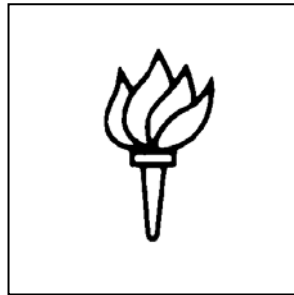


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Common Ownership and Coordinated Effects

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Abstract

With the growth of common ownership and investor engagement with portfolio firms, the possibility of adverse competitive effects of common ownership has become an important issue. To date, most of the focus has been on “unilateral” effects. In this Article, we shift the focus to the potential “coordinated” effects of common ownership and the appropriate antitrust treatment. After examining the ways in which a common owner could be a particularly effective cartel facilitator, we identify five scenarios, based on antitrust case law and enforcement experience, in which common ownership could plausibly increase the potential for coordinated conduct in concentrated markets. For each, we provide an economic analysis of the potential anticompetitive coordinated effects and we consider the appropriate legal treatment under Section 1 of the Sherman Act. The five scenarios are: Common Owners as Cartel Initiators; Common Owners as Trustworthy Conduits; a Common Compensation Structure as a Facilitating Practice; Common Owners as Brakes; and Common Owners as Vectors of Infection. We then turn to whether and how the anticompetitive potential for coordinated effects of common ownership might affect merger analysis under Section 7 of the Clayton Act or the EU Merger Regulation.

Introduction

Can shareholders act in ways that interfere with competition in the product markets of firms whose shares are commonly owned by large institutional investors? If so, how do they do so? What are the channels through which anticompetitive signals can be transmitted? Can shareholders be helpful in detecting and punishing cheating? Are diversified or undiversified investors more or less dangerous? Should antitrust law address these problems and, if so, how?

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, shares in U.S. corporations are overwhelmingly 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 an increased concentration of shareholdings. In recent years, with the increased popularity of passive investments strategies (e.g., index funds and 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 directors who will 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 portfolio companies. Likewise, actively managed mutual funds engage regularly with companies as they seek to identify investments that will increase in value, and sometimes intervene in order 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 concentration and engagement has led to anticompetitive effects in the product markets of firms in concentrated industries, focusing on airlines and banking.² In a widely discussed article, Jose Azar, Martin Schmalz 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.³ Based on these findings, Einer Elhauge has argued that the current distribution of shareholdings is anticompetitive and violates Section 7 of the Clayton Act.⁴ 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 concentrated markets or commit to complete governance passivity (“put the shares in a drawer”).⁵

These views have attracted widespread scholarly attention, and have even begun to exert some influence on enforcement authorities. 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.”⁶

Although AST’s “unilateral” effects analysis is unconvincing,⁷ the increased concentration of shareholdings could make coordination of conduct among competitors easier and more effective. These potential “coordinated effects” required increased antitrust scrutiny.⁸ “Coordinated effects” are at the

² Jose Azar, Martin C. Schmalz, and Isabel Tecu, “Anticompetitive Effects of Common Ownership,” 73 *Journal of Finance*, August (2018), 1513-1565 and Jose Azar, Sahil Raina, and Martin C. Schmalz, “Ultimate Ownership and Bank Competition,” May (2016), available at <https://ssrn.com/abstract=2710252>.

³ Jose Azar, Martin C. Schmalz, and Isabel Tecu, “Anticompetitive Effects of Common Ownership.”

⁴ Einer Elhauge, “Horizontal Shareholding,” *Harvard Law Review*, 129 (2016), 1267-1317.; Einer Elhauge, “The Growing Problem of Horizontal Shareholding,” *Antitrust Chronicle*, Vol. 3, June (2017), Competition Policy International.

⁵ Eric A. Posner, Fiona M. Scott Morton, and E. Glen Weyl, “A Proposal to Limit the Anti-Competitive Power of Institutional Investors,” 81 *Antitrust L. J.* 669 (2017).

⁶ European Commission, Case M.7932 – Dow/DuPont, 27.3.2017, Annex 5, p. 17. In fact, a positive MHHI is not necessarily indicative of an increased likelihood of tacit collusion. See, for example, Menesh S. Patel, “Common Ownership, Institutional Investors, and Antitrust,” *Antitrust Law Journal*, Vol. 82 (2018), pp. 279-334, at 319-320.

⁷ Edward B. Rock and Daniel L. Rubinfeld, “Antitrust for Institutional Investors,” *Antitrust Law Journal*, Vol. 82 (2018), pp. 221-278 (hereinafter “Rock & Rubinfeld I”).

⁸ Antitrust analysis distinguishes between two separate channels through which competition in markets can be impaired. Sometimes, 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

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.

Moreover, although couched in terms of “unilateral effects,” much of the AST analysis, especially when challenged to specify a channel of influence, shades into a “coordinated effects” story. For example, at least two of the three channels hypothesized by AST – lobbying by shareholders and adoption of compensation structures that emphasize industry performance – are most naturally thought of as a type of “coordinated effects” theory, although, as we discuss below, not necessarily supporting a finding of illegality.

In this Article, we provide a comprehensive analysis of the potential *coordinated* effects of low levels of share ownership, with particular attention to common owners. Focusing on oligopolies where there is a real possibility of collusion, we sketch out different ways in which shareholders can potentially facilitate the coordination and enforcement of oligopolistically-competitive prices, the underlying economics, and what the law can and should do about it. We emphasize at the outset that there are at least three separate questions. First, as a matter of economic analysis, can common ownership increase the likelihood that there will be “coordinated effects” or strengthen any existing coordination, and, if so, how? Second, under current law, what sorts of conduct by common owners may expose the common owners and the competing portfolio firms to liability? Third, as a matter of policy, should the law be changed and, if so, how?

Our antitrust concerns are made somewhat more concrete by stories like one in the Wall Street Journal in December 2017, “Wall Street Tells Frackers to Stop Counting Barrels, Start Making Profits.”⁹ 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. Suppose that the participants in the meeting agreed collectively to lean on the shale oil producers to reduce output, did so, and that collective pressure resulted in lower output and higher prices. Would that violate Section 1 of the Sherman Act? More generally, can representatives of common owners, that could 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 they be more effective at doing so than non-common owners? What sorts of coordination should raise serious antitrust concern? This article attempts to answer these questions.

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. Department of Justice and the Federal Trade Commission, *Horizontal Merger Guidelines* (hereinafter “HMG”), Issued August 19, 2010, at section 6. 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 sorts of effects are known as “coordinated effects.” HMG, at section 7.

⁹ Bradley Olson and Lynn Cook, , Wall Street Tells Frackers to Stop Counting Barrels, Start Making Profits, WSJ Dec. 13, 2017, available at <https://www.wsj.com/articles/wall-streets-fracking-frenzy-runs-dry-as-profits-fail-to-materialize-1512577420?mod=searchresults&page=1&pos=1>.

