

THE LENIENCY PROGRAM: OBSTACLES ON THE WAY TO COLLUDE*

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Abstract

There is no honour among thieves. This aphorism concisely expresses why the leniency programmes in competition policy have become one of the most effective instruments in the fight against the cartels. In this work we describe the dissemination, evolution and effects of the aforementioned programmes in the two decades since its implementation around the world, paying special attention to what is being done at the European Union (EU) level and in Spain. The empirical regularities obtained from the descriptive analysis of leniency decisions adopted by the European Commission and by the Spanish Competition Authority provide relevant information about the effectiveness of their corresponding programmes, as well as information about the underlying reasons why companies, in this context, submit applications for sanction exemption or reductions in the penalty amount. We conclude that still there is scope to increase substantially the dissemination and implementation of the leniency programme in Spain, and if the reforms are handled correctly, the program is set to catch up and to be the main source of detecting and sanctioning of Spanish cartels in the next decade.

Keywords: Cartels, competition policy, leniency programme

Códigos J.E.L.: K21, K42, L41, L51

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I. Introduction

There is no honour among thieves.¹ This aphorism summarizes the essence of the leniency programmes. This type of regulation generically allows members of a cartel to benefit from favourable treatment if they submit information and help the Authorities to dismantle it.

The origin of these programmes is found in works like that of Maskin² and in literature about game theory, although we can find many similarities with the leniency programmes applied to the Italian mafia (called *leggi sui pentiti*).³ The first steps in the field of payment exemptions were located in the United States around 1973, although it was not until 1993 when the Justice Department adopted the *US Corporate Leniency Program*, whereby any company could receive the leniency benefits, even if the investigation had already begun provided that the Antitrust Division did not have sufficient evidence against that company. In Europe, the Commission adopted it in 1996, with modifications in 2002 and especially in 2006, to give a better harmonization to the EU regulations. Since then, the dissemination of this policy has been remarkable.

In spite of differences in the way of applying this mechanism in different jurisdictions, it has become a destabilizing instrument for the cartels. The number of cases examined by the competition authorities has increased considerably, as a result of better cooperation between those authorities and whistle blowing companies. It is worth noticing that competition authorities around the world benefit from information and experience gained by other competition authorities. Close and effective cooperation and coordination between different competition authorities enhance the viability and effectiveness of their respective leniency programs. Therefore, it is very difficult at times to clearly distinguish which part of a particular leniency program's success stems from its own merits or from the success of other programs.

Accordingly in the last decades the progressive evolution and rapid dissemination of leniency programs all over the world can be explained by the fact that countries learn not only from their own experience but also from others. Currently, all the countries, which form the European Union, except for Malta, make use of this regulatory instrument; but the introduction of the national regulatory frameworks did not happen simultaneously. The pioneers in this field were Belgium in 1999, France, the Czech Republic, Slovakia and Ireland in 2001 and in 2002 Holland, the United Kingdom and Sweden; not only within the EU but also other countries around the world. Hence, we can find these types of programmes on all continents; Brazil, Canada and New Zealand being other countries which were first to introduce it in their *antitrust* policies⁴.

Our paper describes the dissemination, evolution and effects of leniency programmes in the last two decades around the world, with special attention to the EU and Spain. Regarding the latter, we explain the temporal evolution of those programs and its main

¹ Porter, R. 2005. Detecting collusion. *Review of Industrial Organization*, 26, 147-167, 150. This author did not refer to the leniency of a cartel by one of its components, but unilateral deviation by a firm towards prices somewhat lower than cartelised, thus seeking a higher profit through the increase in its residual demand.

² Maskin, E. 1977. Nash implementation and welfare optimality. Mimeo. MIT.

³ Jiménez, J.L. 2005. Un análisis económico sobre la política de defensa de la competencia: aspectos microeconómicos, macroeconómicos e institucionales. Ph D. Thesis. Universidad de Las Palmas de Gran Canaria. Available at: <http://hdl.handle.net/10553/2174>; Section 625 of the Cossiga Act (1979), and section 304 of that cited *Leggi sui pentiti* (1982), included the possibility of a substantial reduction of the penalty in the event that terrorists cooperated with the police and judicial authorities.

⁴ In all these countries, the leniency programme was introduced in 2000.

characteristics, not only by cases but also by leniency applicant's behaviours. The data highlights what are the factors that drive the success of this program and the main challenges that face in the future.

In order to do that, we analyse the decisions adopted within its respective leniency programmes by the European Commission and the Spanish Competition Authority, named between 2007 and 2013 as *Comisión Nacional de la Competencia* (CNC). It is important to note that, since 7 October 2013, the functions of the CNC were taken over by the new Spanish competition authority and regulatory body called the *Comisión Nacional de los Mercados y la Competencia* (CNMC). Therefore, any reference to the defunct CNC shall refer since 2013 to the new CNMC.

The content is divided into five sections. Following this introduction, the second section contains a brief literature review. The third one shows a review of the historical spread of leniency programmes in the different countries where they are currently in force. It also discusses in detail the stages through which the introduction of the leniency programme in the European Union has passed, as well as the peculiarities of the relatively more recent Spanish leniency programme. The fourth section describes some of the features that distinguish the decisions taken by the European Commission and the Spanish Competition Authority in which the leniency programmes were applied. And then, discusses the impact of the introduction of leniency programmes on the perceived effectiveness of competition policy. The paper closes with a final concluding section.

II. A brief literature review.

Academic literature has examined the suitability and effectiveness of leniency programmes, both theoretically and empirically. From a theoretic perspective, the pioneering papers in this field are those by Motta and Polo⁵ and Spagnolo,⁶ as well as the advancements by Feess and Walzl,⁷ Motchenkova,⁸ Aubert and others,⁹ Chen and Harrington,¹⁰ Harrington¹¹ and Hinloopen and Soetevent.¹² They all have a common outcome: leniency programmes deter the creation and sustainability of the cartels through destabilizing them. Moreover, Aubert and others¹³ support the idea that leniency programmes would improve if they would use not only sanctions against firms but also rewards to individuals.

⁵ Motta, M. and Polo, M. 2003. Leniency programs and cartel prosecution. *International Journal of Industrial Organization*, 21, 347-379.

⁶ Spagnolo, G., 2004. Divide et impera: Optimal deterrence mechanisms against cartels (and organized crime), Mimeo.

⁷ Feess, J. and Walzl, M. 2004. Self-reporting in Optimal Law Enforcement when there are Criminal Teams. *Economica*, 71, 333-348.

⁸ Motchenkova, E., 2004. The effects of leniency programs on the behavior of firms participating in cartel agreements. Mimeo.

⁹ Aubert, C., Rey, P., Kovacic, W. 2006. The impact of leniency and whistle-blowing programs on cartels. *International Journal of Industrial Organization*, 24, 1241-1266.

¹⁰ Chen, J. and Harrington Jr, J. E. 2007. The Impact of the Corporate Leniency Program on Cartel Formation and the Cartel Price Path, en *The Political Economy of Antitrust*, V. Ghosal and J. Stennek, eds., Elsevier.

¹¹ Harrington Jr, J.E. 2008. Optimal corporate leniency programs. *The Journal of Industrial Economics*, 56 (2), 215-246.

¹² Hinloopen, J. and Soetevent, A. R. 2008. Laboratory evidence on the effectiveness of corporate leniency programs. *RAND Journal of Economics*, 39(2), 607-616.

¹³ Aubert and others (fn 9).

Nevertheless, Chen and Harrington¹⁴ and Harrington¹⁵ offer a somewhat more nuanced (or less enthusiastic) view of these programmes. They highlight that when leniency programmes are very generous, they can have perverse effects in the *enforcement* of competition policy, either by increasing the stability of the cartels, or by generating a sense of security in those cartel operated sectors if the authorities focused only on *leniency* investigations, and conversely reducing the ex officio proceedings.

However, it is not clear whether the leniency programmes have effectively improved the detection and deterrence effects of cartel policy.¹⁶ The most important obstacle to evaluate the deterrence effect is obvious: what is the underlying number of non-discovered cartels in each economy?¹⁷ Despite the difficulties, Miller¹⁸ evaluates the US leniency experience and suggests a deterrence effect. Klein¹⁹ also points out a positive effect on deterrence. Borrell, Jiménez and García²⁰ indirectly assessed the deterrence effect. García²¹ evaluate the EU leniency program and she concludes that the detection effects prevailed over the dissuasion effect.

Empirical literature has also provided interesting results on this instrument of cartel detection, although with certain nuances.²² So, while Miller²³ offers evidence about the effectiveness of the new definition of the U.S. leniency programme, Brenner²⁴ and De²⁵ show that the European Commission's programme is not as effective in deterring and destabilizing the cartels.

