COMMON OWNERSHIP AND COORDINATED EFFECTS

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Can shareholders act in ways that interfere with competition in the product markets of firms whose shares they own? Are shareholders that own shares of competitors ("common shareholders") better able or more likely to do so than shareholders that own shares in only one competitor ("non-common shareholders")? If so, how? What are the channels through which shareholders transmit anticompetitive signals? Can shareholders increase the likelihood of anticompetitive coordination between competitors by facilitating the detection and punishment of cheating? Are common or non-common shareholders more or less dangerous? Should antitrust law address these problems and, if so, how?

In this article, we explore a variety of factual scenarios that potentially raise significant antitrust issues from both an economic and a legal perspective. Although we do not believe that a case has been made that common ownership has *systemic* anticompetitive effects, as some have argued, we do believe that, in particular factual contexts, shareholders (common *and* non-common) can behave in ways that cause the firms in which they have an ownership interest to act anticompetitively. When they do, antitrust enforcers may need to intervene.

As a result, although we oppose broad market-wide reforms that would, force divestiture or limit share ownership by large institutional investors, we do believe that antitrust enforcers should remain vigilant in scrutinizing cooperative behavior facilitated by shareholders. This article is an effort to analyze the specific contexts in which coordinated anticompetitive effects resulting from low levels of common share ownership (less than 15 percent) are plausible, and then to analyze how the law can strike the difficult balance between pro and anticompetitive effects, while avoiding the unnecessary chilling of shareholder involvement in corporate governance. Our analysis is, by necessity, preliminary because the application of Section 1 of the Sherman Act and Section 7 of the Clayton Act to particular fact situations will be context-specific.

With the shift from individual shareholding to holding through investment intermediaries, the distribution of shareholding has been transformed. In place of the old "dispersed ownership" model in which individuals directly owned shares, the overwhelming proportion of shares in U.S. corporations are now held by institutional investors of one sort or another: mutual funds, insurance companies, pension funds, and endowments. One consequence of this "de-retailization" has been increased concentration of shareholdings. In recent years, with the increased popularity of passive investment strategies (e.g., index funds and exchange-traded funds ("ETFs")), the fund families that manage the largest index funds and ETFs—BlackRock, Vanguard and State Street—have become the largest shareholders of many or even most public companies. Often the "big three" will each hold in excess of five percent of the shares and many times more than six or even seven percent.

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Along with the increased concentration of shareholding, shareholders have become far more active in corporate governance than in the past. We are living in a period of "shareholder engagement." Activist hedge funds identify firms that they believe are underperforming, offer new strategies, and, if companies resist, sometimes use proxy contests or the threat of proxy contests to elect new directors who will try to implement those strategies. Decades of efforts to encourage institutional shareholders to become involved in corporate governance have been modestly successful, with most of the largest institutional investors creating proxy voting groups that meet regularly with the management of the portfolio companies they own. Likewise, actively managed mutual funds engage regularly with companies as they seek to identify investments that will increase in value, and sometimes intervene in management decisions to push companies in one direction or another. The old model of shareholder passivity has been transformed.

Recently, some economists have argued that this increase in shareholder concentration (which has led to greater common ownership) has led to anticompetitive effects in the product markets of firms in concentrated industries, focusing on airlines and banking.[1] In a widely discussed article, Jose Azar, Martin Schmaltz and Isabel Tecu ("AST") argued that ticket prices in the airline industry are as much as 10% higher than they would have been had shareholding been dispersed.[2] Based on these findings, Einer Elhauge has argued that the current distribution of shareholdings—both in these two markets and more generally—is anticompetitive and violates Section 7 of the Clayton Act.[3] Eric Posner, Fiona Scott Morton, and Glen Weyl, likewise building on AST, have argued that diversified shareholders should either limit their holdings to 1% in any concentrated market or commit to complete governance passivity ("put the shares in a drawer").[4]

These views have attracted widespread scholarly attention, and have even begun to exert some influence on enforcement authorities, because they suggest that there is a systemic problem that should be treated with a systemic reform. For example, in the European Commission's review of the 2017 Dow/DuPont merger, the Commission devoted a lengthy appendix to reviewing the common ownership literature, and, relying on AST's "unilateral effects" analysis, the Commission concluded that "current market shares and concentration measures such as the HHI underestimate the market concentration and the market power of the parties."[5]

As we have explained in a prior article, we are unconvinced by AST's "unilateral" effects analysis and thus unconvinced that there is sufficient justification for broad reforms.[6] On the other hand, the increased concentration of shareholdings *could* make coordination of conduct among competitors easier

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[1] Jose Azar et al., *Anticompetitive Effects of Common Ownership*, 73 J. FIN. 1513 (2018); Jose Azar et al., *Ultimate Ownership and Bank Competition* (2016), ssrn.com/abstract=2710252.
[2] Azar, *Anticompetitive Effects of Common Ownership*, *supra* note 1.
[3] Einer Elhauge, *Horizontal Shareholding*, 129 HARV. L. REV. 1267 (2016); Einer Elhauge, *The Growing Problem of Horizontal Shareholding*, 3 CPI ANTITRUST CHRON. (2017). For an important earlier treatment of cross-ownership that provides a foundation for the more recent debates, see David Gilo, *The Anticompetitive Effect of Passive Investment*, 99 MICH. L. REV. 1 (2000).
[4] Eric A. Posner et al., *A Proposal to Limit the Anti-Competitive Power of Institutional Investor*s, 81 ANTITRUST L.J. 669 (2017).
[5] Case M.7932 – Dow/DuPont, Comm'n Decision, Annex 5, p. 17 (Mar. 3, 2017) (capitalization altered). In fact, a positive MHHI is not necessarily indicative of an increased likelihood of tacit collusion. *See, e.g.*, Menesh S. Patel, *Common Ownership, Institutional Investors, and Antitrust*, 82 ANTITRUST L. J. 279, 319-20 (2018).
[6] Edward B. Rock & Daniel L. Rubinfeld, *Antitrust for Institutional Investors*, 82 ANTITRUST L. J. 221 (2018). [hereinafter "Rock & Rubinfeld I"].

and more effective. These potential "coordinated effects" require increased antitrust scrutiny.[7] "Coordinated effects" are traditionally at the core of both enforcement of Sherman Act Section 1 against cartels as well as against conduct in concentrated markets that has potential anticompetitive effects but falls short of the legal definition of horizontal price-fixing or market division.

In this article, we analyze a variety of potential *coordinated* effects of low levels of share ownership (<15% without board representation), with particular attention to common owners. Focusing on oligopolies where there is a meaningful possibility of collusion, we sketch out different ways in which shareholders could potentially facilitate the coordination and enforcement of oligopolistically-competitive prices, the underlying economics, and what the law can and should do about it. There are at least four separate questions associated with these scenarios. First, as a matter of economic analysis, can share ownership increase the likelihood that there will be "coordinated effects" or strengthen any existing coordination, and, if so, how? Second, are common shareholders more dangerous to competition than non-common shareholders? Third, under current law, what sorts of conduct by shareholders may expose the shareholders and the competing portfolio firms to liability? Fourth, as a matter of policy, should the law be changed and, if so, how?

Our antitrust concerns are made somewhat more concrete by news accounts of shareholder coordination like one in the Wall Street Journal in December 2017 regarding oil and gas producers.[8] The article reported that "twelve major shareholders in U.S. shale-oil-and-gas producers met this September in a Midtown Manhattan high-rise with a view of Times Square to discuss a common goal, getting those frackers to make money for a change." The article goes on to recount how participants in the meeting from Invesco, Ltd., Neuberger Berman, and other firms then began to lean on portfolio firms to cut back on drilling.

Although we have no evidence beyond the article, it makes us wonder what could have occurred behind closed doors. Suppose that the participants in the meeting agreed collectively to lean on the shale oil producers to reduce output, did so, and that pressure resulted in lower output and higher oil prices. Would that violate Section 1 of the Sherman Act? More generally, could shareholder representatives—who stand to benefit from reduced competition in product markets, higher product prices, and higher share prices—play a role in coordinating or facilitating the coordination of competing firms? Would common owners be more effective at doing so than non-common owners? When do potential anticompetitive effects outweigh the legitimate business or public policy benefits from

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[7] Antitrust analysis distinguishes between two separate channels through which competition in markets can be impaired. First, in some cases a change in market structure (e.g., through a merger between the third and fourth largest producers in a concentrated market) will lessen competition post-merger by changing the incentives of post-merger firms to compete. Thus, by eliminating the competition between the two merging firms, a merger may by itself substantially lessen competition in a relevant market. In some cases, the post-merger firm will find it profitable to raise its prices assuming no change in the behavior of its competitors. The adverse consequences are referred to as "unilateral effects." U.S. Dep't of Justice & Fed. Trade Comm'n, Horizontal Merger Guidelines § 6 (2010) [hereinafter "HMG"]. Second, sometimes, a change in market structure "may diminish competition by enabling or encouraging post-merger coordinated interaction among firms in the relevant market that harms customers." These are known as "coordinated effects." *Id.* § 7.

[8] Bradley Olson & Lynn Cook, *Wall Street Tells Frackers to Stop Counting Barrels, Start Making Profits*, WALL ST. J. (Dec. 13, 2017), www.wsj.com/articles/wall-streets-fracking-frenzy-runs-dry-as-profits-fail-to-materialize-1512577420?mod=searchresults&page=1&pos=1.

shareholder involvement in corporate governance? Finally, what sorts of coordination should raise serious antitrust concern? This article attempts to answer these questions.

In Part I, we provide a brief summary of how antitrust law applies to oligopolies. In Part II, we review how *high* levels of cross ownership or common ownership can impact competition and how antitrust treats such cases. In Part III, we examine why shareholders may be particularly good "cartel organizers" and the relative advantages and disadvantages of common and non-common owners, as well as the basic antitrust economics of "cheap talk." We then turn, in Part IV, to the potential for anticompetitive coordinated effects from *low* levels of share ownership and provide an economic and legal analyses of four hypothetical scenarios based on actual cases: shareholders (common and non-common) as initiators of coordinated behavior; common owners as a trustworthy conduit between competitors; common owners advocating for a uniform executive compensation structure as a facilitating practice; and finally, common owners as a source of transmission of anticompetitive practices, i.e., a "vector of infection." We then turn to the potential role of common ownership in merger review, and in particular in evaluating unilateral and coordinated effects. We close with a brief conclusion.

I. OLIGOPOLIES IN ANTITRUST LAW

The potential competitive effects of cross ownership and common ownership have been identified as a potential antitrust issue for decades, going back at least to the U.S. Supreme Court's analysis in the case brought by the Department of Justice against Du Pont to force divestiture of its stock ownership in General Motors.[9] In order to understand the relevant economic analysis and legal treatment, a bit of stage setting is in order. Highly competitive markets are very difficult to organize into cartels because of the number of competing producers. In concentrated markets, things are different. The twin challenges of coordinating price and output, then enforcing the coordinated terms against the threat of cheating are made more tractable by the small number of competitors. With only a few competitors, only a few firms need to coordinate, and cheating can be more easily detected through a drop in sales or by knowledge of price cutting behavior by a competitor.[10] Cheating can be punished more easily by reciprocal action.

But competitive oligopolies are widespread. Even in oligopolies, coordination will not always be profitable and, in any case, successful coordination is hard because firms have different (and changing) cost structures, demand is constantly changing, the risk of cheating is real, and there may be limited mechanisms for punishing cheating. Firms in an oligopoly end up competing even if they would prefer not to. However, in some market conditions, firms are sufficiently informed and conscious of their competitors' behavior—and recognize hard competition will be met with a hard response that injures the competing firms—that they manage successfully to achieve a "soft competition" equilibrium. How does this happen? And what, if anything, should the law do about it? This, in a nutshell, is antitrust's classic "oligopoly problem."

The basic law applicable to oligopolies is easy to summarize but hard to apply. To the extent that firms in an oligopoly manage to achieve a noncompetitive outcome through parallel interdependent

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[9] United States v. E.I. du Pont de Nemours & Co., 353 U.S. 586 (1957).

[10] We have, for simplicity, omitted a discussion of capacity coordination. In addition, our small number of firms point applies when there are multiple fringe firms in the market, so long as the production capacity of the fringe firms is limited.

behavior—"tacit collusion" or "conscious parallelism"—it is legal.[11] If, on the other hand, they achieve the noncompetitive outcome through an agreement, tacit or otherwise, they have violated Section 1.[12] The difference between "tacit collusion" and "tacit agreement" is subtle and much litigated, with "agreement" requiring "plus factors" – i.e., facts suggestive of actions beyond consciously parallel conduct. What counts as a "plus factor" and what needs to be proved to establish an agreement is the subject of continuing debate.[13]

It is worth reviewing how U.S. law gets to this result. The starting point is Donald Turner's classic 1962 article, "The Definition of Agreement under the Sherman Act."[14] Turner makes the very important point that, while we *could* conclude that firms in an oligopoly that set price or output while taking into account their competitors' likely reactions ("conscious parallelism") have engaged in an "agreement to fix price" or output, we *should not* do so.

Why not? Because we cannot come up with a sensible remedy. Imposing damages when a firm is doing no more than taking into account the likely behavior of competitors is wrong because the firm has no choice but to set price with regard to market conditions.[15] In addition, we shouldn't prohibit an oligopolist from independently charging the profit maximizing price when we don't prohibit a monopolist from doing so. Furthermore, doing so would place the courts in the position of regulating prices. Finally, and decisively, it is impracticable to write or enforce an order enjoining firms *not* to take competitors into account when competitors will inevitably respond.

Thus, for Turner, it is important to prevent the emergence of these problematic oligopolistic market structures. There are several ways to do so. First, Turner argues that one can use Sherman Act Section 1 to attack the *means* of facilitating the formation or maintenance of a coordinated outcome such as common use of delivered pricing, exchange of competitively sensitive information, exclusionary purchases or common adoption of resale price maintenance. These sorts of practices have become known as "facilitating practices." Second, Turner argues for preventing the emergence of problematic market structures through merger regulation. Indeed, as Assistant Attorney General for Antitrust, Turner put these principles into practice in promulgating the Department of Justice Merger Guidelines.

U.S. law has largely followed Turner's recommendations. The starting point is that parallel conduct by itself is not sufficient to establish an agreement under Section 1.[16] Plaintiffs must also prove the existence of factors that tend to exclude the possibility of independent action or lawful conscious

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[11] The Horizontal Merger Guidelines reference "parallel accommodating behavior." HMG, *supra* note 7, § 7.

[12] The legal standard is quite different when an acquisition is involved. Under the Clayton Act, section 7, a merger that increases the likelihood of tacit collusion will be deemed a violation if there is a substantial likelihood that the acquisition will harm competition.

[13] Not all commentators are comfortable with the term "tacit agreement" since the term has on occasion been used to characterize interdependence alone. *See* 6 PHILLIP AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 1420d, at 157 n.26 (2d ed. 2010). For a thoughtful overview of the complex economic and legal issues surrounding the agreement requirement, see LOUIS KAPLOW, COMPETITION POLICY AND PRICE FIXING (Princeton Univ. Press 2013), especially Chapter 7.