In part I, we provide a brief summary of how Antitrust deals with oligopolies. In part II, we review how *high* levels of cross ownership or common ownership can interfere with 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 analysis for five hypothetical scenarios based on actual cases: common owners as initiators of coordinated behavior; common owners as a trustworthy conduit; a common compensation structure as a facilitating practice; common owners as a brake on new entry; and finally, common owners as a vector of infection. We then turn to the potential role of common ownership in merger review. We close with a brief conclusion.

I. Background: 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 Dupont to force divestiture of its stock ownership in GM¹⁰ and likely well before. 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/or output and enforcing that coordination 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 detected through a drop in sales or by knowledge of price cutting behavior by a competitor.¹¹ Either action can be punished by reciprocal action.

But competitive oligopolies are widespread. Even in those industries, coordination will not always be profitable and, in any case, successful coordination is hard because firms have different (and changing) cost structures, because demand is constantly changing, because the risk of cheating is real, and because there may be limited mechanisms for punishing cheating. Sometimes, hopefully often, firms 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 that hard competition will be met with a hard response and injure everyone – 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 behavior – “tacit collusion” or “conscious parallelism” – it is legal.¹² If, on the other hand, they achieve the noncompetitive outcome through an agreement, tacit or otherwise, they have violated

¹⁰ *E. I. du Pont de Nemours & Co.*, 353 U.S. 586 (1957).

¹¹ 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.

¹² The Horizontal Merger Guidelines reference “parallel accommodating behavior.” HMG, section 7.

Section 1.¹³ The difference between “tacit collusion” and “tacit agreement” is subtle and much litigated, with “agreement” requiring something – “plus factors” – 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.¹⁴

It is worth reviewing how U.S. law gets to this result. The starting point is Donald Turner’s classic 1962 “The Definition of Agreement under the Sherman Act.” Turner makes the very important point that, while semantically we could (indeed probably should) 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 that fits with the existing legal structure. Imposing damages when firms are doing no more than taking into account the likely behavior of competitors is wrong because firms have no choice but to set price with regard to market conditions. In addition, we shouldn’t prohibit oligopolists from independently charging the profit maximizing price when we don’t prohibit monopolists 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 injunction 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 market structures. There are different 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 1.¹⁵ Plaintiffs must also prove the existence of factors that tend to exclude the possibility of independent action or lawful conscious parallelism, sometimes called “plus factors.”¹⁶ What counts as a “plus factor” is context specific, and there is no definitive list, but include facilitating practices.

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

¹³ 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.

¹⁴ Not all commentators are comfortable with the term “tacit agreement” since the term has on occasion been used to characterize interdependence alone; see Phillip Areeda and 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 University Press (2013), especially Chapter 7.

¹⁵ For a very useful summary and analysis of current law, see Page, “Tacit Agreement under Section 1,” 81 *Antitrust Law Journal* (2017), 593-639; Areeda & Hovenkamp ¶ 1412.

¹⁶ *Williamson Oil* 346 F.3d at 1301; *Holiday Wholesale* 231 F.Supp. 2d at 1274, quoting *Harcos* 158 F.3d at 572.

from agreement, or action contrary to self-interest; or (2) in the presence of an independent reason for the challenged action.”¹⁷ 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 if (as is the case) an invitation to collude is not itself a violation of section 1.¹⁸ But “invitations to collude” are only plus factors when they tend to exclude independent action.

Plaintiffs will sometimes rely on a “signaling” theory to establish an agreement. In *Holiday Wholesale et al v. Philip Morris, et al.*¹⁹ – 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 their willingness through a securities analyst who followed all the firms in the industry, who participated in all the earnings calls, and who published research reports on a regular basis in which he discussed future pricing trends. In granting summary judgment, the court was unimpressed by the evidence that the analyst had been used by the defendants to communicate with each other.²⁰ In context, the court’s point was that, because the information was the kind of information normally conveyed to shareholders, plaintiffs could not rely on that information to support an inference that defendants were seeking to collude (as opposed, e.g., to secret communications among defendants).²¹

As a matter of legitimate inferences, this makes sense. On the other hand, it would be a mistake to conclude either that conspiracies could not be formed via discussions 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.

Without resolving the numerous tensions in the case law, we offer a number of observations that motivate our analysis. Turner put his finger on the issue: the difficulties are not semantic but pragmatic. If you cannot craft a remedy that is effective, administrable, and improves things, you are better off not holding the conduct illegal.

There are two aspects to this. First, is it really the case that we cannot draw the line between legal and illegal conduct by oligopolies on a semantic or at least conceptual basis? Here, there is a large literature trying to do just that. At the end of the day, we basically agree with Kaplow²² that the

¹⁷ Areeda & Hovenkamp ¶ 1412a.

¹⁸ 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.

¹⁹ *Holiday Wholesale et al v. Philip Morris et al.*, affirmed sub nom. *Williamson Oil v. Philip Morris*, 346 F.3d 1287 (11th cir 2003).

²⁰ 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.” at 1276.

²¹ See also *In re Delta*, note [56] infra.

²² Louis Kaplow, *Competition Policy and Price Fixing*, Princeton University Press (2013) at Chapter 2.

decades' long effort, in the US and the EU, to distinguish between legal "tacit collusion" and illegal "tacit agreement" (or some other linguistic formulation) on conceptual grounds has not been successful.²³

Second, can one follow Turner and draw the distinction pragmatically? Here the idea is to declare illegal as a violation of Section 1 conduct that meets the pragmatic standards that seem to drive (or should drive) this area: conduct that can be identified; where prohibiting that conduct does not put the parties or the courts in an impossible position; and where prohibiting the conduct will improve the competitive landscape at acceptable cost?

This 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

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 there is no or minimal harm to society by

²³ That said, as a doctrinal matter, we find William Page's analysis of "tacit agreements" as distinct from "express agreements" to be instructive. William H Page, "Tacit Agreement under Section 1 of the Sherman Act." For Page, "a tacit agreement is better understood as one in which rivals communicate their intentions in language without forming a complete agreement, but then indicate their assent to the suggested course of action by subsequent interdependent pricing or other competitive actions." This is to be distinguished from an "express agreement" where rivals indicate assent by words or the equivalent (e.g., a nod of the head).

²⁴ The EU Commission's decision in *ICI/Solvay* is the purest example of this. IV/ 33.133-A: Soda-ash — Solvay, ICI, 91/297 /EC (1990). 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 in *In re Text Messaging Antitrust Lit.*, 782 F.3d 867 at 874, "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 [**16] price regulation, now largely abolished."

prohibiting the conduct. 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.

