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ROLE OF ECONOMIC ANALYSIS IN CARTEL DETECTION

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ABSTRACT: Detection of cartels in free market economies is the primary agenda for antitrust authorities. The authorities have devised various Leniency and Whistleblowing mechanisms to curb this menace. Cartels pose a great economic threat to the free market when the collusive agreements result in alteration of the productivity or the welfare of the market. The Supreme Court in a recent judgement laid down the precedent which advocated for a greater analysis of the conditions prevailing in the relevant market to substantiate collusive behaviour of the firms. This article analyses the various factors relating to the market the firms are operating within which the competition authorities can bring under their microscope during cartel investigation.

INTRODUCTION

In any market, firms may have an incentive to coordinate their conducts and earn collusive profits by restricting quantities and raising prices. This in turn leads to welfare losses for consumers as well as losses in terms of efficiency. Consumer welfare has always been the primary concern of the competition enforcement authorities and effective detection and deterrence of cartels is important to minimize harm to competition around the world.

In their endeavour to create a more competitive environment, the antitrust authorities often need effective enforcement tools to intervene against certain practices deemed illegal such as hard core cartelization[1]. 'Detection' and 'Deterrence' are two key areas where effective enforcement tools are needed to curb potential as well as existing cartel practices. In the Supreme Court case of *Rajasthan Cylinders & Container Ltd. v. Union of India*[2], the court took note of certain conditions prevalent in markets like "Oligopsony"[3] and reversed CCI and COMPAT's order which held LPG cylinders suppliers to be in violation of Section 3 of the Competition Act.[4]

The apex court reversed the order of the tribunals which had relied on circumstantial evidences to find the suppliers guilty of collusion. The circumstantial or economic evidences relied upon by the tribunals were specific to the prevailing market. These evidences included price parallelism, near identical bids and scope of entry of new entrants in the market. However, the supreme

[1] KAI HÜSCHELRATH AND JÜRGEN WEIGAND, FIGHTING HARD CORE CARTELS, (ZEW - Leibniz Centre for European Economic Research, No 10-084, ZEW Discussion Papers, 2010) accessible <ftp://ftp.zew.de/pub/zew-docs/dp/dp10084.pdf>
[2] Rajasthan Cylinders & Container Ltd. v. Union of India, 2018 SCC OnLine SC 1718.
[3] Id. at 77
[4] Competition Act, 2002, S. 3.

court opined that these market conditions, which are exclusive to the oligopsony market, have to be taken into consideration to arrive at the conclusion substantiated by the circumstantial evidence.

One of the foremost issues faced by the enforcement authorities is the lack of direct evidence in the cases relating to cartelisation. The Competition Commission in the past has penalised firms presumed to be operating in a cartel on the basis of circumstantial evidence.[5] Supreme Court, by the said order, has broadened the scope for a greater market analysis for cartel detection. It has been observed by the court that circumstantial evidence relied upon by the authorities may only be valid till the presumption of a cartel, but there is a need for a greater analysis of the market conditions to find a firm guilty of the provisions.

The structural features are great indicators of the potential for cartels to operate in the market. After observing the potential cartel areas, the next step in the analysis is to identify conducts of specific firms in the market as being the outcome of the collusive behaviour and it is this area where the use of economic analysis is limited.

In this article, an analysis is made into the need for economic analysis of the conditions prevailing in the market of the firms under the microscope of the enforcement authorities. Further some economic tools are suggested by the authors which may prove to be beneficial in cartel detection.

[5] Western Coalfields Limited Coal Estate v. SSV Coal Carriers Private Limited and Ors (Case No. 34 of 2015), India Glycols Limited v. Indian Sugar Mills Association and Ors. (Case No. 21 of 2013)

NEED FOR MARKET ANALYSIS

Firms operating in a cartel adopt utmost secrecy to avoid detection from the competition authorities.[6] However, structural features of markets are great indicators for detection of cartels, either operating currently or likely to come into existence. Some economic theories have clearly demonstrated that certain factors relating to the market, few players in the market and entry barrier, which indicate potential of formation of cartels.[7] After observing the potential cartel areas, the next step in the analysis is to identify conducts of specific firms in the market as being the outcome of the collusive. Antitrust authorities are usually reluctant to use economic analysis at this stage particularly and even if used, they require proof of explicit coordination by the way of some sort of communication (minutes of the meeting, phone calls, emails etc.) that could confirm the collusive behaviour.

