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Mexican Experience in Screens for Bid-Rigging

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I. LENIENCY VS. SCREENS?

It is a common place nowadays to say that antitrust authorities have relied significantly (or over relied) on leniency applications to detect cartels. Some intend this as a criticism; others intend this as recognition of the strategy. Indeed, evidence shows leniency has been the most useful tool for cartel detection and it has been one of the great success stories in cartel enforcement in various jurisdictions. It is without a doubt one of the most important institutional exports of the United States and it is only beginning to take off.

According to the International Competition Network, an international body devoted to competition law enforcement of which members represent national and multinational competition authorities, during the last two decades leniency programs were adopted in more than 50 jurisdictions.² This has transformed the way competition law is enforced in those jurisdictions, but also how competition authorities work and coordinate with each other as they have created a race to disclose illegal conduct by the participants of the cartel, nationally and internationally. Nowadays, companies and their counsel coordinate leniency applications all around the world and competition authorities coordinate their enforcement.

In Mexico, as in other parts of the world, we regard leniency as one of the most important and useful tools for the detection and prosecution of cartels.

Leniency programs may have some effects that need to be addressed by the authorities and this is where screens take such an important role. Leniency programs only work when you have severe sanctions including individual accountability, a good track record of enforcement and of course when you discover conspiracies without the use of leniency as well.

So, as various studies have documented in many interesting studies, despite the considerable success of leniency, some collusion remains undetected. And it may be true that this undetected collusion may be the worst, as it is still an on-going cartel that may still harm consumers for many years to come.

I recognize the great value of multiple approaches to detection and how authorities need to work in ex-officio detection as well.

Historically, but nowadays even more so, most competition authorities have started to search for alternative and complementary approaches to detect and investigate cartels; this is very

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² <http://www.internationalcompetitionnetwork.org>

important and should be given priority, especially in agencies and jurisdictions where cartel enforcement has over relied on leniency applications for detection.

There are many routes and efforts being explored. Some jurisdictions are working to promote complaints, extracting information from other cases, working with procurement officials and other enforcement agencies, even some countries are paying whistle-blowers for information.

One interesting method that has been advocated by many economists as well as some officers and legal consultants has been the use of empirical methods commonly known as screens.³

As experience has proved, screens have flagged unusual patterns in a variety of countries and industries, and helped in the detection of cartels.

These empirical methods have their pros and cons. There have been great success stories, as well as some important waste of resources and never ending work to find a needle in a haystack where ultimately there is none.⁴

In the Mexican experience, the Mexican Competition Commission has made some efforts to use screening to detect collusion and to prioritize investigation resources.

These efforts of course do not mean we have relied less on leniency in Mexico. Since 2006 when the program was introduced, it has been one of the top priorities of the Cartel Investigations Division. Accordingly, we believe advancing both efforts are complimentary and should not be seen as unrelated or contraries.

II. SCREENS FOR BID-RIGGING

In our most recent experience, screens were an excellent tool to focus the resources of a certain investigation but also helped provide evidence in the case. It was even useful and powerful in court when defending our case. When we showed some graphics to our judges they were amazed and saw the whole picture clearly.

This specific investigation started from an informal complaint by the Mexican Social Security Institute, a public entity, the biggest medicine procurer in Mexico in 2006. Thanks to a good relationship built on previous cases where the CFC sanctioned various companies for bid-rigging, they approached the competition authority to discuss “strange patterns” in the procurement processes of various generic drugs.

The information provided was too much for the agency to handle. It included many years of procurement processes for too many medicines. The CFC was having difficulties processing

³ See for example Joseph Harrington, Detecting Cartels, “Handbook In Antitrust Economics” P. Buccirossi, ed. 2008; “Proof of Conspiracy under Antitrust Federal Laws”, American Bar Association Editions, Ch. VIII, 2010; Rosa Abrantes-Metz & Patrick Bajari, “Screens for Conspiracies and their Multiple Applications”, 6(2) Competition Policy International, 129-144 (2010), and K. Hüschelrath, “How Are Cartels Detected? The Increasing Use of Proactive Methods to Establish Antitrust Infringements”, 1(6) J. Eur. Competition Law and Practice, 522-528.

