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LATIN AMERICAN AND CARIBBEAN COMPETITION FORUM

Session I: Cartels: Estimation of Harm in Public Enforcement Actions

-- Contribution from Spain --

4-5 April 2017, Managua, Nicaragua

The attached document from Spain is circulated to the Latin American and Caribbean Competition Forum FOR DISCUSSION under Session I at its forthcoming meeting to be held on 4-5 April 2017 in Nicaragua.

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LATIN AMERICAN AND CARIBBEAN COMPETITION FORUM



15th Latin American and Caribbean Competition Forum
4-5 APRIL 2017, Managua, Nicaragua

Session I: Cartels: Estimation of Harm in Public Enforcement Actions

A CONTRIBUTION ON COMPETITION FINES, HARM AND ILLICIT GAIN

-- CONTRIBUTION FROM SPAIN (CNMC) --

1. A complex moment for anticompetitive fines in Spain

1. The National Authority for Competition and Markets (“Comisión Nacional de los Mercados y la Competencia”, CNMC) started operations in October 2013. From the perspective of competition enforcement, one of the most serious problems faced by this institution has been the divergent interpretation on fines that appeared in the judgments of the National Court (“Audiencia Nacional”) since March 2013. The CNMC, in disagreement with the National Court’s rulings, continued to apply the interpretation of the legal provisions it considered to be correct and appealed –whenever possible– the National Court’s judgments to the Supreme Court.

2. The conflictive interpretations referred specifically to the fining regime established in Articles 63 and 64 of the Competition Act (Act 15/2007). The CNMC –in line with the former Spanish competition authority and with the European Commission– understood that Article 63 establishes a cap or levelling threshold to the fines as a percentage (10%) of the total turnover of the company, which should be seen as an indicator of the company’s ability to pay. Meanwhile, the fine is to be set according to the criteria in Article 64, among which the size of the market affected by the infringement is especially relevant. Conversely, the National Court interpreted this limit as the upper limit of a range of fines –reserved for the worst possible infringements–, and applicable only to the turnover of the market affected by the infringement on the year previous to the fine.

3. The National Court’s interpretation made competition fines clearly insufficient and under deterrent, so that taking part in anticompetitive agreements would be a "rational" decision. Had the new interpretation been endorsed by the Supreme Court, it would have seriously weakened competition enforcement in Spain, something that was already happening in some cases with final judgments by the National Court (the reduction in fines was quite dramatic, ranging between 46 and 99% of the original fine imposed by the Spanish Authority).

4. Fortunately, the interpretation of the National Court was not confirmed by the Supreme Court, at least not completely. The first Supreme Court's decision on this matter was issued on 29 January 2015, and by now there are many more judgments that reproduce the same ideas of this first decision. The Supreme Court's new jurisprudence can be summarized as follows:

1. The legal maximum of 10% in article 63.1 should be interpreted as an upper limit of a range of fines (as was argued by the National Court), not as a cap or a levelling threshold (as was maintained by the National Competition Authority along the lines of the European Commission).
2. The "total turnover" in article 63.1 should be understood as total turnover (as maintained by the CNMC) and not as total affected market turnover (as maintained by the National Court), which is far more relevant for the final level of fines.
3. The Spanish Competition Authority is required to consider the dimension of the concrete infringement as a reference to ensure the proportionality of fines, especially in the case of multiproduct companies.

5. The Competition Act does not offer a clear fining methodology, nor does the Supreme Court, but the CNMC has been trying to apply the new jurisprudence since then and a new fining methodology has been developed. Our current fining methodology can be summarized as follows:

- First, the fining criteria about the infringement in general are considered to reach an initial "fining rate" (%) according to the gravity and scope of the infringement –the latter measured by the share of the relevant market that was affected by the collusion, its geographic scope and by relevant features of the affected market (cascading effects, staple goods and so on)– and by the presence of extenuating or aggravating circumstances (monitoring, reprisals, organization, etc.).
- Second, the fining criteria about the individual firms' behavior are considered, basically their share in total affected market turnover and individual aggravating and mitigating circumstances (repeat offender, leader or instigator, obstruction or collaboration, termination, non-application, etc.).
- Finally, a proportionality cap is applied to avoid over deterrence when firms have a high proportion of their activity in markets different from the one affected by the infringement. The way to do it is to estimate a maximum ceiling for the fine that is equal to the potential illicit gain times a proportionality factor which is an inverse function of the probability of detection.