The papers by Borrell and Jiménez²⁶ and especially Borrell, Jiménez and García²⁷ have analysed the effectiveness of the design of competition policy and the effects that the introduction of leniency programmes has had on it, respectively. Both used international indicators about such effectiveness and showed that the introduction and continuous implementation of programmes considerably improve such performance indicators.

In the case of Borrell, Jiménez and García,²⁸ the authors identify and quantify the impact of *leniency programmes* on the effectiveness of competition policy perceived by entrepreneurs and business managers to be between 10 and 21 per cent. In addition, another relevant conclusion is that selection bias exists, since the adoption of such an instrument is highly dependent upon

¹⁴ Chen and Harrington (fn 10).

¹⁵ Harrington (fn 11).

¹⁶ García, C. 2014. Effect of European Leniency Program on cartel detection. Master Thesis. Universidad Carlos III de Madrid.

¹⁷ Ormosi, P. 2013. A tip of the iceberg? The probability of catching cartels. *Journal of Applied Econometrics*, 29(4), 549-566.

¹⁸ Miller, N. H. 2009. Strategic Leniency and Cartel Enforcement. *American Economic Review*, 99, 750-768.

¹⁹ Klein, G. 2010. Cartel destabilization and leniency programs – empirical evidence. ZEW discussion paper n° 10, 107.

²⁰ Borrell, J.R., Jiménez, J.L. and García, C. 2014. Evaluating antitrust leniency programs, *Journal of Competition Law & Economics*, 10(1), 107-136.

²¹ García (fn 16).

²² Zhou, J. 2011. New Evidence on the Efficacy of Leniency. Available at SSRN: <http://ssrn.com/abstract=1932473>.

²³ Miller (fn 18).

²⁴ Brenner, S. 2009. An Empirical Study of The European Corporate Leniency Program. *International Journal of Industrial Organization*, 27(6), 639-45.

²⁵ De, O. 2010. Analysis of Cartel Duration: Evidence from EC Prosecuted Cartels. *International Journal of the Economics of Business*, 17, 33-65.

²⁶ Borrell, J.R. and Jiménez J.L. 2008. The drivers of antitrust effectiveness. *Hacienda Pública Española – Revista de Economía Pública*, 185(2), 69-88.

²⁷ Borrell, Jiménez and García (fn 20).

²⁸ Id.

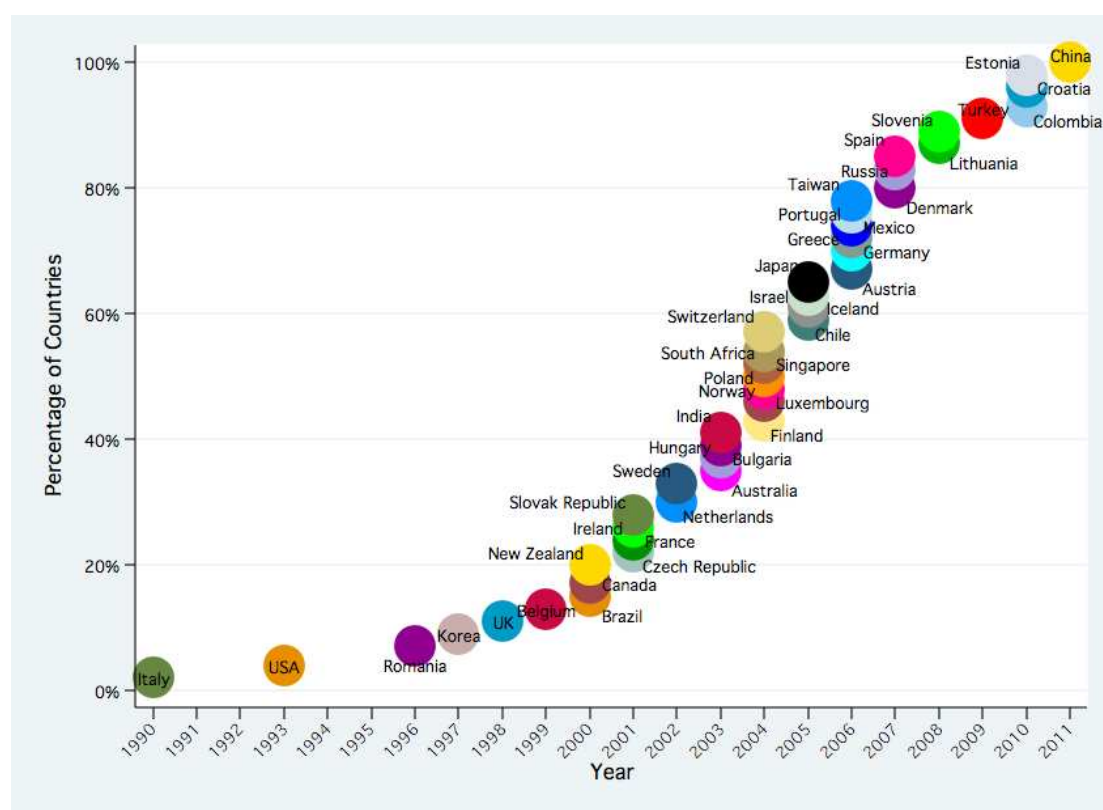
the availability or presence of certain objective variables such as the existence of high levels of income per capita or regional policy agreements. Finally, an interesting conclusion is that the introduction of the leniency programme further improves the effectiveness of the policy in countries with lower levels of effectiveness, so that the overall gain is even greater.

III. Dissemination of leniency programmes

As we discussed above, the introduction of the leniency programmes had their beginnings in the United States, effectively in 1993. Their apparent success to destabilize cartels and get evidence from them were the two fundamental premises why they were gradually incorporated into the competition rules in a large number of countries.

If the entry of these programmes around the world is ordered chronologically we can see how the diffusion curve of the policy is S-shaped (see Figure 1). The European Commission established its own programme three years after the United States and was subsequently revised in 2002 and 2006. From there, it seems that the entry in force has not produced a remarkable chronological pattern by country, with Spain being among one of the latest to adopt it.

Figure 1. Temporal evolution of countries that have adopted leniency programmes



Source: Borrell, Jiménez and García (2014).

In less than two decades, most countries have introduced a leniency programme. Borrell, Jiménez and García²⁹ use certain factors that explain the introduction of these programmes, such as the age of the competition policy, the income level of the country, the holding of elections in the country (which give reasons for following this policy change) and membership in regional agreements or the European Union, among others. These latter variables are perhaps the most important conditions for the introduction of the leniency programmes. Member states of economic integration agreements are often forced into reforms of antitrust enforcement.

III.I. The EU leniency programme

One of the most important initiatives taken by the European Commission for the detection and dismantling of cartels has been the introduction and continuous implementation of the leniency programme. The details and description of the leniency programme that has been followed over the years at an EU level have been collected in a series of notices made by the Commission at three different moments of time.

The first leniency programme was developed in the *Commission notice on immunity from fines and reduction of fines in cartel cases* of July 18, 1996.³⁰ This *Leniency Notice* established the conditions under which companies cooperating within the framework of an investigation could be exempt or granted a reduction of the fine that would otherwise have been imposed.

²⁹ Id.

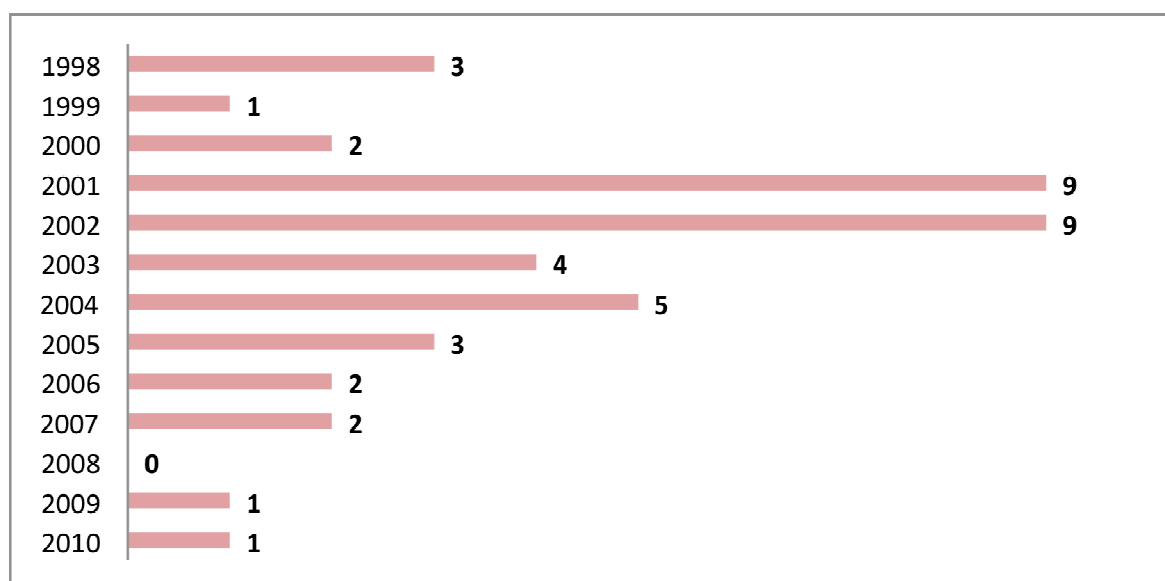
³⁰ OJ C 207, 18.7.1996.