[14] Donald F. Turner, *The Definition of Agreement Under the Sherman Act: Conscious Parallelism and Refusals to Deal*, 75 HARV. L. REV. 655 (1962).

[15] *See* Donald I. Baker, *Donald Turner's Merger Guidelines as an Antitrust Watershed*, 53 REV. INDUS. ORG. 435 (2018).

[16] For a very useful summary and analysis of current law, see William H. Page, *Tacit Agreement Under Section 1 of the Sherman Act*, 81 ANTITRUST L. J. 593 (2017); AREEDA & HOVENKAMP, *supra* note 13, ¶ 1412.

parallelism, sometimes called "plus factors."[17] What counts as a "plus factor" is context specific, and there is no definitive list, but they include facilitating practices that would be contrary to each party's self-interest unless pursued as part of a collective plan to coordinate.[18]

Courts differ in how they describe this additional element. In Areeda and Hovenkamp's summary, they note that "several legal formulas regularly appearing in the parallelism decisions: that there should be no inference of conspiracy (1) in the absence of a common motive to conspire, a benefit from agreement, or action contrary to self-interest; or (2) in the presence of an independent reason for the challenged action."[19] In essence, courts are asking for an economically plausible theory of why the observed parallel conduct is, in fact, the result of interdependent action, and evidence that supports such a theory.

For the scenarios of most interest to us, some examples will illustrate how the courts try to distinguish between legal "tacit collusion" and illegal "tacit agreement." An "invitation to collude" can serve as evidence of a conspiracy, even though an invitation to collude is not itself a violation of Section 1.[20] But "invitations to collude" are plus factors when they tend to exclude independent action.

Plaintiffs will sometimes rely on a "signaling" theory to establish an agreement. In *Holiday Wholesale v. Philip Morris*,[21] a class action alleging a price fixing conspiracy among cigarette manufacturers, one of plaintiffs' theories was that the defendants had formed a cartel by signaling through a securities analyst. The analyst allegedly followed all the firms in the industry, participated in all the earnings calls, and published research reports on a regular basis in which he discussed future pricing trends. The court was unimpressed by the evidence that the analyst had been used by the defendants to communicate with each other.[22] Because the information was the kind of information normally conveyed to shareholders, according to the court, plaintiffs could not rely on that information to support an inference that defendants were seeking to collude (as opposed to secret communications among defendants, for example).[23]

As a matter of legitimate inferences, this makes sense. On the other hand, it would be a mistake to conclude that conspiracies could not be formed and conducted through communications in public forums like earnings calls, or that the fact that certain kinds of information are of legitimate interest to shareholders means that the communications cannot also be a means through which an agreement is formed.

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[17] Williamson Oil Co. v. Philip Morris USA, 346 F.3d 1287, 1301 (7th Cir. 2003); Holiday Wholesale Grocery Co. v. Philip Morris Inc., 231 F. Supp. 2d 1253, 1274 (N.D. Ga. 2002) (quoting City of Tuscaloosa v. Harcos Chems., Inc., 158 F.3d 548, 572 (11th Cir. 1998)).

[18] *See* William E. Kovacic et al., *Plus Factors and Agreement in Antitrust Law*, 110 MICH. L. REV. 393 (2011).

[19] AREEDA & HOVENKAMP, *supra* note 13, ¶ 1412a.

[20] Attempted price fixing is not a violation of Section 1. Although Section 2 applies to both monopolization and attempted monopolization by its terms, Section 1 only prohibits contracts, combinations and conspiracies, but not the attempt to achieve an agreement, and there is no general federal "attempts" crime. As will be discussed below, unrequited invitations to collude can be prosecuted under Section 5 of the FTC Act.

[21] 231 F. Supp. 2d at 1265, *aff'd sub nom.* Williamson Oil v. Philip Morris, 346 F.3d 1287 (11th Cir. 2003).

[22] In addition, the court held that "Plaintiffs have documented nothing reaching the level of prohibited exchanges, but rather have described the type of information companies legitimately convey to their shareholders." *Id.* at 1276-77.

[23] *See also In re* Delta, *infra* note 74.

An approach in the spirit of Turner would be to draw the distinction between legitimate shareholder communications and illegitimate coordination between competitors pragmatically. Here the idea is to declare illegal under Section 1 conduct that can be identified, but only when prohibiting that conduct does not put the parties or the courts in a nearly impossible position and when prohibiting the conduct will improve the competitive landscape at acceptable cost (i.e., the prohibition does not chill procompetitive conduct).

This challenge can be illustrated by two contrasting cases. Consider, first, a duopoly in which neither member sells in the other's territory. A perfect example is *ICI/Solvay*.[24] For decades, the two dominant specialty chemical producers, ICI and Solvay, had sold to different markets: ICI sold in the UK and the Commonwealth; Solvay on the continent. Although there had been an illegal cartel decades before, there was little evidence of "facilitating practices."[25] The logic of the market division seems to have been so clear to both companies that it could continue and persist with pure conscious parallelism. Here, there was no linguistic or semantic objection to calling this a concerted practice or an "agreement." The problem, as Turner argued decades before, is identifying the remedy that a court or regulator should order. An injunction can order the parties to bring the infringement to an end, but what are they supposed to do? Sell in the other's territory? How much to sell? How much effort to expend? Does ICI have to open an office in Paris? The problem with enjoining parties in these situations is that these questions must be answered and cannot.[26] Moreover, there is a larger problem – the courts would be acting in the role of regulators rather than relying on market participants, a role that is likely to generate suboptimal results.[27] From a pragmatic perspective, it is best to leave this situation alone.

At the other extreme is a classic "smoke-filled room" price fixing agreement. The conduct—meeting in private, exchanging detailed pricing information, and agreeing to charge a high price and not to cheat—can be identified. Prohibiting it (and imposing criminal sanctions and treble damages) is something the court can do without putting the parties in the position of trying to force competitors to act without taking competing firms into account; and the remedy does not harm society. Telling competitors not to meet with each other privately, and not to discuss competitively sensitive topics, meets the pragmatic test because nothing of value is lost by compliance.

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[24] The EU Commission's decision in *ICI/Solvay* is the purest example of this. Case IV/ 33.133-A: Soda-ash — Solvay, ICI, 1991 O.J. (L 152) 1. The original decision was annulled by the European Court of First Instance on procedural grounds, but then readopted by the Commission. European Commission Press Release Database, ip/00/1449, EC (2000).

[25] The main practice identified was that, when ICI could not supply customers in the UK because of a reduction of output, it would purchase soda ash from Solvay for resale ("purchase for resale").

[26] According to Judge Posner , "A seller must decide on a price; and if tacit collusion is forbidden, how does a seller in a market in which conditions (such as few sellers, many buyers, and a homogeneous product, which may preclude non-price competition) favor convergence by the sellers on a joint profit-maximizing price without their actually agreeing to charge that price, decide what price to charge? If the seller charges the profit-maximizing price (and its "competitors" do so as well), and tacit collusion is illegal, it is in trouble. But how is it to avoid getting into trouble? Would it have to adopt cost-plus pricing and prove that its price just covered its costs (where cost includes a "reasonable return" to invested capital)? Such a requirement would convert antitrust law into a scheme resembling public utility price regulation, now largely abolished." *In re* Text Messaging Antitrust Litig., 782 F.3d 867, 874 (7th Cir. 2015).

[27] One other possible remedy is to enable customers to remove contractual provisions (e.g., exclusive dealing with n=I arrangements) and give the customers the option of changing suppliers, and perhaps an injunction prohibiting price or service discrimination based on customer location. These are common clauses in merger consent decrees where the agency wants the customers to move with the divested business or address some other harm.

As we will discuss below, there are a variety of pragmatic considerations that a court should take into account in considering whether oligopoly pricing that is arguably facilitated or stabilized by the presence of common or non-common shareholders crosses the legal line. In thinking about the role of common and non-common owners in oligopolies, the principal challenge is the tension between the potential anticompetitive effects and the competitive benefits of shareholder engagement in controlling the agency costs of delegated management. In that regard, we need to address the question of what will be lost if large shareholders, common and not common, cannot talk frankly about future, competitively significant matters with companies. Importantly, well-managed companies are companies that seek to become more valuable and, in doing so, will tend to increase competition—and thus increase consumer welfare—so long as they do not engage in anticompetitive behavior.[28]

In light of these pragmatic considerations, it should not be surprising that only a subset of the situations in which the presence of common owners potentially causes anticompetitive effects turn out to be illegal. This, after all, is the case with oligopolies more generally, much to the chagrin of those who think that evidence of anticompetitive effects alone should be a sufficient basis for illegality.[29]

II. HOW HIGH LEVELS OF CROSS OWNERSHIP OR COMMON OWNERSHIP CAN INTERFERE WITH COMPETITION

In this Part, we review the existing legal and economic analyses of cross and common ownership, before turning to issues potentially raised by shareholder engagement at low levels of ownership in Part III. The distinction between cross ownership and common ownership is an important one. With *cross ownership*, the owner's unilateral incentives to increase price are affected and prices are likely to increase because the firm acquiring an interest has effectively captured a portion of the other firm's revenues or profits. In contrast, with *common ownership*, the question arises as to whether each firm that is commonly owned will still maximize the value of its own stock or instead the value of the common owner' stock portfolio. With cross ownership, the modified HHI ("MHHI") offers a difficult-to-measure, but reasonable characterization of the firm's market power.[30] With common ownership, the modified HHI may not be appropriate and a coordinated effects analysis becomes more relevant.[31]

A. POTENTIAL ANTICOMPETITIVE EFFECTS OF CROSS OWNERSHIP

The starting point for our common ownership analysis is the recognition that anticompetitive effects can emerge in situations that fall in between the classic examples of naked horizontal price fixing agreements (which eliminate price competition without any offsetting benefits) and horizontal mergers (which eliminate all competition between the merging firms but with potential efficiency benefits). Consider, for example, a production joint venture among three of the larger firms in an industry, in which each firm has board representation but none has control. Joint ventures of this structure have

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[28] Edward Rock, *Corporate Law Through an Antitrust Lens*, 92 COLUM. L. REV. 497, 519-24 (1992).
[29] KAPLOW, *supra* note 13.
[30] The Herfindahl-Hirschman Index (HHI) is the sum of the squares of the market shares. The MHHI or Modified HHI is a measure of market power that incorporates the implied levels of concentration due to common ownership.
[31] *See* C. Scott Hemphill & Marcel Kahan, *The Strategies of Anticompetitive Common Ownership*, YALE L. J.., forthcoming.

been challenged by the DOJ's Antitrust Division on the basis that control over output and price can be effectuated through coalition formation among the joint venture members.[32]

Suppose, alternatively that Firm 1, with a market share of 50 percent, seeks to acquire a 30 percent ownership position in Firm 2 in the same market. Does such an acquisition substantially lessen competition such that the DOJ should challenge it? In some cases, the anticompetitive effect of the cross ownership would almost certainly trigger a challenge.[33]

Both of these examples are of the type that motivated the 2000 contribution of Daniel O'Brien and Stephen Salop, building on earlier work by Bresnahan and Salop.[34] The economic analysis of the likely price effects of horizontal mergers is well understood. It follows a *unilateral effects* framework in which the unilateral incentives and conduct of Firm 1 are understood to change, regardless of whether the acquisition is complete or partial. Within this framework, the acquiring firm (Firm 1) has a greater incentive to increase its price because it knows that a portion of the profits that would have been lost to Firm 2 is now internalized within the firm. O'Brien and Salop take this framework a step further by suggesting that the traditional HHI measure of concentration be modified (into the MHHI) to reflect the changed pricing incentive created by the cross ownership. It is important to note that this unilateral incentive does not require that Firm 1 control Firm 2. However, all else being equal, any adverse effects are likely to be magnified when Firm 1 has post-acquisition control over Firm 2. Indeed, when there is control, we have to consider the added possibility that there will be adverse coordinated effects because Firms 1 and 2 can now coordinate and determine both firms' profit-maximizing prices.

As O'Brien and Salop (2000) notes, the anticompetitive effects of common ownership are similar to that of cross ownership in that common ownership can be understood to be ownership in one (arbitrarily chosen) firm, coupled with cross ownership in the others.

B. The Legal Treatment of Common Ownership at High Levels of Ownership

As we discussed at length in Rock & Rubinfeld I, there are antitrust cases involving cross ownership and common ownership going back at least as far as the government's case against DuPont to force divestiture of its 23% ownership stake in General Motors in 1956.[35] The most important modern case evaluating common ownership is *United States v. Dairy Farmers of America*.[36] There, the large dairy cooperative, Dairy Farmers of America (DFA), held a 50 percent interest in National Dairies and then acquired a 50 percent interest in Southern Belle, a dairy that was the sole competitor of National Dairy in a variety of markets. In their original agreements, DFA had voting rights in both companies, joint

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[32] *See* Daniel L. Rubinfeld, *The Primestar Acquisition of the News Corp./MCI Direct Broadcast Satellite Assets*, 16 Rev. Indus. Org. 191 (2000). *See generally* DOJ & FTC, Antitrust Guidelines for Collaboration Among Competitors (2000), www.justice.gov/atr/joint-venture-guidelines.

[33] If the remaining 20 percent of the market was accounted for by a large number of small competitors, the HHI would be slightly greater than 3400 (a highly concentrated industry) and the delta would be 1500 (way above the 200 delta cutoff suggested by the 2010 issue of the DOJ/FTC Horizontal Merger Guidelines at Section 5 ("an increase in the HHI of more than 200 points will be presumed to be likely to enhance market power").

[34] Daniel O'Brien & Stephen Salop*, Competitive Effects of Partial Ownership: Financial Interest and Corporate Control*, 67 Antitrust L.J. 559 (2000); Timothy Bresnahan & Steven Salop, *Quantifying the Competitive Effects of Production Joint Ventures*, 4 Int'l J. Indus. Org. 155 (1986).

[35] United States v. E.I. du Pont de Nemours & Co., 353 U.S. 586 (1957).

[36] 426 F.3d 850 (6th Cir. 2005). One of the authors, Edward Rock, worked on this case as a consultant for the DOJ's Antitrust Division and provided an opinion on the corporate governance aspects.

operating rights, the ability to veto salaries and major investments, and a long history of profitable joint ventures with both partners. Prior to filing a summary judgment motion, the DFA/Southern Belle operating agreement was modified to eliminate management rights and to make DFA's interest in Southern Belle nonvoting. The district court granted summary judgment on the grounds that the government had not demonstrated that DFA had control over Southern Belle under the revised operating agreement and that, without control, there could be no Section 7 violation. The Sixth Circuit reversed on several grounds including that the district court failed to consider the original agreement under which DFA had control; and, even under the revised agreement, the government had proffered sufficient evidence that the likely *effect* of the acquisition would be to substantially lessen competition.

In *Dairy Farmers*, as in similar government enforcement actions, the common or cross owner had high levels of ownership (more than 20-25 percent) and often various other levers of control, including the right to designate director on the board. In such cases, the basic story is that, with levels of ownership and influence approaching control, a common owner can facilitate and stabilize an anticompetitive outcome by signaling a desire to maximize joint profits backed by a credible threat of termination of the key executives of the partially owned firm.