In pursuing a pragmatic approach, as we will discuss below, there are a variety of considerations that a court should take into account in considering whether oligopoly pricing that is arguably facilitated or stabilized by the presence of common owners should be considered to cross the legal line. The principal challenge in thinking about the role of common and non-common owners in oligopolies is the tension between the potential anticompetitive effects and the social/corporate law 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.²⁷

In light of these pragmatic limitations, it should not be surprising if only a subset of the situations in which the presence of common owners potentially cause 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 anticompetitive effects should be a sufficient basis for illegality.²⁸

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 the next section. The starting point for this 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).

a. Potential Anticompetitive Effects of Cross Ownership

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 been challenged by the Antitrust Division on the basis that control over output and price can be effectuated through coalition formation among the joint venture members.²⁹

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 anti-competitive effect of the cross-ownership has been sufficient to trigger a challenge.

²⁷ There is a second set of pragmatic “legal” considerations that courts take into account in drawing the line between legal conscious parallelism and illegal agreement. In determining who has the burden of proof and when it shifts, as well as the distinctive pleading and summary judgment standards that apply to these cases, the courts have clearly been concerned about who bears the cost of error, of the bargaining leverage that plaintiffs have by virtue of the threat of liability from treble damages and class actions, and whether the ambiguity of the line combined with the large costs of error potentially chill pro-competitive conduct. In discussing the pragmatic considerations, we will largely ignore these more general considerations.

²⁸ Kaplow, *Price Fixing*.

²⁹ See Daniel L. Rubinfeld, “The Primestar Acquisition of the News Corp./MCI Direct Broadcast Satellite Assets,” *Review of Industrial Organization*, Vol. 16, No. 2, March, 2000, 191-209. See, generally, the DOJ, FTC, Antitrust Guidelines for Collaboration Among Competitors, <https://www.justice.gov/atr/joint-venture-guidelines>.

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.³⁰ The economics underlying the 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 whether the acquisition is complete or partial. Within this framework, the incentive for firm 1 to increase its price has grown because the firm knows that a portion of the profits that would have been lost as the result of sales made by competitors is now internalized within the firm. Salop and O'Brien take this framework a step further by suggesting that the traditional HHI measure of concentration be modified (into the MHHI) to reflect the added pricing incentive created by the cross-ownership. It is important to note that this unilateral incentive does not require control. However, 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 now have the potential to jointly determine their 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 discuss 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.³¹ The most important modern case evaluating common ownership is *United States v. Dairy Farmers of America*.³² 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 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 the stock 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 was no Section 7 violation. The Sixth Circuit reversed on several grounds including: the district court failed to consider the original agreement under which DFA had control; and, even under the revised agreement, the government had made out a sufficient case that the *effect* of the acquisition would be to reduce competition.

In *U.S. v. DFA*, as in various other government enforcement actions, the common or cross owner had high levels of ownership and, typically, various levers of control, including often directors on the board (typically more than 20-25% and a director). In such cases, the basic story is that, with levels of

³⁰ Daniel O'Brien and Stephen Salop, "Competitive Effects of Partial Ownership: Financial Interest and Corporate Control," *Antitrust Law Journal*, 67, no. 3 (2000), 559-614; Timothy Bresnahan and Steven Salop "Quantifying the Competitive Effects of Production Joint Ventures," *International Journal of Industrial Organization*, 4, No. 2 (1986), 155-175.

³¹ *United States v. E.I. du Pont de Nemours & Co.*, 353 U.S. 586 (1956).

³² 426 F.3d 850 (6th Cir. 2005). One of the authors, Edward Rock, worked on this case as an expert for the Antitrust Division and provided an opinion on the corporate governance aspects.

ownership and influence approaching control, a common owner can facilitate and stabilize a non-competitive outcome by signaling a desire to maximize joint profits backed by a credible threat of termination. To use the airline example that is at the center of AST's unilateral effects analysis, if Warren Buffett owned 30% of each of the airlines, 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. And, in the event that some low level manager gets confused and mistakenly engages in hard competition, it will provide a motivation for the CEO to make sure that 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 owns 30% of each competitor, and the common knowledge that he likely has the de facto 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 Division looks at 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, thereby substantially increasing the likelihood of a coordinated outcome.

III. Common Ownership and Oligopoly

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, with the resulting prices being higher than those when the oligopoly is competitive. But *sometimes* it is not: when firms have different cost structures; when there is substantial product differentiation; when market demand is relatively elastic; when sales are lumpy (large volumes sold at relatively infrequent times); and, inter alia, when there are competitive fringe firms with substantial capacity.³³

Reaching an "agreement" as to the optimal price/output combination is therefore complex and vulnerable to misunderstandings, especially when the market consists of highly differentiated products. To be sustainable, an agreement requires monitoring, and the threat or use of penalties for those 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 as the number of competitors increases from two to three and up.

³³ For a more complete discussion of the plus factors, see William E. Kovacic, Robert C. Marsall, Leslie M. Marx, and Halbert L. White, "Plus Factors and Agreement in Antitrust Law," 10 *Mich. L. Rev.* 393 (2011).

In order to achieve a sustainable profit-maximizing coordinated outcome, a variety of issues must be resolved: What is the optimal output/price for the oligopoly as a whole? What is the optimal output/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/or demand shocks?³⁴

In focusing on the potential anticompetitive effects of common ownership, a key issue is how ownership structure can affect 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?

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?³⁵ And, if so, how should we distinguish passive or active behavior by portfolio managers? As there are no well-validated models that are obviously applicable, we’ll approach this inductively.³⁶

As noted, there are a variety of possibilities, 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

³⁴ 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, for example, Vincent P. Crawford and Hans Haller, “Learning How to Cooperate: Optimal Play in Repeated Coordination Games,” *Econometrica*, Vol. 58, Issue 3 (May, 1990), 571-595.

³⁵ 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, Yossi Moshe, and Yossi Spiegel, “Partial Cross Ownership and Tacit Collusion,” *RAND Journal of Economics*, Vol. 37, No. 1, Spring (2006), pp. 81-99. Menesh S. Patel, “Common Ownership, Institutional Investors, and Antitrust,” *Antitrust Law Journal*, Vol. 82 (2018), pp. 279-334, at 320-321 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, Bruno Jullien, Patrick Rey, Paul Seabright, and Jean Tirole, “The Economics of Tacit Collusion,” Final Report for DG Competition, European Commission, March (2003).

³⁶ The past year has seen a number of pre-print working papers that have responded to the AST debate. Pauline Kennedy, Daniel P. O’Brien, Minjae Song, and Keith Waehrer, “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, Doron Levit, and Devin Reilly, “Governance under Common Ownership,” 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, Christopher Conlon, and Michael Sinkinson, “Common Ownership and Competition in the Ready-to-Eat Cereal Industry,” 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.

employees of the firm and believe that a cartel is in the firm's interests, or because doing so increases their personal compensation, or, more commonly, allows them to meet high performance demands by superiors and thereby keep their jobs.

Sometimes the cartel ringmaster is a third party: an employee of a trade association who works to "improve" the conditions of the trade;³⁷ a management consultant whose product seems to be "cartel organization."³⁸ 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 and thus increase profits for member firms, all shareholders – whether common or non-common owners – will benefit from a cartel and the higher prices that come with it. The monopoly rents that flow from cartels will thus provide an incentive for both common and non-common shareholders to organize a cartel, at least if they can do so without being detected and sanctioned.