This first leniency system was the object of numerous criticisms that highlighted possible problems that affected its effectiveness. However, it introduced some of the basic guidelines that would guide subsequent versions of the programme, such as the requirement for the cooperating company to cease its participation in the cartel, to maintain permanent and complete cooperation with the Commission or not have played a key role as instigator or exerting coercion on other companies for the development of the unlawful activity.

It also establishes a scale in the potential benefit that a cooperating company would gain based on, primarily, the time when it furnishes the crucial information. In particular, the first company to provide relevant evidence was guaranteed at least a 75% reduction in the penalty if it did it before the Commission had initiated an investigation and between 50 and 75% if their contribution was after the start of the process. Finally, companies were assured a reduction of between 10 and 50% in the penalty by the fact of cooperating with the Commission.

The first time this *Notice* was considered in a decision of the Commission and, therefore, the first time the leniency programme was applied in the European Union (hereafter, EU), was not until January 26, 1998, in case IV/35.814 – *Alloy Surcharge*,³¹ where reductions of 40% and 10% were applied to the involved companies. Thereafter, this system was applied in a total of 42 decisions of the European Commission, of which four are cases in which subsequent sentences of the European courts have required the Commission to conduct what is known as a re-adoption, a new resolution of the case with respect to the resolution initially stated.

Figure 2. Number of decisions in which the 1996 leniency programme was applied



Source: European Commission and authors' calculations

The 1996 notice lacked many enforcement details. It was not clear enough what type of information was necessary to provide and, consequently, the amount of the reduction that a cooperating company was entitled to. This lack of detail granted discretionary powers to the Commission at the time to adopt a decision. This could create legal uncertainty for those

³¹ This decision was the subject of a new adoption on December 20, 2006 in the case COMP/F/39234.

companies that decided to cooperate and it was a clear obstacle for the success of the programme.³² A review of the conditions applicable in the EU leniency programme was therefore necessary.

On February 19, 2002 the Commission published a second *Notice* that incorporated significant changes to the procedure and specified requirements in the programme.³³ In particular, the Commission clarified the conditions under which immunity from fines would be granted to the first company to provide evidence, accepting that this evidence could be presented in a hypothetical manner, and even opening the possibility that the ringleaders of the illegal activity benefit from the programme, provided that they had not coerced other companies to participate in the infringement.

In the proceedings the first cooperator was called upon to immediately provide the evidence, and the Directorate-General for Competition had to send the company a written acknowledgement of its application, stating the date on which the company had provided evidence. Once the company had disclosed all evidence in their possession, the Commission could grant conditional immunity from paying fines, keeping the possibility of revoking the said immunity if the applicant did not comply with the requirements of the Commission in this *Notice*.

Also, for those companies that did not meet the requirements to access full immunity and, therefore, opt to seek a reduction in the amount of the penalty, the *Notice* detailed what was understood to be the added value of the evidence provided by the companies, for their application to be admitted.

The company applying for a reduction in the fine, as happened after the complete immunity request, would receive a written receipt of delivery and would establish a progressive decrease in the range of the reduction to which the company would be entitled according to whether it was the first (30% -50%), second (20% -30%) or thereafter (0-20%), to meet the requirements. However, despite a guaranteed reduction, the applicant did not know the exact amount of the reduction that would be applied until the Commission took its final decision in the proceedings.

This second leniency programme was applied for the first time on October 20, 2005 in the European Commission's decision on case COMP/C.38.281/B.2 – *Raw Tobacco - Italy* where four Italian tobacco processors were sanctioned for colluding in setting the prices paid to producers and other intermediaries, as well as in setting the allocation of suppliers.³⁴ Including

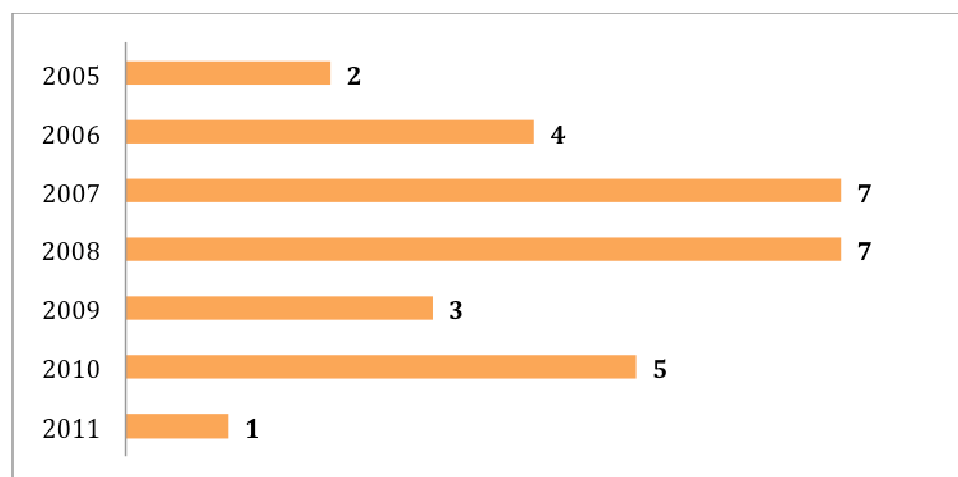
³² In this first stage, the Commission did not require the companies to have requested a reduction of the fine to apply the leniency programme, and often this decision was based on the assessment that the Commission made of the cooperation that the infringing companies would have realised.

³³ Commission notice on immunity from fines and reduction of fines in cartel cases (2002/C 45/03), OJ C 45, 19. 2. 2002.

³⁴ In this case, the market leader, Deltafina, filed an application for conditional immunity and, alternatively, a reduction in the amount of the penalty based on the evidence provided about the competition infringement. However, before the Commission carried out appropriate surprise inspections, this company informed the other participants that it had completed the application for immunity, making them aware of the existence of the investigation. Failure of the requirements of the Notice with reference to the maintenance of a strict confidentiality process eventually caused the company to lose all of its immunity options and reduction of the fine under the leniency programme. Just one year earlier, in the decision in case COMP/C.38.238.B.2 – *Raw Tobacco - Spain*, the Commission had sanctioned five Spanish tobacco processors.

this decision, the 2002 leniency program was implemented in 29 decisions of the European Commission.³⁵

Figure 3. Number of decisions in which the 2002 leniency programme was applied



Source: European Commission and authors' calculations

The last *Commission Notice on Immunity from fines and reduction of fines in cartel cases* has been in force since December 8, 2006.³⁶ This review has sought to provide greater clarity and transparency in the requirements and procedures to follow in the leniency programme and thereby make the programme more attractive to potential cooperators.

One of the changes introduced by this new programme has been that the evidence to be submitted to apply for immunity should enable the Commission to carry out a targeted inspection in connection with the alleged cartel, or to assess the existence of an infringement of Article 81 EC (now Article 101 of the Treaty on the Functioning of the European Union, TFEU) in connection with the alleged cartel. Furthermore, it adds the possibility that the company seeking to obtain immunity choose to initially request a marker, to reserve their place in the order of presentation, or precede to formally apply for immunity.