6. Several conclusions can be drawn. First, the Supreme Court's new jurisprudence should put an end to a long period of disagreement between the Competition Authority and the National Court, with a significant reduction in uncertainty as a result, although some degree of uncertainty will remain until the eventual publication of the CNMC's new fining guidelines.

7. Second, this new interpretation of articles 63 and 64 of the Spanish Competition Act provides sufficient leeway to the Competition Authority to impose fines that may be both proportional and deterrent.

8. Third, the CNMC's fining methodology diverges from the one applied by the European Commission and most of the National Competition Authorities, both in and out of Europe.

2. Fines, harm and illicit gain

9. An additional conclusion –one that is more directly related to our present topic– is that, in the case of the Spanish Competition Authority, our concern was not so much about excessive fines but about insufficient fines. In any case, it is quite clear that harm is not the only, nor the most important, criteria to be considered when setting competition fines by the Spanish Authority.

10. Article 64.1 of the Competition Act considers, among others, several criteria: The dimension and characteristics of the market affected by the infringement, the market share of the undertaking or undertakings responsible, the scope and duration of the infringement, the illicit profits obtained as a consequence of the infringement, and also the effect of the infringement on the rights and legitimate interests of consumers or on other economic operators.

11. This last expression is a reference to the harm produced by the anticompetitive conduct, but it is clear that the fines will be set according to many other considerations, and therefore will not be dependent mainly on the amount of harm. And taking into the account the inherent difficulties associated with the estimation of harm, in many cases harm is only considered in a very general and qualitative way, without trying to make quantitative assessments.

12. On the other hand, illicit profits –which are one of the criteria mentioned in article 64.1 of the Competition Act– are indeed estimated by the CNMC as part of the third stage of the fining procedure in order to make sure that fines are not disproportionate. Our current methodology to estimate illicit profits was included as the first part of a working document published by the CNMC that assessed the level of fines imposed by the Spanish competition authority¹.

3. The estimation of illicit gain

13. The methodology for the estimation of illicit gains is based on the optimal deterrent fine as defined by the economic literature and builds upon previous work by Bucirossi and Spagnolo², Combe and Monnier³, and finally by Allain, Boyer, Kotchoni and Ponsard⁴, among others.

14. A deterrent optimal fine can be defined as a fine that deters a company from participating in a cartel, and this is achieved if there is no expected net gain from participating, i.e. the expected illicit gain of entering a cartel is lower than the expected loss. Therefore, in order to obtain a reference value for fines it is necessary to start with an estimation of the illicit gain provided by cartel membership.

15. The illicit gain ($\Delta\pi$) or excess profit is defined as the difference between the profit obtained by the cartel members (π^M) and the profit they would have obtained when firms compete (π).

¹ García-Verdugo, J. (2016), *Valoración económica de las sanciones de competencia*, Documento AE-01/16(0428).2. Available at <https://www.cnmc.es/file/169106/download>.

An English version of the paper (“An Economic Assessment of Antitrust Fines in Spain”) is currently being reviewed for publication in a journal but can be made available upon request.

² Buccirossi, P. and Spagnolo, G. (2007), “Optimal Fines in the Era of Whistleblowers: Should Price Fixers still go to Prison?”, in *The Political Economy of Antitrust* (V. Goshal and J. Stennek eds., Elsevier 2007).

³ Combe, E. and Monnier, C. (2011), “Fines against hard core cartels in Europe: The myth of overenforcement”, *Antitrust Bulletin*, 56 (235).

