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Challenges and co-ordination of leniency programmes – Note by Catarina Marvão

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Challenges to the EU Leniency Program: Leniency Inflation, Strategic use of leniency and Private damage claims

By Catarina Marvão*

1. Introduction

1. There is evidence to suggest that, among a range of competition policy features, effective anti-cartel enforcement is by far the most important determinant of positive productivity growth (Bucirossi et al. 2013). For competition authorities across the world, leniency policies (LPs) have become the main instrument of competition law enforcement against "hard-core" cartels. Optimising the design and administration of LPs is therefore a key objective for competition authorities and society at large.

2. Theoretical research has highlighted the strong potential for well-designed and well-managed LPs to contribute to social welfare[1]. However, it has also highlighted the serious risk that poorly implemented LPs may have the opposite effect. An overly generous LP offering fine reductions to several reporting firms may make a competition authority appear very successful in terms of the number of convicted firms, while reducing social welfare by decreasing cartel deterrence and increasing the amount of prosecution costs (because there are more prosecuted cartels).

3. An empirical evaluation of implemented LPs is crucial to understanding whether they are being administered in a way that is likely to increase social welfare — that is, by reducing cartel formation — or in a way that is likely to decrease social welfare, notwithstanding an increase in the number of cases successfully closed. Unfortunately, there are only a few studies which empirically test the effectiveness of LPs as tools to enhance the detection, prosecution and deterrence of cartel conduct. As a result, several questions remain unanswered.

4. In this note, I address some of these questions, with a particular focus on the EU Leniency Program. The first question is whether LPs, as currently implemented, can deter cartels from forming. Evaluating the deterrence effects of LPs is challenging as cartels are not readily observable in society unless they are convicted. An increase in the number of convicted cartels following the introduction of a leniency policy cannot necessarily be interpreted as an improvement in antitrust enforcement, as it may just be due to an increase in the overall number of cartels formed. Simply examining the number of discovered and convicted cartels is therefore inadequate and possibly misleading.

5. A second important question is whether cartel members can use LPs to their own advantage. If firms expect to receive a significant leniency reduction and to pay an overall low fine regardless of how many times they report and/ or are convicted, they may see

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[1] A more comprehensive review of the empirical and experimental evidence of the effectiveness of LPs can be found in Marvão and Spagnolo (2018a).

little disadvantage in repeated collusive behaviour. In addition, multi-market contact may facilitate the spreading of collusive practices across firms and markets, and it may help to sustain collusive agreements in different markets.

6. Thirdly, it is important to understand the relationship between private and public antitrust enforcement. In the legal debate, it is often incorrectly assumed that an inherent conflict exists between the correct functioning of a LP and private damage claims, so that any proper legislation necessarily implies a compromise between the interest of the public enforcement system and the interest of private cartel victims to be fully compensated.

7. Finally, if the answer to these questions, in the EU, might be: there are no clear signs of deterrence; firms (and recidivists in particular) may be able to "play the leniency game"; and the current legislation on damages makes leniency highly attractive but private damage actions very difficult; then we need to consider some alternative or complementary measures.

8. In addition to optimal LPs an in order to prevent recidivism and collusive behaviour in general, the punishment must fit the "crime", so one of the enforcement tools discussed here is the introduction of criminal penalties in the EU. The second tool I discuss is the imposition of structural remedies, to ensure that anti-cartel enforcement does not facilitate post-cartel collusion.

2. Leniency inflation

9. Several authors have tried to measure the deterrent effect of LPs. One method commonly used is surveys or interviews but these have an intrinsic problem of sample selection bias. Other authors have used comparisons across countries or over time, statistical models using information on detected cartels and merger notifications (e.g. Davies and Ormosi (2017)), or theoretical models (e.g. Harrington and Chang (2016), Miller (2009)), but all these studies have been somehow criticized and it is difficult to reach a conclusion.