To use a hypothetical situation based on the airline example that is at the center of AST's unilateral effects analysis, if Warren Buffett owned 30% of each of the airlines and sat on their boards, many would presume that this would have an effect on competition, whether through some sort of unilateral effect (each airline in setting its pricing strategy would see Mr. Buffett in the boardroom and realize that competing against Mr. Buffett's other airlines would make him unhappy) or because senior management in each firm would understand that the "collusive" outcome is preferred by someone who could fire him or her. In the event that a low level manager engages in hard competition, Mr. Buffett's presence on the board will motivate the CEO to ensure the low level manager is identified and punished, for fear of Buffett raising a question at the next board meeting.

This is, in essence, a "cartel stabilization" story. In the hypothetical situation, Mr. Buffett's presence in the company, the common knowledge that he owned 30% of each competitor, and the common knowledge that he likely had the ability to punish the CEO of each firm, would likely lead to a less competitive outcome. In terms of the standard taxonomy, this would be a combination of unilateral and coordinated effects. The fact that the DOJ Antitrust Division considers whether a common owner has a board seat is significant: a common owner that has directors on each board provides a ready conduit for information sharing and a ready opportunity for reminding (or punishing) management of each firm for failure to pursue the common owner's interests, thereby substantially increasing the likelihood of a coordinated outcome. In this sense, having a board seat might be seen as a "plus factor" when evaluating the likelihood that common ownership will support a collusive outcome.

III. COMMON OWNERSHIP AND OLIGOPOLY

In evaluating the effect of common ownership, we start with what we know about oligopolies. In a "competitive oligopoly," firms compete against each other while recognizing their mutual interdependence. In equilibrium, prices are typically above those in a market in which firms have no market power, but below the levels that would be achieved if the firms coordinated their pricing decisions.

In oligopoly, it is *generally* profitable for firms to coordinate so as to reduce output (expressly, tacitly, or both), with the resulting prices being higher than those when the oligopoly is competitive. But *sometimes* it is not, such as when: firms have different cost structures; there is substantial product differentiation; market demand is relatively elastic; sales are lumpy (large volumes sold at relatively infrequent times); and, inter alia, there are competitive fringe firms with substantial capacity or low entry barriers.[37]

Reaching an "agreement" as to the optimal price/output combination is therefore complex and vulnerable to misunderstandings under certain conditions, especially when the market consists of highly differentiated products. To be sustainable, an agreement requires monitoring, and the threat or use of punishment for firms that deviate from the agreeing pricing-output agreement. A similar outcome can be achieved absent an agreement, but this "tacitly collusive equilibrium" requires that it be in each firm's independent self-interest to reach and then maintain the collusive outcome absent threats from competitors. Tacitly collusive outcomes become substantially more difficult to reach as the number of competitors increases from two to three and up.[38]

In order to achieve a sustainable profit-maximizing coordinated outcome, a variety of issues must be resolved: What is the optimal output and price for the oligopoly as a whole? What is the optimal output and price for each firm in the oligopoly? Are the objectives of the firms aligned, and if not, how can the firms be encouraged to coordinate? How can a coordinated outcome be sustained as the market responds to cost and demand shocks?[39]

In focusing on the potential anticompetitive effects of common ownership, a key issue is how ownership structure affects the likelihood that a coordinated outcome will be achieved, *with or without* an "agreement." As noted above, oligopolies may end up performing less competitively than we would like, but the relevant question is how common shareholders potentially make things worse for consumers?

A. How Can Common Ownership Make Things Worse for Consumers?

Let us start with a baseline question: how will the likelihood of a coordinated outcome be affected by common ownership as opposed to non-common ownership? In other words, does the likelihood of achieving a "soft competition" or "coordinated" equilibrium increase as the shares of common ownership increase?[40] If so, how should we distinguish passive or active behavior by portfolio

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[37] For a more complete discussion of the plus factors, see William E. Kovacic et al., *Plus Factors and Agreement in Antitrust Law*, 110 MICH. L. REV. 393 (2011).

[38] Danel Gore, Sgtephen Lewis, Frances Dethmers, and Andrea Lofaro, *The Economic Assessment of Mergers under European Competition Law*, Horizontal Mergers II: Coordinated Effects, Section 3.3.1.1., p. 370 ("A reduction in the number of players in the market can make tacit coordination easier to achieve and sustain …")

[39] Economics have found that non-cooperative game theory offers useful insights into these questions. While a coordinated outcome is unlikely in a "one-shot game" (as for example with the prisoner's dilemma), continual interaction can be sufficient to sustain coordination in repeated games. *See*, *e.g.*, Vincent P. Crawford & Hans Haller, *Learning How to Cooperate: Optimal Play in Repeated Coordination Games*, 58 ECONOMETRICA 571 (1990).

[40] Using a repeated Bertrand framework, Gilo, Moshe, and Spiegel show that cross ownership can be beneficial in that it can increase the likelihood of a tacitly collusive equilibrium. David Gilo et al., *Partial Cross Ownership and Tacit Collusion*, 37 RAND J. 81 (2006). Menesh S. Patel, *Common Ownership, Institutional Investors, and Antitrust*, 82 ANTITRUST L. J. 279, 320-21 (2018) discusses the conditions under which common ownership is likely to increase or decrease the likelihood of tacit collusion. For an earlier theoretical overview from a European perspective, see Marc Ivaldi et al., European Comm'n, *The Economics of Tacit Collusion, Final Report for DG Competition* (2003).

managers who vote the common owners' shares? As there are no well-validated models that are obviously applicable, we will approach these questions inductively.[41]

As noted, there are a variety of possible mechanisms that may facilitate anticompetitive coordination, ranging from "tacit collusion" to "tacit agreement" to "express agreement." With respect to the latter, the history of antitrust is littered with examples of individual actors playing the role of "cartel ringmaster." Sometimes these are employees of one of the members of the cartel who take the initiative to organize the cartel, either because they are loyal employees of the firm and believe that a cartel is in the firm's interests, doing so increases their personal compensation, or, more commonly, coordinating with competitors allows them to meet high performance demands by supervisors and thereby keep their jobs.

Sometimes the cartel ringmaster is a third party: an employee of a trade association that works to "improve" the conditions of the trade;[42] or a management consultant whose specialty seems to be "cartel organization."[43] In these situations, the ringmaster shares in the profits of the cartel through the fees charged to the cartel members.

Because cartels can be very profitable for member firms, all shareholders—whether common or non-common owners— benefit from a cartel. The increased profits that flow from cartels will thus provide an incentive for both common and non-common shareholders to organize a cartel if they can do so without being detected and sanctioned.

The increasing concentration of shareholdings should focus attention on the potential anticompetitive role of shareholders, common and non-common alike. The emergence of common ownership—a new and growing phenomenon—raises the question of whether it can make a coordinated outcome more likely. There are a variety of ways in which a common owner will potentially be a better "cartel ringmaster" than a non-common owner with an equivalent economic stake, or an interested observer with no shares in any of the firms (e.g., an analyst who follows the industry). There are also a variety of ways in which a common owner can be a less effective cartel organizer than a non-common owner. Compare, in this regard, an investor who owns 2% of each of the four firms (the "common owner" or CO) in the oligopoly versus an investor who owns 8% of one firm (the "non-common owner" or NCO) with the same total investment.

[41] The past year has seen a number of pre-print working papers that have responded to the AST debate. Pauline Kennedy et al., *The Competitive Effects of Common Ownership: Economic Foundations and Empirical Evidence* (July, 2017) use a replication of the AST airline dataset, but replace the concentration measures of AST with common ownership incentive terms and deal with the endogeneity of the concentration measure using a different instrument. They find no evidence that common ownership raises prices. Alex Edmans et al, *Governance under Common Ownership*, draft (May 17, 2018) show that governance through both voice (monitoring) and exit (the sale of assets) can strengthen rather than weaken corporate governance. Matthew Backus et al*., Common Ownership and Competition in the Ready-to-Eat Cereal Industry*, draft (Sept. 6, 2018), in progress, ask whether there have been adverse price effects and evaluate the potential magnitude of those effects if common ownership did lead to a coordinated outcome.

[42] Am. Column & Lumber Co. v. United States, 257 U.S. 377 (1921).

[43] Case C-194/14 P, AC-Treuhand AG v. Comm'n (CJ 2015), ECLI:EU:C:2015:717.

As a threshold matter, recall that a cartel requires: *coordination* of price or output; *monitoring* of price or output; and *punishment* of cheating. The following are ways a CO and NCO may facilitate coordination, monitoring, or punishment in a manner that could facilitate a cartel:

1. **Access:** CO will have greater access than the NCO to management of a broader range of firms in the industry through earnings calls, investor meetings, and other channels. Because earnings calls are public, NCO will have some access but may be unlikely to participate in the routine contacts at firms in which it is not invested, and will likely not be included in non-public meetings between management and large shareholders.[44] This access will aid both coordination and monitoring.

2. **Knowledge:** CO will typically be more knowledgeable regarding three of the four firms than NCO. This gives CO an advantage in encouraging a move towards proposing a joint profit maximizing equilibrium and in detecting whether firms are cheating. Each firm will know this. The CO thus has distinctive advantages with regard to coordination.

3. **Influence or Control:** The NCO—with a larger stake—will likely be more influential, all things being equal, than the CO with a stake one-fourth as large. Even if the NCO has board representation, however, it is unlikely to have control, and it is unclear how much more influence an 8% shareholder will have than a 2% shareholder, especially when the issue may be one on which shareholders have conflicting interests. Here, both types of shareholders can be valuable in coordination and monitoring.

4. **Incentives:** CO will have stronger incentives that NCOs to influence decision-making with respect to the collusive determination of both overall industry price/output and individual firm price/output, and in monitoring that determination. With respect to punishing cheating, the situation is complex. On the one hand, the CO—with a stake in all the firms in the cartel—will have an incentive to report and punish cheating in order to prevent a price war. And, because CO will suffer from opportunistically punishing a supposed cheater, its *identification* of cheating firms will be credible. On the other hand, precisely because a CO will own shares in all the members of the cartel, its *threat* to punish may be *less* credible than a NCO because, in punishing, it will be hurting itself through its ownership interest in the "cheating" firm. An NCO may well be more willing to trigger a response precisely because it will not bear as much of the cost of a price war.[45]

5. **Credibility:** Because of CO's knowledge and incentives, when CO says "here is what price/output should be," the firms are more likely to accept the determination. CO is thus more likely to be viewed as an "honest broker" than NCO who will be suspected of favoring its firm over the other three. Likewise, when it comes to triggering punishment, the CO will

[44] Regulation FD (Fair Disclosure), 17 C.F.R. Part 243, limits the selective dissemination of material nonpublic information and Rule 10b-5, 17 C.F.R. § 240.10b-5, and related rules, limit the ability of insiders and constructive insiders to trade on material nonpublic information.
[45] The exception would be if the NCO's share of one firm were sufficiently large so that it would bear the brunt of adverse collusive effects.

be more credible precisely because it will suffer along with each member of the cartel. Put differently, common ownership can convert irrelevant "cheap talk" into credible communications that effectuate a cartel, as will be discussed in more detail below.

6. **Power:** CO will be better able to punish uncooperative managers directly, by voting "no" on "say on pay", or by voting "no" in director elections.[46] NCO can only deploy these tools against the managers of the corporation in which it is a shareholder, where it will likely be more influential than the smaller CO.

In addition, the effectiveness of a CO as a cartel ringmaster will depend on the ownership structure in a given firm. Consider two extreme cases: Case A: CO owns 20% of each to two firms in a duopoly with the other shares widely dispersed; versus Case B: CO owns 20% of each of two firms in a duopoly with the remaining shares held by a (separate) controlling shareholder. In Case A, the common owner will be valuable across all three dimensions: in coordinating around price or output; in monitoring performance; and in punishing cheating. By contrast, in Case B, the CO will only be valuable in coordination and monitoring, but the controlling shareholder will determine whether the firm engages in punishment.

These considerations suggest that COs may be particularly potent factors in achieving a "collusive" agreement, monitoring performance and punishing cheating, because they will be better, more credible, facilitators. On the other hand, achieving the collusive outcome will still be difficult and the potential legal and economic penalties severe. Moreover, the presence of COs may well make it easier to uncover an agreement. There will also be situations, however, in which the NCO is the more effective cartel organizer. Accordingly, enforcement agencies should pay attention to *both* types of shareholders and the specific context.

As discussed below, it may be that enforcement agencies should pay particular attention to communications between COs and portfolio companies in oligopolies. The European Commission's 2017 Dow/DuPont decision pursues this line of thinking. The Commission argues that large minority shareholders have more influence than their ownership percentage may otherwise suggest, citing (i) their privileged access to company management;[47] (ii) correspondence between Vanguard and board members; and (iii) recent academic papers.[48]

B. SHAREHOLDER STATEMENTS, COMMON OWNERSHIP AND "CHEAP TALK"

One channel through which shareholders can potentially impair competition is through discussions with management. A question thus arises as to whether statements made by either shareholders or management in earnings calls or other communications regarding price or output

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[46] Although one might think that managers would ignore a 2% shareholder, they are remarkably sensitive to "say on pay" votes. David F. Larcker et al., *Outsourcing Shareholder Voting to Proxy Advisory Firms*, 58 J.L. & ECON. 173 (2015).

[47] But, noting that under Regulation FD ("Fair Disclosure") "material non-public information may not be selectively disclosed to just one shareholder." Case M.7932, Annex 5, section 3.1.

[48] Ian R. Apple et al., *Passive Investors, Not Passive Owners*, 121 J. FIN. ECON. 111 (2016); *see also* Jan Fichtner et al., *Hidden Power of the Big Three, Passive Index Funds, Re-concentration of Corporate Ownership, and the New Financial Risk*, 19 BUS. & POL. 298, 301 (2017).

should be viewed as chatter that is not informative and that as a result, will not help to effect coordination. However, some communications may be informative and may affect coordination. [49]

The economists' concept of "cheap talk" is helpful here; cheap talk models have become important in oligopoly cases generally, and will be relevant to the competitive effects of communications in earnings calls, whether by management or by common owners. Economists define "cheap talk" as a communication or message that is *costless* to make and that may be true or false (and it may be legal or illegal). If the message sender has an incentive to lie and bears no risk of costly punishment, the recipients may ignore such messages. When cheap talk is ignored, it does not affect outcomes. In these circumstances, economists argue that cheap talk is irrelevant and cannot facilitate collusion or other harmful outcomes.[50]

To illustrate, consider a group of individuals that are deciding to see a movie at one of several movie theaters. Because they are friends, they would be happiest if they all attended the same movie at the same theater. Their communications with each other about which movie to attend are a form of cheap talk. The communications might be irrelevant (perhaps suggesting a movie that was not playing) or informative (expressing each individual's true preferences), or they might be uninformative (suggesting one alternative, while preferring another for strategic reasons). All of these forms of communication are cheap talk, but clearly only certain types of cheap talk will be credible and supportive of a collusive outcome—here, an agreement to watch the same movie at the same movie theater.