⁴ It may be true that, as Abrantes-Metz points out, the waste of resources may be due to a lack of expertise or talent but still a big problem. See Rosa M. Abrantes-Metz, Design and Implementation of Screens and Their Use by Defendants, CPI Antitrust Chronicle, September 2011 (2).

the information and didn't know where to focus the investigation. Accordingly, the decision was to perform economic screens and see where to look for collusion more closely.

Screens performed were based on improbable events as well as on control groups among other interesting approaches and which were consistent with theoretical models of cartels.

The screens covered a period of time going from 2003 to 2007. Some of the observations were extremely obvious, especially in two groups of medicines: insulin and serum.

Furthermore, the observations above regarding the improbable events were actually materialized within a context where the probability of cooperation between pharmaceutical companies was likely, which context was directly related to the IMSS procurement design.

The IMSS carried out the purchase of medicines through national public bids⁵ (auctions) in closed envelope at first price. The procedure was as follows:

1. The IMSS issues the bid guidelines and basis, which contain both legal and technical requirements (for instance, the compliance with official norms and regulations) to which bidders must abide as well as the medical units where the products are to be delivered and the required units for each product.
2. Meetings are held with interested potential suppliers to clarify any existing questions as to the legal and technical requirements.⁶
3. The suppliers who comply with all the aforementioned requirements simultaneously tender their economic offerings (price) in closed envelope.
4. The supplier with the lowest price would be awarded the contract, provided such price is greater or equal to the reserve price—at which a person is willing to purchase or sell a given asset—determined by the IMSS. Should the difference in price between lowest bidders round 5%, the bid value was proportionally allocated among them.
5. The IMSS publicly reveals the name and tender of the winner.

The design of the process through which the IMSS acquired the medicines, which features have been previously stated, created incentives among pharmaceutical companies to collude in the sale of such product, per the following reasons:⁷

1. The bidding guidelines standardized the product, that is to say, the product was homogeneous, this led to a unique relevant variable between the products which is the price, facilitating to achieve a collusive agreement.
2. Frequent bids allowed to identify the dynamics and results thereof, with the purpose of verifying the compliance of the collusive agreement.

⁵ This is, only companies with a production plant located in Mexico were entitled to participate at that moment in time.

⁶ These meetings are direct contacts between suppliers who participate in the bids.

⁷ See: Ivaldi, Marc, Bruno Jullien, Patrick Rey, Paul Seabright, Jean Tirole "The Economics of Tacit Collusion" IDEI, Toulouse March 2003 Final Report for DG Competition, European Commission; Motta, Massimo. "Competition Policy Theory and Practice" European University Institute, Florence and Univesitat Pompeu Fabra, Barcelona, CAMBRIDGE University Press, 2004.

3. Contract allocation to diverse bidders, which permits to divide the contract and the designation of certain cartel members as winners within a specific bid, fastening the distribution of collusive earnings.
4. Information exchange among bidders, which led to the possibility to verify any variations in the agreed bids and thereafter elaborate mechanisms to punish cartel members in future bids.
5. Permanent bid rules through time, which aid to the stability of the agreement executed to set forth, agree or coordinate tenders, since the cartel members do not require to periodically redesign the conducts to implement the agreement.
6. Entry barriers which inhibit new bidders to take part in the auctions.

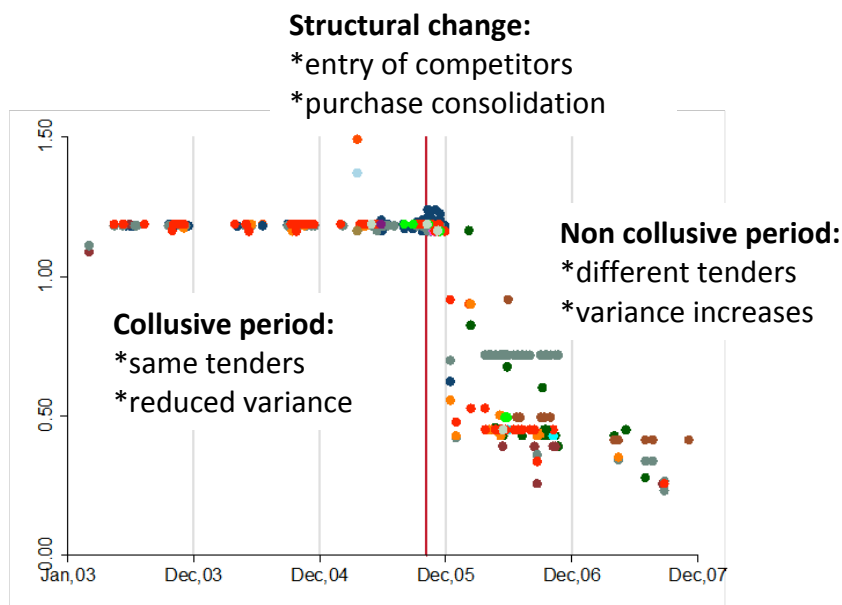
Jointly with the structural factors identified in the investigated market which favored the collusive agreements, the Commission identified certain behavioral patterns through the time line directly related to the tenders of pharmaceutical companies. These patterns were deemed as preliminary evidence of the existence of cartels in public bids.

