Cartels as Two-Stage Mechanisms: Implications for the Analysis of Dominant-Firm Conduct

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exclusive-dealing contracts are judged by the rule of reason.[5] Some authors have shown that exclusive dealing sometimes can enhance efficiency,[6] while others have demonstrated that exclusive dealing may enable one firm to monopolize the market.[7]

A number of difficulties have hampered empirical efforts to determine which reasoning applies in a particular circumstance.[8] In trying to assess market effects and assess economic harm in terms of deadweight loss, the behavior of a single dominant firm is difficult to analyze since there is often neither a clear beginning date nor a clear termination date for the conduct in question. Thus, it is hard to find a reliable benchmark against which to assess the conduct. In addition, the counterfactual world in which the relevant behavior does not occur may be structurally different from the observed situation, making welfare comparisons difficult.

In the debate over the appropriate standards for analysis under antitrust proscriptions against dominant-firm conduct, many have observed that

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5 If a substantial fraction of the retail market has been foreclosed, exclusive dealing may be found to 1) "substantially lessen competition" under § 3 of the Clayton Act, 15 USC § 14 (2000); 2) be "an unfair method of competition" under § 5 of the FTC Act, 15 USC § 45 (2000); and 3) be conduct in violation of § 2 of the Sherman Act, 15 USC § 2 (2000 & Supp 2004).

6 See Tim R. Sass, *The Competitive Effects of Exclusive Dealing: Evidence from the US Beer Industry*, 23 Intl J Indust Org 203, 204 (2005); Ilya R. Segal and Michael D. Whinston, *Exclusive Contracts and Protection of Investments*, 31 Rand J Econ 603, 609 (2000); Howard P. Marvel, *Exclusive Dealing*, 25 J L Econ 1, 2 (1982).

7 Works in this vein include Eric B. Rasmusen, J. Mark Ramseyer, and John S. Wiley, *Naked Exclusion*, 81 Am Econ Rev 1137, 1137–38 (1991) (demonstrating that exclusion can arise when there are economies of scale in upstream production and coordination failures at the downstream level); Philippe Aghion and Patrick Bolton, *Contracts as a Barrier to Entry*, 77 Am Econ Rev 388, 398–99 (1987) (showing that exclusive-dealing contracts that contain penalty-escape clauses can lead to inefficient exclusion); G. Frank Mathewson and Ralph A. Winter, *The Competitive Effects of Vertical Agreements: Comment*, 77 Am Econ Rev 1057, 1057–58 (1987) (giving conditions under which a dominant manufacturer can profitably induce a retailer to agree to exclusive dealing by offering a lower per-unit price that compensates the retailer for its lost revenue from not selling excluded manufacturers' products). For extensions of Mathewson and Winter to allow nonlinear pricing, see B. Douglas Bernheim and Michael D. Whinston, *Exclusive Dealing*, 106 J Pol Econ 64, 65–68 (1998); Daniel P. O'Brien and Greg Shaffer, *Nonlinear Supply Contracts, Exclusive Dealing, and Equilibrium Market Foreclosure*, 6 J Econ & Mgmt Strategy 755, 755–58 (1997). See generally Ilya R. Segal and Michael D. Whinston, *Naked Exclusion: Comment*, 90 Am Econ Rev 296 (2000); David Besanko and Martin K. Perry, *Equilibrium Incentives for Exclusive Dealing in a Differentiated Products Oligopoly*

conduct that generates potential concern under Section 2 of the Sherman Act or Article 82 of the Treaty of Europe is common in competitive industries. In these industries there is little hope of successfully monopolizing the market, and therefore the behavior must have legitimate business justifications.[9] By extension, this observation is used to cast doubt on claims of anticompetitive effects of similar practices by dominant firms.

A contrasting observation derived from the study of cartels may be used to make the opposite point. Conduct that illegal cartel orches

two-stage mechanisms.[11] The first stage consists of reaching a consensus on a plan to restrict output or otherwise curb rivalry. For many cartels, once interfirm rivalry is addressed, the cartel moves to the second stage of activity, in which it uses exclusionary behavior often featured in monopolization cases to ensure the effectiveness of its efforts to restrict output. To illustrate this phenomenon, we draw upon the records of cartel inquiries to provide examples of cartels engaging in overt predation against non-cartel rivals, leveraging into both downstream and horizontally-related markets, exclusive dealing, blocking entry, bundling, tying, raising rivals' costs, and other conduct typically associated with allegations of monopolization.