Here, it is important not to forget that cartel members will try their level best to eradicate conclusive clues traceable to their collusive operation. The latest means of communication and related technology have further made it difficult to trace the exchange of information.[8] Hence, reliability on direct evidences for cartel detection has been limiting since the advent of sophisticated technological advancement. Thus, authorities need to look for ripple effects and economic traces in the market to conclude concerted practice.

Economic Data in such case may be outcomes relating to price and quantity being made available in the market as a result of collusive agreements. Thus, economic analysis should be used by the authorities to identify market conduct or behaviour of the firms that is an outcome of some sort of an explicit or implicit coordination between them. However, the economic analysis has its limitations in conclusively differentiating between implicit and explicit coordination[9] between firms. This difference is crucial because till date the *per se illegality* rule applies only to overt collusion and not tacit collusion, even if they both yield the same destructive outcome for the market competitiveness and consumers.[10] The key problem that economic analysis faces is to delineate and demarcate the market outcome as arising from overt or implicit collusion. Moreover, economic analysis also faces the challenge of delineating the

[6] OECD (2009), "Prosecuting Cartels without Direct Evidence of Agreement", OECD Journal: Competition Law and Policy, vol. 9/3, https://doi.org/10.1787/clp-v9-art11-en.
[7] Darren Filson et.al, Market Power and Cartel formation: Theory and an empirical test, The Journal of Law and Economics, Vol 44 No 2 (October 2001), 465- 480, 467.
[8] A.M. BOS, INCOMPLETE CARTELS AND ANTITRUST POLICY: INCIDENCE AND DETECTION, 97 (Amsterdam: Tinbergen Institute 2009).
[9] Escrihuela-Villar, Marc. (2005). Cartel Sustainability and Cartel Stability. The ICFAI Journal of Managerial Economics. III. 10.2139/ssrn.524523.
[10] N. Pac. Ry. Co. v. United States, 356 U.S. 1, 5 (1958); United States v. Trenton Potteries Co., 273 U.S. 392, 397-98 (1927).

market outcomes as arising from some of imperfect competition, more specifically oligopoly competition and/or some form of collusive behaviour.

It has been argued by authors that leniency and whistleblowing programmes might not induce members to expose their cartels when they benefit high prices as a result of collusive agreements.[11] Further, more sophisticated and harmful cartels are also fluent in formulating and implementing strategies to conceal the collusive practice.[12]

Thus, given that the cartel members would make use of the techniques to prevent the cartel from breaking down because of any such leniency or whistleblowing programmes, a proactive detection based on economic methods would serve the authorities well in prosecuting against such harmful anticompetitive collusive conduct.

[11] Robert Porter, "Detecting Collusion", Review of Industrial Organization, (2005), 26, (2), 147-167
[12] Supra note 8, at 96-97.

ECONOMIC TOOLS TO DETECT CARTELS

Cartels can be detected by two most commonly used and discussed tools which are, structural and behavioural method. Structural Methods focus on screening and detecting the markets that have a structure to encourage collusive behaviour rather than the market structure that is comparatively more competitive. On the other hand, Behavioural methods mainly concentrates on the conduct or specific behaviour of firms that indicate the probability of collusion.

These tools are better explained by 'structure-conduct-performance' (SCP) paradigm which states that the conduct of the firm is determined by the structure of the firm and that conduct then further affects market performance. The structural methods can be used to define or identify those industries that are more conducive to the likelihood of collusion; whereas behavioural approach can be used to analyse conducts on the part of the firms that go with either collusion or competition.

