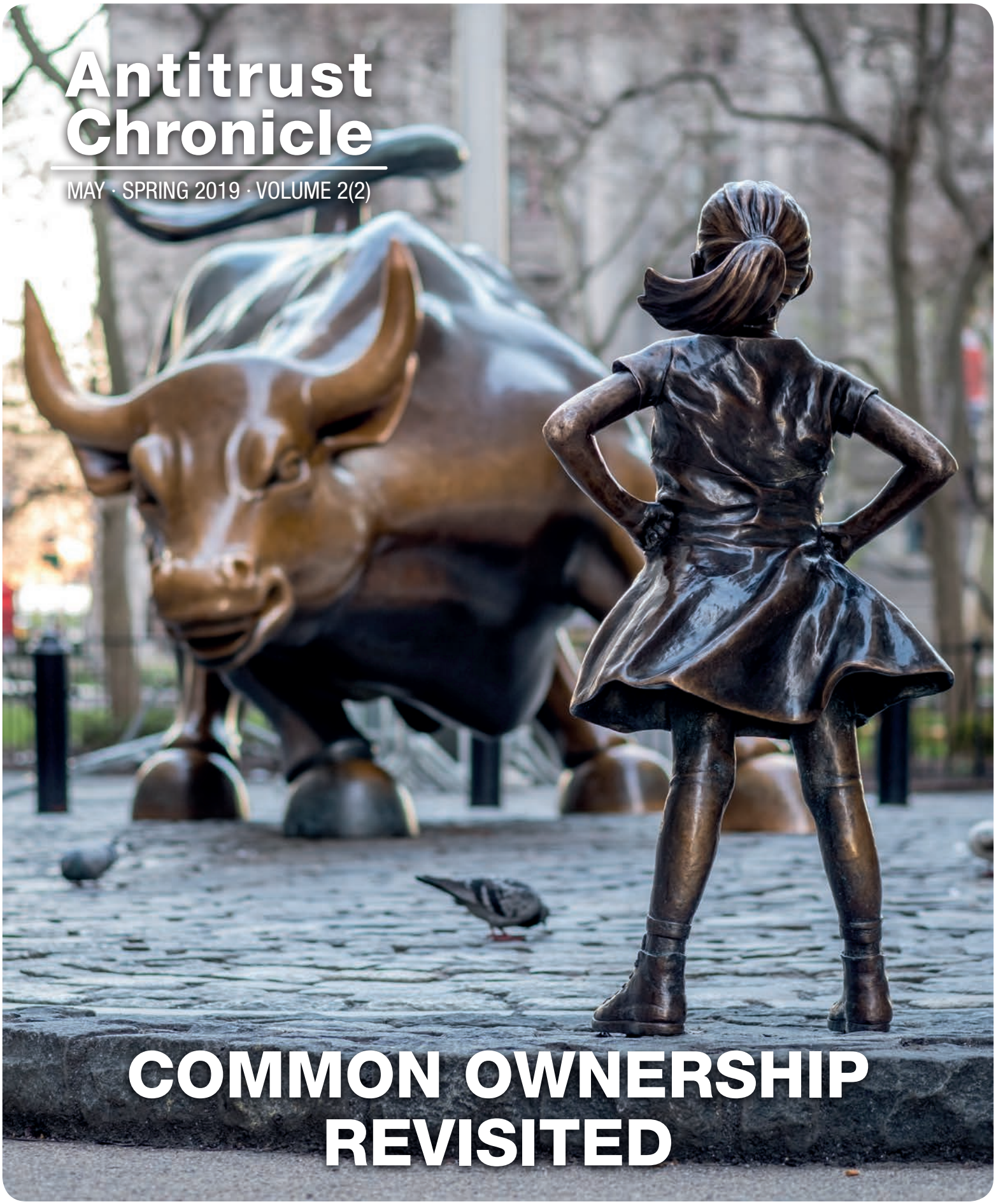

Antitrust Chronicle

MAY · SPRING 2019 · VOLUME 2(2)

COMMON OWNERSHIP REVISITED

CPI COMPETITION POLICY INTERNATIONAL

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LETTER FROM THE EDITOR

Dear Readers,

The June 2017 CPI Antitrust Chronicle was centered on the policy debates around Index Funds as a possible "New Antitrust Frontier." Since then, an intense debate rages on over common ownership and possible competitive effects. We decided to revisit this topic and get a sense of how the debate is progressing.