⁴ Allain, M.L., Boyer, M., Kotchoni, R. and Ponsard, J.P. (2013), *Are cartel fines optimal? Theory and evidence from the European Union*, CIRANO Working Paper No. 2013s-24, Univ. of Montreal.

16. Due to the clarity of their work, we have used the model presented by Buccirosi and Spagnolo, frequently used by the literature on optimal sanctions, from which the following expression of the illicit gain is derived⁵:

$$\Delta\pi = f(S; m, k, \varepsilon) = k \frac{(1+m)(1-\varepsilon k) - \varepsilon m}{(1+m)(1+k)(1-\varepsilon k)} S$$

17. The illicit gain is thus a percentage of the total turnover in the affected market (S), and this percentage depends on three parameters: the competitive mark-up (m), the cartel overcharge (k) and the price elasticity of demand (ε) in absolute value⁶.

18. The estimation of these parameters and of the illicit gain derived from an anticompetitive infringement are briefly developed in the following subsections.

3.1. *The competitive mark-up (m)*

19. As is well known, the competitive mark-up is the percentage of increase over the marginal cost that determines the competitive price. Formally it is defined as $m = (p - c)/c$, where p is the competitive price and c is the marginal cost. In general, we assume that the competitive mark-up is positive (because of differentiated products, economies of scale, or patents). It should be emphasized that a higher competitive mark-up means a lower estimated illicit gain, because it implies a higher profit margin in the absence of collusion.

20. It is a difficult task to estimate m due to the absence of available data. Allain et al.⁷, in their study on the deterrent properties of fines imposed by the European Commission, perform simulations using values of m in the range of 5-20%.

21. Combe and Monnier⁸ use the operating margin as a proxy for m . The operating margin is the ratio between operating income and total turnover. The operating income (of which the EBITDA is a rough measure⁹) does not include net financial expenses, net depreciation nor extraordinary income/loss. It values the core business without taking into account tax or financial structure issues. The turnover is the total volume of sales of the company without deducting the costs of production and marketing. The competitive mark-up and the operating margin are generally not identical, but under certain conditions they are highly correlated.

22. When it comes to estimating the competitive mark-up, i.e., the increase in price above marginal costs not due to collusion, it is necessary to use the operating margin of a period of time before the formation of the cartel, but it is not always possible to precisely determine when a cartel actually began.

23. If the above data are not available from the accounts of the firms, a valid alternative approach would be to use data from the leading companies in the sector, as done by Combe and Monnier. A better alternative is to use the data on gross operating margins of the sector in which the company operates, such as those published by the Bank of Spain, which also provides data for companies of different sizes¹⁰.

⁵ Buccirosi and Spagnolo, supra note 2.

⁶ If a negative sign for the value of elasticity is used, the expression of illicit profit would be the same but with a positive sign for the elasticity parameter.

⁷ Allain, Boyer, Kotchoni and Ponsard, supra note 4.

⁸ Combe and Monnier, supra note 3.

⁹ Earnings Before Interest, Taxes, Depreciation, and Amortization.

¹⁰ Banco de España, *Ratios sectoriales de las sociedades no financieras*: http://app.bde.es/rss_www.

3.2. *The increase in price due to collusion or cartel overcharge (k)*

24. The increase in price due to the existence of a cartel is the percentage by which the price has increased with cartelization compared to the competitive price. It is difficult to estimate because there is no information on the competitive situation in the absence of the cartel (the counterfactual or "but-for" scenario). In any case, the higher the cartel overcharge, the higher the illicit gain.

25. Cartels are often considered infringements by object or *per se* because of their seriousness, as happens in Spain and the EU, so it is not necessary to accurately calculate the actual price variation caused by a conduct to determine whether there has been an infringement or not. For this reason, it is not uncommon that this information is not available at the time of setting fines, although data contained in some cases can enable us to make estimates about the price increases actually caused by the collusion.