There are two properties that are frequently used to identify cheap-talk messages that are credible. A *self-signaling* message is one that the sender wants to send if and only if it is true. In our movie theater example, a call that says I would like to watch the latest IMAX movie at a local theater that has stadium seating would be self-signaling if the message truly reflects the individual's preferences. A second property that makes a cheap-talk message credible is that it is *self-enforcing*. A message is self-enforcing when the sender has an incentive to act in a way that is consistent with the message if the receiver believes it. Our movie goer's message would be self-enforcing if the individual is committed to attend her preferred IMAX movie at the local theater if and when the group reaches agreement. Messages that are self-signaling and self-enforcing are considered credible because the sender's and receiver's interests are aligned. When the sender has an incentive to tell the truth, the messages will be credible, and it will be reasonable to act on such messages. For this reason, one might argue that we should reject the alternative, non-collusive "babbling equilibrium" when the receiver acts as if he has not heard and, if heard, has not understood the sender's message.

Given this, there are two reasons that statements regarding price and output may not be dismissed as *irrelevant* cheap talk. First, if parties have aligned interests, those receiving the messages

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[49] In general, under the Federal Securities laws, false statements made by a shareholder in earnings calls will not be subject to liability, while false statements made by the issuer may be.

[50] The extensive literature on cheap talk includes the following. Joseph Farrell, *Cheap Talk, Coordination, and Entry*, 18 RAND J. 34 (1987), demonstrated that cheap talk can facilitate coordination in a one-shot game, even when competitors have competing interests. Joseph Farrell and Matthew Rabin, *Cheap Talk,* 10 J. ECON. PERSP. 103 (1996), defines conditions under which game theorists generally agree that cheap talk improves coordination. Dennis W. Carlton et al., *Communication Among Competitors: Game Theory and Antitrust*, 5 GEO. MASON L. REV. 423 (1997), argue that information sharing is less likely to be anti-competitive when the information sharing includes both competitors and a third party and there is some pro-competitive reason for communication with that other party.

may reasonably believe them. Of course, if there is an enforcement mechanism that punishes false statements, the talk is no longer cheap. In any case, with aligned interests, cheap talk can help parties coordinate on a jointly acceptable outcome. Price fixing involves a mixture of aligned and potentially conflicting interests. Through a signaling mechanism, cheap talk can credibly help coordinate price fixing in situations in which the conflicting interests can be ameliorated. Thus, cheap talk could be argued to have the characteristics that serve to facilitate coordination, whether the speaker is a CO or an NCO.

Second, in some circumstances, talk is cheap (or irrelevant) when the party sending the message is free to mislead or lie, and the receivers ignore the message because they know the sending party has an incentive to mislead. The key issue is whether the communications are made in a context in which the parties are expected to be truthful and may face substantial costs if they are consistently dishonest. When a NCO makes a statement, it may well be free to mislead or lie because it may bear no cost from doing so. By contrast, because a CO holds shares in each of the firms, it will bear a cost from false or misleading statements. Firm managers, whose communications can be attributed to the firm, face an additional restraint: false or misleading statements can create liability under the Federal securities laws. As a result, those receiving messages may not treat them as cheap talk and can reasonably act on them.

To explore how cheap-talk messages affect the potential for collusion, we need to describe the strategic situation in which the parties find themselves. The key attribute of strategic circumstances involving collusion is that they have at least two equilibrium outcomes – a collusive equilibrium and a non-collusive equilibrium. The question is whether cheap-talk messages can help the parties coordinate on the collusive equilibrium rather than the non-collusive equilibrium.

The analysis of cheap talk in circumstances where firms may attempt to coordinate on a collusive outcome depends on the model of collusion used. The most basic model of successful collusion involves all of the parties choosing the collusive outcome and reverting to competitive (or lower) prices if one party cheats. No one wants to revert to the low-price equilibrium, so the collusive outcome is stable. In these situations the message being sent via cheap talk includes both a proposed action and a contingent strategy that specifies the punishment that will be carried out if one party cheats. Under these conditions, the ability to successfully collude depends on whether or not the message being sent is self-signaling and self-enforcing.

In the standard model of collusion, all of the parties make higher profits if they all collude than if they all compete or engage in punishment. This means that if one firm says it plans to collude, it is proposing an equilibrium outcome and it has an incentive to play that outcome if others believe its message. Such a message is self-enforcing. Whether the message is also self-signaling depends on the details of the collusive strategies proposed, but there are many commonly used models of collusion in which an offer to collude can be self-signaling as well as self-enforcing.

In industries in which it is easy to punish parties that cheat on the collusive equilibrium without hurting themselves too much, it is easier to arrive at a collusive strategy that makes an offer to collude self-signaling. For example, when firms compete against each other in many geographic areas, and one firm seeking to punish another can do so at a location where it is relatively small and the firm it wishes to punish is large, punishment will be credible.[51]

[51] *See*, *e.g.*, Federico Ciliberto & Jonathan W. Winters, *Does Multi-Market Contact Facilitate Tacit Collusion? Inference on Conduct Parameters in the Airline Industry*, 45 RAND J. 764 (2014).

C. Empirical Evidence of the Overall Harms and Benefits that Arise from Common Ownership

In the past several years, a number of researchers have found empirical evidence of positive correlations between common ownership and firm performance that is, at a minimum, suggestive of a causal relationship.[52] This literature is largely orthogonal to our analysis, which focuses on specific factual contexts in which shareholders may play an anticompetitive coordinating role and the treatment of these contexts under existing antitrust law. Common ownership might facilitate anticompetitive coordination in a specific case, but that does not mean common ownership is problematic in all cases. On the other hand, the more evidence of systemic anticompetitive effects of common ownership, the more attention antitrust enforcers should devote to identifying and prosecuting specific anticompetitive activities.

As anyone following the burgeoning literature will agree, there are studies finding correlation between some measure of common ownership and various positive and negative outcome variables. A survey of the literature by Schmalz reviews the most recent evidence.[53] In addition to the widely discussed airlines paper, two articles discussed by Schmalz are of particular interest. First, for example, He and Huang have offered empirical evidence of a positive correlation of common ownership by active investors and market share growth.[54] While they argue that their identification strategy shows that these gains are caused by increased common ownership, it is unclear whether the gains come from legal coordinated effects such as joint ventures, strategic alliances and acquisitions, each of which can beneficially create cost synergies, or illegal collusion. Moreover, by taking a very broad view, and a long time period (1980-2014), they combine blockholding by undiversified investors with the quite different blockholding by large index funds, in very different corporate governance environments, and do not provide any plausible channels of influence for either. Thus, their suggestions that "institutional cross-ownership facilitates explicit forms of product market collaboration (such as within-industry joint ventures, strategic alliances, or within-industry acquisitions) and improves innovation productivity and operating profitability," must be treated with care.

In a second article discussed by Schmalz (2018), Semov finds evidence that commonly held firms face less uncertainty and respond by holding less cash, a finding which Schmalz interprets and being "consistent with a response to reduced competition and greater incentives to coordinate or collaborate on product market strategies."[55] Semov points out, however, that his findings could also be interpreted as showing that common ownership leads to increased intertemporal financial flexibility as insurance against adverse future events.[56]

A recent article by He et al., suggests that increased common ownership will incentivize firms in the industry to adopt more efficient governance structures.[57] The argument goes in two steps. First,

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[52] See n 1, supra.

[53] Martin Schmalz, *Common-Ownership Concentration and Corporate Conduct*, 10 Ann. Rev. Fin. Econ. (2018).

[54] Jie (Jack) He & Jiekun Huang, *Product Market Competition in a World of Cross Ownership: Evidence from Institutional Blockholdings*, 30 Rev. Fin. Stud. 2674 (2017).

[55] Svetoslav Semov, *Common Ownership, Competition and Firm Financial Policy*, draft (Apr. 19, 2017). Schmalz, *supra* note 52, § 3.3.1. We note that Semov's study relies heavily on the use of the MHHI as a measure of market concentration, an index which we find less than satisfactory. *See supra* Part IV.

[56] Semov, *supra* note 54, at Abstract.

[57] Jie (Jack) He et al., *Internalizing Governance Externalities: The Role of Institutional Cross-ownership*, J. Fin. Econ., forthcoming; *see also* Heung Jin Kwon, *Executive Compensation Under Common Ownership*, draft (Jan. 30, 2017) (arguing that common ownership increases incentives to compete by give executives a greater incentive to view their performance relative to the performance of rivals).

absent common ownership, firms are likely to choose low levels of governance in order to retain managers who will be able to extract large private benefits from the firm. Second, the externality in the industry flowing from the prevalence of sub-optimally low governance can be diminished or eliminated if there is cross ownership by institutional investors which arguably have a stronger incentive to internalize corporate governance externalities by actively monitoring governance activities among their portfolio companies.[58]

Although the claim that high levels of common ownership may lead to better governance is plausible (e.g. if Buffett held 30% of the firms in the industry), He et al.'s argument focuses on much lower levels of common ownership. Moreover, as the authors recognize, it is difficult to observe the level of governance directly. Instead, they focus on the likelihood of management losing a vote on a shareholder proposal as a proxy for governance level and then look for correlations with the level of common ownership. This is questionable. Because the content of shareholder proposals do not matter for governance, their analysis requires a theory about how the *contest* matters (i.e., once there is a contest, management presumably does not want to lose and, if it loses, it is assumed to be a sign of shareholder discontent).[59] Shareholder votes on shareholder proposals are at best a very noisy signal and not in any sense a direct measure of active monitoring of governance activities or the quality of governance.[60]

There are theoretical reasons to take seriously the possibility that increased common ownership will be competitively harmful and the possibility that common ownership will lead to better governance, including capital allocation. Better corporate governance and more efficient capital allocation are competitively beneficial. The debate over whether the net effect is positive or negative will continue, as will the debate over whether any systemic reform such as divestiture or shareholder voting restriction is desirable. We remain agnostic with respect to both the theory and the empirics. We take particular note of Lewellen and Lowry's conclusion "that there is little robust evidence that common ownership affects firm behavior. This in spite of the large number of studies that offer evidence to the contrary."[61]

In the absence of clearer evidence of net anticompetitive effects, the reforms suggested by Elhauge and Posner et al. would be premature and potentially harmful to investors (e.g., index fund investors who would potentially incur higher fees) without any benefit to consumers or anyone else. These considerations lead us to focus on the traditional case-by-case approach of antitrust in which the plaintiff or enforcement agency bears the burden of establishing anticompetitive effects, including proving a mechanism by which the defendants' conduct leads to anticompetitive outcomes.[62]

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[58] The theoretical argument has been made by Viral V. Acharya and Paolo F. Volpin, *Corporate Governance Externalities*, 14 REV. FIN. 1 (2011).

[59] Marcel Kahan & Edward Rock, *Symbolic Corporate Governance Politics*, 94 B.U. LAW REV. 1997 (2014).

[60] There have been some claims that common ownership facilitates indexing, but we do not see why extensive common ownership is necessary to achieve efficient indexing. For a discussion of these claims, see BlackRock, Viewpoint, *Index Investing and Common Ownership Theories 2* (Mar. 2017) (arguing that the literature relating index funds to higher prices is "based on fragile evidence and fundamental misconceptions.")

[61] Katharina Lewellen & Michelle Lowry, *Does Common Ownership Really Increase Firm Coordination?* draft (Nov. 2018).

[62] An understanding of the mechanism—largely missing from the systemic analyses—would likely include a means for measuring the degrees to which common ownership is likely to be a problem (such as a measure that reflecting the likelihood of control or influence on competitive choices and outcomes). Unfortunately, the MHHI does not do the job. *See generally* Hemphill & Kahan, *supra* note 31.

IV. POTENTIAL INFLUENCE OR CONTROL AT *LOW* LEVELS OF OWNERSHIP: ECONOMIC AND LEGAL ANALYSIS

As we discussed above, most cases and enforcement actions involving common and cross ownership involve relatively high levels of ownership (>20%), often coupled with a board seat. This level of cross ownership and common ownership in concentrated markets is quite unusual. Common ownership at lower levels, however, is pervasive. BlackRock, Vanguard, and State Street each currently own 5-7% of most public companies, and active managers often own substantially more (but still well below 15%). How might stock ownership at these low levels be anticompetitive? In this section, we will analyze a series of hypothetical cases/scenarios that have some plausible factual basis in past cases as we try to understand how common ownership might aggravate the "oligopoly problem."

We approach this cautiously, in light of our skepticism about the "unilateral" competitive effects of low levels of common ownership asserted by Azar et al., and the preliminary and controverted evidence on the positive and negative systemic effects of low levels of common ownership.[63] The clear potential that high levels of cross and common ownership will result in anticompetitive effects might lead one to suppose that low levels will have the same effects, even if they are at a lesser magnitude.

For the analysis of the potential for coordination by shareholders under Sherman Act Section 1, these questions can be put to one side. For the analysis of the role of common ownership in merger regulation, discussed below, the role of MHHI has been thought to be more central, at least by some regulators.

A. HYPO A: COMMON OWNERS AS INITIATOR

Hypo A: Suppose that a large CO, known to have significant investments in each of the four major firms in an oligopoly, explains to the CEO of each firm that industry output is reaching its limit. The CO urges the CEO to resist his traditional inclination to expand capacity and output as demand expands and, instead, to hold the line and raise prices. In each case, the CEOs do not say anything in response, but each firm "holds the line" on capacity and prices go up.

Will these communications plausibly affect capacity and output? If so, is there a legal violation? For either the economic or legal analysis, does it matter whether the communications between the CO and the CEOs are private or public?

1. *Background*

Is it implausible to think that shareholders might communicate with portfolio companies on price and output? Not at all. This hypo is an imaginary extension of the December 2017 Wall Street Journal article in which the Journal reported on a meeting of twelve major shareholders in U.S. fracking companies that were disturbed by excess production by the frackers.[64] According to the article, "persistently paltry returns" brought together a group of investors who collectively held nearly 5% of

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[63] Rock & Rubinfeld I, *supra* note 6; Azar, *Anticompetitive Effects of Common Ownership*, *supra* note 1.

[64] The major frackers were oil and gas companies, led by ExxonMobil, Chesapeake Energy, and Anadarko. Nicholas Kusnetz, *Who Are America's Top 10 Gas Drillers?*, PROPUBLICA (Sept. 1, 2011), www.propublica.org/araticle/wo-are-americas-top-10-gas -drillers. The three major owners of ExxonMobile (as of their 2018 13F filings) were Vanguard, BlackRock, and State Street. For Chesapeake, the institutional ownership was 70.05%. Finally, for Anadarko, the institutional ownership was 87.2%.

shares in 20 large shale companies, including large active managers like Invesco and Neuberger Berman and small shareholders such as Sailing Stone Capital Partners.