The referred patterns identified by the Commission in the specific case, were the following:

Annual average of the winning and losing bids presented by the pharmaceutical cartel members were extremely similar between them and they only changed with the entrance of a new winner or upon the consolidation of bids some years later.

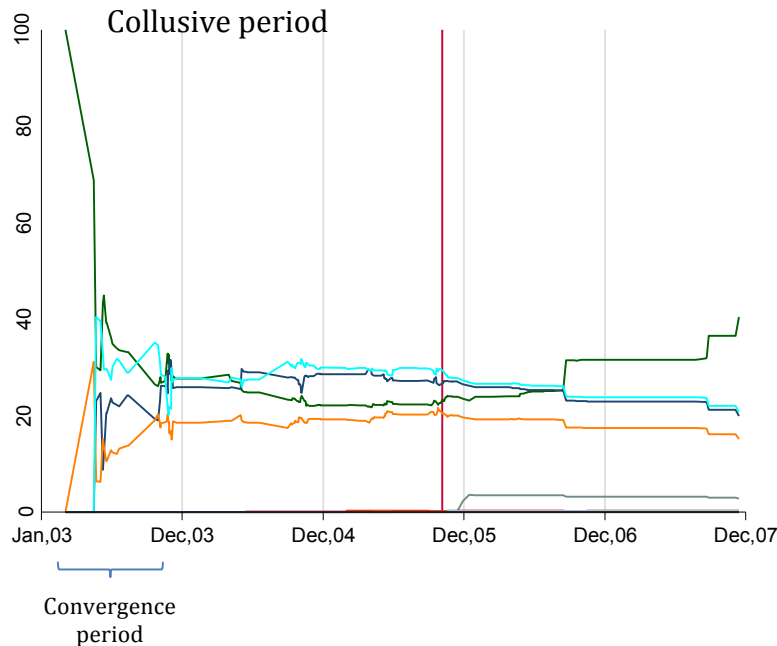
The average price was much higher during these years identified as the collusion period, sometimes 72% higher (see figure 1).

Figure 1. Medicine 1 average price 1



1. The prices of winning and losing bids were always the same. The only variations were in the identity of the winner, which after winning, kept participating with loser bids, waiting for their turn to win again (bid rotation).
2. The amount of the allocated contracts for each of the identified medicines was concentrated in the pharmaceutical companies involved in the cartel and, in some cases; the achieved portion for each of them is practically the same. Likewise, such participation rapidly converged in time, at the same level (see figure 2).

Figure 2. Medicine 1, participation pattern 1



3. The six pharmaceutical companies involved in the cartel had high earning margins which allowed them to tender with more competitive offers. However, no attempts from the companies to compete were ever observed, in spite of awareness of the previous tenders of their competitors.

The Commission considered that the aforementioned conduct patterns hardly exist in a competitive scheme; furthermore, they were better fit to a hypothesis of collusion, since:

The probability that the averages of the winning and losing bids to be identical was practically zero, because: i) the company i won if its tender turned out to be the lowest ($P_{it} < P_{jt} \forall i \neq j$); ii) the company i did not know the costs of the other bidders ($i \neq j$); iii) the prices were delivered in closed envelope; iv) and were opened publicly. That is, it was a Bertrand⁹ type competition with private costs and *ex post* public prices.

⁸ Where P_{it} is the bid of i company in the t bid.

⁹ Competition in prices with homogeneous goods. See Carlton, Dennis W. and Perloff, Jeffrey M. Modern Industrial Organization Forth Edition Addison-Wesley pp. 171-176.