The question we want to focus on is whether the emergence of common ownership – a new and growing phenomenon – can make a coordinated outcome more likely? There are a variety of ways in which a common owner will 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 worse 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.

As a threshold matter, recall that a cartel requires: *coordination* of price or output; *monitoring* of price or output; and *punishment* of cheating.

Access: CO will have access to management of each firm in the industry through earnings calls, investor meetings, etc. Because earnings calls are public, NCO will likewise have 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. This access will aid both coordination and monitoring.

Knowledge: CO will typically be more knowledgeable regarding 3 of the 4 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.

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.

³⁷ *American Column & Lumber Co. v. United States*, 257 U.S. 377 (1921).

³⁸ Case C-194/14 P, *AC-Treuhand AG v. Comm'n* (CJ 2015), ECLI:EU:C:2015:717.

Incentives: CO will have better incentives in influencing decision-making with respect to the determination of both overall price/output and individual firm price/output than the NCO, 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.

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. Likewise, when it comes to triggering punishment, the CO will 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, as will be discussed in more detail below.

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. NCO only has these tools in its company, where it will likely be more influential than 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 of 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 will need to leave punishment to the controlling shareholder.

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. On the other hand, there will also be situations in which the NCO is the more effective cartel organizer.

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 formal equity shares, citing (i) their privileged access to company management;³⁹ (ii) correspondence between Vanguard and board members; and (iii) recent academic papers.⁴⁰

³⁹ But, noting that under Regulation FD (“Fair Disclosure”) “material non-public information may not be selectively disclosed to just one shareholder.” Case No. 7932, Annex 5, section 3.1.

⁴⁰ Ian R. Apple, Todd A. Gormley, and Donald B. Keim, “Passive investors, not passive owners,” *Journal of Financial Economics*, 121 (1), (2016), 111-141; see also Jan Fichtner, Eelke M. Heemsakerk, and Javier Garcia-Bernardo,

Of course, as we will discuss, access does not necessarily guarantee influence. But let's not forget the other end of the spectrum – the possibility that COs may, by their presence alone or by their actions, increase the likelihood that a tacitly collusive outcome will be reached, without crossing the legal line of having reached an agreement. Either way, whether our focus is on tacit collusion or tacit agreement, statements by shareholders offer the most obvious and direct mechanism by which these outcomes can be achieved. We pursue this issue in the next subsection.

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 in earnings calls or other communications between shareholders and management (by either party) regarding price and/or output should be viewed as “cheap talk,” and, if so, would not help to effect coordination.⁴¹

“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 *costless* communication or message that may be true or false. If the message sender has an incentive to lie, rational actors may ignore such messages. When cheap talk is ignored, it does not affect outcomes. Thus, in some circumstances, economists argue that cheap talk is irrelevant and cannot facilitate collusion or other harmful outcomes.⁴²

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. 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. 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, not understood the sender's message.

“Hidden power of the Big Three, Passive index funds, re-concentration of corporate ownership, and the new financial risk,” *Business and Politics*, April (2017), 391-409.

⁴¹ 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.

⁴² The extensive literature on cheap talk includes the following. Joseph Farrell, “Cheap Talk, Coordination, and Entry,” *RAND Journal of Economics*, Vol. 18, no. 1, (1987), 34–39, 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,” *Journal of Economic Perspectives*, 10(3), 1996, 103-118, defines conditions under which game theorists generally agree that cheap talk improves coordination. Dennis W. Carlton, Robert H. Gertner and Andrew M. Rosenfield, “Communication Among Competitors: Game Theory and Antitrust,” 5 *George Mason Law Review*, (1997), 423-440, 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.

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 may reasonably believe them, especially if there is an enforcement mechanism that punishes false statements. In this circumstance, cheap talk can help parties coordinate on a jointly acceptable outcome. Price fixing involves a mixture of aligned and potentially conflicting interests. 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 message's 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.⁴³

IV. Potential Influence or Control at *Low Levels of Ownership*: The Economic and Legal Analysis

As we discussed above, the traditional approach to common and cross ownership has focused on 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 owns 5-7% of most public companies, and active managers often own substantially more (but still well below 15%). How might stock ownership at these 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” effects of low levels of common ownership asserted by Azar et al.⁴⁴ The clear potential for anticompetitive effects of cross and common ownership at high levels of ownership might lead one to suppose that low levels will have the same effects, even if lesser magnitude. Are the analyses of cross-ownership that use the MHHI measure of market concentration informative with respect to finding an answer to this question?

As a theoretical matter, common ownership can lead to adverse unilateral and/or coordinated effects. But, as with the HHI, some caution is needed when interpreting the MHHI, since 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.”⁴⁵ This caution applies equally to the analysis of common ownership as it does to the analysis of cross-ownership.

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. To illustrate, in the recent Dow/DuPont case, the European Commission suggested that large minority shareholders can exert more control than their equity share suggests,⁴⁶ but, having no reliable measures of these weights, opted not to use the MHHI when evaluating whether the merger fell within a safe harbor.⁴⁷

a. Case A: Common Owners as Initiator

Hypo (The “Frackers’ Tale): Suppose that a large CO, that is known to have significant investments in each of the four major firms in an oligopoly, explains to the CEO of each firm that

⁴³ See, for example, Federico Ciliberto and Jonathan W. Winters, “Does multi-market contact facilitate tacit collusion? Inference on conduct parameters in the airline industry.” 45 *RAND Journal of Economics*, Winter, (2014), 764-791.

⁴⁴ Rock & Rubinfeld I; Jose Azar, Martin C. Schmalz, and Isabel Tecu, “Anticompetitive Effects of Common Ownership,” *Journal of Finance*, 73 (4), (2018).

⁴⁵ Daniel P. O’Brien and Keith Waehrer, “The Competitive Effects of Common Ownership: We Know Less Than We Think,” Draft Feb. 22, (2017).

⁴⁶ Annex 5, section 4.

⁴⁷ Annex 5, section 6, ¶ 64.

industry output is reaching its limit and urges the CEO to resist his traditional inclination to expand capacity as demand expands and, instead, to hold the line and raise prices. In each case, the CEOs do not say anything in response, but, it turns out, each firm “holds the line” on capacity and prices go up.

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

i. Background

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. According to the article, “persistently paltry returns” brought together a group of investors who collectively held nearly 5% of 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 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.” 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.”

One wonders what might come out in discovery. Although some attention was paid to antitrust concerns – “No one would speak of specific companies or action plans, to avoid running afoul of antitrust regulations and rules governing passive and activist investors” – an enforcer or a plaintiff’s lawyer would seek the participants’ notes and post meeting communications (text message, emails, etc.) to see what they actually talked about. And the subsequent developments suggest that there may have been more coordination with regard to specific targets than the lawyers who set the ground rules might have liked.