An important step in this debate took place on December 6, 2018 when the Federal Trade Commission held a one-day hearing with panels examining "concerns that acquisitions and holdings of non-controlling ownership interests in competing companies, for example by institutional investors, may have anticompetitive effects." As FTC Commissioner Noah Phillips noted in his opening remarks, "common ownership . . . is a reality of our after modern economy."

We are pleased to have contributions this month from a number of panelists featured at the FTC Hearings as well as other great authors.

Lastly, please take the opportunity to visit the CPI website and listen to our selection of Chronicle articles in audio form from such esteemed authors as Maureen Ohlhausen, Herbert Hovenkamp, Richard Gilbert, Nicholas Banasevic, Randal Picker, Giorgio Monti, Alison Jones, and William Kovacic among others. This is a convenient way for our readers to keep up with our recent and past articles on the go, in the gym, or at the beach.

As always, thank you to our great panel of authors.

Sincerely,

CPI Team

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CPI Talks…

…with Judge Douglas H. Ginsburg

In this month's edition of CPI Talks we have the pleasure of speaking with Judge Douglas H. Ginsburg. Judge Ginsburg is a Senior Judge serving on the United States Court of Appeals for the District of Columbia Circuit, Chairman of the International Board of Advisors of the Global Antitrust Institute at George Mason University, and a former Assistant Attorney General in charge of the Antitrust Division of the U.S. Department of Justice.

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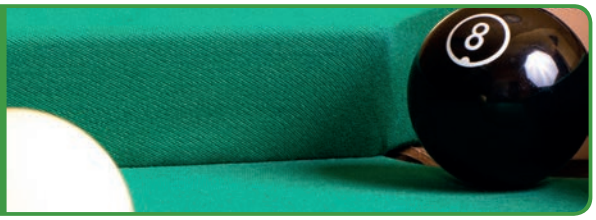

Common Ownership and Antitrust: Eight Critical Points to Guide Antitrust Policy

By Menesh S. Patel

This article presents eight critical points that can aid the ongoing and early development of antitrust policy relating to common ownership. These points touch on some of the most salient issues concerning the relationship between common ownership and competitive harm and have important implications on how regulators should craft antitrust policy as it relates to common ownership. The article's eight points collectively show that rather than *per se* prohibitions, safe harbors, or wide-scale investigations, regulators should evaluate the competitive effects of common ownership on a case-by-case basis, just as they currently evaluate other potential sources of competitive harm.

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The Competitive Effects of Common Ownership: Theory, Applications, and Mis-Applications

By Daniel P. O'Brien

An intense policy debate rages over the competitive effects of common ownership. But the empirical work that sparked the debate is not well tethered to economic theory, and this has led to misconceptions about what the empirical work shows. The purpose of this paper is to take a step back and assess what existing economic theory says and does not say about the competitive effects of common ownership and evaluate the empirical work and policy debate in that light. I focus on four issues: (1) the unsettled state of knowledge about how ownership translates into control; (2) macro-level issues when the *relevant common ownership group* (a concept I introduce) covers many industries; (3) institutional investors' incentives; and (4) the failure of motivating empirical work to econometrically identify effects. Based on these factors, among others, I conclude that the evidence to date has not shown that common ownership by institutional investors causes harm.

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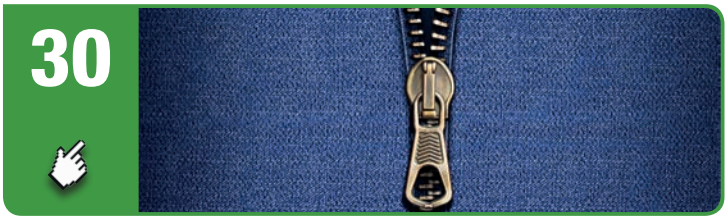
This article considers the potential anticompetitive effects of common ownership by institutional investors in concentrated industries from a corporate governance perspective and questions the hypothesis that companies in concentrated industries are pressed by institutional investors into anti-competitive conduct. It concludes that restricting institutional investor investment and related governance engagement would have broad implications outside the antitrust policy sphere that deserve careful consideration.