1. In this context, within a Bertrand type dynamic model with the aforementioned characteristics (private costs and *ex post* public prices) the coordination between competitors may be a Bayesian Nash Equilibrium (EBN) if every bidder follows the same strategy (the same bid) in each auction, and any different bid is interpreted as a deviation making bidders revert to the one-shot equilibrium¹⁰ and i) there is communication between competitors or ii) repeated interaction among bidders expands the set of signaling and punishment strategies available to them, and allows them to cooperate.
2. Under competition, the tenders' prices respond to the bidders' costs, which were private, this is, the costs of the *i* company were unknown to the other companies ($i \neq i$). Then, given this case, the tenders should not have been correlated in a competitive environment.¹¹
3. As mentioned, the bidders' tenders did not respond to costs, moreover all the cartel members tendered in average with the same prices with minor variance, this changed upon the entrance of a new competitor to the investigated market; that is to say, the prices decreased and their dispersion increased, which pattern is compatible with the hypothesis of collusion.¹²
4. The cartel members tendered the same bids in average with a bid rotation mechanism with convergence in time at the same level in the bids' aggregate amounts which was also compatible with the hypothesis of collusion.¹³

Finally, the CFC was able to obtain important additional information about the companies' officers' opportunities to interact, how these people knew each other, travelled together, communicated and other important patterns, relevant for the investigation.

The above confirmed the existence of a communication channel between the pharmaceutical companies thus corroborating that the coordination in the investigated market was an EBN.

In consequence, the Commission determined that the behavioral pattern identified in the IMSS bids was not the result of an independent competitive conduct, in which each bidder has incentives to offer a best price in order to increase the probability to be awarded with the relevant contract, without incurring in losses, on the contrary, it revealed a coordinated behavior between pharmaceutical companies to increase their economical benefit by colluding through the fixing

¹⁰ Fudenberg, D., y E. Maskin "Nash and Perfect Equilibrium Payoffs in Discounted Repeated Games" mimeo Harvard University 1986.

¹¹ Bajari, Patrick y Garret Summers "Detecting Collusion in Procurement Auctions" Revised Version Forthcoming in Antitrust Law Journal (2002) and Bajari, Patrick y Lixin Ye (2001), "Competition Versus Collusion in Procurement Auctions: Identification and Testing" Stanford University Working Paper.

¹² Abrantes-Metz Rosa M. "A variance screen for collusion" International Journal of Industrial Organization 24 (2006) 467-486. Bolotova, Yuliya, Connor, John M., Miller, Douglas J., 2005, "The impact of Collusion on Price Behavior: Empirical Results from two Recent Cases" Purdue University Department of Agricultural Economics.

¹³ Athey, Susan, Kyle Bagwell y Sanchirico Chris "Collusion and price rigidity" *Review of Economic and Statistics* 85 (4), 971-989; Athey, Susan. Kyle Bagwell. "Optimal collusion with private information" *RAND Journal of Economics* Vol. 32, No. 3, Autumn 2001 pp. 428-465 and Aoyagi, Masaki "Bid rotation and collusion in repeated auctions" *Journal of Economic Theory* 112 (2003) 79-105.

of the tenders and divide the bids between them in detriment of the IMSS beneficiaries of health services.

The case was built mostly with indirect evidence and the judicial system in México had not many precedents. There was a lot of anxiety in going to the judiciary for appeal. However, to date, the only two appeals that have been resolved have been resolved in favour of the CFC, confirming the sanctions imposed.

III. CONCLUSIONS

Evidence shows leniency has been the most useful tool for cartel detection and is probably going to remain that way for a long time, even more now that various countries are following such an example for cartel detection. This has to be viewed as something good for cartel enforcement but agencies should not leave other methods of cartel enforcement unexplored.

There are many routes and efforts that have been useful in the past and other novel ways being developed by various jurisdictions. The use of screens, promoting the use of complaints, extracting information from other cases, working with procurement officials and other enforcement agencies or paying whistle-blowers for information are some of the interesting approaches.

In this brief piece I have tried to demonstrate how the use of empirical methods commonly known as screens could be useful both in detection of cartels and/or the prioritization of cases.

It is worth noting that these empirical methods have their pros and cons that are worth considering: the former have been evidenced in this success story but the latter are not minor, and include the intensive use of resources and probability of incurring in errors.

Screens are another tool in the drawer which competition agencies could well use to serve their enforcement objectives and agencies should use all tools available to detect and sanction cartel conduct.