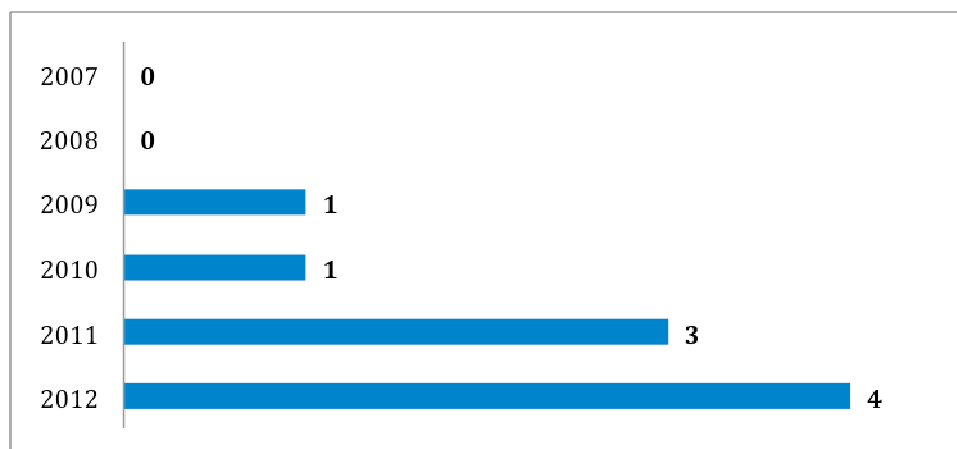
Finally, an issue that may be reducing incentives for cartel members to cooperate with the Commission, is that this *Notice* provides that, once the final decision by the Commission is adopted, statements of companies applying for leniency become public, which stands as a disadvantage to those who cooperate, versus those who do not, in case of possible private actions for damages.

The first decision in which the 2006 leniency programme was considered corresponds to case *COMP/39.406 – Marine Hoses* whose final decision was adopted on January 28, 2009. The Commission fined a number of marine hose producers for market sharing and price fixing. One company received full immunity from the sanction and another earned a 30% reduction, recognising its collaboration with the Commission for cartel detection. During the period 2006 to 2012 the European Commission has applied the 2006 Notice, including this final example, in a total of 9 decisions.

³⁵ In case COMP/39.168-PO/Hard Haberdashery: Fasteners the 1996 and 2002 Leniency Notices were applied.

³⁶ OJ C298, 8. 12. 2006

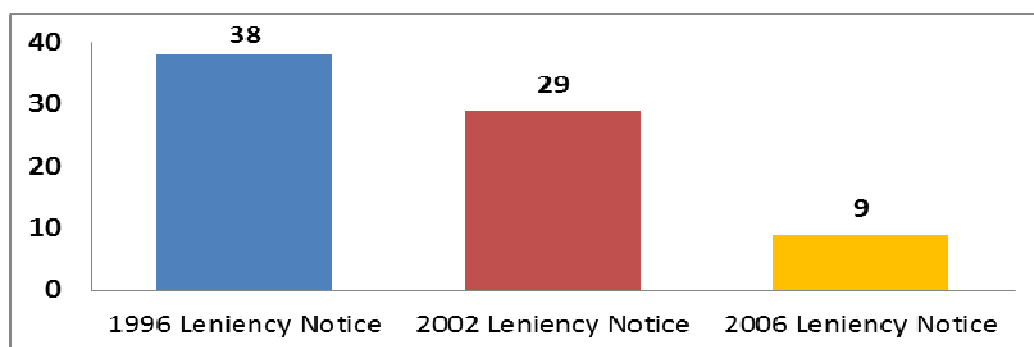
Figure 4. Number of decisions in which the 2006 leniency programme was applied (2006-2012)



Source: European Commission and authors' calculations

In short, as we can see in Figure 5, regardless of its possible defects, the first *Notice* of 1996 was a clear boost in the detection and dismantling of cartels operating in the European Economic Area.³⁷

Figure 5. Number of sanction decisions in each EU leniency programme



Source: European Commission and authors' calculations

In fact, if we interpret the number of decisions as a *proxy* for the number of leniency applications that led to the detection and punishment of cartels in each of the programmes, and evaluate them in relative terms using comparable time periods when the programmes were valid,³⁸ the data seems to suggest that the first two stages of the

³⁷ In Figure 5 the four decisions that were subject to re-adoption by the European Commission are accounted for only once and take into account that two different Notices, 1996 and 2002, were considered in case *COMP/39.168-PO/ Hard Haberdashery: Fasteners*.

³⁸ The 1996 Leniency Notice was valid from July 1996 until February 2002. The 2002 Leniency Notice was valid from February 2002 until December 2006. The 2006 Leniency Notice has been valid since

EU leniency programme generated higher incentives for cooperation with the Commission, as if it were operating a kind of law of diminishing returns in the application of the leniency policy.

However, Stephan³⁹ notes that most cases that were decided using the first *Leniency Notice* were no longer active at the time and had been the subject of similar investigations by the United States Department of Justice. Therefore, according to this author, too much credit should not be given to the EU programme. In any case, in our opinion, it cannot be excluded that the lower number of decisions in the latter stage is precisely the deterrent effect desired by the EU competition policy. The progressive European Commission activity, by prosecuting and sanctioning more and more cartellists, would have most likely deterred the same and other undertakings from infringing the competition law thereafter.

III.II. The Spanish leniency programme

The introduction of the leniency programme in Spain is referred to in Articles 65 and 66 of the Competition Act 15/2007 of July 3 (hereinafter, LDC). However, its effective implementation was not possible until February 28, 2008, the date on which Royal Decree 261/2008 came into force, and developed the provisions of LDC related to the leniency programme as set up in Articles 46 to 53 of the Act.

Consequently, the adoption of the leniency programme in Spain may be considered somewhat late compared to what happened in other countries in the European context. However, this delay allowed the Spanish leniency programme to benefit from the experience gathered by other competition authorities in developing their programmes. Despite the relatively short period of enforcement, the results obtained from the moment the Spanish leniency programme came into force until today strongly point to a positive balance of its effectiveness in the fight against previously existing cartels.

Although inspired by the EU, the Spanish leniency programme has some of its own characteristics. In some cases, these features give greater legal certainty for companies that decide to cooperate with the CNC, such as the more specific collaboration requirements demanded to the companies applying to obtain the fine exemption. However, this further clarification limits the ability of the programme to be applied to certain practices that are not defined as cartels in Spain while they surely qualify as such under EU enforcement.⁴⁰

In particular, the definition of cartel which contains the LDC, according to the very wording of this Act, appears to exclude some collusive practices.⁴¹ Specifically, the fourth

December 2006 to present day (although our analysis considers the period from December 2006 to December 2012).

³⁹ Stephan, A. 2009. An Empirical Assessment of the European Leniency Notice. *Journal of Competition Law and Economics*, 5(3), 537-561.

⁴⁰ Vidal, P. 2009. Programas español y comunitario de clemencia, en *Los acuerdos horizontales entre empresas*, S. Martínez Lage y A. Petitbó Juan (dir), Fundación Rafael del Pino, Marcial Pons; Gutiérrez, A. and Guerra, A. 2011. Primeras experiencias en la aplicación del programa de clemencia por parte de la Comisión Nacional de la Competencia, *Actualidad jurídica Uría Menéndez*, N°. Extra 1, 135-141

⁴¹ There is currently no official European definition of cartel. Indeed, the European Commission in its 2011 Communication entitled *Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements* states that the cartel concept follows from the decisional practice of the Commission and the case law of the Courts of Justice of the

additional provision of the LDC states that for the purposes of this Act, cartel is taken to be any secret agreement between two or more competitors which has as their object any prices fixing, production or sales quotas, market sharing, including bid rigging, or import or export restrictions. Thus, infringements not consisting in any such practices (for instance, exchanges of information), or not resulting from secret agreements, would not fall under the legal cartel definition.

However, in practice, the Spanish Competition Authority has not adhered to this strict definition as it is apparent from the CNC Council's resolutions.⁴² Moreover, the Spanish authority also defined cartels in a wider fashion when issuing, on 19th June 2013, the Communication on the leniency programme.⁴³ In that Communication, the Spanish Competition Authority extends the definition of cartel to cover other conducts that, although not expressly mentioned in the LDC, are drawn from the past decisional practice of its Council and the European Commission as well as from the case law of the EU and Spanish Courts of Justice.

Indeed, there are a number of rulings by the Spanish Courts of Justice which confirm the CNC's Council decisions and consequently its broader definition of cartels,⁴⁴ but there are also other rulings which place limits on such broader definition.⁴⁵ Recently, the judgements of the National High Court, of June 2014, have annulled the CNC's Council decision in case *S/0318/10, Exportación de sobres*, precisely one of the decisions in which leniency programme was applied.⁴⁶ According to these judgements, the conducts, which had been sanctioned by the Council, did not even constitute any anticompetitive practice.

All of this undermines the effectiveness of the Spanish leniency programme because the programme is only applied in cartel cases, and the authorities very often differ on what is precisely meant by cartel. The lack of legal certainty and predictability in the application and consequences of the leniency programme clearly discourages potential leniency applicants.

Turning to the specificity of the programme, another of the procedural differences of the Spanish leniency system versus that of the EU is the inability to perform the exemption request in hypothetical terms (as in the EU programme) and the absence of a general marker system to reserve the occupied position in compliance with the requirements that allow granting immunity fines.⁴⁷

European Union.