In addition, there are other potentially troubling indications. If drilling is not profitable for these fracking companies, why is it necessary to bring together common owners 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?

ii. Economic Analysis

Is this 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.

Would the statements made by investors 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 frackers appear to have aligned interests. 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 and in this sense can be seen as economically anticompetitive.

Intriguingly, the Wall Street Journal article on the investors in fracking companies suggests 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 CO and NCOs will both 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 between the largest shareholder and a common owner, which, if any, is likely to take the lead in approaching a given company?

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.⁴⁸ 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.

iii. Legal Analysis

This scenario does not pose any significant legal issues; the hard issues are all evidentiary. As discussed above, anyone who organizes a cartel – whether as a member or as a “consultant” or as a shareholder – violates Section 1 of the Sherman Act. This will be true when a shareholder does so, whether that shareholder is a CO or an NCO.

The hard questions will be whether particular conduct will support a finding of “agreement.” 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? In other words, is there something here that we could identify and enjoin? Second, were we to do so, would this 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.⁴⁹

What is so intriguing about this scenario – and many of the hypos that we discuss below -- is its ambiguity. Is this a collective effort by common (and non-common) shareholders to rein in unprofitable empire building by CEOs and thus shareholder engagement at its best? Or is it an attempt to coordinate competing producers in a collective attempt to reduce output in order to raise prices. From the investors’ perspective, 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 participants including Todd Heltman, a senior energy

⁴⁸ Had it believed otherwise, it might have pursued an Article 101 claim.

⁴⁹ For an in depth analysis of a social welfare analysis that accounts for both Type 1 and Type 2 errors, see Kaplow, *Competition Policy and Price Fixing*, Part II.

analyst at Neuberger Berman Group LLC, an asset-management firm that owns shares in shale producers.”

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 benefit shareholders, even if the second may violate Section 1 of the Sherman Act.

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.”

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 during which people get their backs up.

But discouraging private communications may be justified from an antitrust perspective. Forcing competitively sensitive communications into the light will make firms potentially more cautious about acquiescing in anti-competitive invitations or proposals, the dangers of which will become clearer in our discussion of the FTC Section 5 cases in the next section. 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.

b. Case B: Common Owners as Trustworthy Conduit

Hypo: In a concentrated market, the CEO of a top firm proposes to a CO that all firms in the industry should raise their prices, that the CEO’s firm will raise its price, and believes 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 speaks with the other firms in the industry, and prices increase at all the 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?

i. Background: The FTC’s invitation to collude cases :

In this hypo, the CO may have served as a trustworthy conduit to communicate an invitation to collude, an invitation accepted by the other firms. 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.

1. 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.⁵⁰ During an earnings conference call in July 2004, Valassis invited its competitor News America to join with Valassis in a scheme to allocate FSI customers and to fix FSI prices.⁵¹ 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.⁵²

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."

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:

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 price 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.

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.

⁵⁰ *In the Matter of Valassis Communications, Inc.*, 2006 FTC LEXIS 25 *; 141 F.T.C. 247.

⁵¹ At *3.

⁵² 2006 FTC LEXIS 25, *8.

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.

This is a rather striking transcript, in that it 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. The hypo raises the question whether the presence of common shareholders that also have large holdings in News America and thus could act as a trustworthy conduit can make a difference. There was no evidence that any of the analysts passed on the message to News America.

2. U-Haul (2010)

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.⁵³ 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.

⁵³ U-Haul International, Inc. and AMERCO; Analysis of Agreement Containing Consent Order to Aid Public Comment, 75 FR 35033 (2010). See, also, *Liu v. Amerco*, 677 F.3d 489 (1st Cir. 2012). For key documents (complaint, transcript of call, etc.), see <https://www.ftc.gov/enforcement/cases-proceedings/081-0157/u-haul-international-inc-amerco-matter>.

The FTC prosecuted this “invitation to collude/attempted price fixing” as a violation of Section 5 for the FTC Act.⁵⁴

When one reviews the transcript itself,⁵⁵ it becomes clear that apart from the initial private communications by the regional managers, many of the CEO’s statements were quasi-public, made in response to questions from the analysts on the calls. To the extent that the initiative/invitation originates with a CO, we discuss it in our analysis of the preceding hypo. Here, the question is whether the presence of large shareholders with holdings in Budget and Penske, the two competitors, would plausibly make a competitive difference.

ii. 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 their 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, is 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.⁵⁶ And, as Farrell and Rabin point out, “Sometimes there is no incentive to lie, and cheap talk will convey private information.”⁵⁷

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

⁵⁴ 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. and Lawrence J. White, *The Antitrust Revolution*, (1999), Oxford University Press, 232-250.

⁵⁵ Available at <https://www.ftc.gov/enforcement/cases-proceedings/081-0157/u-haul-international-inc-amerco-matter>.

⁵⁶ 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,” *Antitrust Law Journal*, vol. 71, No. 3 (2004), 719-800.

⁵⁷ Farrell and Rabin, 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).

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.”⁵⁸

iii. Legal Analysis

Even if plausibly collusive from an economic perspective, are these plausible antitrust cases from a legal perspective? Although the transcript is clear enough evidence of Valassis’ intentions, what is News America permitted to do in these circumstances? First, one would expect that News America has someone listening in on the conference call, as it is important to follow what its principal competitor is doing. Second, suppose that News America had already decided to follow the price increase before the call. Can it still do so? Or suppose that, having heard what the CEO had to say, they decide to raise their prices and do so? Have they violated Section 1 of the Sherman Act?

A similar set of points can be made with respect to the U-Haul case. Given that the invitation to collude was given in the context of earnings calls, how confident can Budget and Penske be that U-Haul will follow its proposed tit-for-tat strategy? Or, for that matter, how certain can U-Haul be that its invitation to collude won’t lead Budget to lock into place a potential profitable price-cutting strategy?

Generally speaking, the answer will be that the parties have not violated Section 1. Delta and AirTran both had hubs in Atlanta.⁵⁹ 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 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. Violation?

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. From our perspective, that makes the case even more interesting to the extent that one could argue that the analyst facilitated an agreement accepted by conduct (i.e., a “tacit agreement”) by acting as a trustworthy conduit.

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, “The information exchanges Plaintiffs point to might reflect ‘intense efforts’ to monitor

⁵⁸ Massimo Motta, “Review of Michael Whinston, Lectures on Antitrust Economics,” *Competition Policy International*, (2006), 313-320.