The analytical approach outlined in this Article illuminates the competitive significance of conduct by which individual dominant firms are claimed to have monopolized or attempted to monopolize markets. A focus on cartel applications of monopolization behavior has significant advantages for empirical investigation. First, cartel inquiries often generate a rich evidentiary record. Moreover, in the case of a leniency applicant, this record may include information provided with the active cooperation of the subject firm, a situation that does not arise in the context of a monopolization or dominance investigation. Even if much of this information is nonpublic, economists and lawyers in the public antitrust agencies may be able to analyze such data to inform policy decisions about monopolization matters. Second, unlike a single dominant firm whose market power may evolve gradually through time, cartels often begin and end at discrete moments, and for cartels that are prosecuted the beginning and end dates are typically known. As a result, some of the more complicated inference problems that arise when analyzing the behavior of a single dominant firm are avoided when focusing on a cartel. Specifically, a benchmark period can be more readily identified when analyzing cartels than single dominant firms. Third, the discovery record provides detail regarding the time span for certain kinds of monopolization behavior, such as predation or exclusive dealing. Thus, the incremental inference burden of endogenously determining when the monopolization conduct began and ended is largely eliminated when analyzing the behavior as an extension of cartel conduct.

Despite the benefits of viewing cartel behavior through the lens of monopolization behavior, cartel behavior currently tends to be viewed as something distinct from anticompetitive behavior by a dominant firm. Enforcement agencies tend to follow the Sherman Act in categorizing anticompetitive behavior as either a horizontal agreement between competitors to suppress interfirm rivalry (Section 1) or monopolization behavior by a single

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[11] The mix of collusive and exclusionary strategies employed by a cartel is emphasized in Andrew I. Gavil et al, *Antitrust Law in Perspective* 45–53 (West 2d ed 2008).

dominant firm (Section 2).[12] However, it may be more appropriate to view the behavior by some cartels as a combination of the two types of anticompetitive behavior. The historical record suggests that cartels often act like a single dominant firm, moving from the suppression of competition within the cartel (interfirm rivalry) to the suppression of competition from outside the cartel.

We address the topic in three parts. In Section II, we extend a well-known existing framework for analyzing the competitive forces that work against industry profitability, Michael Porter's "Five Forces," to obtain a structure for understanding both the suppression of interfirm rivalry and monopolization conduct by a cartel. In Section III, we show that monopolization behaviors are common in practicing cartels. In Section IV, we pose a number of open questions and identify public-policy implications regarding the potential lessons from cartel behavior for understanding monopolization conduct.

As shown by our data, cartels do in fact engage in monopolization conduct, although the types of behaviors and extent of that conduct vary across cartels. We adapt Porter's classic "Five Forces" competitive industry analysis framework to categorize monopolization conduct. The adapted framework provides guidance to antitrust authorities investigating such conduct by cartels. Insights on the pro- versus anticompetitive effects of such conduct derived from cartel investigations can be applied to monopolization investigations in industries characterized by similar competitive structure.

II. PORTER'S "FIVE FORCES" AND SECTIONS 1 AND 2

The "Five Forces," as defined by Michael Porter in his book *Competitive Strategy* (1980), are a fundamental component of management education.[13] These "Five Forces," which act against, or in support of, an industry's profitability, are depicted in Figure 1.

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12 15 USC §§ 1–2 (2009).

13 Michael E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors* 4 (Free Press 1980).

Industry
competitors
Suppliers
Bargaining power
of suppliers
Bargaining power
of buyersentrants
Buyers
Rivalry among
existing firms

firms' products are close to perfect substitutes and if interfirm competition is largely based on price, because then interfirm rivalry has a strong depressing effect on industry and firm profits.

The factors described in the previous paragraph have been characterized by Posner as those favorable to collusion.[15] Consistent with how these factors are viewed in antitrust cases, if the perimeter forces working against profit are weak but the center force of interfirm rivalry is strong, the industry is ripe for collusion. Thus, Porter's "Five Forces" framework provides an immediate way to view Section 1 violations.

To adapt the diagram for use in the study of monopolization conduct, we make a slight modification. In Figure 2, we provide the same illustration of Porter's "Five Forces" except that firms in the industry are divided into two groups, the cartel firms and the noncartel firms, which are those that have either chosen not to participate in the car

As depicted in Figure 2, the firms in the cartel have suppressed interfirm rivalry among themselves, but non-cartel firms continue to act as rivals with one another, as well as with the cartel firms. If the cartel firms only suppress rivalry among themselves, and take no additional actions in the market, then the non-cartel firms benefit since they can earn supra-normal profits as a consequence of the conspiracy yet incur none of the costs associated with operating a cartel.