⁴² See, for instance, the resolutions in records *S/0086/08 Peluquería profesional* and *S/0185/09 Bombas de fluidos* concerning exchanges of information.

⁴³ Communication of 19 de junio de 2013, from the *Comisión Nacional de la Competencia*, regarding the Leniency Programme, BOE, num. 196, pages 60718-60734.

⁴⁴ See, for instance, Spanish National High Court's judgements of 30 and 31 May 2013, 9 July 2013, 6 November 2013, 27 December 2013 and 16 June 2014 in respect of appeals against case *S/0185/09 Bombas de fluidos*. (Roj: SAN 2325/2013, SAN 2343/2013, SAN 3029/2013, SAN 4566/2013, SAN 5775/2013, SAN 2839/2014).

⁴⁵ Several judgements of the Spanish Supreme Court have demonstrated that the characterization of a particular agreement as a cartel upheld by the CNC's Council in the case 617/06 Cajas Vascas y Navarra was wrong because, among other reasons, such an agreement was not secret (Roj: STS 1732/2013, STS 3505/2013, STS 5343/2013).

⁴⁶ See judgements of the National High Court, of 23, 25 and 27 June 2014 (Roj: SAN 2921/2014, SAN 3207/2014, 3079/2014).

⁴⁷ Martín, E. and Pelayo, E. 2009. Reflexiones tras un año de vigencia del programa español de clemencia, *Boletín Económico de ICE*, 2975, 63-72.

In the Spanish system, according to Law 1/2002, of February 21, the regional competition authorities are also competent to apply the leniency programme, although a process has been established according to which before the exemption is granted the Spanish Competition Authority must be informed about the application and be supplied with all the relevant information for the process. To date no regional competition authority has implemented the leniency programme.

We have to note that the Spanish Competition Authority maintains a constant effective collaboration and coordination not only with regional competition bodies but also with the European Commission and other national competition authorities.

If we make an initial approach to the resolutions stated by the already defunct Council of the CNC, the first one to consider the leniency programme was in case *S/0085/08 Dentríficos*⁴⁸ and was adopted on December 10, 2009. However, this proceeding did not lead to any penalty since the infringement upon which the file was based had been time-barred. Since then until present the Council has passed 17 resolutions on which the leniency programme has been applied (see Table 1).⁴⁹

Table 1. CNC decisions where the leniency programme was applied

Decision Date (Day/Month/Year)	Order
10/12/2009	S/0085/08 DENTÍFRICOS
21/01/2010	S/0084/08 FABRICANTES DE GEL
28/07/2010	S/0091/08 VINOS FINOS DE JEREZ
31/07/2010	S/0120/08 TRANSITARIOS
02/03/2011	S/0086/08 PELUQUERÍA PROFESIONAL
24/06/2011	S/0185/09 BOMBAS DE FLUIDOS
10/11/2011	S/0241/10 NAVIERAS CEUTA-2
02/12/2011	S/0251/10 ENVASES HORTOFRUTÍCOLAS
23/02/2012	S/0244/10 NAVIERAS BALEARES
02/08/2012	S/0287/10 POSTENSADO Y GEOTECNIA
15/10/2012	S/0318/10 EXPORTACIÓN DE SOBRES
07/11/2012	S/0331/11 NAVIERAS MARRUECOS
21/11/2012	S/0317/10 MATERIAL DE ARCHIVO
15/02/2013	S/0343/11 MANIPULADO DE PAPEL
28/02/2013	S/0342/11 ESPUMA DE POLIURETANO
25/03/2013	S/0316/10 SOBRES DE PAPEL
23/05/2013	S/0303/10 DISTRIBUIDORES SANEAMIENTO

Source: CNC and authors' elaboration.

⁴⁸ CNC, file *S/0085/08 Dentríficos*, resolution December 10, 2009.

⁴⁹ Act 1/2002, of February, 21, regarding Co-ordination of the State and Autonomous Communities' Competences on Competition Protection.

IV. Effects and effectiveness of the leniency programme

After describing the development in the number of cases in Europe and in Spain, this section is divided into two parts. In the first, we highlight some of the most relevant characteristics that are extracted from the study of the decisions of both the European Commission and the Spanish Competition Authority where the leniency programme was applied.

In the second section, we highlight the main results obtained in measuring the impact of introducing the leniency programmes on the effectiveness of competition policy for a large sample of countries.

IV.I. The EU and Spanish leniency programmes: some relevant features of their implementation

In this first section we describe some of the main results that we have obtained from an analysis of the decisions adopted by the European Commission and the CNC in their respective leniency programmes. This analysis is based on a database compiled by the authors from the information available on the European Commission⁵⁰ and CNC⁵¹ websites. In particular, the 79 decisions that the European Commission published have been considered, of which 4 correspond to re-adoptions of previous decisions as well as the 17 resolutions that the CNC Council has issued thus far.

a. Importance of the leniency programme in the activity of the EU and Spanish competition authorities

As can be seen for the data provided in Table 2, the EU leniency programme has been an essential tool in the fight against the cartels. On average, the leniency programme was applied in 86% of the decisions sanctioning the cartels. If we assess the number of decisions in which the European Commission granted leniency, with respect to all antitrust and cartel decisions, these have never been below 27% per year and have represented, on average 47% of all decisions for the period 2001-2012.

⁵⁰ <http://ec.europa.eu/competition/cartels/cases/cases.html>

⁵¹ <http://www.cncompetencia.es/Inicio/Expedientes/tabid/116/Default.aspx>

Table 2. Number of European Commission decisions that apply leniency programme and all cartel decisions

Year	Leniency programme decisions (a)	All cartel decisions (b)	% (a/b)	All decisions (art. 101, 102 TFUE) (c)	% (a/c)
2001	9	10	90	17	53
2002	9	10	90	12	75
2003	4	5	80	15	27
2004	5	6	83	18	28
2005	5	5	100	10	50
2006	6	7	86	13	46
2007	8	8	100	14	57
2008	7	7	100	14	50
2009	5	6	83	11	45
2010	7	7	100	14	50
2011	4	4	100	8	50
2012	4	5	80	11	36

Source: European Commission and authors' calculations

With respect to the Spanish leniency programme for the period 2010-2013, the CNC resolutions where the programme was applied represent, on average, almost 28% of the decisions on collusive behaviour and more than 24% of the total on restrictive practices (see Table 3).

This lower percentage, in comparison with that seen for the European Commission, may be due to several reasons: firstly, as previously mentioned, the stricter definition of cartel that appears in the Spanish Competition Act, which restricts the anticompetitive practices to those which the Spanish leniency programme could be applied; secondly, the late implementation of the leniency programme in Spain, and hence the limited period of time elapsed to be able to compare its effects with those achieved in the EU; and lastly, greater availability of human and material resources in the EU to implement the leniency programme.

Additionally, the entry into force, on 1 May 2004, of Council Regulation (EC) No 1/2003 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty has meant that Member States courts and competition authorities become fully competent to deal with many competition cases which previously fell within the exclusive power of the European Commission. On the one hand, this devolution of power to the Member States competition authorities has resulted in the redistribution of their already scarce resources among a larger number of potential cases, while on the other hand, the European Commission has so far concentrated its efforts on cartels and a limited number of cases of abuse of dominance.⁵²

⁵² We thank the suggestion made by one referee for this point.

Table 3. CNC sanctioning resolutions in anticompetitive practices

Year	Sanctioning resolutions with leniency programme application (a)	% (a/b)	Total collusive behaviour (b)	% (a/c)	Total restrictive practices (art. 1, 2 y 3 LDC) (c)
2008	0	-	8	-	13
2009	0 (*)	-	16	-	25
2010	3	30	10	30	10
2011	4	18	22	14	29
2012	5	23	22	17	29
2013(**)	4	40	10	36	11

Source: CNC and own calculations

(*): In 2009 the leniency programme was applied to case *S/0085/08 Dentrificos*, but eventually the Council decided that the infringement had prescribed.

(**): January 2013-June 2013.

b. The proceedings and importance of the imposed fines

The average duration of the proceedings initiated by the European Commission, namely from the start of the investigation until the adoption of the final decision, exceeds four years. By contrast, in the case of the CNC this duration was only slightly more than two years.