The focus of the meeting of these (apparently non-common) owners was on making frackers pump less and profit more, with the goal of getting shale companies to help shrink oil supplies and boost prices. In the weeks following the meeting, "normally cordial discourse at company presentations and investor meetings occasionally grew tense."[65] At Devon Energy, for example, "Invesco, its fourth-largest shareholder at just under 5%, and others began peppering CEO David Hager with suggestions about improving returns, Mr. Hager says, including reducing its debt load and declaring dividends and share buybacks."[66]

Apparently, little has changed since the meeting in question. In response to the September drone attacks on the Saudi oil facilities, producers such as Pioneer Natural Resources, Co. publicly stated that "There will be no intention to add rigs over and above our original plan." He added that shareholders told him that they would sell the stock if more rigs were added. Support for holding the line in production was also given by Kevin Hold of Invesco Ltd.[67]

2. *Economic Analysis*

Is Hypo A an economically plausible scenario for a collusive outcome? As in other cartel contexts, the scenario—if detection can be avoided—is plausible because of the possibility of obtaining monopoly rents. This is why anti-cartel enforcement lies at the heart of every competition enforcer's brief.

In Hypo A, would the statements made by investors to managers of competing firms be irrelevant cheap talk? Our answer is no. For one thing, the messages sent by the shareholders are likely self-signaling (i.e., true). For another, the firms in the oligopoly, like the frackers, may well have aligned interests in achieving a coordinated outcome. Therefore, there is reason to believe that the messages that are being sent are credible. While there is no obvious mechanism to enforce false statements, it does appear that cheap talk can help the parties reach a coordinated outcome (i.e., to raise prices and profits by reducing output). In this sense, such cheap talk can be seen as anticompetitive.

Intriguingly, the Wall Street Journal article on the investors in fracking companies confirms our intuition that enforcement agencies should pay attention to both COs and NCOs, as it seems that many of the participants were NCOs who coordinated the approaches to portfolio firms with the largest shareholder—whether a CO or an NCO—taking the lead. This is consistent with our view, discussed above, that *both* CO and NCOs may have an interest in above competitive pricing and that in certain circumstances the CO (or the NCO) will be the more effective organizer. It also raises an interesting question for further research that could help sort out the differences between COs and NCOs: as

[65] Bradley Olson & Lynn Cook, Wall Street Tells Frackers to Stop Counting Barrels, Start Making Profits, WALL ST. J. WSJ (Dec. 13, 2017), www.wsj.com/articles/wall-streets-fracking-frenzy-runs-dry-as-profits-fail-to-materialize-1512577420?mod=searchresults&page=1&pos=1. [THIS WAS CITED ABOVE IN FN 8; CAN SAY SUPRA NOTE 8]
[66] Id.
[67] Rebecca Elliot and Christopher Matthews, *Frackers to Stand Pat Reap Profits After Attacks on Saudi Oil,* WALL STREET JOURNAL (September 16, 2019).

between the largest shareholder and a common owner, which, if any, is likely to take the lead in approaching a given company?[68]

3. *Legal Analysis*

The legal standards applicable to this scenario are clear; the hard issues are all evidentiary. As discussed above, anyone who organizes a cartel—whether as a member, a distributor, a trade association functionary, or a "consultant"—violates Section 1 of the Sherman Act.[69] This should likewise be true when a shareholder does so, whether that shareholder is a CO or an NCO.[70]

The harder question is whether particular conduct will support a finding of "agreement." Assuming the managers of the fracking companies did not expressly agree to reduce capacity or output but reduced output later on, this hypo potentially fits William Page's reconstruction of a "tacit agreement," namely, an agreement in which the "offer" is verbal while the "acceptance" is by conduct. Doctrinally, as we discuss above, this is a reasonable interpretation of existing case law.

Approaching this pragmatically, there are two principal questions. First, is there a clear line that would distinguish legal from illegal behavior? As discussed above, following Turner's approach, the question is whether there is conduct here that we could identify and enjoin. Second, even if we could identify a bright line between lawful and unlawful conduct that could be enjoined, would enforcement make good public policy? In other words, would the cost in terms of chilling legitimate channels of communication that serve firm and shareholder interests, independent of any coordination objectives, outweigh the benefit from deterring economically anticompetitive behavior?[71]

What is so intriguing about this scenario—and the hypos that we discuss below—is its ambiguity. Is this a collective effort by COs and NCOs to rein in unprofitable empire building by CEOs and thus shareholder engagement at its best, engagement that holds the potential of creating a more competitive firm and industry? Or is it an attempt to coordinate competing producers in a collective attempt to reduce output in order to raise prices?

From the perspective of the investors in fracking companies, the frackers are chasing growth at the expense of profitability in part because of a misalignment of incentives caused by the structure of pay packages. "They came away determined to force operators to turn profits in part by changing compensation practices that critics say reward CEOs for increasing production no matter what, say

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[68] It is interesting to note in passing that in the European Commission's analysis of the Dow/DuPont merger, the Commission's analysis focused entirely on the possibility that common ownership might lead to non-coordinated effects on pricing, output, and innovation. However, despite citing specific statements by executives of Vanguard, BlackRock, and State Street, the Commission opted not to claim that these communications were used or could have been used to achieve a coordinated outcome. Had it believed otherwise, it might have pursued an Article 101 claim. Had it chosen to pursue this route, the Commission should have included a cheap talk analysis, which is noticeably absent from the extensive Commission decision.

[69] *See, e.g.*, Toys "R" Us, Inc. v. FTC, 221 F.3d 928 (7th Cir. 2000); Interstate Circuit, Inc. v. United States, 306 U.S. 208 (1939); Am. Column & Lumber Co. v. United States, 257 U.S. 377 (1921); *see also* Case C-194/14 P, AC-Treuhand AG v. Comm'n (CJ 2015), ECLI:EU:C:2015:717.

[70] We have not been able to find any cases against shareholders for organizing a price fixing conspiracy. We would not be surprised if such an investigation were opened at some point in the future.

[71] For an in depth analysis of a social welfare analysis that accounts for both Type 1 and Type 2 errors, see KAPLOW, *supra* note 13, at pt. II.

participants including Todd Heltman, a senior energy analyst at Neuberger Berman Group LLC, an asset-management firm that owns shares in shale producers."[72]

Even more intriguing is the possibility that it is both. If the investors were able to rein in production by convincing companies to drill fewer wells, it could improve profitability in two ways: by avoiding loss-making investments in new capacity; and by raising the market price of oil. Both of these would benefit shareholders, even if an agreement to withhold output or limit capacity may violate Section 1 of the Sherman Act.

A key question surrounding the legality of this conduct is why, if drilling is not profitable for the fracking companies, was it necessary to bring together shareholders and managers from the competing companies to target them all jointly? Is it simply economies of scale or scope? Or is it that frackers will not cut back production unless they are convinced that competing frackers will do so as well? And, to what extent, if any, will the talk at the meeting affect the frackers' views as to the likelihood that their competitors will take the advice?

Considering this pragmatically, the problem is not that one cannot identify conduct that can be enjoined. A court certainly *could* conclude that the communication from the CO to each CEO constituted an "invitation to collude" in restricting output to raise prices. Such an injunction could be enforced: threatening a CO with sanctions would lead the lawyers advising the CO to restrict what the CO would say to CEOs.

The problem comes in at the second step: would prohibiting the conduct improve the competitive landscape? Here, the problem is that the sort of shareholder engagement represented by the investors' efforts to prevent expansion of capacity is extremely valuable in controlling manager-shareholder agency costs. Moreover, in general, controlling agency costs makes firms more competitive as they seek to increase profits and firm value, rather than living the "quiet life." The interests of promoting shareholder engagement and consumer welfare (i.e., competition) are aligned in this regard.

Would it make sense to distinguish between private and public communications? It could, in a very practical sort of way. From the perspective of controlling management agency costs, public and private communications are both useful. Sometimes, private meetings with large shareholders can be more effective than public or quasi-public communications.

But, as we discuss in more detail below, discouraging private communications may be justified from an antitrust perspective. Forcing competitively sensitive communications into the light might make firms more cautious about acquiescing to anticompetitive invitations or proposals, the dangers of which will become clearer in our discussion of the FTC Section 5 cases in the next section.[73]

B. Hypo B: Common Owners as Trustworthy Conduit

Hypo B: Assume that in a concentrated market, the CEO of leading Firm 1 explains to a CO that all firms in the industry should raise their prices, that Firm 1 will lead, and that if it does so, others will follow. After all, the CEO says, we are in an oligopoly and everyone understands that we are better off in a world in which there is price "stability" (or maybe the CEO does not say this). Shortly after, the CO

[72] Supra note 8.

[73] Moreover, from the perspective of federal securities regulation, discouraging material private communications is consistent with the Regulation FD's (fair disclosure) goals of ensuring a level playing field among investors.

speaks with the second largest firm, Firm 2, about these matters (or maybe not), and prices increase at both firms. Has the CO's involvement plausibly affected price? For either the economic or legal analysis, does it matter whether the communications are private or public?

1. *Background: The FTC's Invitation to Collude Cases*

In Hypo B, if the CO in fact intentionally served as a trustworthy conduit for communicating an invitation to collude, and the invitation were accepted by the other firms, it would clearly be anticompetitive and only a slight variation on the first hypothetical involving the fracking companies. Most cases, however, will be less clear. In recent years, the FTC has brought a series of enforcement actions based on quarterly earnings calls and other investor forums that provide a window into what is discussed and what can be prosecuted, including the interaction between analysts and the CEO. These cases are a starting point for analyzing the hypo.

a. Valassis Communications (2006)

Valassis Communications, Inc. produces coupon booklets that are inserted in newspapers. The only other U.S. publisher of free-standing inserts ("FSI") is News America.[74] During an earnings conference call in July 2004,[75] Valassis invited its competitor News America to join with Valassis in a scheme to allocate FSI customers and to fix FSI prices.[76] During the July 22, 2004 earnings call, Valassis' CEO announced a price increase and stated that:

> In the recent past News America has been quick to make their intentions known. We don't expect the need to read the tea leaves. We expect that concrete evidence of News America's intentions will be available in the marketplace in short order.
>
> If News continues to pursue our customers and market share, then we will go back to our previous strategy. Our objective has always been to give customers a high quality product that provides them with an exceptional return on investment and while doing that, to foster an industry that maximizes our profitability and creates a platform for long term profit enhancement on an annual basis. We believe the pricing approach I just described has the potential to accomplish all those objectives.[77]

Based on these statements recorded in the transcript of the earnings call, the FTC found Valassis in violation of Section 5 of the FTC Act for "attempted price fixing," enjoined future invitations to, and agreements with, competitors, but did not impose any fines.[78]

This was part of the CEO's opening statement. In the full transcript, interestingly, one gets a sense of the back and forth when one of the participants in the call, Fred Searby from JP Morgan, followed up:

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[74] Valassis Commc'ns, Inc., 141 F.T.C. 247 (2006).
[75] It is worth noting that most participants on earnings calls are analysts (individuals who follow particular stocks and recommend buying or selling them) and not common or non-common shareholders. Although analysts could play a trustworthy conduit role, it is hard to see what incentive they would have to do so.
[76] *Id.* at 249.
[77] *Id.* at 251.
[78] *Id.* at 272.

> It sounds historically you've said to me and you're strategizing and I think you've said that it really is up to the market share leader to make price moves and you expected News America to raise prices and then we had this circ increase which you all were somewhat skeptical of.
>
> What's the reversal here in that thought? You're trying to actually raise prices now. Obviously News America's not budging. Then on your existing accounts, have there been any major account losses? The market share … you say you're in line with guidance, and my assumption was in the past that you thought you'd get back to 50% and it sounds like you're going to be still in the 40s next year.[79]

In response, the CEO said:

> From a historical standpoint the answer to your question is yes; historically the market share leader has always been the price leader. With that said I think as a management team and as a company it's important that you're always alert to new possibilities. It's always important that you're creative to consider new ideas, new concepts and that you're agile enough and flexible enough to take advantage of opportunities that may present themselves in the marketplace.
>
> We clearly believe that based on what's going on from an overall industry growth standpoint, it has created somewhat of a unique opportunity for us. We feel as if the pricing approach that I laid out is a very creative and unusual strategy that has never been attempted or implemented in the past.
>
> Again, that's our job to take on that responsibility that and we have a duty to look for ways to improve the long term pricing trend in the FSI industry.
>
> As far as our 50% market share goal, I think when you really get to the underlying goal, our goal, has always been to create a long term, more profitable FSI industry to create a long term, more profitable Valassis. We feel that's in the best interest of all the stakeholders involved in the FSI industry, certainly including our customers. We feel the current market conditions have created a better alternative to achieve that goal.[80]

This transcript shows analysts discussing price fixing with the CEO in a public or quasi-public forum, without anyone from the legal department or investor relations interrupting to say that they should not be talking about such matters. While the Valassis case did not involve a CO, one wonders whether the presence of a CO with large holdings in both firms, as in our hypo, could make a coordinated outcome more likely by acting as a trustworthy conduit. There was no evidence in the Valassis case that any of the analysts passed on the message to News America.

b. U-Haul (2010)

[79] 2006 FTC LEXIS 25, *8.

[80] Id.

In the years leading up to 2006, U-Haul's CEO became concerned that price competition from Budget was forcing U-Haul to lower its rates for one-way truck rentals.[81] Beginning in 2006, he developed a strategy to eliminate this competition by inviting Budget and Penske to join U-Haul in raising rates. Part of the strategy involved having U-Haul regional managers raise their rates and then calling up competitors and inviting them to raise their rates as well. In late 2007, the CEO decided that U-Haul should try to increase rates nationally and that U-Haul's efforts would succeed only if Budget followed. When Budget did not immediately follow, U-Haul's CEO used the occasion of an earnings conference call that he knew Budget would monitor to make the following points, as summarized in the consent decree (there was a transcript made):

1. U-Haul is acting as the industry price leader. The company has recently raised its rates, and competitors should do the same.

2. To date, Budget has not matched U-Haul's higher rates. This is unfortunate for the entire industry.

3. U-Haul will wait a while longer for Budget to respond appropriately; otherwise it will drop its rates.

4. In order to keep U-Haul from dropping its rates, Budget does not have to match U-Haul's rates precisely. U-Haul will tolerate a small price differential, but only a small price differential. Specifically, a 3 to 5 percent price difference is acceptable.

5. For U-Haul, market share is more important than price. U-Haul will not permit Budget to gain market share at U-Haul's expense.

The FTC prosecuted this "invitation to collude/attempted price fixing" as a violation of Section 5 for the FTC Act, and entered a consent order "to enjoin U-Haul from inviting collusion and from entering into or implementing a collusive scheme."[82]

The transcript of the CEO's statements in the U-Haul case makes it clear that apart from the initial private communications by the regional managers, many of the CEO's statements were public, made in response to questions from the analysts on the calls.[83] Our Hypo A, discussed in the first section, posits that a CO, not the CEO, makes the relevant statements. In Hypo B, we ask whether, when

[81] U-Haul International, Inc. and AMERCO; Analysis of Agreement Containing Consent Order to Aid Public Comment, 75 Fed. Reg. 35,033 (June 21, 2010); *see also* Liu v. Amerco, 677 F.3d 489 (1st Cir. 2012). For key documents (complaint, transcript of call, etc.), see www.ftc.gov/enforcement/cases-proceedings/081-0157/u-haul-international-inc-amerco-matter.