However, viewing the cartel as a single dominant firm, we can now pose the question of what conduct the cartel could engage in that would be above and beyond the suppression of rivalry among firms in the cartel. There are many possibilities in this regard but we envision four broad categories. The first category, which includes behavior designed to harm non-cartel rivals, can be disaggregated into five different types of behavior.

1. Behavior designed to harm non-cartel rivals.
   a. The cartel firms may take actions directed at non-cartel firms, such as initiating anti-dumping complaints with the goal of preventing foreign non-cartel firms from being able to undercut the artificially increased cartel price[16] or withholding cost-reducing or quality-improving technology. The cartel may also put pressure on non-cartel firms to accommodate certain cartel actions.
   b. The cartel firms may enter into contracts with their own buyers that are designed to harm the ability of the non-cartel firms to negotiate with those buyers. For example, the use of fidelity discounts, tying, or bundling by the cartel reduces buyers' ability to substitute between firms in the industry. Non-cartel firms are harmed because these contracts increase buyer bargaining power vis-à-vis non-cartel firms.
   c. The cartel firms may take predatory actions directed at the non-cartel firms' buyers, such as undercutting the non-cartel prices and otherwise targeting the non-cartel firms' buyers.
   d. The cartel firms may deprive the non-cartel firms of supply or increase what the non-cartel firms must pay for inputs (raising rivals' costs) through contractual arrangements, such as exclusivity, with cartel input suppliers.
   e. The cartel firms may deprive the non-cartel firms of supply or increase what the non-cartel firms must pay for inputs (raising rivals' costs) through interference with the non-cartel firms' input suppliers.

[16] Non-cartel firms that are within the same country or trading area as the cartel firms may benefit from anti-dumping tariffs imposed on foreign producers.

For example, if cartel firms are vertically integrated into a downstream market, and if they supply their downstream competitors, they may increase prices to disadvantage competitors in the downstream market.

2. The cartel firms may engage in actions designed to deter entry. Entry deterrence may help non-cartel firms as well as cartel firms. Examples of anticompetitive behaviors that raise entry costs include exclusive or excessively long contracts with c

Table 1: Cartels and Monopolization Conduct

When analyzing the table, it is important to note that just because we have

past the narrow issue of the suppression of interfirm rivalry in cartel investigations, expanding the scope of their investigations to monopolization conducts of all sorts and varieties that cartels may subsequently adopt once the cartel begins to function as a single dominant firm. For example, when addressing amnesty applicants and in depositions, antitrust authorities could ask whether there were any monopolization conducts and inquire about the specific conducts listed in Table 1. Parties charged could also be asked about the presence of monopolization conduct.

Second, some rows have no entries. In other words, for some cartels there is nothing in the record that we reviewed that suggests monopolization-like conduct. This observation does not imply the absence of such behaviors by these cartels, but rather that there was nothing reported regarding such conduct. One might hypothesize that some cartels did not engage in monopolization because they were having difficulties with the basic suppression of rivalry and so the cartel was unable to achieve the market power necessary to function as a dominant entity and engage in monopolization. Such a hypothesis suggests that we would observe less monopolization behavior from relatively ineffective cartels and more from effective cartels. There are examples in our data that support this, such as the cartel in *Carbonless Paper*,[30] which appears to have been relatively ineffective, and for which there is no evidence of monopolization conduct. However, our data are insufficient to allow us to make a firm conclusion. For example, the

Fourth, there are some EC decisions that give attention to monopolization behavior such as those in Vitamins,[33] Graphites (including Specialty Graphites

of this conduct. It is important that public enforcement authorities, when investigating specific cartels, gather exhaustive information about monopolization conduct, including the motivations and intents for these conducts as revealed by cartel participants, so as to advance our understanding of monopolization.

IV. CONCLUSION: POLICY IMPLICATIONS

Recognition of the analytical and behavioral links between the historically separate areas of cartel and dominant firm behavior suggests a number of future directions for public enforcement policy and research by competition authorities. First, competition agencies should more fully explore and catalogue evidence of monopolization conduct on the part of cartels. Economists and lawyers within the public agencies in Europe and the United States have incomparably large bodies of data involving cartels, and other competition agencies have access to an increasingly broad range of information regarding the conduct of cartels. This information has the potential to extend well beyond the kind of standard descriptions that are found in EC decisions or in published case reports in the United States.[40] If this work is undertaken effectively inside public agencies that traditionally have placed cartel and monopolization matters in discrete compartments, then perhaps the artificial nature of this compartmentalization will become obvious and the experience of those who have focused on cartel cases will add to the analyses of those addressing monopolization concerns.