⁵⁹ *In re Delta*, 245 F. Supp. 3d 1343 (N.D.Ga. 2017) affirmed sub nom; *Siegel v. Delta Air Lines, Inc.*, 714 Fed. Appx. 986 (11th Cir. 2018). See also, David L. Hanselman, Stefan M. Meisner and Lisa A. Peterson, “Bag Fee Case Highlights Antitrust Risk of Public Statements,” *Law 360*, April 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.” (at p. 4).

competitors' activity, even pricing activity," -- but that, in the court's analysis, the plaintiffs did not have sufficient evidence that tends "to exclude the possibility of unilateral action by oligopolists." In the horizontal context, imposing this burden on plaintiffs is controversial, but that is unrelated to the "trustworthy conduit" issue. The case vividly illustrates the difficulties of proving conspiracy even with evidence of an analyst who raises the issue with competitors.

iv. What Difference does it make whether communications are public? What counts as public?

Does it matter whether the communications are private or public? What about 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?

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, public communications have potential benefits for third parties, the loss of which would have to be weighed in any pragmatic judgement made about whether, all things being equal, it is worthwhile to chill them.

Page distinguishes between genuinely public communications that benefit consumers – announcements of actual future ticket prices that travelers can book – versus other communications that, in theory, are public but which consumers are unlikely to notice, including, e.g., earnings calls. While we agree that consumers are unlikely to pay attention to earnings calls, while competitors will – and so, as Page recognizes, there is anticompetitive potential⁶⁰ – other investors, securities analysts, and portfolio managers will *also* pay attention. As a result, classifying earnings calls as "private" is unwarranted and a fuller analysis is necessary.

Can statements like those made in Valassis and U-Haul be anticompetitive? Despite our substantive concerns, as we discuss above, our answer is clearly yes. As the FTC has argued, they are troubling invitations to collude.

c. Case C: A Compensation Structure as a Facilitating Practice

Hypo: The market for widgets is dominated by four major firms, each with approximately a 20% 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% 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

⁶⁰ Page (circa. 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 Performance” metric in which the CEO’s compensation is tied to industry/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.

i. 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.⁶¹ A widespread response to this problem is “Relative Performance Evaluation,” which ties compensation to the performance of a firm relative to other firms in the same industry.

ii. Economic Analysis

Anton, Ederer, Gine and Schmalz, in a paper related to the AST airline paper discussed above, theorize that common owners will have weaker incentives to compete aggressively and consequently will prefer management compensation with weaker financial incentives than will non-common owners.⁶² In particular, the authors argue that the *lack* of relative performance evaluation (“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. In the empirical part of the paper, the authors “find a strong negative association between the wealth-performance sensitivities (“WPS”) and common ownership in a comprehensive panel of U.S. stocks controlling for industry structure (HHI), firm- and manager-level characteristics (e.g., size, book-to-market, volatility, tenure) as well as industry-, time-, and manager-firm-fixed effects.”

It is noteworthy that the authors do not identify a channel 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. Our hypo focuses on one hypothetical “active channel of influence,” namely, lobbying by common owners.

iii. Legal Analysis

⁶¹ See Bengt Holmstrom, “Moral Hazard and Observability,” *The Bell Journal of Economics* (1979), 74-91, 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, Section 4 (1982) for a theoretical analysis of the importance of relative performance.

⁶² Miguel Anton, Florian Ederer, Mireia Gine, and Martin C. Schmalz, “Common Ownership, and Top Management Incentives,” draft (June, 2018), Available at SSRN: <https://ssrn.com/abstract=2802332> or <http://dx.doi.org/10.2139/ssrn.2802332>.

The scenario raises a classic question of “facilitating practices.”⁶³ 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 common adoption of such a compensation metric had the potential to interfere with competition.

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.”⁶⁴ 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 increases firm profits by decreasing competition, shareholders may grow to prefer “Industry Performance” compensation in concentrated industries.

Finally, if these approaches are inadequate, antitrust enforcers might take the lead under Sherman Act Section 1 or Section 5 of the FTC Act. For purposes of this discussion, 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.⁶⁵

In general, facilitating practices can be divided into two broad categories: those, like basing point pricing, 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.

⁶³ For a comprehensive overview, see 6 Areeda and Hovenkamp, ¶ 1407 (Facilitating Practices).

⁶⁴ 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.” <https://www.propublica.org/article/the-executive-pay-cap-that-backfired>; <https://www.treasury.gov/resource-center/tax-policy/.../Firms-Exceeding-162m.pdf>.

⁶⁵ 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. Antitrust Division Manual, III.C.5.; For a good overview of the US approach, see US submission for the 17-18 October 2007 OECD meeting, DAF/COMP/WD(2007)112, available at LINK.

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.⁶⁶ But a violation of FTC Section 5, while it can be remedied with an injunction, will not support a damages award.

Alternatively, if an 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 would violate Section 1. Although such an agreement would not warrant criminal sanctions – unless it was held to be evidence of a price fixing conspiracy – it could well form the basis of a significant private action for treble damages.

d. Case D: Common Owners as a Brake

Hypo: Patent protection is ending for a very profitable drug. Producers of generic pharmaceuticals in related markets are considering whether to enter with a generic equivalent to the soon to be contestable patented drug. Large COs have substantial investments in both the brand firm and the generic firms. Indeed, in some cases the brand and generic are subsidiaries of the same parent company. Empirical evidence indicates that entry is less likely to occur the greater the common ownership, and that settlements that delay entry are more likely with greater common ownership. What could be going on?⁶⁷

i. Background

Patent protection for successful pharmaceutical products provides a substantial source of revenue that can reimburse brand firms for their substantial R&D investments. It is well understood that the entry of generic firms leads, depending on circumstances, to substantial reductions in the prices of the drugs. If entry decisions were made only at the time of patent expiry, entry opportunities would be widely available. In that case, one would expect that the incentive to enter would be similar for NCOs and for COs. However, if the entry decision is made as part of a challenge to the validity of a patent, the risk-reward profile may well be different for COs as opposed to NCOs.⁶⁸ The reason, of course, is that the successful entry substantially reduces the profitability of the brand. It is quite possible, therefore, that generics with common owners will be less likely to enter prior to patent expiry (the first generic entry would likely be highly profitable, but at the expense of the brand) than would

⁶⁶ Areeda & Hovenkamp ¶ 1407; See 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.

⁶⁷ In structure, this hypo raises the same issues as the ICI/Solvay soda-ash case from the EU, discussed above, in which the original market division was the result of a subsequently-lapsed illegal agreement, and touches on the issues raised by *Bell Atlantic v. Twombly* (550 U.S. 544 (2007)) in which the market division was the result of a subsequently discontinued regulatory policy.