The Supreme Court in the instant judgment mainly focused on the evolution of structural approach to detect cartels. This article will further deal with the economic tools and factors that can be used to detect collusion.

STRUCTURAL APPROACH TO CARTEL DETECTION

The structural approach can be used as the very first screen to delineate the firms that for further investigation on the basis of the particular features of the market. This approach is especially helpful when the initial structure is of competition and not collusion. This method becomes more crucial as it eliminates the need to scrutinize every single market in detail to identify industries supporting cartel-based activities and saves time and money. However, this approach does not give any conclusive evidence of the collusion so, it can only be used as the first step to detect the cartel supporting markets.

The point that makes this approach more important is that the features of the market relevant in this approach are beyond the control of the firm and hence the firms cannot manipulate them to fake the impression of existing in a competitive market structure.

There are four conditions that should be met for a cartel to be realized in practice: First is parallel or common behaviour in the form of charging similar prices, reducing output or keeping unutilized capacity. This means that the firms should be able to coordinate their conduct on the same variable. Second is the presence of sufficient market transparency to allow firms to monitor the behaviour of other firms on the market and change their behaviour accordingly. Third is the

presence of so-called effective 'retaliatory mechanism' or 'deterrence mechanism'. This means that firms should be able to inflict an effective punishment on the deviators. Fourth is the presence of sufficient entry barriers to avoid any competitive threat from a potential entrant that could destabilize the cartel.

All these four conditions are impacted by the so-called "specifics of the market and market interaction"[13] and hence become the subject of study under the structural approach. The structural method focuses on the factors that can have an impact on these four conditions and analyse it to detect the probability of the existence of cartels in any industry.

Economic literature on collusion/cartel related activities has identified a myriad range of factors that influence the formation and stability of cartel agreements. We briefly discuss these factors below and their utility in screening out industries for further investigation by impacting the cost-benefit analysis for the firms which are party to the cartels. Essentially, these factors can either facilitate collusion (a plus factor) or not (a negative factor). As outlined in American Bar Association's *Proof of Conspiracy under Federal Antitrust Laws*[14]*,* many of these factors relate to the *Simplicity* and *Transparency* of the market. There is a substantial simplicity in cases where the manufactured products are homogenous, there are fewer companies and market conditions are generally constant. Better transparency is recorded in cases wherein firms are well aware regarding the pricing, sales, consumers and other activities of their competition.[15]

The simple economics of the stability of collusion tells us that the firms would want to remain in the cartel if they value the future profits coming from the collusive outcome more than the short-term profits from deviating. Also, it hinges on the ability of the other firms to effectively retaliate against and punish the deviator. Analysis is done of the impact of both the factors on both the incentives of being in the cartel and the ability of firms to punish the deviator. Specifically, their impact has to be noticed on these four measures: first, gains from undercutting the competitors, second, future losses from retaliation by rivals, third, possibility of retaliation and fourth, discounting of future losses against present short-term gains (i.e. the value attached to future profits from remaining in the cartel than present short-term gains from cheating). Moreover, these factors also influence each other by which they influence the final outcome. These factors have been categorised as being structural, demand-related and supply-related

[13] Supra note 1, at 16.
[14] American Bar Association, Proof of Conspiracy under Federal Antitrust Laws, 214, (ABA Book Publishing, 2nd ed. ISBN- 9781641053693)
[15] id.

factors.[16] The factors affecting final collusive outcome can be categorized into three categories, structural factors, demand-related factors and supply-related factors. The economics of the different factors mentioned in the instant judgment has been discussed in this section.

NUMBER OF COMPETITORS

The number of competitors is inversely proportional to the stability of collusion. It means that the large number of participants makes the coordination on one single collusive outcome between the participants more difficult which leads to the weakening of cartel stability. Moreover, gains from the cheating the cartel is much higher than the profits earned by remaining the cartel. Because of increased number of participants, the profits need to be shared between more firms and undercutting the rivals would bring huge windfall gains to the deviant firm. These windfall one-time gains may be so high that they might subdue the future losses from retaliation by rivals. Also, the chances of retaliation are very low as it is difficult to detect the deviant firm from the large number of participants.

