice. This does not prevent the Commission from using its normal powers of investigation in order to obtain the information.

#### PROCEDURE

12. An undertaking wishing to apply for immunity from fines should contact the Commission's Directorate-General for Competition. Should it become apparent that the requirements set out in points 8 to 10, as appropriate, are not met, the undertaking will immediately be informed that immunity from fines is not available for the suspected infringement.
13. If immunity from fines is available for a suspected infringement, the undertaking may, in order to meet conditions 8(a) or 8(b), as appropriate:
- (a) immediately provide the Commission with all the evidence relating to the suspected infringement available to it at the time of the submission; or
  - (b) initially present this evidence in hypothetical terms, in which case the undertaking must present a descriptive list of the evidence it proposes to disclose at a later agreed date. This list should accurately reflect the nature and content of the evidence, whilst safeguarding the hypothetical nature of its disclosure. Expurgated copies of documents, from which sensitive parts have been removed, may be used to illustrate the nature and content of the evidence.
14. The Directorate-General for Competition will provide a written acknowledgement of the undertaking's application for immunity from fines, confirming the date on which the undertaking either submitted evidence under 13(a) or presented to the Commission the descriptive list referred to in 13(b).
15. Once the Commission has received the evidence submitted by the undertaking under point 13(a) and has verified that it meets the conditions set out in points 8(a) or 8(b), as appropriate, it will grant the undertaking conditional immunity from fines in writing.
18. The Commission will not consider other applications for immunity from fines before it has taken a position on an existing application in relation to the same suspected infringement.
19. If at the end of the administrative procedure, the undertaking has met the conditions set out in point 11, the Commission will grant it immunity from fines in the relevant decision.

#### B. REDUCTION OF A FINE

20. Undertakings that do not meet the conditions under section A above may be eligible to benefit from a reduction of any fine that would otherwise have been imposed.
21. In order to qualify, an undertaking must provide the Commission with evidence of the suspected infringement which represents significant added value with respect to the evidence already in the Commission's possession and must terminate its involvement in the suspected infringement no later than the time at which it submits the evidence.
22. The concept of 'added value' refers to the extent to which the evidence provided strengthens, by its very nature and/or its level of detail, the Commission's ability to prove the facts in question. In this assessment, the Commission will generally consider written evidence originating from the period of time to which the facts pertain to have a greater value than evidence subsequently established. Similarly, evidence directly relevant to the facts in question will generally be considered to have a greater value than that with only indirect relevance.

23. The Commission will determine in any final decision adopted at the end of the administrative procedure:

(a) whether the evidence provided by an undertaking represented significant added value with respect to the evidence in the Commission's possession at that same time;

(b) the level of reduction an undertaking will benefit from, relative to the fine which would otherwise have been imposed, as follows. For the:

— first undertaking to meet point 21: a reduction of 30-50 %,

— second undertaking to meet point 21: a reduction of 20-30 %,

— subsequent undertakings that meet point 21: a reduction of up to 20 %.

In order to determine the level of reduction within each of these bands, the Commission will take into account the time at which the evidence fulfilling the condition in point 21 was submitted and the extent to which it represents added value. It may also take into account the extent and continuity of any cooperation provided by the undertaking following the date of its submission.

In addition, if an undertaking provides evidence relating to facts previously unknown to the Commission which have a direct bearing on the gravity or duration of the suspected cartel, the Commission will not take these elements into account when setting any fine to be imposed on the undertaking which provided this evidence.

#### PROCEDURE

24. An undertaking wishing to benefit from a reduction of a fine should provide the Commission with evidence of the cartel in question.

25. The undertaking will receive an acknowledgement of receipt from the Directorate-General for Competition recording the date on which the relevant evidence was submitted. The Commission will not consider any submissions of evidence by an applicant for a reduction of a fine before it has taken a position on any existing application for a conditional immunity from fines in relation to the same suspected infringement.

26. If the Commission comes to the preliminary conclusion that the evidence submitted by the undertaking constitutes added value within the meaning of point 22, it will inform the undertaking in writing, no later than the date on which a statement of objections is notified, of its intention to apply a reduction of a fine within a specified band as provided in point 23(b).

27. The Commission will evaluate the final position of each undertaking which filed an application for a reduction of a fine at the end of the administrative procedure in any decision adopted.

#### GENERAL CONSIDERATIONS

28. From 14 February 2002, this notice replaces the 1996 notice for all cases in which no undertaking has contacted the Commission in order to take advantage of the favourable treatment set out in that notice. The Commission will examine whether it is necessary to modify this notice once it has acquired sufficient experience in applying it.

29. The Commission is aware that this notice will create legitimate expectations on which undertakings may rely when disclosing the existence of a cartel to the Commission.

30. Failure to meet any of the requirements set out in sections A or B, as the case may be, at any stage of the administrative procedure may result in the loss of any favourable treatment set out therein.

31. In line with the Commission's practice, the fact that an undertaking cooperated with the Commission during its administrative procedure will be indicated in any decision, so as to explain the reason for the immunity or reduction of the fine. The fact that immunity or reduction in respect of fines is granted cannot protect an undertaking from the civil law consequences of its participation in an infringement of Article 81 EC.

32. The Commission considers that normally disclosure, at any time, of documents received in the context of this notice would undermine the protection of the purpose of inspections and investigations within the meaning of Article 4(2) of Regulation (EC) No 1049/2001 of the European Parliament and of the Council.

33. Any written statement made vis-à-vis the Commission in relation to this notice, forms part of the Commission's file. It may not be disclosed or used for any other purpose than the enforcement of Article 81 EC.