10. However, what is known is that cartels remain widespread and constitute a major problem for society. In just the past 5 years (1/2013-12/2017), 113 firms have been convicted for cartel behavior in the EU, and 86 firms were convicted in the US. These cartels included those on the automotive parts' suppliers which are the largest set of bid-rigging schemes ever discovered, suggesting that antitrust enforcement still has limited deterrence effects.

11. While one cannot observe whether leniency is increasing deterrence, one can clearly see that there is an increasing trend in the share of cartel members which receive some degree of a leniency reduction and in the average leniency reduction granted. Marvão and Spagnolo (2018b) document this recent phenomenon of "leniency inflation". In the EU cartels fined between 1998 and October 2014, leniency reductions were granted to 52% of all the convicted cartel members, even in cases which were already under investigation in the US. This is a concern as leniency awarded when the competition authority is already aware of the cartel's existence has ambiguous effects (see Motta and Polo (2003)).

12. The share of cartel members receiving a leniency reduction range from averages of 14% in 1999, up to 82% in 2013. Moreover, the amount of the leniency reduction granted ranges between averages of 23% in 1998, up to 61% in 2012.

13. This "leniency inflation" phenomenon seems to be an attempt to solve a problem – low cartel deterrence and too many cartel cases to be prosecuted by competition authorities – which is worsened, rather than solved, by overusing leniency. Its cost adds to the already large distortive effect of non-deterrent fines.[2]

3. Strategic use of leniency

14. Cartel agreements are highly sophisticated and the determinants of cartel activity are varied and endogenous. Levenstein et al. (2016) examine whether recidivism should be discussed at the industry or firm level, finding that industry recidivism has less to do with industry concentration (or other predictable determinants of industry prevalence) but depend in part on how successful prior conspiracies have been, such that the focus should be on firm-level recidivism.

15. Repeat offending firms are a highly debated issue.[3] Connor (2010) suggests that there is evidence of a large amount of recidivism: he identifies 389 recidivists worldwide in the period of 1990 to 2009. This number constitutes 18.4% of the total number of firms involved in 648 international hard-core cartel investigations and/ or convictions. Werden et al. (2011) have however contested Connor's definition of recidivism and his calculation of the numbers of multiple and repeat offenders.[4]

16. Marvão (2014) uses her EU cartel dataset to illustrate the differences in several definitions of recidivism.[5] These cartel data span from 1998, when the first leniency reduction was granted, through 2014. Of the 510 cartel member firms in this EU sample of 117 cartels, Marvão identifies 89 multiple offenders (a firm fined for collusion more than once), 10 recidivists (firms which initiated a cartel agreement after being investigated for another cartel), and 5 recidivists following the Werden et al.'s definition (firms which initiated a new cartel after being fined for another cartel). Not only is the number of "true recidivists" not zero, as it should be interpreted as a lower bound estimate due to firms participating in uncovered cartels or cartels currently under investigation.

17. Marvão (2015) provides some evidence that firms can ''learn how to play the leniency game'' in the EU, either learning how to cheat or how to report, as the reductions that are given to repeat (and multiple) offenders are substantially higher.

[2] Bageri et al. (2013) have shed some light on the distortive effect of fines which fail to deter cartels.

[3] See Werden et al. (2011).

[4] As Marvão (2014) points out, "(t)he discrepancies between the two arguments are in how participation in multiple cartels is counted (simultaneous or sequential offences) and in how cartel members who merge and form a new firm are dealt with. Werden et al. (2011) follow the legal practice (DOJ and EC) and suggest that no repeat offenders have been fined in the US, since 1999." In Marvão (2014), the author finds 197 (21.07%) US repeat offenders using Connor's definition and 66 (7.06%) US repeat offenders according to Werden et al.'s definition.

[5] One additional and broader definition of "recidivism" would be interesting to examine: the Hungarian system considers recidivism even if another firm belonging to the same group commits a previous cartel infringement.