26. If there are no data related to a specific infringement, which happens frequently, we could take as a reference the values that have been estimated in similar papers. Combe and Monnier¹¹ made a survey of the different estimates and concluded that the price increases caused by cartels during their life exceeded on average 20%, and 30% in the case of international cartels.

27. In their study—already cited—on the deterrence of fines imposed by the European Commission, Allain et al. performed simulations using as most probable values of k those in the range of 5-30%. Lianos et al.¹² conducted a comprehensive comparative study and concluded that the results of previous studies that estimated cartel overcharges are very consistent with each other, and showed that the average value was between 10% and 20%. However, as the dispersion of these estimates was significant, this paper emphasized the importance of a case-by-case study whenever possible.

28. Boyer and Kotchoni's work¹³ is based on the results published by Connor¹⁴, which they also revise. They start from the consideration that this author's database does not collect observations but estimates, so that they are subject to modelling and estimation errors as well as to publication bias. They obtained a revised average value of 13.62% (with a median of 13.63%) for a truncated sample of cartels with an original biased estimate of cartel overcharge between 0-50%; and they obtain a revised average of 17.52% (with a median of 14.05%) for the full sample.

3.3. *The price elasticity of demand (ϵ)*

29. Finally, price elasticity of demand measures the consumer reaction to a change in the price of the good or service. As price elasticity of demand is negative for a normal good, its demand will fall when its price increases, so that the elasticity value in a market significantly affects the illicit profit made by firms that are part of a cartel.

30. The absolute value of demand elasticity can be in theory between zero (perfectly inelastic demand) and infinite (perfectly elastic demand). As is well known, when elasticity is less than one, a price increase leads to an increase in total revenues; when it is greater than one, a price increase leads to a

¹¹ Combe, and Monnier, supra note 5.

¹² Lianos, I., Jenny, F., Wagner-von Papp, F., Motchenkova, E. and David, E. (2014), *An Optimal and Just Financial Penalties System for Infringements of Competition Law: A Comparative Analysis*, CLES Research Paper 3(2014).

¹³ Boyer, M., and Kotchoni, R. (2015), "How much do cartels overcharge?", *Review of Industrial Organization*, Vol. 47(2).

¹⁴ Connor, J.M., *Price-Fixing Overcharges* (2nd ed.), Working Paper, Purdue University.

reduction of revenues. It is not easy to estimate this parameter in specific cases, and it is risky to estimate a fixed value of the price elasticity of demand for an entire sector.

31. In the absence of other information, it seems more prudent to use a range of variation of this parameter using the results of empirical studies, with a lower limit of zero (when demand is not sensitive to price changes) and an upper limit equal to $\varepsilon = 2$, given that many studies obtain estimates of the elasticity of demand that are less than two in absolute value.

32. In practice when the elasticity reaches 2 the demand is considered very elastic, while an elasticity of $\varepsilon = 0$ means a rigid demand, and $\varepsilon = 1$ is the natural reference value where percent increases in prices translate into demand reductions by the same proportion. In the work already mentioned, Allain et al. used these three reference values of the price elasticity of demand, along with some additional intermediate values.

3.4. *Estimating the illicit gains*

33. If we determine or choose values for the three parameters discussed in this section, an estimate of the illicit gain of the firm can be obtained. For example, for values of $m = 0.15$, $k = 0.13$ and $\varepsilon = 2$, the illicit gain ($\Delta\pi$) would be 7.45% of sales in the affected market. If we increase either the competitive mark-up m or the elasticity ε , the illicit gain would decrease, while the opposite would happen if we increase the cartel overcharge k .

34. Using the range established by Allain et al. to indicate the range of most probable values according to empirical studies, the illicit gain would be situated between a minimum of 3.0% ($m = 0.20$, $k = 0.05$ and $\varepsilon = 2$) and a maximum of 23.1% ($m = 0.05$, $k = 0.30$ and $\varepsilon = 0$) of the turnover in the affected market. The obvious alternative would be to use actual data from specific cases.