[82] 75 Fed. Reg. at 35,034. This case is somewhat reminiscent of the DOJ's investigation in the 1994 Airline Tariff Publishing Company case (ATPCO). In that investigation, the practice by which airlines announced planned price increases, which took effect only when competitors did the same. The case was eventually resolved, with the participating airlines agreeing as part of a Final Judgment to change their price announcement policy. For an overview of the case, see Severin Borenstein, *Rapid Price Communication and Coordination: The Airline Tariff Publishing Case*, Chapter 9 *in* JOHN E. KWOKA, JR. & LAWRENCE J. WHITE, THE ANTITRUST REVOLUTION 232 (Oxford Univ. Press 1999).

[83] www.ftc.gov/enforcement/cases-proceedings/081-0157/u-haul-international-inc-amerco-matter.

the CEO is issuing the invitation to collude, the presence of a CO with holdings in each competitor would affect the legal and economic analysis.

2. *Economic Analysis*

From an economic perspective, does the CO as trustworthy conduit make economic sense? Does it provide an economically plausible scenario for a collusive equilibrium? There are two elements to this analysis: first, will a CO be a trustworthy conduit? Second, will having a trustworthy conduit plausibly make things worse when a firm can truthfully convey such an invitation through public announcements?

While admittedly not enforceable, the invitation to collude strongly implies that Valassis will not defect (i.e., cheat) if its competitor moves towards a more-profitable collusive outcome. This is particularly the case because there are apparently only two major competitors in the market. Furthermore, the private communications among the regional managers are consistent with the view that the competitors are, in the language of economics, in a repeated prisoner's dilemma game, in which defection will lead to a tit-for-tat response, which ultimately be unprofitable for both parties.[84] And, as Farrell and Rabin point out, "Sometimes there is no incentive to lie, and cheap talk will convey private information."[85]

From an economic perspective, while very troubling, the U-Haul case is not quite as compelling as the Valassis case because three, rather than two parties are involved and because the communications occur through a public forum. In that context, despite the specificity of U-Haul's comments, the character of the repeated competitive game the parties are playing is less clear and defection cannot be ruled out as easily.

It is also worth noting, more generally, that talking, especially in private, can help to provide focal points and more generally to solve the coordination problem that arises in a prisoner's dilemma setting. As Massimo Motta points out, "in the real and ever-changing world, firms cannot write complete contracts specifying what to do in any possible occurrence. And they need to talk to each other to fill the gap in their incomplete cartel contract."[86]

3. *Legal Analysis*

Suppose, again, that a CO (not the CEO) passes on a detailed invitation to collude by the CEO of the sort outlined in Hypo B and these cases. Would there be a violation of the Sherman Act under those circumstances?

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[84] For a review of the game-theoretic aspects of oligopoly theory and commentary on the disconnect between oligopoly theory and the legal proof of collusion, see Gregory J. Werden, *Economic Evidence on the Existence of Collusion: Reconciling Antitrust Law with Oligopoly Theory*, 71 ANTITRUST L. J. 719 (2004).

[85] Farrell & Rabin, *supra* note 49, at 107. Michael Whinston makes the broader point that "there is no satisfactory economic theory that would explain why communication would resolve coordination problems in a determinate way." Michael Whinston, *Lectures on Antitrust Economics*, MIT PRESS (2006).

[86] Massimo Motta, *Review of Michael Whinston, Lectures on Antitrust Economics*, COMPETITION POL'Y INT'L 313 (2006).

There are good arguments to be made on both sides. From the prosecutor's side, the steps of the conspiracy or attempted conspiracy would exist: an invitation by the CEO, conveyed credibly by an intermediary (the CO) which has an interest in coordination, followed by acceptance by a competitor.

From the defendants' side, there are also some good evidentiary arguments of two sorts. First, although evidence of the sort present in the Valassis case is clear enough evidence of Firm 1 CEO's intentions, what is Firm 2 supposed to do in these circumstances? After all, what Firm 1's CEO says is a true statement of the competitive landscape, and Firm 2 can argue that, with or without Firm 1's comments, passed along by CO, it independently understood and unilaterally responded to competitive conditions, as any rational oligopolist would.

Second, the CO that passed on the invitation might argue that the call was open to all and that Firm 1 would reasonably expect that someone from Firm 2 was listening (or got a transcript), in which case CO's role was entirely superfluous. In response, the government could argue that CO's involvement was hardly superfluous for precisely the reasons we describe above, namely, that a common owner is a particularly credible conduit and can aid in the formation and stabilization of a cartel by an ability (and implicit threat) to punish.

In principle, then, the hypo presents a plausible economic and legal case, the strength of which would depend on the specific evidence developed. But that does not mean that these will be easy Section 1 cases. The challenges are illustrated by the "bag fee" case. Delta and AirTran both had hubs in Atlanta.[87] Beginning in 2006 and 2007, low cost carriers introduced a fee for a second bag of checked luggage. This soon spread to all of the legacy carriers but one. Then airlines started charging for a first checked bag. By May 2008, Delta and AirTran had not adopted the practice and baggage fees were a common topic of conversation on earnings calls. In the third quarter 2008 call, Delta indicated that its merger with Northwest could provide an opportunity to revisit fee-based revenues. Shortly thereafter, in response to an analysts question on its quarterly earnings call, AirTran indicated that it had the programming in place to implement a second bag fee, but had not done so, because Delta was not charging for first bags. A few days later, Delta adopted a $15 first-bag fee, a fee consistent with what Northwest charged.

Unlike in our hypo, this case did not involve a CO as a trustworthy conduit. [88] But even had the plaintiffs made the "trustworthy conduit" argument, it probably would not have been enough. The problem was not a failure of communication among the airlines. As the court said, "[t]he information exchanges Plaintiffs point to might reflect 'intense efforts' to monitor competitors' activity, even pricing activity,"[89] but in the court's analysis, the plaintiffs did not have sufficient evidence that tends "to

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[87] *In re* Delta/Airtrain Baggage Fee Antitrust Litig., 245 F. Supp. 3d 1343 (N.D. Ga. 2017), *aff'd sub nom.* Siegel v. Delta Air Lines, Inc., 714 Fed. Appx. 986 (11th Cir. 2018); *see also* David L. Hanselman et al., *Bag Fee Case Highlights Antitrust Risk of Public Statements*, LAW 360 (Apr. 11, 2017). The authors warn that "[E]xecutives of publicly traded companies should avoid making statements in earnings calls or other public communications that could be construed as an invitation to their competitors to collude on price, output or other conditions of competition." *Id.* at 4.

[88] Although plaintiffs' speculated that AirTran had planted the bag fee question, the evidence was to the contrary: The analyst who asked the question testified that it was on his own initiative and transcripts of other earnings calls confirmed that he had asked several airlines about bag fees. One could argue that the analyst facilitated an agreement accepted by conduct (i.e., a "tacit agreement") by acting as a trustworthy conduit.

[89] In re Delta, 245 F. Supp. 3d 1343, 1377 (N.D. Ga. 2017)

exclude the possibility of unilateral action by oligopolists."[90] In the horizontal context, imposing this burden on plaintiffs is controversial, but that is unrelated to the "trustworthy conduit" issue. The bag fee case vividly illustrates the difficulties of proving conspiracy in violation of Section 1 even with evidence of an analyst who raises the issue with competitors.

4. *Public and Private Communications*

Does it matter whether the communications are private or public? What if the CEO or CO raises an issue in an earnings call, as in the Vallasis and U-Haul cases? Is an earnings call that anyone can join "public" or at least a quasi-public forum? Should shareholders' private meetings with the managers of portfolio companies be treated differently?

There are two ways in which it could make a difference. First, there may be an evidentiary difference: genuinely private communications (the proverbial "smoke filled room") may provide evidence that the parties are trying to hide something and that they are aware that what they are doing is illegal. Second, to the extent that these public communications improve management (e.g., by reducing agency costs, as discussed above) or benefit consumers, there is a competitive cost to chilling them.

Page distinguishes between genuinely public communications that benefit consumers—announcements of actual future ticket prices that travelers can book—and other communications that, in theory, are public but which consumers are unlikely to notice. For example, earnings calls are public but not closely followed by the vast majority of consumers. While we agree that consumers are unlikely to pay attention to earnings calls, while competitors will—and so, as Page recognizes, there is anticompetitive potential[91]—other investors, securities analysts, and portfolio managers may well pay attention and this interaction is part of sound (pro-competitive) corporate governance. As a result, classifying earnings calls as "private" on the ground that consumers ignore them, without more, is unwarranted . Put differently, because of the benefit to *investors* of communications with management, we differ from Page and would categorize earnings calls as permissible "public" communications.

C. HYPO C: A COMPENSATION STRUCTURE AS A FACILITATING PRACTICE

Hypo C: Assume the market for widgets is dominated by four major firms, each with approximately a 20 percent share, and a variety of very small, specialty firms. Recognizing that competition among the four major firms pushes prices down, CO (who owns around 6 percent of each of the four major firms) has identified the structure of the top executives' compensation as a "problem." By incentivizing CEOs to increase his/her firm's value relative to other firms in the industry ("Relative Performance Evaluation"), appropriately designed compensation packages may trigger competition that impairs the value of other firms in the oligopoly and in CO's portfolio. In order to limit this "destructive" competition, CO presses compensation committees of each of the large firms in the oligopoly to shift CEO compensation to an "Industry Performance" metric in which the CEO's compensation is tied to

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[90] Id.

[91] Page, *Tacit Agreement*, *supra* note 16 at 636 notes the anticompetitive potential of what is said during earnings calls: "Because anyone, including rivals, can usually listen in on earnings calls or read a transcript of them on the firm website, they provide an opportunity to make far more detailed statements about competitive strategy than a bare announcement of a future price increase. They allow a rival to discuss its reasoning about future price and output decisions in a setting typically monitored by competitors and generally not by consumers."

industry or oligopoly profits. Pressured by the CO, and without any direct coordination with each other, each of the major firms adopts this compensation structure. Firm and oligopoly profits increase.

1. *Background*

Incentive compensation is used widely in public companies. A long recognized problem is that compensation tied to stock price may not be the most effective way to incentivize top managers because stock price is a very noisy signal. For example, the stock price of oil companies is much more sensitive to the price of oil than to the performance of top managers. In such cases, tying compensation directly to the stock price can lead to substantial rewards for substandard performance and inadequate rewards for superior performance.[92] A widespread response to this problem is "Relative Performance Evaluation" ("RPE"), which ties compensation to the performance of a firm relative to other firms in the same industry.

2. *Economic Analysis*

In an August 2016 working paper related to the AST airline paper discussed above, Anton, Ederer, Gine and Schmalz theorize that common owners will have weaker incentives to compete aggressively and consequently will prefer management compensation with weaker financial incentives to increase own firm value (benchmarked against competing firms) than will non-common owners.[93] In particular, the authors argue that the *lack* of RPE in concentrated markets means that managers have less incentive to compete aggressively with competitors. They view lack of RPE to be a potential mechanism through which managers can be incentivized to adopt the "soft competition" strategy, and find empirical evidence to support this theory.

It is noteworthy that the authors do not identify a mechanism through which the relative lack of RPE will be implemented. Moreover, major institutional investors and ISS, the leading proxy advisory firm, both have guidelines that push for RPE as part of the standards in determining whether to vote against a "say on pay" resolution.[94]

Our hypo focuses on one hypothetical "active channel of influence," namely, lobbying by common owners. As Anton et al. discuss, the common adoption of such "industry based" compensation structures could be anticompetitive by providing the CEO with a financial incentive to avoid hard competition.

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[92] *See* Bengt Holmstrom, *Moral Hazard and Observability*, 10 BELL J. ECON. 74 (1979), for an analysis of how to create appropriate incentives when the actions of individuals cannot readily be observed, and Bengt Holmstrom, *Moral Hazard in Teams*, 13 BELL J. ECON. 324, § 4 (1982), for a theoretical analysis of the importance of relative performance.

[93] Miguel Anton et al., *Common Ownership, Competition, and Top Management Incentives*, CESifo Working Paper No. 6178 draft (Aug. 15, 2016), www.econstor.eu/handle/10419/149265.

[94] See, e.g., https://about.vanguard.com/investment-stewardship/perspectives-and-commentary/2018_investment_stewardship_annual_report.pdf at 16; ISS, Pay-for-Performance Mechanics (2019), https://www.issgovernance.com/file/policy/active/americas/Pay-for-Performance-Mechanics.pdf. See Walker, David I., Common Ownership and Executive Incentives: The Implausibility of Compensation As an Anticompetitive Mechanism (March 1, 2019). Boston Univ. School of Law, Law and Economics Research Paper No. 19-3 . Available at SSRN: https://ssrn.com/abstract=3345120. or http://dx.doi.org/10.2139/ssrn.3345120.

3. *Legal Analysis*

The scenario raises a classic question of "facilitating practices."[95] The intuition here is that "Industry Performance" compensation could be a practice that coordinates and stabilizes a cartel by removing distracting incentives to cheat. In the spirit of the Turner analysis, one might argue that, however difficult it is to prohibit parallel interdependent pricing in an oligopoly, one can prohibit anti-competitive facilitating practices such as "Industry Performance" compensation. The key would be a finding that (a) there was a common adoption of such a compensation metric and (b) that common adoption had the potential to interfere with competition. These facilitating practices might well be evaluated under a rule of reason, which would require a showing that the agreement that was reached harmed competition and whether the agreement was reasonable necessary to achieve a legitimate business purpose.[96]

Unless facilitating practices are viewed as evidence of an underlying price fixing conspiracy, they are analyzed under the Rule of Reason or under Section 5 of the FTC Act.[97] Here, we will rule out the possibility that common adoption of "Industry Performance" compensation is evidence of an underlying price fixing conspiracy, but we will assume that there is evidence that the effect of the practice is to raise prices.[98]

In general, facilitating practices can be divided into two broad categories: those, like base point pricing (where firms set prices based on a base cost plus transportation costs to a given market), that facilitate agreement on price or output; and those like "most favored nations" clauses that tend to protect a price agreement that has already been reached by increasing the cost of cheating. Compensating CEOs in a way that incorporates competitors' profits is primarily of the second sort, as it makes "cheating" less profitable to the CEO personally and thus less likely.

The simplest approach would be to attack the practice as an unfair method of competition under FTC Act Section 5, given that Section 5 does not require an agreement.[99] Alternatively, if an

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[95] For a comprehensive overview, see 6 AREEDA & HOVENKAMP, *supra* note 13, ¶ 1407 (Facilitating Practices).

[96] *See* DOJ & FTC, Antitrust Guidelines for Competition Among Competitors (2000).

[97] 6 AREEDA & HOVENKAMP, *supra* note 13, ¶ 1407.