18. The issue above is further explored in Marvão (2014) where the US LP is also examined. The author provides an analysis of the interaction between all (discovered) EU multiple offenders, which often collude with some of their previous cartel partners, in different markets. This suggests that firms may be able to use leniency to sustain multi-market collusion and coordinate leniency applications. Marx et al. (2015) focus on multi-product colluders and examine their incentive to report the different cartels they are involved in, under the US Amnesty Plus program. The authors show that it is possible that connecting leniency across products increases the likelihood of conviction in the first product investigated but reduces it in subsequent products. Thus, firms may be enticed to form sacrificial cartels and apply for leniency in less valuable products to decrease the likelihood of a conviction in more valuable ones.

19. The four points above illustrate that recidivism (or multiple offences) is a serious issue. In the EU, this is the most common aggravating circumstance leading to a fine increase. The 2006 European Commission (EC) Fining Guidelines (par.28) augmented the maximum fine increase for recidivism from a 50% overall maximum to a maximum of 100% for each prior cartel conviction. However, the maximum fine increase for recidivism imposed was 100% for Akzo[6].

20. Table 1 in the *Appendix* presents new statistics on the 110 multiple offenders in the EU since the first leniency application in 1998. These firms have been (found to be) involved in up to 9 cartels and it is not uncommon to be granted some degree of LP related fine reduction in all of these cartels.

21. Two less negative notes. Firstly, repeat (or multiple) offenders are more likely to be the immunity applicant (Marvão (2014)). However, some of these cases might (hopefully) come from the firm's desire to eradicate and/ or prevent collusive behaviour, thus reporting several cartels and cooperating with the investigations. As such, a high number of recidivists (in a short time-frame) is not necessarily a bad thing.

22. Secondly, it is interesting to examine the geographical location of the multiple offending firms and how culture can determine cartel participation in some cases. In Japan, large business groups (known as *keiretsu*) would traditionally organize themselves as cartels of companies with interlocking interest, and this was supported by the Government (Martin, 1991). Although most cartels were made illegal in 1947, the Government continues to allow for some exemptions.[7] In fact, 22% of the multiple offenders in the EU, as shown in *Table 1* are Japanese firms.[8] While "culture" is not easy to change, it may shed some light on what firms are more likely to repeatedly collude.

[6] This statement is based on the dataset in Marvão (2015) and so, it refers to the period of 1998 to October 2014.

[7] One example of these exemptions is the recent consumption tax law of 2014 which allows certain types of firms to apply to the Japanese Federal Trade Commission (JFTC) to set up "pass-on cartels" and "price representation cartels" in response to the tax increase.

[8] These numbers may also be influenced by the importance of EU and Japan relations, as Japan is the 6th largest EU trading partner and an EU-Japan bilateral cooperation agreement on competition was established in 2003. EU trade statistics are available here: http://trade.ec.europa.eu/doclib/docs/2006/september/tradoc_122530.04.2018.pdf

4. Private damages claims

23. The legal debate on private vs. public antitrust enforcement has incorrectly assumed that an inherent conflict exists between the correct functioning of a LP and private damage claims, such that there needs to be a compromise between the interest of the public enforcement system and the interest of private cartel victims to be fully compensated (see eg. Komninos (2011), Cauffman (2011) and MacCulloch and Wardhaugh (2012)).

24. Bucirossi et al. (2015) show that this compromise is not actually required. In fact, the authors show that damage actions can actually improve the effectiveness of the LP. The authors propose that to enforce the legal principle that any victim has the right to be fully compensated, the optimal solution, is to grant complete access to all documents submitted by the immunity applicant and restrict (possibly eliminate) the civil liability of the immunity recipient.

25. The 2014 EU Directive on damage actions is in line with the legal debate. While it does partially limit the liability of the immunity recipient (the first leniency applicant), it also limits the information that is available to the claimants by restricting access to LP applications.