The percentage of investigations initiated thanks to the filing of an immunity application and that concluded with a sanctioning decision reaches very high figures, above 66 % in the EU and 70 % in Spain. This highlights the decisive role that leniency policy plays in destabilising, detecting and dismantling cartels in the EU and in Spain. It is also noted that a significant percentage of investigations were initiated on the European Commission's own initiative (24 %), compared with those initiated following a complaint (9.3 %). This difference is not so relevant when analysing the investigations conducted by the Spanish Competition Authority. As mentioned previously, this can be explained by the greater means available to the European Commission for investigating ex officio cartels in comparison with the Member States competition authorities, especially after the Council Regulation (EC) 1/2003 came into force.⁵³

This table also shows that in more than 60% of the decisions where the leniency programme was applied, immunity in the payment of the fine was granted. Consequently, both the European Commission and the CNC can be considered as decidedly lenient authorities in their decisions.

⁵³ However, all of these comparisons should be interpreted with caution given the still and recent small number of decisions in the context of Spain.

Table 4. Some characteristics of the decisions with leniency programme application

Programme	Average duration of process (months)	Investigations			Decisions in which immunity was granted (%)	Average penalty per decision (€)
		Initiated following a leniency application (%)	Initiated on Authority's own initiative (%)	Initiated following a complaint (%)		
European Community (1998-2012)	52	66.7	24.0	9,3	63.3	33,594,942.13
Spain (2008-6/2013)	28	70.6	17.6	11.8	68.8	2,685,420.16

Source: European Commission, CNC and own calculations.

In light of the data on the average penalty per decision, table 4 shows a greater severity in the average penalties imposed by the European Commission, representing more than twelve times those of the Spanish authority.

Nevertheless, these figures have to be considered taking into account the higher turnover of the companies fined by the European commission that develop their activity in a relevant market much wider than the Spanish one.

The highest fine imposed by the European Commission corresponded to the company *Le Compagny de Saint Gobain* in case *COMP/39.125 – Car glass*⁵⁴ that amounted to 896 million euros. In the Spanish programme, the highest penalty was imposed against the company *Compañía Transmediterránea S.A.* in case *S/0244/10 Navieras Baleares*⁵⁵, exceeding 36 million euros.

c. Characteristics of the sanctioned infringements

The following table (Table 5) reveals certain peculiarities about the infringements where the leniency programme was applied by the competent authority. Firstly, a greater average length of the infringements punished by the Spanish authority is shown. This data can be explained by the fact that the majority of the cartels, penalised thanks to the leniency programme in Spain, had developed their illegal activity during a long period of time. This was particularly the case in the detection and punishment of the especially harmful paper envelope cartel resolved by the CNC Council in 2013.⁵⁶ This cartel had been active for some 34 years.

The average number of companies implicated in the offending conduct subject to sanction decisions by the European Commission (9.1 companies) and the CNC (10.5

⁵⁴ European Commission Decision, COMP/39.125-Car Glass [2009] OJ C173/13.

⁵⁵ CNC, file *S/0244/10 Navieras Baleares*, resolution February 23, 2012.

⁵⁶ CNC, file *S/0316/10 Sobres de papel*, resolution March 25, 2013.

companies) is quite similar, although somewhat higher in those files resolved by the Spanish authority.

Regarding the number of different countries to which the infringing undertakings belonged to, in the decisions by the European Commission it can be seen that on average it is equal to four.

Finally, either the European Commission or the Spanish Competition Authority found that the infringements of competition laws consisted mainly of practices that included both market sharing and price fixing, representing the 37.3 % and the 41.2 %, respectively, of the total number of decisions in which the leniency programme was applied. The decisions in which the infringements were concerned only with price fixing, and did not involve any other practice, also represent a very significant percentage of the total number of decisions taken by the European Commission.

The practice consisted in price fixing were to be found in most European Commission and Spanish authority sanctioned infringements (91.9 % and 88 %, respectively), following in importance by market sharing (61.3 % in EU and 64.8 % in Spain), the exchange of confidential or sensitive information (27.9 % in EU and 23.6 % in Spain), and finally limit production (5.3 % in EU and 23.6 % in Spain).

The infringement sanctioned by the European Commission that consisted in all the mentioned anticompetitive practices corresponds to case *COMP/39.437 – TV and computer monitor tubes*⁵⁷. In the context of the Spanish Competition Council, the infringement consisting in all mentioned anticompetitive practice was the case *S/0091/08 VINOS FINOS DE JEREZ*⁵⁸.

⁵⁷ European Commission Decision, COMP/39.437 – TV and computer monitor tubes [2012] OJ C303/13.

⁵⁸ CNC, file *S/0091/08 VINOS FINOS DE JEREZ*, resolution July 28, 2010.

Table 5. Some characteristics of the sanctioned infringements

Programme	Average duration of infringement (months)	Average number of companies implicated	Average number of nationalities implicated	Nature of the infringements*								
				PF (%)	MS (%)	EI (%)	EI+PF (%)	LP+PF (%)	MS+PF (%)	EI+MS+PF (%)	LP+MS+PF (%)	EI+LP+MS+PF (%)
European Community (1998-2012)	86	9.1	4	24.0	6.7	1.3	12.0	1.3	37.3	13.3	2.7	1.3
Spain (2008-6/2013)	119	10.5	1	11.8	5.9	5.9	11.8	5.9	41.2	0	11.8	5.9

*PF: Price Fixing, MS: Market Sharing and Customer Allocation, EI: Exchange of Information, LP: Limit Production (or capacity).

Source: European Commission, CNC and authors' calculations.

d. Discovering the leniency applicant

A striking feature of the first companies to blow the whistle on the existence of a cartel in the various decisions made by the leniency authorities emerges from studying the position that these companies held in the relevant market as in the line of work by Marvao.⁵⁹

In general, it is observed that these companies held a significant position in their respective markets. Thus, of the first companies that collaborated in the framework of the EU leniency programme, 60.3% held first or second leading place in their respective market and with a somewhat lower figure of 47% in the Spanish programme.

Contrary to what might be expected from the economic models of collusion that state that companies with lower shares would have a greater propensity to break a cartel,⁶⁰ our results show that the existence of a leniency programme can change these incentives and make whistle blowing more attractive to companies with significant market share in the affected industries.

Coming from the application of the European and Spanish competition rules and their corresponding systems of penalties, these findings are perhaps not surprising. The European Commission, and also the Spanish competition authority, applies a system whereby a fine is proportionate to the turnover of the legal person. Therefore, the higher its turnover, the higher the fine that the infringing company should pay if it is sanctioned, and cannot benefit from the leniency programme. Thus, the companies which are better positioned in the relevant market will have stronger incentives to claim the benefit of the leniency program in order to avoid or reduce more severe potential sanctions. This conclusion is supported by the fact that the leniency applications from these companies holding first or second leading place in their respective markets, were the ones that caused the initiation of the corresponding infringement procedure in more than 70 % of times. In other words, they decided to apply “voluntarily” for leniency.

The fourth column of Table 6 shows the percentage of companies requesting immunity when there was still an active participation in the cartel, at least until that moment. The low rate seen for the EU programme confirms the conclusions reached by Stephan⁶¹ in his study of the decisions in which the 1996 *Notice* was applied; once a cartel is broken, the company that was an accomplice in the infringing behaviour again becomes an “enemy” in the market. Therefore, the leniency programme can also be used as a valuable tool to inflict damage to the, now, competitors to the cooperating companies.

It has to be emphasised that many companies that participated in more than one cartel at the time of submitting the application for immunity chose to betray the different partners in their illegal activity in all of them at the same time. This was the case, for example, with *Henkel Ibérica, S.A.*, subsidiary of the German group *Henkel AG Co KgaA* that, on the same day as the Spanish leniency programme came into force, submitted an application for immunity in many different cartels that were subsequently prosecuted in Spain: *S/0085/08 Dentríficos*, *S/0084/08 Fabricantes de gel* and *S/0086/08 Peluquería profesional*.⁶²

⁵⁹ Marvao, C. 2013 Heterogeneity of Penalties and Private Information, mimeo.

⁶⁰ Ivaldi, M., Jullien, B., Rey, P., Seabright, P. and Tirole, J. 2003. The Economics of Tacit Collusion, Final Report for DG Competition, European Commission, IDEI, Toulouse.