SUMMARIES



Does Common Ownership Increase Incentives for Mergers and Acquisitions?

By Miguel Antón, José Azar, Mireia Giné & Luca X. Lin

Acquisitions are on average value-destroying for acquirer shareholders, while it has been shown that non-merging rivals generally gain after such "bad deals." Value-destroying acquisitions have been largely attributed to managerial discretion, yet why do shareholders approve such decisions? This article illustrates that acquirer shareholders holding a diversified industry portfolio can benefit from value-destroying acquisitions, as they can internalize the gains by non-merging rivals they hold. When acquirer shareholders have high rival ownership, the synergy level required to merge is lower and "bad deals" are more likely to be completed, providing a rationale to why value-destroying acquisitions may get approved. Therefore, mergers that would seem irrational without substantial efficiencies can actually be rational due to common ownership, and common ownership can lead to higher levels of merger activity.

The Common Ownership Boom – Or: How I Learned to Start Worrying and Love Antitrust

By Anna Tzanaki

Is common ownership the Doomsday Machine for the operation of free markets, competition and capitalism as we know it? An observer of cutting-edge law and economics literature may indeed tend to believe that we are approaching a point of ultimate antitrust apocalypse. This article tries to unfold the ongoing antitrust-focused debate by exploring a series of questions: (i) who is a common owner; (ii) what are the negative externalities of common ownership; (iii) which are the potential anticompetitive mechanisms and theories of harm; (iv) what are the appropriate legal solutions to any competition concerns. While there is so much we do not know, common ownership forces us, with some urgency, to revisit and review whether our existing antitrust tools, methods and policies are well fit for purpose.

Common Ownership: Divergence and Convergence between Research and the Public Policy Debate

By Martin Schmalz

A significant gap persists between the economic literature on common ownership and the legal and public-policy discussion of the associated antitrust problem. To illustrate this gap and ways to bridge it, this note offers examples of contributions to the debate that deviate from what is known in the literature. Contrary to much of the commentary, the recent debate was not triggered by new theories but rather by new empirical *evidence*, provided by more than two dozen studies. These empirical studies don't *assume* anticompetitive effects but they formally *reject* the assumption that there are no competitive effects of common ownership. Further, there is no empirical study to date that reject that there are at least some competitive effects of common ownership, and provides support for the idea of going back to the old paradigm in which firms maximize their profits, irrespective of their shareholders' economic interests.

Are The Remedies for the Common Ownership Problem Worse than the Disease?: Assessing the Likely Decision and Error Costs of Proposed Antitrust Interventions

By Thomas A. Lambert & Michael E. Sykuta

Antitrust scholars have recently proposed additional interventions — beyond enforcement of traditional rules on hub-and-spoke conspiracies, collusion-facilitating devices, etc. — to police anticompetitive harms purportedly resulting from institutional investors' common ownership of small stakes in competing firms. They maintain that the current "enforcement passivity" on common ownership is unwarranted. Additional antitrust interventions are not justified, though, if they would create greater welfare losses than they would avert. This article considers the decision and error costs that would result from the interventions that have been proposed for remedying the purported problem of common ownership. It concludes that they would be substantial and would likely outweigh any benefits the interventions would secure.

WHAT'S NEXT?

For June 2019, we will feature Chronicles focused on issues related to (1) **A look back at *Amex***; and (2) **Fines & Damages**.

ANNOUNCEMENTS

CPI wants to hear from our subscribers. In 2019, we will be reaching out to members of our community for your feedback and ideas. Let us know what you want (or don't want) to see, at: antitrustchronicle@competitionpolicyinternational.com.

CPI ANTITRUST CHRONICLES JULY 2019

For July 2019, we will feature Chronicles focused on issues related to (1) ***AT&T/Time Warner* & Vertical Mergers**; and (2) **EU Arbitration & Antitrust**.