26. The two instruments (lower liability of the immunity recipient and restriction of the available information) have different effects on deterrence and on the victims' ability (and right) to be fully compensated. Indeed, given that all cartelists are jointly and severally liable towards all of the cartel's victims, reducing the level of liability of the immunity recipient does not typically affect the amount of damages they can obtain. Contrastingly, limiting the evidence that can be used in the damage actions reduces the expected value of the final compensation.

27. Restricting the access to LP statements is even more worrying given the increasing number of cases in which the EC awards some degree of leniency reductions to - and then settles with - most or all the members of a cartel. As a result, the final decision on damage claims will be informationally poor, making leniency and settlements highly attractive but private actions very difficult.

28. This is not to say that if access to leniency statements is granted to victims, there will be guaranteed success of private damage actions. When firms apply for leniency, they will naturally provide the minimum possible amount of information which ensures full immunity or a significant leniency reduction (MacCulloch and Wardhaugh, 2012). In this sense, it is important that, when competition authorities grant conditional leniency, they make it truly conditional on continued cooperation with the cartel investigation, i.e., that the threat of withholding the leniency reduction is regarded as real.

5. Other measures

5.1. Criminalization

29. There is a significant scope for disagreement regarding the necessity and adequacy of criminal sanctions (in addition to administrative and pecuniary fines) for individuals who are convicted for having participated in a cartel. This issue was actively

debated in the 80s and 90s[9]. However, the ambiguous research on the need for criminalization of cartel conduct and the unsuccessful introduction of criminal sanctions in the UK, between 2008 and 2010, decreased the enthusiasm for criminalization at the EU level.

30. However, 10 years later, the need for tougher sanctions (and to hold negligent regulators accountable) remains present (Marvão and Spagnolo (2018b)). Some of the advantages of criminalization are that they cannot be reimbursed by the cartel firm and they directly target the responsible individuals. Even with higher costs owing to the need of including higher standards of proof, the existence of higher social cost of type I error and a high direct cost of imprisonment, criminalization still appears to be a crucial anti-cartel enforcement tool.

31. It is difficult to ascertain whether the availability and implementation of criminal sanctions for cartel conduct increases either cartel detection or the quantity and/or quality of leniency applications. However, if even in the US, where criminal sentences (as well as private damage claims) are present, cartels are not deterred, then one may argue that for EC fines to have a comparable deterrent effect to that in the US, their current level is insufficient, such that pecuniary fines should be much larger or criminal penalties should be introduced.

32. One additional point is that merely introducing legislation which allows for the possibility of imprisonment, without actually imposing criminal sanctions on convicted cartel members is not enough. This is the case in several EU countries, such as the UK, Ireland, Denmark and Romania. In some cases, the legislation allows for the imposition of criminal penalties but it requires a standard of proof that is unattainable (eg. in the UK, the competition authority had, until 2010, to prove that the firms knew they were engaging in "dishonest" behaviour; in Romania, the competition authority needs to define precisely the illegality of the agreement (Lando (2013)).). In other cases, the national judges are not willing to sentence cartel members to jail time (eg. Ireland and UK as outlined by Calvani and Kaethe (2013)).

5.2. Structural remedies

33. There has been little discussion of the use of structural remedies to deter cartels. Structural remedies such as disclosure, divestiture of assets, selling minority shares in competitors, or licensure of intellectual property to competitors, when efficiently applied, may make collusion less stable. While the European Commission and EU national competition authorities often use structural remedies in cases of merger applications or abuse of dominance, these have not (to the best of my knowledge) been imposed on cartel cases.

34. Motta et al. (2007) argued that the EC has focused on ensuring viable competitors in the market, while disregarding that such market structure may lead to collusive behavior. The authors further argue that the use of structural remedies is risky as they are irreversible (at least in the short-run), whereas behavioral remedies are less effective but less risky in the sense that they require continuous monitoring by the authorities and can be modified.

[9] See Simon and Werden (1987) for some references.