⁶⁸ In the U.S., under the Hatch-Waxman Act, generic firms can enter prior to expiry, by filing a paragraph IV certification, in which they claim the patent is invalid. The first successful filer of such an abbreviated new drug application (ANDA) receives 180 days of exclusivity.

generics without common owners (the only downside is the cost of litigation and potential exposure if the patent invalidity claim is unsuccessful). A recent study by Melissa Newham and several co-authors provides suggestive supportive evidence that common ownership does make a difference.⁶⁹ The authors find that a one-standard-deviation increase in common ownership decreases the probability of generic entry by 9 to 13 percent. Another study finds a correlation between common ownership and the likelihood that the brand and generic manufacturers enter into a “pay for delay” settlement in which the brand manufacturer pays the generic manufacturer to stay out of the market.⁷⁰

ii. Economic Analysis

It is, of course, possible that communications between institutional investors and firm managers, perhaps through comments during earnings calls, would provide a mechanism by which firm entry decisions could be influenced. However, there is no need for any such communications; the profit incentive is clear and using communications to obtain a tacitly collusive outcome is unnecessary. The effect can be achieved by the common owners, at least in theory, by acting in their unilateral self-interest, for example, by independently voting against activist investors that are supporting an aggressive entry strategy.⁷¹ Or, it can be achieved directly if management is seen to act in the interest of shareholders rather than maximizing their own firm’s value.

The empirical research is preliminary at this point, and there are a number of concerns. For one thing, there are a large number of generic firms. If multiple generics, some of which have common owners and some of which do not, believe that entry is profitable, we would expect the “marginal” entrant to be a non-commonly owned firm. Given that one or more NCO firms wanted to enter, wouldn’t it also be in the interest of competing commonly owned firms to enter as well? Entry may not be as profitable, but it is still likely to be profitable if there will be generic entry in any case?⁷² For another thing, if institutional investors change their portfolios in response to entry opportunities, common ownership may be determined endogenously. Accounting for endogeneity is difficult at best, leaving open the question of the robustness of any empirical results.⁷³

To the extent that well-diversified shareholders maximize aggregate portfolio profits, widespread common ownership may or may not lead to different outcomes relative to a world in which there is little or no common ownership. However, even if it did, the behavior in the world as it exists today would not be described as anticompetitive. Rather, the entry pattern would raise a policy issue as to whether the benefits of supporting limitations on common ownership outweigh the costs.

iii. Legal Analysis

⁶⁹ Melissa Newham, Jo Seldeslachts, and Albert Banal-Estañol, “Common Ownership and Market Entry: Evidence from Pharmaceutical Industry,” (June 2018). DIW Berlin Discussion Paper No. 1738. Available at SSRN: <https://ssrn.com/abstract=3194394> or <http://dx.doi.org/10.2139/ssrn.3194394>.

⁷⁰ Jin Xie and Joseph Gerakos, “Institutional cross-holdings and generic entry in the pharmaceutical industry,” “working paper (2018), ABFER 2018.

⁷¹ Miguel Anton, Florian Ederer, Mireia Gine, and Martin C. Schmalz, “Common Ownership, and Top Management Incentives,” draft (2018).

⁷² Generics differ in their willingness to enter at risk (prior to the resolution of patent litigation), their capability to manufacture the generic, and (due to size) their ability to spread the risk associated with entry. As a result, the number of potential entrants will vary substantially from product to product.

⁷³ The authors of the empirical study present results that utilize instruments to account for possible endogeneity.

Although it is economically plausible that common ownership will make it less likely that generic manufacturers will enter, the legal implications of these findings are unclear. “Pay for delay” settlements raise obvious competitive concerns, even without common ownership, and have been the focus of an important U.S. Supreme Court opinion, and significant litigation and scholarship.⁷⁴

The key holding of *Actavis*, as summarized by Edlin, et al, is the following:

if Brand pays more than its prospective litigation costs to Generic, a firm threatening entry with a generic version of the same drug; and if Generic agrees not to offer that version for some period of time; then a fact-finder may properly infer that such a “large and unexplained” payment was made to delay generic entry, and hence is anticompetitive.

The economic studies of pay-for-delay primarily consider the “unilateral” effects of common ownership on the incentive of firms to enter the market or to enter into “pay for delay” settlements. This paper, however, focuses on “coordinated effects.” So, for our purposes, the question is whether actions by common owners in this context are potentially anticompetitive and, if so, how they can be integrated into the legal analysis.

As a threshold matter, and for the reasons given by Xie & Gerakos, it is entirely plausible that a common owner of Brand and Generic would prefer that Generic wait longer before entering, thereby allowing Brand longer to utilize its market power (at least if no other, non-common owned Generic is about to enter). Relying on a framing offered by Areeda & Hovenkamp,⁷⁵ were coordination entirely legal, one can imagine a common owner having an interest in limiting entrance, at least in some circumstances.

But how might a common owner do so? Here, our earlier hypos provide some insight. If, for example, there was evidence from earnings calls that a common owner pressured both the brand manufacturer and the generic manufacturer to enter into a settlement to delay entry, that would be useful factual background for the plaintiff in arguing that the large and unexplained payment was made to delay entry, and thus is anticompetitive under *Actavis*. Similarly one can imagine situations in which plaintiffs might argue that the common owner was a “trustworthy conduit” for negotiations between Brand and Generic.

On the other hand, one should be careful not to overstate the importance of such evidence. To the extent that patent litigation is pending or threatened, as is common in these contexts, Brand and Generic are already talking to each other, at least through their lawyers, so that there is little need for a “trustworthy conduit.” In addition, discussion on earnings calls or in other interactions with management have an obvious alternative explanation: understanding the branded or generic

⁷⁴ *FTC v. Actavis, Inc.* 133 S. Ct. 2223 (2013), See, e.g., Scott Hemphill, “Paying for Delay: Pharmaceutical Patent Settlement as a Regulatory Design Problem,” 81 *NYU L. Rev.* 1553 (2006); Aaron Edlin, Scott Hemphill, Herbert Hovenkamp & Carl Shapiro, “The *Actavis* Inference: Theory and Practice,” 67 *Rutgers L. Rev.* 585 (2015); Aaron Edlin, Scott Hemphill, Herbert Hovenkamp & Carl Shapiro, “Activating *Actavis*,” *ANTITRUST*, Fall 2013, at 16; Aaron Edlin, Scott Hemphill, Herbert Hovenkamp & Carl Shapiro, “*Actavis* and Error Costs: A Reply to Critics,” *ANTITRUST SOURCE*, Oct. 2014, at 1. For a contrary view, see Bruce Kobayashi, Joshua Wright, Douglas Ginsburg & Joanna Tsai, “*Actavis* and Multiple ANDA Entrants: Beyond the Temporary Duopoly,” *ANTITRUST*, Spring 2015, at 89 [hereinafter KWGT]. This article is an abridgement of a longer paper bearing the same title available at <http://ssrn.com/abstract=2508094> (Dec. 7, 2014) [hereinafter KWGT Working Paper].

⁷⁵ Areeda & Hovenkamp, *Antitrust Law*, ¶ 1412a.

manufacturer's product market strategy, and whether and under what circumstances the generic manufacturer is likely to enter new markets, may be critical information for portfolio managers faced with the decision of whether to hold, buy, or sell the shares of pharmaceutical companies. Thus, as before, discussion on earnings calls are likely to be ambiguous and any per se prohibition would be overly broad.