[98] If it is evidence of a price fixing conspiracy, then the analysis of our first hypo applies. Because current enforcement guidelines rule out criminal prosecutions against conduct that is outside of the core of per se offenses (naked horizontal price fixing and market division), we will assume that criminal prosecution is off the table. DOJ, Antitrust Division Manual, § III.C.5 (5th ed. 2012). For a good overview of the U.S. approach, see U.S. submission for the 17-18 October 2007 OECD meeting, DAF/COMP/WD(2007)112, available at https://www.ftc.gov/sites/default/files/attachments/us-submissions-oecd-and-other-international-competition-fora/usfp.pdf.

[99] AREEDA & HOVENKAMP, *supra* note 13, ¶ 1407; *see also* Herbert Hovenkamp, *The Federal Trade Commission and the Sherman Act*, 62 FLA. L. REV. 871 (2010). The FTC has attacked a variety of practices under Section 5 including trade association efforts to facilitate coordination by limiting the competitive variables. Thus, the FTC has attacked "relative value schedules" issued by medical societies, and minimum daily rates and separate contracting over travel expenses and per diem payments in contracts with translators issued by their professional association, on the grounds that these sorts of provisions raise prices. The FTC has also attacked "minimum advertised price" agreements on the grounds that they make price cutting less likely. Another common scenario that attracts FTC attention are limitations on advertising.

agreement to agree on the common compensation structure can be proved (and, as a practical matter, the problems discussed above may make that difficult), and if it can be shown that the common adoption of "Industry Performance" compensation leads to higher prices, then an agreement to adopt "Industry Performance" compensation could violate Section 1 under the rule of reason. Although such an agreement would not warrant criminal sanctions,[100] it could well form the basis of a significant private action for treble damages.[101]

If antitrust is insufficient, or does not apply, there are several approaches that regulators could take if convinced that the common "Industry Performance" compensation structure is anticompetitive. The least intrusive approach would be to condition the tax deductibility of executive compensation on the use of RPE. This is less groundbreaking than one might think: the widespread use of incentive compensation itself is a product of a regulatory intervention through the tax code. Until the recent regulatory change, Section 162(m) of the Internal Revenue Code barred the deduction of compensation of covered executives over $1 million unless the compensation was "performance-based."[102] On the other hand, given that Section 162(m) is now viewed as not having been very successful in shifting executive compensation practices, apparently because compensation committees have been relatively indifferent to the deductibility of the compensation for top executives, it is unclear whether a similar provision that made deductibility dependent on the use of RPE would be effective.

A second alternative would be to leave it to shareholders to sort out. As we discuss in Rock & Rubinfeld I, Vanguard pushes for Relative Performance Evaluation as does the leading proxy advisory firm, ISS. But, of course, if the lack of RPE increased firm profits by decreasing competition, shareholders may grow to prefer "Industry Performance" compensation in concentrated industries.

D. HYPO D: COMMON OWNERS AS A "VECTOR OF INFECTION"

Hypo D: imagine an oligopoly with three major producers. Markets are local as well as national, although the producers are all multinational companies. The firms organize production and distribution through wholly owned national subsidiaries that report to a head office. In the U.S. market, over a five year period, prices were raised in parallel, following a period of stagnant prices. There was evidence that each producer knew about planned price increases by other firms, but it is not clear from whom it received the information.

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[100] Criminal sanctions are reserved for per se offenses. DOJ, Antitrust Division Manual, § 7-100 (Antitrust Policy) (2018), www.justice.gov/jm/jm-7-1000-policy.

[101] Note also the FTC's 2015 policy statement, which states that in applying Section 5, "the act or practice will be evaluated under a framework similar to the rule of reason, that is, an act or practice challenged by the Commission must cause, or be likely to cause, harm to competition or the competitive process, taking into account any associated cognizable efficiencies and business justifications; and the Commission is less likely to challenge an act or practice as an unfair method of competition on a standalone basis if enforcement of the Sherman or Clayton Act is sufficient to address the competitive harm arising from the act or practice." Press Release, FTC, FTC Issues Statement of Principles Regarding Enforcement of FTC Act as a Competition Statute (Aug. 13, 2015), www.ftc.gov/news-events/press-releases/2015/08/ftc-issues-statement-principles-regarding-enforcement-ftc-act.

[102] The exception for performance based pay was repealed in the Tax Cuts and Jobs Act of 2017. Section 162(m) was not, in fact, particularly successful in limiting executive pay and somewhat surprisingly unsuccessful in shifting pay to at least nominally "performance based." *The Executive Pay Cap That Backfired*, PROPUBLICA (Feb. 12, 2016), www.propublica.org/article/the-executive-pay-cap-that-backfired; Dep't of Treasury, Revenue Consequences of 162(m), www.treasury.gov/resource-center/tax-policy/.../Firms-Exceeding-162m.pdf (last visited July 18, 2019).

During this same time period, the Canadian market was likewise highly concentrated. Assume that a Canadian conspiracy to restrict "trade spend" (rebates, allowances, discounts, and promotions that manufacturers individually negotiate with retailers) has been discovered. Does the fact that each of the firms in the oligopoly has the same principal shareholders help to establish that there was a U.S. price fixing conspiracy?

1. *Background*

This hypo is based on the *In re Chocolate Confectionary Litigation*.[103] In that case, plaintiffs alleged a U.S. price fixing conspiracy among the largest chocolate candy manufacturers—Hershey, Nestle and Mars—based in significant part on parallel price increases between 2002 and 2007, combined with proof of a Canadian price fixing conspiracy among the same manufacturers during that period.

The Court of Appeals affirmed the district court's dismissal on summary judgement on the grounds that plaintiffs failed to establish a link between the Canadian conspiracy and the U.S. subsidiaries:

> First, the people involved in and the circumstances surrounding the Canadian conspiracy are different from those involved in and surrounding the purported U.S. conspiracy, and second, the evidence that the Chocolate Manufacturers in the United States knew of the unlawful Canadian conspiracy is weak and, in any event, relates only to Hershey.

This case led us to think about the circumstances under which COs *could* provide the requisite linkage to support an illegal collusive outcome. The clearest would be the closest to the actual case: suppose that the shareholders knew nothing about the Canadian conspiracy. In that case, the case is very similar to the situation of the U.S. based chocolate managers who, the court held, never knew about the Canadian conspiracy which had been conducted by relatively low level employees.

But that makes it too easy. Suppose that the high profits from the Canadian subsidiaries had been a frequent topic of discussion in earnings calls. Suppose further that the COs expressed their pleasure at how well the Canadian operations were doing and inquired why U.S. operations lagged so significantly. Now consider two possibilities. First, suppose that in response to investor inquiries, the head office looked into the Canadian operations, and discovered the "secret sauce." Shortly thereafter, the U.S. firms started raising prices in tandem, rarely having done so before.

Second, imagine that the COs did more. Suppose the COs themselves discover that the Canadian operations are profitable because of an anticompetitive agreement and then press each firm's head office to adopt a similar agreement in the US market. In this case, the COs would arguably become "trustworthy conduits" of best-practices (or worst-practices) from the Canadian market into the U.S. market.

2. *Economic Analysis*

Are the communications by COs with the firms irrelevant "cheap talk" or can they lead to anticompetitive outcomes? Our economic analysis of cheap talk as a form of communications has made

[103] 801 F.3d 383 (3d Cir. 2015).

it clear that there are conditions that will increase the likelihood that a tacitly collusive outcome will be reached. However, even in the trustworthy conduit case described here, the economic theory of oligopolistic behavior is not sufficiently developed for one to evaluate the likelihood of collusion with any confidence. Furthermore, conditions that increase the incentive to support a collusive outcome are also conditions that tend to increase the incentive for competitors to break from that outcome. To illustrate, if there is a downturn in the industry and prices are declining, the firms have a strong incentive to reduce capacity and to stop the price cutting. However, this will create a strong incentive for one or more "maverick" firms to hold their current capacity so as to gain share from their competitors.

3. *Legal Analysis*

In analyzing the relevance of the evidence of a contemporaneous Canadian price fixing conspiracy, the Third Circuit relied on the Areeda treatise. According to Areeda, a contemporaneous conspiracy may be relevant in several ways. First, there is an evidentiary dimension: it may cast doubt on the truthfulness of defendants' innocent explanations for parallel interdependent conduct. Second, the scope of a conspiracy may be uncertain: "parties who are conspiring in New York may be doing the same in New Jersey." Indeed:

> Contemporaneous conspiracies in adjacent geographic markets could reasonably be deemed sufficient to transfer to the defendants at least the burden of going forward with evidence of an explanation that performance is different in the second market, that any motivation for conspiracy in one market does not extend to the other, or that the personnel or other circumstances make it unreasonable to interpret the proved conspiracy as extending to the adjacent market.[104]

This sensible approach has been followed by a variety of courts.[105] The question becomes one of plausible "linkage." Are the key employees the same as in the conspiracy jurisdiction? Did employees form the conspiracy jurisdiction move to the subject jurisdiction at the relevant time?

In the *Chocolate* case, there was insufficient evidence of linkage. The Canadian and U.S. operations were in different subsidiaries run by different people. The Canadian conspiracy was facilitated by a Canadian direct purchaser and major distributor that sent notices to the Canadian manufacturers asking them to rein in trade spend.

What sort of evidence of linkage might there be? If, for example, the COs played the role of the Canadian direct purchaser, leaning on the U.S. competitors to rein in trade spend in the U.S. as they had in Canada, then this becomes a version of Case A in which the CO affirmatively organizes a conspiracy.

But suppose that all the COs do is to inquire as to why the Canadian operations are doing better than the U.S. operations, and the firms then discover the "secret sauce" and choose to spread it to the U.S. market? In this case, even if one might conclude that there is a conspiracy among the firms in the U.S. market, one would be hard-pressed to claim that the common owners were part of it. After all, all they did was to ask why the Canadian operations were more profitable than the U.S. operations.

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[104] *Id*. at 402 (quoting AREEDA & HOVENKAMP, *supra* note 13, ¶ 1421a, at 160).

[105] The *Chocolate* opinion states that both the Second and Eleventh Circuits have followed this requirement of "linkage." *Id.* at 402-03.

Whether this sort of "infection" would even suffice to prove an agreement among the competing firms is a separate question. In this regard, one might consider the *Chocolate* plaintiff's expert's "actuation theory" which was rejected by the court as without adequate basis in the evidence:

> There [plaintiffs' expert] opines that before 2002, the Chocolate Manufacturers were unable to raise prices together. Posing a thought experiment, he says to "consider a scenario in which U.S. executives from each Defendant with pricing authority for both the U.S. and Canada fly to a meeting in Canada" and "[w]ithout ever uttering an express word regarding U.S. prices, the three executives agree to raise prices in Canada by 10%." J.A. 2193. The thought experiment continues with the executives returning to the U.S. and monitoring the Canadian outcomes, and then, without any further communication, one firm announces a price increase of 10% in the U.S. Dr. Vellturo opines that under these circumstances, the "coordinated anti-competitive agreement in Canada has significantly changed the information known about likely responses to a price increase in the U.S. by these same companies," with the price leader expecting the other companies to follow the price increase. J.A. 2194.[106]

Can the COs, by focusing attention on the competitive condition and triggering an inquiry that results in managers learning of the "other" conspiracy, somehow change the information environment in which the managers setting prices operate, "actuating" a conspiracy? How would their presence change the information environment, e.g., by showing the parties that it was, in fact, possible to raise prices in a particular market? As with the *Chocolate* case, this would be a highly speculative theory.

E. COMMON OWNERSHIP AND MERGER REVIEW

If COs can be particularly effective cartel organizers and thus raise the possibility of anticompetitive coordinated effects, then one might plausibly think that the degree of common ownership could or should affect the competitive analysis and legal determination in merger reviews under either Clayton Act Section 7 or the EU Merger Regulation. In the regulation of mergers, the perspective shifts from Section 1's fact specific "behavioral" question whether collusion has been proved to a more structural analysis. As we will see below, the situation is quite complex. Although our focus in this article is primarily on coordinated effects, the analysis of the link between common ownership and merger review requires us to expand our lens.

As a theoretical matter, common ownership can lead to adverse unilateral and/or coordinated effects. As discussed above, MHHI was developed to help analyze competitive effects in situations in which a firm held a substantial (>25%) share ownership in a competing firm. But, as with the HHI, some caution is needed when interpreting the MHHI because a venture that generates cost-reducing efficiencies can lead to lower prices and higher HHIs and MHHIs. As Daniel O'Brien has noted, "a change in common ownership that raises the MHHI may reduce price, and a change in common ownership that lowers the MHHI may increase price. Therefore, the MHHI does not provide a reliable prediction of the effects of common ownership on price."[107]

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[106] *Id.* at 405 n.15.
[107] Daniel P. O'Brien & Keith Waehrer, *The Competitive Effects of Common Ownership: We Know Less Than We Think*, Draft (Feb. 22 2017).

Furthermore, the MHHI formula depends crucially on empirical measures of control weights -- the extent to which stock ownership translates into control—which are extremely difficult to measure when common owners do not have board representation. We do not advocate the use of the MHHI as a measure of the potential adverse effect of common ownership in merger regulation, for several reasons. First, there is no consistent positive correlation between increases in the MHHI and increases in market concentration. Second, as noted, changes in the MHHI tells do not necessarily reflect changes in corporate control. Third, our existing tools are more reliable.