35. Levenstein et al. (2016) suggest using structural remedies as these will have a longer impact than behavioral remedies and require little or no monitoring. As such, the question that should be asked is what are the structural remedies that might actually deter collusion, particularly since the current literature has been unable to identify structures systematically related to collusion. One suggestion of a structural remedy has been advanced by Harrington (2018). The author suggests that deterrence can be increased by the use of divestitures, such that cartel members would sell productive assets to other firms so as to maket the market more competitive.

36. Other proactive enforcement tools, such as screens and whistleblower rewards, may also be beneficial when moderately used and as a complement of optimal leniency programs and criminal penalties.

6. Conclusion

37. Currently, the EU scenario is one where the number of EC cartel fines has increased but there is an excessive use of leniency both in terms of the number and the magnitude of leniency reductions granted. However, cartels continue to form, repeat offenses by the same firms continue to occur (up to 9 times in the past 20 years) and these firms seem to be able to take advantage of the EU LP; and there are no clear signs of deterrence from the EU LP.

38. In addition, the recent EU Directive on damages prevents access to leniency statements for the purpose of private damage claims. This means that the final decision regarding the compensation of cartel victims will include a very limited amount of information, thus making leniency very attractive but hindering the success of private damage claims.

39. The EU LP has the potential to become a more powerful deterrence mechanism but this will require addressing the challenges discussed above (leniency inflation, strategic use of leniency and access to leniency statements for private damage claims). In addition, there is a pressing need to introduce (and implement) criminalization in the EU, possibly complemented with other tools such as structural remedies, screens or whistleblower rewards.

Appendix

Table 1. List of multiple offending firms in EC cartels with LP applications 1996-May 2018

Firm name	Headquarters	Number cartels	Number cases	% fines with LP reductions	% fines with full immunity
Akzo Nobel	Netherlands	9	8	78%	33%
BASF	Germany	9	2	100%	0%
F. Hoffmann-La Roche	Switzerland	9	2	100%	0%
Hitachi	Japan	8	7	63%	0%
Arkema France / Elf Aquitaine	France	7	6	86%	0%
Samsung	South Korea	7	6	100%	43%
Sumitomo Electric Ind.	Japan	7	3	100%	86%
Denso	Japan	6	3	100%	83%
Aventis Pharma	India	5	3	100%	60%
Coats group	UK	5	3	60%	0%
Degussa	Germany	5	5	80%	20%
Kühne+Nagel	Switzerland	5	2	0%	0%
LG Electronics	South Korea	5	2	40%	0%
Linpac	UK	5	1	100%	100%
Prym group	Germany	5	2	60%	20%
ThyssenKrupp	Germany	5	2	20%	0%
Toshiba	Japan	5	5	0%	0%
ABB	Switzerland	4	4	50%	50%
Bayer	Germany	4	4	100%	50%
DHL Global Forwarding	Germany	4	1	100%	100%
Exel Freight Management	UK	4	2	75%	75%
KONE	Belgium	4	1	75%	50%
Mitsubishi Electric Corporation	Japan	4	4	0%	0%
Otis	Belgium	4	4	100%	25%
Panasonic	Japan	4	4	75%	25%
Philips	Netherlands	4	3	75%	25%
Schindler	Belgium	4	1	25%	0%
Takata	Japan	4	1	100%	75%
Valeo	France	4	2	100%	25%
Vitembal	France	4	1	100%	0%
AC Treuhand	Switzerland	3	2	67%	33%
AGC - Asahi Glass	Japan	3	3	67%	0%
Archer Daniels Midland	USA	3	3	100%	0%
Autoliv	Sweden	3	1	100%	0%
Bosch	Germany	3	2	100%	0%
Chemtura	USA	3	2	100%	67%
Chunghwa Pic.Tubes	Taiwan	3	2	100%	67%
Coopbox	Italy	3	1	100%	0%
ENI Spa	Italy	3	3	0%	0%
FMC Corporation	USA	3	3	33%	0%