Contributions to the Antitrust Chronicle are about 2,500 – 4,000 words long. They should be lightly cited and not be written as long law-review articles with many in-depth footnotes. As with all CPI publications, articles for the CPI Antitrust Chronicle should be written clearly and with the reader always in mind.

Interested authors should send their contributions to Sam Sadden (ssadden@competitionpolicyinternational.com) with the subject line "Antitrust Chronicle," a short bio and picture(s) of the author(s).

The CPI Editorial Team will evaluate all submissions and will publish the best papers. Authors can submit papers on any topic related to competition and regulation, however, priority will be given to articles addressing the abovementioned topics. Co-authors are always welcome.

CPI TALKS…

With Judge Douglas H. Ginsburg

In this month's edition of CPI Talks we have the pleasure of speaking with Judge Douglas H. Ginsburg. Judge Ginsburg is a Senior Judge serving on the United States Court of Appeals for the District of Columbia Circuit, Chairman of the International Board of Advisors of the Global Antitrust Institute at George Mason University, and a former Assistant Attorney General in charge of the Antitrust Division of the U.S. Department of Justice.

Thank you, Judge Ginsburg, for sharing your time for this interview with CPI.

1. Is common ownership a threat to corporate America? If so, what is the root of the problem? Is it an antitrust or investor protection problem? Or something else?

Concern about common ownership dates to two economic papers that found a statistically significant correlation between the degree of common share ownership by major investment managers (Blackrock, Fidelity, et al.) and prices elevated by about five percent on certain airline routes and on bank checking accounts.[1] A third paper estimates that common ownership is correlated with executive compensation policies that may weaken the incentive for firms to compete aggressively.[2] Eight other economic papers now challenge these findings on theoretical,[3] or both theoretical and empirical, grounds.[4] In any event, the problem, if it exists, is one of diminished competition – not necessarily an antitrust violation, and certainly not an investor protection problem inasmuch as increased prices would make companies more profitable and their shares more valuable.

2. Why is there so much debate around the economic analysis of common ownership? Can you see some lines of agreement regarding the recent theoretical and empirical economic research underscoring the competitive implications of common ownership?

There is much debate among economists because the topic is potentially important to the economy – but the economic evidence is still not sufficiently definitive to resolve the question. Academic lawyers debate the theory because there are always some keen to find new causes of action about which to write – and, in some cases, perhaps to consult or to appear as expert witnesses. They represent what Donald Turner called "the inhospitality tradition" in antitrust.[5] Others, who are concerned about the effects of premature or ill-conceived antitrust intervention in less-than-fully understood new ways of doing business, respond in kind.

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1 José Azar, Martin C. Schmalz & Isabel Tecu, *Anti-Competitive Effects of Common Ownership* (Univ. of Mich. Ross Sch. of Bus., Working Paper No. 1235, 2015) [hereinafter Airline Study], http://papers.ssrn.com/abstract=2427345 (airlines); José Azar, Sahil Raina & Martin C. Schmalz, *Ultimate Ownership and Bank Competition* (Jan. 8, 2016) [hereinafter Banking Study], http://ssrn.com/abstract=2710252 (checking account fees and fee thresholds).

2 Miguel Antón, Florian Ederer, Mireia Giné, and Martin C. Schmalz, *Common Ownership, Competition, and Top Management Incentives* (Nov. 15, 2016), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=280233.

3 Daniel P. O'Brien & Keith Waehrer, *The Competitive Effects of Common Ownership: We Know Less than We Think*, 81 Antitrust L.J. 729 (2017).