ENTRY BARRIERS

Entry barriers play a crucial role in maintaining the collusion outcome since a new entry can possibly be made to earn supra-competitive profits which are the result of collusion and can lead to erosion of profitability as well as the incentive for cartel formation. Sufficient entry barriers are necessary for the firms to maintain the collusion outcome since entry sparked as a result of supra-competitive profits from collusion would erode such profitability and dissipate any incentives for cartel formation. This probability of new entrant can also make cheating the cartel and undercutting rivals more profitable.

FREQUENCY OF INTERACTION BETWEEN THE FIRMS

With the increase in the frequency of interaction between the firms, cartel stabilises and retaliation becomes faster. Due to frequent interaction between the firms, price adjustments also become more frequent and the deviant firms can be punished much faster leading to less short term gains from deviation. Thus, frequent interaction buttresses the sustainability of collusion.

MARKET TRANSPARENCY

[16] P. Rey, "On the Use of Economic Analysis in Cartel Detection" EUI-RSCAS/EU Working Paper, Florence. (2006).

Low market transparency gives way to difficulty in observing the behaviour of rivals thrugh market data which further makes it difficult to detect deviation leading to delayed and less effective retaliation.

Especially in a market where the demand volatility is high it becomes difficult to detect the reason for the low sales observed by some firms. The low sales might be the result of demand drop or undercutting by the rival firm. It becomes difficult to detect the deviant firms and punish them which encourages the firms to cheat on the collusive outcome and earn higher short term gains.

MARKET/DEMAND GROWTH AND DEMAND STABILITY

This feature depends on the fact if the demand is predictable or not. If the future demand is unpredictable and high demand exists at present, then the firms will have the incentive to undercut the rival firms as the profit earned from deviating will be higher than the loss borne by retaliation in future.

Whereas, when the demand is predicted to witness growth, it is more profitable to remain in the cartel to enjoy present as well as future maximized profits. This also means that the loss from retaliation by the rival will prove costlier than if the market doesn't grow. Clearly, firms would attach more importance to future profits to be reaped by sustaining the cartel. Thus, demand or market growth is likely to facilitate collusion. This feature also depends on the factor if the entry barriers are high. If the entry barriers are absent then the high profits will attract more new entrants which will reduce the incentive earned from remaining in the cartel in future.

COUNTERVAILING BUYER POWER

Another demand related factor that affects sustainability of collusion is existence of powerful buyers who practice bulk buying. Bulk buying is an incentive to the firms to undercut rivals as the short term gain from deviation will be more profitable than profits earned by staying in the cartel. When such orders are infrequent, the threat from future losses due to retaliation by the rivals are also weak since the deviant firms reaps huge profits from undercutting until the next order comes.

TECHNOLOGICAL STRUCTURE STABILITY

The chances to collude is less in the industry which has the potential for technology upgradation and product innovation. As there is a huge chance to earn profits in the short period when the

technology structure changes, it gives a boost to the firms to undercut rivals in that short period and earn maximum gains. Moreover, innovation driven deviation reduces the impact of retaliation and weakens the possibility of retaliation.

ASYMMETRIC COSTS, QUALITIES AND CAPACITIES

The collusion sustainability becomes difficult when there exist asymmetric costs, qualities and capacities. In case of cost difference, low-cost firms have the higher incentive and chances to undercut rival firms as the profits earned from deviation will be higher than the gained from cartels. Moreover, the high-cost firms will have low retaliatory power due to lack of efficiency.

Similarly, in case of quality difference, high quality firms will gain more by undercutting and the costs imposed from retaliation by low-quality cartel members will be lower.