⁶¹ Stephan (fn 39)

⁶² CNC, file *S/0085/08 Dentríficos*, resolution December 10, 2009, file *S/0084/08 Fabricantes de gel*,

Additionally the Spanish group *Unipapel, S.A.* (currently *Adveo Group International, S.A.*) was the first to simultaneously blow the whistle, on September 14, 2010, regarding the existence of a number of cartels in which they were involved, as shown in the resolutions of files *S/0317/10 Material de archivo*, *S/0343/11 Manipulado de papel* and *S/0316/10 Sobres de papel*.⁶³ This same company applied again for leniency a little later, on November 30, 2010 to declare the existence of another cartel in which it was involved. This other cartel was sanctioned in the resolution of file *S/0318/10 Exportación de sobres*.⁶⁴

Table 6. Some relevant features of the first company requesting immunity or exception*

Programme	Position in relevant market				Participated in active cartel (%)
	First	Second	Third	Fourth or after	
European Union (1998-2012)	38.2	22.1	17.6	22.1	16.7
Spain (2008-6/2013)	18.8	31.2	18.8	31.2	47.1

* The figures relating the relative position in the relevant market are based on the currently available information, and in particular on 68 out of 75 European Commission decisions and on 16 out of 17 Spanish Competition Authority decisions.

Source: European Commission, CNC and authors' calculations.

The above data suggests that once a company breaks the pact of silence and let the authorities know about one of the cartels in which it is taking part, the whistle blower firm is losing all credibility to stay silent while participating in the others. Consequently, it is very likely that other firms would race to be the first in apply for leniency once the whistle blower has lost its reputation to stay silent.

Besides, the fact that these cartels operated in the same or similar sectors adds to this breakdown in the mutual trust between accomplices of a crime, hence the probability of the CNC Investigation Department finding evidence of their participation in other cartels was very high.

Finally, a number of comments can be made regarding the most common nationality for the first companies which applied for leniency and were granted immunity or reduction of the fines. Regarding the decisions adopted by the European Commission, 20.3% of the companies were German, followed by American national companies with 13.9%, and British and Japanese companies with 10.1%. If we look at the nationality of the infringing companies, or of the parent companies in the case of subsidiaries, in those

resolution January 1, 2010 and file *S/0086/08 Peluquería profesional*, resolution March 2, 2011.

⁶³ CNC, file *S/0317/10 Material de archivo*, resolution November 21, 2012, file *S/0343/11 Manipulado de papel*, resolution February 15, 2013, and file *S/0316/10 Sobres de papel*, resolution March 25, 2013.

⁶⁴ CNC, file *S/0318/10 Exportación de sobres*, resolution October 15, 2012.

resolutions laid down by the CNC Council, 53% of the first companies to reveal the existence of the cartel and cooperate with the CNC were Spanish, following them in importance were companies whose parent was German with 18%.

However, as Guzmán highlights,⁶⁵ the leniency applications presented before the CNC relate to multinational or Spanish companies that operate at international level. According to this work, a possible explanation would be that most Spanish companies, whose activity is concentrated in Spain might not know about the existence of the programme, although it is considered more likely that it is due to the fear or suspicion motivated by the higher expected damage from possible retaliation that these companies would suffer if they blow the whistle on a competition infringement, given the few or non-existent alternatives to the restricted market where they operate.

In any case, the significant presence of German companies in both analysed contexts may have different interpretations that are neither exclusive nor exhaustive: the greater weight of the German companies in the European markets, a greater strategic use of the leniency system on the part of these companies to damage competitors and partners in the same cartel, or even a greater sense of regret in the German companies linked to their religious beliefs (population predominantly, in equal measure, Catholic or Protestant). However, this latter interpretation does not seem very plausible if these companies would have taken part in the infringement for a long period of time. In fact, in the EU, more than 80% of German companies, main cooperating partners in detecting the infringement, participate for more than two years in the corresponding cartels that were fined. In Spain, a Spanish subsidiary of the group *Henkel AG Co KgaA* that blew the whistle participated in those denounced cartels for a period of not less than 27 months.⁶⁶

IV.II. Measuring the effectiveness of competition policy following the introduction of a leniency program

Measuring objectively the effectiveness of competition policy is a very difficult task. However, in recent years a number of indicators have been developed which amount to good *proxy variables* for estimating the effectiveness of competition policy. Thus three large sources of data along this line exist: the *Global Competition Review*, those provided by the *World Economic Forum* (WEF) from Davos and those from the IMD Business School in Lausanne (*International Institute for Management Development*).

In 2012, the first indicator performs an annual survey of professionals involved in competition policy and regulations in 34 countries. Both the *World Economic Forum* and the IMD Business School conduct a survey of business directors on a wide range of issues related to the competitiveness of the countries in which they operate and that are taken into account in the development of the *Global Competitiveness Report*⁶⁷ and the *World Competitiveness Yearbook*⁶⁸ rankings respectively, and published annually by each of these institutions.

More specifically, the *Executive Opinion Survey* from the IMD Business School in Lausanne includes the following statement to business directors: “competition law is effective in

⁶⁵ Guzmán, C. 2012. El “programa de clemencia” en el sistema español de defensa de la competencia: una visión práctica. Working Paper IE Law School, AJ8-188.

⁶⁶ CNC, file *S/0085/08 Dentríficos*, resolution December 10, 2009, file *S/0084/08 Fabricantes de gel*, resolution January 1, 2010 and file *S/0086/08 Peluquería profesional*, resolution March 2, 2011.

⁶⁷ World Economic Forum, *Global Competitiveness Report*.

⁶⁸ IMD, *The World Competitiveness Yearbook*.

preventing anticompetitive practices”⁶⁹, that had to be answered on a scale depending on the degree of agreement or disagreement with that statement. Although somewhat generic, Voigt⁷⁰ shows that the average response to this statement on a country and yearly basis is highly correlated with other similar indicators including that of the *World Economic Forum* (WEF), which makes it into a *proxy* for the perception of the effectiveness of the country’s competition legislation on the part of the company executives. It has also been used in many references such as Dutz and Hayri,⁷¹ Borrell and Jiménez,⁷² Voigt,⁷³ Waked⁷⁴ or Ma,⁷⁵ among others.

The descriptive analysis of the effectiveness indicator allows us to intuitively show how the effectiveness of the competition policy changes over time in the different countries studied. The situation in Spain highlights how the effectiveness indicator of competition policy rose by 30% after the new competition law came into force in 2007 and reached a peak in 2011.

The creation of the *Comisión Nacional de Competencia* in 2007, endowed with greater independence and resources to investigate and resolve cases, the improvement in the law and its application in different fields like the leniency programme, the application of more justified and severe penalties, and better coordination in the application of the law with regional competition authorities have been an excellent basis for real convergence in effectiveness of the competition policy in relation to countries that are a benchmark in this field in Europe, such as Germany, Austria, Denmark and Finland.

⁶⁹ IMD, the Executive Opinion Survey of the World Competitiveness Yearbook.

⁷⁰ Voigt S. 2009. The effect of competition policy on development: Cross-country evidence using four new indicators. *Journal of Development Studies*, 45(8), 1225-1248.

⁷¹ Dutz, M.A. and Hayri A. 2000. Does more intense competition lead to higher growth? World Bank Policy Research Working Paper, 2320 and CEPR Discussion Paper No. 2249.

⁷² Borrell and Jiménez (fn 26).

⁷³ Voigt (fn 73).

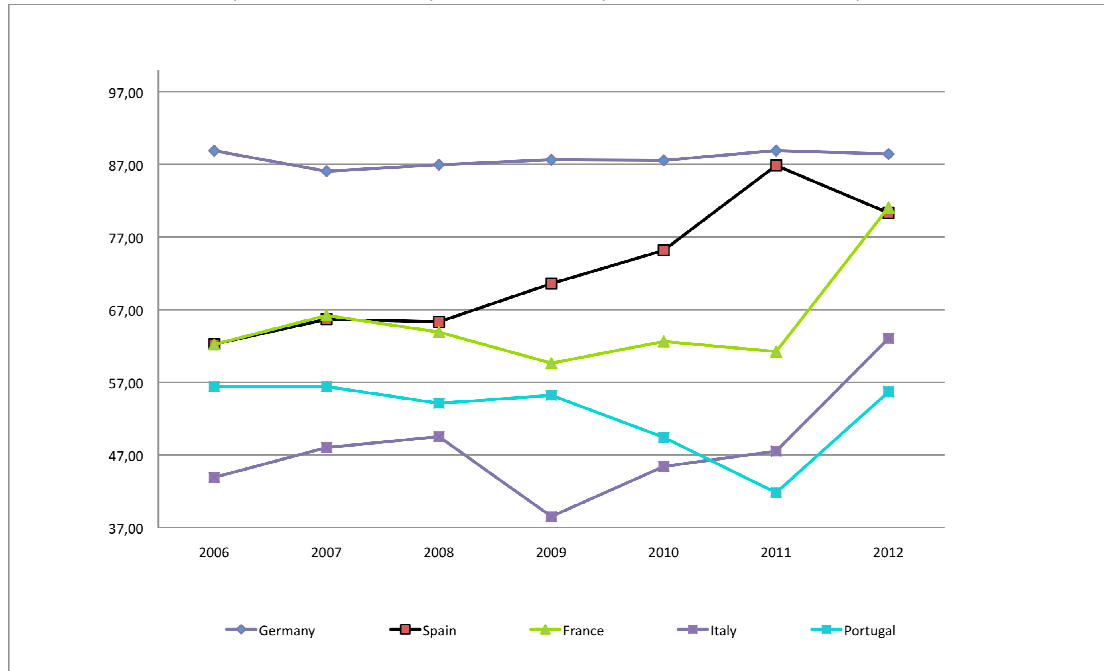
⁷⁴ Waked, D.I. 2010. Antitrust enforcement in developing countries: reasons for enforcement & non-enforcement using resource-based evidence. 5th Annual Conference on Empirical Legal Studies Paper. Available at: <http://ssrn.com/abstract=1638874>

⁷⁵ Ma, T.-C. 2011. The effect of Competition Law enforcement on economic growth. *Journal of Competition Law and Economics*, 7, 301-334; Ma, T.-C. 2012. Legal tradition and antitrust effectiveness. *Empirical Economics*, 43 (3), 1263-1297.