1. *Hypo E1: A Merger of Commonly Owned Firms*

Hypo E1: The widget industry is dominated by 5 firms with the following market shares: A (30%); B (30%); C (25%); D (23%); and E (10%). Suppose further that all are publicly held. Moreover, assume that the top five shareholders in each are the same, hold roughly identical amounts, and collectively own 40 percent of the shares of each firm (e.g., each of the five largest investors owns 8 percent in each). C and E are proposing a merger to better compete with A and B. Does the fact of common ownership count against approving the merger? If so, by how much?

a. Background

This hypo is abstracted from the EU Commission's analysis of the Dow/DuPont merger in which, as noted above, a competition authority considered the AST "common ownership" analysis in the context of a merger review.[108] The merger, which was initially proposed late in 2015, combined the fourth and fifth largest biotechnology and seed companies in the world into the world's largest agrochemical corporation. The merger was completed in August of 2017. The merger passed muster with the Antitrust Division of the Department of Justice, but only after the parties agreed to divest many crop protection and two petrochemical products. An important U.S. concern was that, absent a significant divestiture, there would have been reduced competition in the development and sale of insecticides and herbicides. This would lead to higher prices, less favorable contract terms, and a reduced incentive to innovate. The European Commission, having cooperated with the Antitrust Division in their investigation, demanded and received additional divestitures relating to DuPont's assets used for R&D relating to crop protection chemicals.[109]

b. Analysis

Although the Antitrust Division did not raise any issues relating to common ownership in its public announcements concerning the merger, the European Commission took the common ownership issue seriously and used this case to explore the competitive effects of common ownership in detail. In the Commission's decision itself, despite approval of the AST analysis, the high degree of cross ownership did not do any work.[110] Apparently convinced by the AST analysis,[111] the Commission concluded that: "In conclusion, the Commission is of the view that (i) a number of large agrochemical

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[108] Case M.7932 Dow/DuPont, MERGER PROCEDURE, REGULATION (EC) 139/2004 (Mar. 27, 2017). Competition authorities have, by contrast, used "cross ownership" analysis in a wide variety of merger reviews. *See* Chris Brooks et al., *Institutional Cross-Ownership and Corporate Strategy: The Case of Mergers and Acquisition*, 48 J. CORP. FIN. 187 (2018).
[109] DOJ, Office of Public Affairs, *Justice Department Requires Divestiture of Certain Herbicides, Insecticides, and Plastics Business in Order to Proceed with Dow-Dupont Merger* (June 15, 2017).
[110] Section 8.6.4 (¶¶ 2337 to 2352).
[111] ¶ 2347.

companies have a significant level of common shareholding, and that (ii) in the context of innovation competition, such findings provide indications that innovation competition in crop protection should be less intense as compared with an industry with no common shareholding."[112] Yet, in the end, this added little as the Commission had already concluded that R & D was highly concentrated, that the merger had problematic effects on innovation competition, and that divestiture (which had been agreed to) was necessary to address the concerns.[113]

Annex 5 of the decision, which describes and embraces the AST analysis, provides some insight into the difficulties of applying AST to mergers. The Commission's analysis proceeds in several steps: first, that the agrochemical industry is characterized by high common ownership; second, that large minority shareholders have more influence than their formal minority share otherwise suggests; third, that large minority shareholders can exert more control than their equity shares suggests; fourth, that the theoretical and empirical economic literature provides evidence of the effects of common ownership, including a negative effect on price competition. From this the Commission concluded that current market share and concentration measures underestimate market concentration and market power, but—in a crucial concession—acknowledges that control weights are a critical element of the MHHI calculation, but it could not determine what the specific weights were In the absence of some reliable way of translating ownership stakes to control or influence, the Commission was unable to integrate the common ownership analysis into its review.

Although common ownership ultimately did not play an important role in the analysis of the Dow/DuPont merger, the Commission's receptivity to the analysis may portend greater importance in the future, and thus justifies some attention. As we will see, while the absence of a reliable way to measure specific control weights in a specific case is a problem, it is not the only problem.

Suppose, in Dow/DuPont, they had conducted a case-specific assessment of control weights and had concluded that the large shareholders had substantial influence. For example, let's assume that the Commission concluded, with AST, that shareholders with less than 0.5 percent could be ignored in the analysis and that influence is proportional to size (i.e., that an 8 percent shareholder has twice the influence of a 4 percent shareholder). What would one do with that beyond concluding that the large shareholders had substantial influence?

First, suppose that one assumes that HHI does, in fact, understate market concentration and market power when there is significant common ownership. What are the implications? On the one hand, as the Commission seemed to suggest, it might lead competition authorities to scrutinize a merger more closely because the "effective" HHI is above a threshold for determining whether a market is "highly concentrated" (in the U.S., HHI > 2500).[114] On the other hand, the very same analysis would imply that the HHI delta from the merger of two firms with significant common ownership will *overstate* the competitive effects, and thus should be modified (from its current level of 200). After all, if, in fact, having a set of common owners who collectively own 25 percent of each of Dow and DuPont has the

[112] ¶ 2352.
[113] In the analysis of the merger's effects on concentration, the Commission suggests that the Delta HHI (below 250 with a post transaction HHI below 2000) understates the competitive effect because of the significant cross-shareholdings. ¶ 2528; *see also* Annex 5, ¶ 79 ("The Commission acknowledges that it did not perform a case-specific assessment that would justify applying a specific assumption on the control weights γ_{ij}. As a consequence, the Commission does not rely on MHHI computation in this Decision.")
[114] *See* HMG, *supra* note 7, § 5.3. For a discussion that is contrary to our analysis, see Einer Elhauge, *Horizontal Shareholding*, 129 HARV. L. REV. 1267, 1273-74 (2016).

effects on competition that AST allege, then while it may be true that the amount of competition between Dow and DuPont is less than one would expect given the HHI, it will be equally true that the *harm* from a merger of Dow and DuPont – from the loss of competition between Dow and DuPont caused by the merger – will likewise be less. Given that the goal of merger regulation is to prevent mergers that are likely to have the effect of substantially lessening competition, the common ownership arguments that emphasize how impaired competition was before the merger cut against and not in favor of blocking a merger.

Second, a Dow/DuPont merger is, in many ways, the inverse of the cases analyzed by AST. AST ask whether price competition among airlines is impaired when two of the major airlines' largest shareholders merge, going from, say, two shareholders holding 2 percent and 4 percent to one shareholder owning 6 percent. By contrast, a Dow/DuPont merger involves a merger between two major competitors with roughly the same common shareholders yielding a bigger firm with common shareholding unchanged. Regardless of the control weights assigned, the common shareholding is unchanged and thus it is again hard to see how MHHI delta and AST's common ownership arguments add anything to the analysis of competitive effects beyond normal HHI analysis.

But maybe Dow/DuPont, with a high level of pre-existing common ownership, is the wrong merger context to consider. Consider, instead, the following hypo:

2. *Hypo E2: A Merger with a Maverick*

Hypo E2: The widget industry is dominated by 4 firms with the following market shares: A (30%); B (30%); C (16%); and D (11%). Suppose that A, B and C are all publicly held and have roughly identical shareholders with identical shares (e.g., the top five shareholders of each are the same and each shareholder owns between 6 and 8 percent in each company) but that D is owned by "non-common owner/s" (i.e., maybe it is privately held or has a controlling shareholder or is a subsidiary of a large foreign corporation with largely non-overlapping shareholding). Suppose further that D has historically been a maverick in the industry. If A and D propose a merger, does the common ownership analysis count against approving the merger under Section 7? If so, by how much?

a. Background

In the analysis of horizontal mergers, the elimination of a disruptive "maverick" has historically been one of the most troublesome scenarios.[115] This hypo resembles the failed attempt by AT&T Mobility (AT&T Wireless) to acquire T-Mobile in 2011 and provides an instructive contrast to our analysis of the Dow-DuPont merger. At the end of 2010, the shares of subscribers of the four major mobile phone providers with a national footprint were approximately AT&T (30%), Verizon (30%), Sprint (16%) and T-Mobile (11%). The merger was analyzed in parallel by both the Antitrust Division of the Department of Justice and the Federal Communications Commission. Both agencies opposed the merger and were prepared to go to court if the parties did not withdraw their proposal.[116] The opposition to the

[115] HMG, *supra* note 7, § 2.15, *Disruptive Role of a Merging Party*. ("For example, if one of the merging firms has a strong incumbency position and the other merging firm threatens to disrupt market conditions with a new technology or business model, their merger can involve the loss of actual or potential competition.")
[116] The FCC had jurisdiction because the proposed deal involved a transfer of licenses from T-Mobile to AT&T. The FCC's authority comes from the Telecommunications Act of 1996, which puts forward a relatively broad public interest standard. The DOJ Complaint, available on the DOJ Antitrust Division website, was filed on August 31, 2011. Complaint, United States v. AT&T Inc., No. 1:11-cv-1560 (D.D.C.).

merger was based in part on the view that there was a likelihood of adverse coordinated effects – either because the merger would increase the likelihood of parallel accommodating behavior (a move from 4 to 3 in a highly concentrated industry) or because the merger would remove a maverick (T-Mobile) from the market. Neither the DOJ Complaint or the FCC's Staff Report utilize the term maverick, but both make it clear that coordination was a concern and that T-Mobile was seen as disruptive force in the marketplace.[117]

b. Analysis

We find the FCC's coordination analysis generally compelling, but, given the current attention to common ownership, we are struck by the fact that there was no mention of the realities of common ownership in the mobile telephony industry. Our review of the relevant proxy statements at the time show a strong pattern of common ownership for the three firms for which public information is available.[118] Comparable information for T-Mobile, a subsidiary of Deutsche Telekom, was not available.

Suppose for purposes of discussion that the FCC or the DOJ had considered the common ownership phenomenon. The agencies would have found a strong pattern of common ownership among the three public companies pre-merger, but no evidence of tacit (or explicit) coordination on the part of the four major industry players. This is the case in Hypo E2.

What, if anything, would the common ownership analysis add? Given what we know about the ownership of AT&T, Verizon, Sprint and T-Mobile, the merger would likely have strengthened the pattern of common ownership, since all three firms post-merger would likely have the same shareholders as before, and T-Mobile, which had a different pattern of ownership, would be gone. How might they have used the common ownership analysis?

Here, the common ownership analysis would largely support the concerns of the agencies without adding very much. To the extent that the AST theory is correct, it predicts that a firm with different (non-common) owners will behave *more* competitively than a firm with common owners. This suggests that the lack of common owners might help identify maverick or potentially maverick firms. As with firm D in Hypo 2, T-Mobile, a wholly owned subsidiary of Deutsche Telecom, likely has quite a different group of shareholders than AT&T, Verizon and Sprint. On the other hand, this may be superfluous: using standard analyses, T-Mobile had already been readily identified as a disruptive force by examination of its pre-merger market conduct. It is hard to see how an enforcement authority would find it useful to rely on common ownership theory, with its questionable assumptions, when it can identify mavericks by direct observation of their market behavior.

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[117] According to the DOJ Complaint (*id.* ¶ 27), "T-Mobile has positioned itself as the value option for wireless services focusing on aggressive pricing, value leadership, and innovation." And "the reduction in the number of national providers from four to three, likely will lead to lessened competition due to an enhanced risk of anticompetitive coordination." *Id.* ¶ 36. Similarly, the FCC Staff Report (¶ 17), "the elimination of a firm that acts as a disruptive force in a highly concentrated market raises the likelihood of anticompetitive conduct that …" FCC Staff Analysis and Findings, AT&T & T-Mobile, WT Docket No. 11-65 (Nov. 29, 2011).

[118] Based on a review of AT&T, Verizon, and Sprint's 2011 proxy statements, and the Form 13Fs filed by Vanguard and State Street, the common ownership by BlackRock, Vanguard and State Street as of the end of 2010 was as follows: AT&T (Blackrock (5.39%)), Vanguard (3.5%), State Street (3.8%); Verizon (BlackRock (6.06%), Vanguard (3.5%), State Street (3.9%)); Sprint (FMR (8.87%); BlackRock (8.31%); Vanguard (3.5%), State Street (3.7%). All these documents are available on Edgar.

That said, this is at least a situation (unlike Hypo E1) in which the positive MHHI delta will track the other competitive factors. This is because the presence of a non-common owner *reduces* the MHHI,[119] so that the *removal* of a firm owned by non-common owners will *increase* the MHHI, and do so by eliminating the NCO. As a result, the AT&T/T-Mobile merger would result in a significant and positive MHHI delta.

But even here, MHHI is a flawed analytic tool. In contrast to Hypo E1, the common ownership theory could lead us to conclude that the pre-merger HHI *understates* the degree of concentration and market power because of the presence of a firm owned by NCOs. If we relied on MHHI to set the threshold for further review, we would run a risk of treating mergers with mavericks too leniently.

V. CONCLUSION

We have offered an extensive discussion of how common ownership could adversely affect competition by facilitating coordination among competitors. While there are a variety of plausible scenarios, it is unclear how often common ownership has anticompetitive effects and, when it does, how often it will violate Sherman Act Section 1, FTC Act Section 5 or Clayton Act Section 7.

Although extreme cases in which a common owner plays the role of cartel ringmaster may well come to light, and be prosecuted, we would not expect a large number of such cases, especially once counsel begin to provide antitrust compliance training to portfolio managers.

With regard to merger review under Clayton Section 7 and the EU Merger Regulation, our analysis is very preliminary. While unconvinced by the European Commission decision's analysis in Dow/DuPont, understanding how common ownership should be factored into merger review requires additional research. Until there is a clear theoretical or empirical analysis of the competitive effects of common ownership, if any, the legal analysis will be unable to define a reasonable line for a Section 7 claim. We suspect that the theoretical basis for this foundation would come from a Cournot framework. In this framework, firms initially choose outputs (or capacities). If the market is differentiated, prices are determined in a second stage of the decision-making process.

Some final food for thought. Might the MHHI or a variant that better accounts for the relationship between common ownership and corporate control be a useful indicator of the likelihood that tacit collusion will occur? In traditional cartel enforcement, HHI or the older four and eight firm concentration ratios have played little role beyond providing a general guide to where damaging cartels are likely to be found. While each provides a rough and ready proxy for whether a market is concentrated, and, in general, coordinated outcomes are more likely in concentrated markets, cartel enforcement requires evidence of a "contract, combination . . . or conspiracy." Somewhat ironically, the harder it is to organize a cartel—often *because* a market is not highly concentrated—the more likely it is that evidence will come to light. It is thus reasonable to expect that the cartels detected and prosecuted will sometimes be the marginally successful (or marginally failing) ones.

The MHHI is likely to be no more precise a guide to policing coordinated effects of common ownership. To start with, the MHHI is problematic as an indicator of the likelihood of unilateral effects because (among other things) it fails when there are substantial asymmetries in the industry (e.g., when costs decline asymmetrically, which will put downward pressure on prices, the MHHI is likely to increase). However, collusive outcomes typically occur when there is relative symmetry. In this case, all

[119] This point is made effectively in Hemphill and Kahan, *supra* note 31.

firms have an incentive to collude and when collusion occurs, decreases in cost are likely to lead to lower prices. Indeed, it seems plausible to believe that tacit collusion is more likely, other things equal, the more symmetric the market shares and the greater the shares of the colluding firms. As Ivaldi et al. point out, if one firm has a lower market share than the others, it will have more to gain from defecting and less to lose from retaliation.[120] Unfortunately, market shares (and the MHHI) are endogenous, responding among other things to changes in firms' costs. As a result, one cannot rule out substantial changes in the MHHI resulting from strategic behavior by one or more firms in the industry. In the end, we are uncomfortable with using MHHIs in the presence of common ownerships as a factor in determining whether a merger facilitates anticompetitive coordination.

Finally, it is worth remembering that the enforcement of Section 1 is central to the mission of every competition authority. Naked horizontal price fixing cartels – the bread and butter of Section 1 enforcement – can cause great harm to consumers and have no redeeming social benefits. As a result, they are per se illegal. Although our analysis shows that the presence of common owners can, in principle, make it easier to organize an illegal restraint of trade, or cause other anticompetitive effects in concentrated markets, we do not expect to see a large number of new cases. As with Section 1 violations more generally, firms can avoid liability through appropriate compliance programs. With a greater understanding of the potential anticompetitive effects of common ownership, we expect firms to incorporate these insights into their compliance programs.[121] On the other hand, with a greater attention to common ownership among enforcement authorities, we would not be surprised to see some cases brought under Section 1 against firms and individuals that have *not* internalized these concerns, and in which employees of common owners, in seeking to increase stock price, have crossed the line and participated in the formation of an illegal agreement in restraint of trade. A few such cases will go a long way towards encouraging all firms to adopt appropriate compliance programs.

[120] Ivaldi et al., *supra* note 39, at 14.
[121] As we discussed at length in Rock & Rubinfeld I.