Similarly, firms with higher capacity levels will have greater incentive to undercut the rivals since it has the capacity to supply the increased demand post undercutting. Moreover, the other low-capacity cartel members will find it difficult to retaliate since they lack the capacity levels needed to initiate price wars. Thus, punishment will not happen at the optimal level to deter deviating behaviour.

MULTI-MARKET CONTRACT

Multi-market contracts enable the firms to interact and maintain symmetry on multiple separate markets. These contracts help the firms to maintain symmetry in the markets where they face asymmetries in individual markets and helps in sustaining collusion.

If firms undercut in any individual market where they are earning higher share of profits, then they will lose profits in the market where they have lower costs as a result of retaliation.

OTHER COOPERATIVE CONTRACTUAL AGREEMENTS

Contractual agreements such as joint ventures can facilitate collusion. As in the case of joint ventures, these cooperative agreements can for example enlarge the scope for retaliation, thereby enhancing the ability to punish deviating partners. This may be particularly relevant for industries such as the telecommunications industry, where competitors need to reach interconnection agreements in order to offer widespread connectivity. These agreements not only enlarge the scope for retaliation, they also have a direct impact on the operators' pricing strategies.[17]

[17] Supra, note 16 at 5.

CONCLUSION

This article has outlined a non-exhaustive list of factors concerning industry structure and marker characteristics (both demand-side and supply-side) that allow one to screen industries for their susceptibility to collusion. These factors are based on sound economic theories and models that help to check for their impact on the sustainability of cartels. These models are based on the 'Consensus-Detection-Punishment' paradigm to evaluate the impact of these factors on collusion formation and sustenance. The evaluation under this paradigm identifies factors that have an influence on the probability that participants in a market will reach a consensus, detect cheating, and have the capacity to punish deviation.

It is also stated that the structural approach provides a useful framework in identifying such industries likely to be affected by collusion but at the same time, it underestimates the role of communication to sustain collusion. On the other hand, the legal concept of collusion identifies communication as a key reason why firms are able to collude effectively.[18] In the support of structural approach it is stated that factors evaluated under this method like barriers to entry, number of competitors, demand characteristics, cost asymmetries and product differentiation is unaffected by the assumption of the inability to communicate. Thus, even if firms communicate and coordinate with each other, it will have no significance on these factors and can be used as the first screen to detect cartels and further investigate them to look for any possibility of coordination. Thus, these structural factors can serve as a useful framework to identify those industries where the possibility of communication to collude is higher i.e. "parties might be more likely to engage in overtly collusive practices specifically in those circumstances that are predicted by the theory as being averse to collusion"[19].

It is pertinent to mention the point that this structural approach may only allow to flag and mark the industries based on the likelihood to indulge in collusion and this approach cannot be used to conclusively discover cartels in an industry because of two reasons. The first reason is the existence of both positive as well as negative factors which makes it difficult to detect collusion. Some of these factors may encourage the likelihood of collusion and others may have the opposite effect. The second reason is that in most cases, the prior probability of collusion is low and the posterior probability based on the structural analysis may still be low due to certain omitted or unobservable variables or factors which may ultimately decide whether firms will

[18] Paul A Grout and Silvia Sonderegger, "Predicting Cartels", 3, Office of Fair Trading, OFT773, accessible <https://webarchive.nationalarchives.gov.uk/20140402182912/http://www.oft.gov.uk/shared_oft/reports/comp_policy/oft773.pdf>.
[19] Id., at 36.

settle for collusion or not.[20] Hence in conclusion, structural approach can be crucial to detect the markets that have a likelihood of collusion but it can only serve as a screening process to identify industries for further investigation post which they can be considered for prosecution or acquittal.

[20] Harrington Jr., J. E. (2007). Behavioral Screening and the Detection of Cartels. In C.-D. Ehlermann, & I. Atanasiu, European Competition Law Annual 2006: Enforcement of Prohibition of Cartels. Pg. 3, accessible <https://pdfs.semanticscholar.org/cdd8/80848e6240a7c5d17f0fc736a75046bb739a.pdf>.