The implications of the unilateral effects analysis, beyond the scope of this paper and the focus particularly of Xie & Gerakos, is more complicated. As in the general competitive case, incorporating common ownership in understanding the incentives facing a brand manufacturer requires incorporating (a) some portion of the generic's profits into the common owner's portfolio returns and (b) determining how to map the common owner's portfolio incentives onto Brand's operational decisions (and vice versa for the Generic manufacturer). For reasons that we and others have given, this is a non-trivial exercise.

e. Case E: Common Owners as a Vector of Infection

Hypo: 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. 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 that effectively lower the price that the customer pays) 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?

i. Background

This hypo is based on the *In re Chocolate Confectionary Litigation*.⁷⁶ 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 common owners can provide the requisite linkage to support an illegal collusive outcome. We can imagine different scenarios. The clearest would be the closest to the actual case: suppose that the shareholders knew nothing about the

⁷⁶ 801 F.3d 383 (3d Cir. 2015).

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 common owners expressed their pleasure at how well the Canadian operations were doing and inquired why U.S. operations lagged so significantly. Suppose, finally, 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.

Suppose that we combine Case A and Case B: here, the common owners are “trustworthy conduits” of best-practices (or worst-practices) from the Canadian market into the U.S. market. Is this a plausible theory?

ii. Economic Analysis

Our economic analysis of cheap talk as a form of communications has made 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, as yet, 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.

iii. 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.⁷⁷

⁷⁷ *Chocolate* at [*35-36] quoting from Areeda & Hovenkamp, ¶ 1421a, at 160. 32.

This sensible approach has been followed by a variety of courts.⁷⁸ 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.

The hypo, of course, does not specify what precise role the common owners played. One can imagine a CO perhaps playing the role of the Canadian direct purchaser, leaning on the competitors to rein in trade spend in the U.S. as they had in Canada. This is a version of Case A.

Another version is suggested by 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. Velturo 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. 2194.⁷⁹

Although in the context of the case, this was a highly speculative theory, it is coherent and intriguing. Can the common owners somehow change the information environment in which the managers setting prices operate? 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?

Ultimately, the question is what sort of conduct occurred and what the plaintiff or enforcement agency can prove.

f. Case F: Common Ownership and Merger Review

If common owners 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. As we will see below, the situation is quite complex.

⁷⁸ The *Chocolate* opinion states that both the Second and Eleventh Circuits have followed this requirement of “linkage.”

⁷⁹ *Id.* at **42-43.

i. Hypo F1:

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% of the shares of each firm (e.g., each of the five largest investors owns 8% 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?

1. Background

This hypo is roughly based on 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.⁸⁰ The merger, which was initially proposed late in 2015, combined the 4th and 5th 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.⁸¹

2. Analysis

The Antitrust Division did not raise any issues relating to common ownership in its public announcements concerning the merger. In contrast, the European Commission took the common ownership issue seriously. In the Commission's decision itself, despite approval of the AST analysis, the high degree of cross ownership did not do any work.⁸² Apparently convinced by the AST analysis,⁸³ the Commission concluded that: "In conclusion, the Commission is of the view that (i) a number of large agrochemical 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."⁸⁴ Yet, in the end, this added little as the Commission had already concluded that R & D was highly concentrated, that the

⁸⁰ Case M.7932 Dow/DuPont, MERGER PROCEDURE, REGULATION (EC) 139/2004 (27.3.2017). Competition authorities have, by contrast, used "cross ownership" analysis in a wide variety of merger reviews. See Chris Brooks, Zhong Chen, and Yeqin Zeng, "Institutional Cross-Ownership and Corporate Strategy: The Case of Mergers and Acquisition," *Journal of Corporate Finance*, Vol. 48, Feb. (2018), 187-216.

⁸¹ "Justice Department Requires Divestiture of Certain Herbicides, Insecticides, and Plastics Business in Order to Proceed with Dow-Dupont Merger," U.S. Department of Justice, Office of Public Affairs, June 15, 2017.

⁸² Section 8.6.4 (¶¶ 2337 to 2352).

⁸³ ¶ 2347.

⁸⁴ ¶ 2352.

merger had problematic effects on innovation competition, and that divestiture (which had been agreed to) was necessary to address the concerns.⁸⁵

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; 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, 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 and that it did not perform a case-specific assessment that would justify specific weights. In the absence of some way of translating ownership stakes to control or influence, the Commission was unable to integrate the “common ownership” analysis into its review.

Although the “common ownership” analysis was no more than a make-weight 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 case-specific control weights 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 shareholder with less than 0.5% could be ignored in the analysis and that influence is proportional to size (i.e., that an 8% shareholder has twice the influence of a 4% 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., $HHI > 2500$).⁸⁶ 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% of each of Dow and DuPont has the 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 have

⁸⁵ 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. Para 2528. See also Annex 5, para 79 (“The Commission acknowledges that it did not perform a case-specific assessment that would justify applying a specific assumption on the control weights *yij*. As a consequence, the Commission does not rely on MHHI computation in this Decision.”)

⁸⁶ See U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES § 5.3 (2010). For a discussion that is contrary to our analysis, see Einer Elhauge, “Horizontal Shareholding,” 129 *Harv. L. Rev.* 1267, 1273-74 (2016).

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 shareholder holding 2% and 4% to one shareholder owning 6%. 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:

ii. Hypo F2:

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% 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?

1. Background

In the analysis of horizontal mergers, the elimination of a disruptive "maverick" has historically been one of the most troublesome scenarios.⁸⁷ 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.⁸⁸ The opposition to the 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

⁸⁷ U.S. DOJ and FTC, "Horizontal Merger Guidelines," (2010), Section 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.")

⁸⁸ 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.

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.⁸⁹

2. 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. 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 to 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.

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,⁹⁰ 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.

⁸⁹ According to the DOJ Complaint (¶ 27), "T-Mobile has positioned itself as the value option for wireless services focusing on aggressive pricing, value leadership, and innovation." And (¶ 36) "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." 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, WT Docket No. 11-65. 4/12/11).

⁹⁰ This point is made effectively in C. Scott Hemphill and Marcel Kahan, "The Strategies of Anticompetitive Common Ownership," draft, November 30, 2018.

Mind you, however, that using MHHI as an analytic tool here shares some of the problems in Hypo E1. In contrast to Hypo E1, under the common ownership theory, the pre-merger HHI will *understate* the degree of concentration and market power because of the presence of a firm owned by NCOs. Using MHHI, by contrast, may better capture the pre-merger competitive landscape (at the cost of perhaps falling below an administrative threshold for further review), with the MHHI delta now emphasizing the effects of the elimination of the maverick firm.

V. Concluding Comments

We have offered an extensive discussion of how common ownership could adversely affect competition. Although there are a variety of plausible scenarios, it is entirely 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 firms have an incentive to collude and if 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.⁹¹ 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.

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.⁹² 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.

⁹¹ Ivaldi et al., *supra* note 35, p. 14.

⁹² As we discussed at length in Rock & Rubinfeld I.