Figure 6. Effectiveness of competition policy in Spain and reference countries

100 = Best country each year

Finland 2006, 2010 and 2011, Austria 2007, and Denmark 2008, 2009 and 2012



Source: Authors' calculations using data from the *Executive Opinion Survey* of the IMD Business School.

The database that the IMD Business School has furnished to the authors contains information from 1998 to 2011 for a panel of countries, specifically between 46 in 1998 and 63 in 2012. Table 7 shows the mean effectiveness values of the competition policy by country, dealing separately with the values for pairs of countries and years, as well as the distinction between those in which the leniency programme is in force, and those in which it is not. The average difference is important, at around 10%.

Table 7. Analysis of the mean index values of effectiveness of competition policy

Mean value of effectiveness <u>WITHOUT</u> Leniency	Mean value of effectiveness <u>WITH</u> Leniency	T Test of means equality	Relative difference	Kolmogorov-Smirnov equality of distributions test
5,26 (1,28)	5,85 (1,15)	0,58 (0,09)***	11,22%	0,26***

Source: Borrell, Jiménez and García (2014). The entire sample between 1998 and 2011. 730 pairs of countries and years.

Note: Significance test *** 1%. Standard errors in brackets.

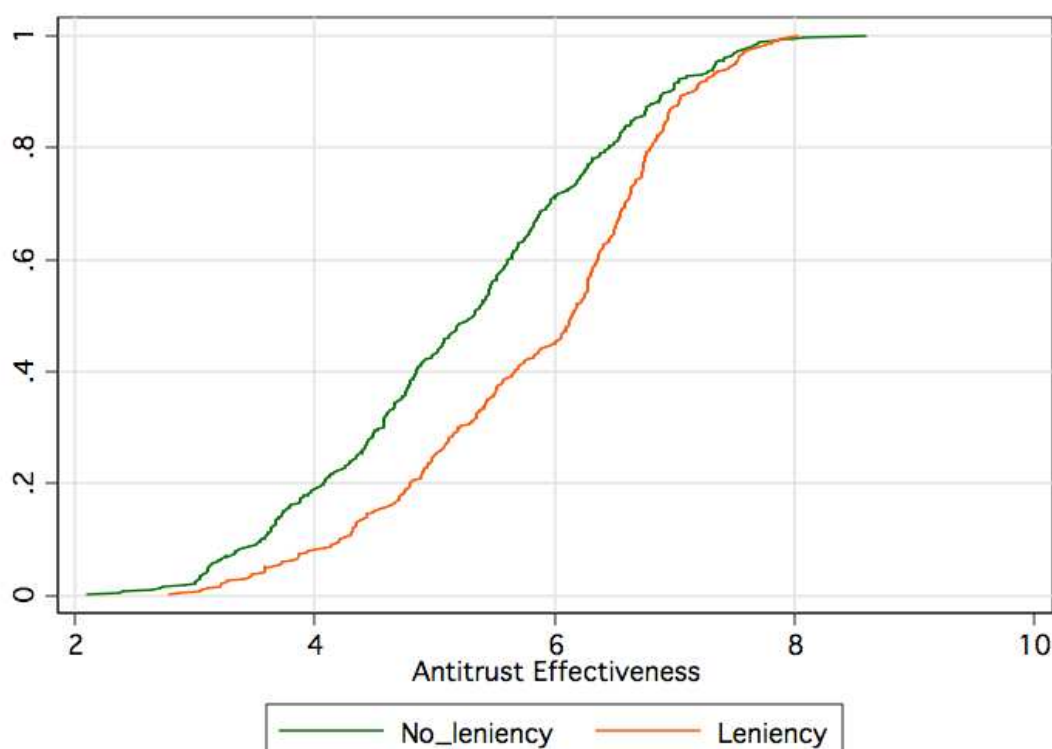
However, the results in the table above do not take into account possible selection bias: leniency policy is not adopted in a random manner as if we were in a clinical trial in which the subjects are divided into a treatment group and a control group to estimate the effectiveness of a new drug.

With this in mind, Borrell, Jiménez and García⁷⁶ carry out a causality analysis based on both the estimation in differences and *matching* methodology hence controlling the simultaneous effects of variables such as income per capita, entry to the European Union, etc., and thus minimising the bias included in the descriptive analysis. The final results of the paper point out that the effectiveness of competition varied positively for the sample analysed at between 10 and 21 per cent, underpinning the success of this measurement in the promotion of competition.

Figure 7 includes the cumulative distribution of effectiveness of competition policy, spreading between countries with and without leniency programmes. As we can see, the effectiveness of competition policy improves for the whole distribution with the introduction of the leniency programmes (see orange line). The improvement in the effectiveness is greater for countries with medium or medium high levels of effectiveness while it is lower or almost zero for countries with very low levels or where the level is already very high before the introduction of the leniency policy (ie, the graphical difference between green and orange lines is higher when antitrust effectiveness is in the range 4.5-6.5).

⁷⁶ Borrell, Jiménez and García (fn 20).

Figure 7.- Improvement in effectiveness of competition policy owing to introduction of leniency programme



Source: Authors' calculations based on Borrell, Jiménez and García (2014).

5. Conclusions

The principle that thieves have no honour is, as we have seen, the basis for the success of the leniency programmes adopted in many countries in the world. Leniency programmes precisely offer incentives for collaboration with the Competition Authorities through complete or partial exemption from sanctions for those companies that, having participated in a cartel, decide to provide supporting evidence of the administrative or criminal offences against competition in those that they have taken part.

The process of adopting the leniency programmes in competition laws in a growing number of jurisdictions follows a diffusion curve that shows how the countries are sensitive to the experience of modernisation in public policy that is observed in neighbouring countries.

The good results from these programmes point to an improvement of the perceived effectiveness of the leniency programme by business executives to between 10 and 21%. As far as the European Union is concerned, the detection and prosecution of the cartels in recent years cannot be understood without referring to the leniency programmes that have provided 47% of the European Commission's sanction decisions (art. 101 and 102 TFUE) over the last 10 years.

Although the effectiveness of competition policy has improved after the entrance of the leniency programme in Spain (and also in all countries where this mechanism has been

implemented), the Spanish Competition Authority has not reached the aforementioned figures from the European Commission, with the number of cartel cases brought about by the leniency programme at 20% of sanction decisions (art.1, 2 and 3 LDC) for the period between 2008 and 2013. Bearing in mind that the introduction of the Spanish leniency programme has been relatively recent as compared to what happened in the European Union and other countries, and the relatively more limited means available to the Spanish Competition Authority, this data may be considered a very good achievement and suggests for an encouraging future in the programme's implementation.

Nevertheless, our study has also pointed out some controversial issues in the application of the Spanish leniency programme that affect its effectiveness. In particular, we point out that the judgements of the competent Spanish Courts do not always tally with the Spanish Competition Authority's decisions in relation to what is understood by being a cartel. These differences in interpreting the Spanish Competition Law have led the Courts to amend and even repeal several Competition Authority decisions. Legal certainty, transparency and predictability in the context of a leniency programme are essential for its proper and successful functioning.

All of these reasons lead us to conclude that there is still considerable scope for improvement in the application and effectiveness of the Spanish leniency programme and, in this way, strengthen the supporting role that this programme performs in the activity of the Spanish Competition Authority. If it succeeds in confronting these appropriate changes, and the rest of the institutional reforms concerning regulation and competition that have taken place in Spain do not rupture the line of continuous improvements achieved in the past seven years, the leniency programme is destined to be the main source of detecting and sanctioning cartels in this country in the next decade.