Second, we need to understand better the information reported in EC decisions and other official accounts of cartels. Decisions written narrowly to describe only Section 1 violations may truncate many monopolization behaviors. In other words, the omission of Section 2 conduct in a description of a Section 1 violation does not necessarily imply the absence of Section 2 conduct.

Third, we need to understand under what circumstances cartels extend past the suppression of intra-cartel rivalry and move into the realm of monopolization conduct. A number of conjectures arise in this regard. If a cartel struggles to suppress interfirm rivalry among its members, then it seems unlikely the cartel can undertake monopolization conduct. In other words, a cartel has to function as a single dominant firm in order to move forward with some kind of monopolization conduct.

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40 Many of the cases included in Table 1 have US counterparts involving many of the same market participants. Examples include *Amino Acids (Lysine)*, *Citric Acid*, *Choline Chloride*, *Graphite Electrodes*, and *Vitamins*.

Fourth, some cartels engage in a full range of monopolization behaviors. As Table 1 shows, examples include Vitamins, Specialty Graphites, Incandescent Electric Lamps, and Chemicals. Other cartels engage only in a limited set of monopolization conduct. What accounts for this heterogeneity? There are many ways for a cartel to increase its members' profits. It is reasonable to assume that cartels select those behaviors that offer the greatest expected return. Thus, heterogeneity in the use of monopolization behavior may be explained by heterogeneity in the expected returns from those behaviors across different cartels. It remains an open question what features of an industry, product, and marketplace help explain these differences.

Fifth, as a direct lesson for the study of monopolization conduct, we argue that when a successful cartel engages in such activities there may be a presumption that the activity is not procompetitive. Cartels exist to suppress competition. When a cartel goes past the suppression of intra-cartel rivalry to initiate or coordinate additional conduct known to be potentially anticompetitive, it seems reasonable to assert that such conduct is anticompetitive in this situation. This observation is valuable because it suggests that cross-industry comparisons can help us understand the procompetitive and anticompetitive nature of such conduct. For example, if we see a particular form of exclusive dealing by cartel firms in the auto industry, then the same kind of exclusive dealing by a single dominant firm in the truck industry may be of much

merger coordination. However, such conduct is a potential social harm, so the antitrust agencies should consider this when reviewing a merger.

Seventh, the study of cartel monopolization conduct has implications for determining the standing of non-cartel firms to bring private suits against the

monopolization conduct in an oligopolistic industry to begin an inquiry for the presence of a cartel.

Tenth, the abuse of government regulations by cartels to thwart entry and damage non-cartel firms is well chronicled. A cartel may pursue and win an anti-dumping claim against a foreign competitor, essentially using the government process as an entry deterrent and/or predatory device.

In summary, we hope the type of analysis proposed here can be useful in guiding antitrust authorities as to where they should direct monopolization resources. One implication of this Article is that antitrust authorities should not segregate the analysis of Section 1 and Section 2 cases. A second implication is that antitrust authorities pursuing Section 1 violations should aggressively investigate the presence or absence of monopolization behaviors by the cartel, including the deliberations among cartel members associated with these behaviors.

For many monopolization behaviors there are tradeoffs between the procompetitive and anticompetitive aspects of the behavior. This justifies the use of a rule-of-reason standard in these cases. But because the rule of reason is applied, a deep understanding of the motivations for and implications of monopolization conduct is required in order to successfully prosecute and deter anticompetitive behavior. We argue that one way to move in the direction of that deeper understanding is to maximize the information gained from cartel prosecutions regarding monopolization conduct and to use that information to inform the analysis of monopolization cases.

In our ongoing research, we will continue to investigate the issues discussed here and the features of cartel structure more generally. Our investigation of the structure of cartels has the potential to help us understand the additional tradeoffs relevant for cartels considering monopolization behavior. For example, there may be monopolization behaviors that are profitable for the cartel but that leave smaller cartel members in a precarious position should the cartel dissolve.[47] In this case, there may not be consensus within the cartel to engage in the behavior. Thus, a cartel's structure can be expected to influence the conduct in which it engages. We hope our investigations of cartel structure will shed light on these issues, and, as emphasized in this Article, potentially help our understanding of the behavior of single dominant firms.

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[47] An example would be establishing the largest cartel member as a buying agent for inputs for the cartel, supported by exclusive dealing provisions between input suppliers and the largest cartel member.