Furukawa	Japan	3	2	67%	0%
Huhtamaki	Finland	3	1	0%	0%
JPMorgan	USA	3	3	33%	0%
Panalpina China	China	3	1	0%	0%
RBS	UK	3	3	100%	33%
Schenker AG	Germany	3	2	67%	0%
SGL Carbon	Germany	3	3	100%	0%
Shell	Netherlands	3	3	33%	33%
Sirap-Gema	UK	3	1	100%	0%
Sony	Japan	3	3	33%	0%
Takeda Chemical Industries	Japan	3	3	100%	33%
Total France SA	France	3	3	33%	0%
UPS Supply Chain Solutions	USA	3	1	0%	0%
Yazaki	Japan	3	1	100%	0%
YKK group	Japan	3	1	67%	0%
Agility Logistics Limited	Kuwait	2	1	100%	0%
Ajinomoto Co.	Japan	2	2	100%	0%
Alstom	France	2	2	0%	0%
Amann and Sohne	Germany	2	1	100%	0%
Areva T&D	France	2	2	0%	0%
Barbour	UK	2	1	0%	0%
Boliden Odda	Norway	2	2	100%	50%
BP British Petroleum	UK	2	2	100%	100%
Brugg	Switzerland	2	2	50%	0%
Carbone Lorraine	France	2	2	100%	0%
CEVA Freight	UK	2	1	100%	0%
Cheil Jedang Corporation	South Korea	2	2	100%	0%
Chiquita	USA	2	2	100%	100%
Ciba Speciality Chemicals	Switzerland	2	1	100%	0%
Continental	Germany	2	1	100%	50%
Daesang Corporation	South Korea	2	2	100%	0%
Danone	France	2	2	50%	0%
Deltafina	Italy	2	2	50%	0%
Deutsche Bank	Netherlands	2	2	100%	0%
Dow Chemical Comp.	USA	2	2	100%	0%
EKA Chemicals	Sweden	2	2	50%	50%
Elementis	UK	2	1	0%	0%
Flamco GmbH	Austria	2	2	0%	0%
Fuji Electrics	Japan	2	2	50%	0%
Heineken	Netherlands	2	2	50%	0%
Hoechst AG	Germany	2	2	50%	0%

IMI	UK	2	2	100%	0%
Infineon	Germany	2	2	50%	0%
Jungbunzlauer AG	Switzerland	2	2	50%	0%
Kawasaki Kisen Kaisha (K Line)	Japan	2	2	50%	0%
Kemira Oyj	Finland	2	2	100%	50%
KME group	Italy	2	2	100%	0%
La Compagnie de Saint-Gobain	France	2	2	0%	0%
Merck KGaA	Germany	2	2	100%	50%
Mitsui OSK Lines	Japan	2	2	50%	50%
Mueller Industries	USA	2	2	50%	50%
NEC	Japan	2	2	100%	0%
Nippon Steel Chemical	Japan	2	2	50%	0%
Nippon Yusen Kaisha (NYK)	Japan	2	2	50%	0%
Nynäs	Sweden	2	2	0%	0%
Outokumpu	Finland	2	2	100%	0%
Pilkington Group Limited	UK	2	2	0%	0%
Repsol	Italy	2	2	100%	0%
Sanden	Japan	2	1	100%	0%
Sanyo	Japan	2	2	100%	50%
SAS Airlines	Sweden	2	2	50%	0%
Siemens	Germany	2	2	0%	0%
Silver Plastics	Germany	2	1	50%	0%
Solvay Pharm	Canada	2	2	100%	0%
SYS	USA	2	1	100%	0%
Tokai Carbon	Japan	2	2	100%	0%
Tokai Rika	Japan	2	1	100%	50%
UBS	Switzerland	2	2	100%	50%
UCAR International	USA	2	2	100%	50%
Wieland Werke	Germany	2	2	50%	0%

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