4 Andrew Koch et al., *Common Ownership and Competition in Product Markets* (Feb. 22, 2019) (Working Paper) (common ownership is not robustly positively related with industry profitability or output prices), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2965058; Patrick J. Dennis, Kristopher Gerardi, and Carola Schenone, *Common Ownership Does Not Have Anti-Competitive Effects in the Airline Industry* (Feb. 5, 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3063465; Committee on Capital Markets Regulation, Common Ownership and Antitrust Concerns, Nov. 2017, https://www.capmktsreg.org/wp-content/uploads/2017/11/CCMR-Common-Ownership-1.pdf; Pauline Kennedy, Daniel P. O'Brien, Minjae Song, and Keith Waehrer, *The Competitive Effects of Common Ownership: Economic Foundations and Empirical Evidence* (July 24, 2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3008331; Edward B. Rock & Daniel L. Rubinfeld, *Antitrust for Institutional Investors*, 82 Antitrust L.J. 221 (2018); Jacob Gramlich & Serafin Grundl, *Testing for Competitive Effects of Common Ownership*, Fed. Reserve Bd. Fin. & Econ. Discussion Series Paper No. 2017-029 (Feb. 19, 2017), https://www.federalreserve.gov/econres/feds/files/2017029pap.pdf; Heung Jin Kwon, *Executive Compensation under Common Ownership* (Nov. 29, 2016), http://fmaconferences.org/Boston/ExecutiveCompensationunderCommonOwnership.pdf.

5 Donald F. Turner, *Some Reflections on Antitrust*, 1966 N.Y. St. B. Ass'n Antitrust L. Symp. 1, 12 ("I approach territorial and customer restrictions not hospitably in the common law tradition, but inhospitably in the tradition of antitrust law").

3. Can existing antitrust law and doctrine reach to the purported common ownership problem? If so, which legal theories – new and old – are more plausible and better fit to capture any anticompetitive cases?

If the empirical literature ultimately indicates antitrust enforcement against common ownership is warranted, there is no need to devise an entirely new analytic framework; the underlying behaviors with which commentators are concerned are not new to antitrust law. If the anticompetitive effect is attributable to investment managers meeting with corporate officials and helping to coordinate their conduct, then they should be prosecuted for organizing a hub-and-spoke conspiracy, or for orchestrating the exchange of competitively sensitive information. These are conventional antitrust violations of Section 1 of the Sherman Act that do not require the agencies to devise a new theory of liability for the asset management industry.

That said, because the mechanism causing the perceived harm is currently unknown, as everyone in the common ownership debate acknowledges, academic commentators have been creative in proposing new bases for antitrust liability that would make common ownership itself a violation of either Section 7 of the Clayton Act[6] or, in one case, Section 1 of the Sherman Act.[7] Contrary to the assertion that antitrust liability for common ownership requires only a straightforward application of Section 7 doctrine, it actually would be an entirely novel application of Section 7, as essentially all precedents address *cross* ownership rather than *common* ownership.[8] Similarly, it is doubtful common ownership violates Sherman Act Section 1, which requires a plaintiff to identify a viable less restrictive alternative that can realize the same legitimate objectives as do investment managers,[9] viz., offering even small investors the ability to reduce risk through diversification and to do so with minimal transaction costs.

4. Do we need more law to address the common ownership problem? If something needs to be done, is antitrust law part of the solution? What could be a good solution, more broadly?

Assuming there is a problem, i.e. that significant common ownership by investment managers diminishes competition among their portfolio companies in concentrated markets, such as airlines, the first (and perhaps the only) thing to be done would be to revisit the current thresholds at which mergers are thought to be anti-competitive. The objective would be to identify the level of concentration in a well-defined antitrust market at which common ownership by investment managers begins to dampen competitive vigor, and to deny mergers that would exceed that level.

5. To what extent does common ownership reflect conscious parallelism?

An empirical answer to this question is impossible – but it is likely the perceived price effect of common ownership largely reflects conscious parallelism among firms in a concentrated industry, which is neither unlawful, at least according to Supreme Court dictum in *Brooke Group* nor, as a practical matter, remediable.[10] That is precisely why antitrust agencies take the potential for coordinated behavior into account when analyzing the likely effect of a merger. With respect to how corporations react to shareholder proposals, the investment managers – like the great majority of publicly traded firms – tend to follow the advice of the major proxy advisory firms, regardless whether they have a significant degree of common ownership, so their similar voting patterns are not probative even of conscious parallelism.

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6 Fiona Scott Morton & Herbert Hovenkamp, *Horizontal Shareholding and Antitrust Policy*, 127 Yale L.J. 2026, 2033-37 (2018).

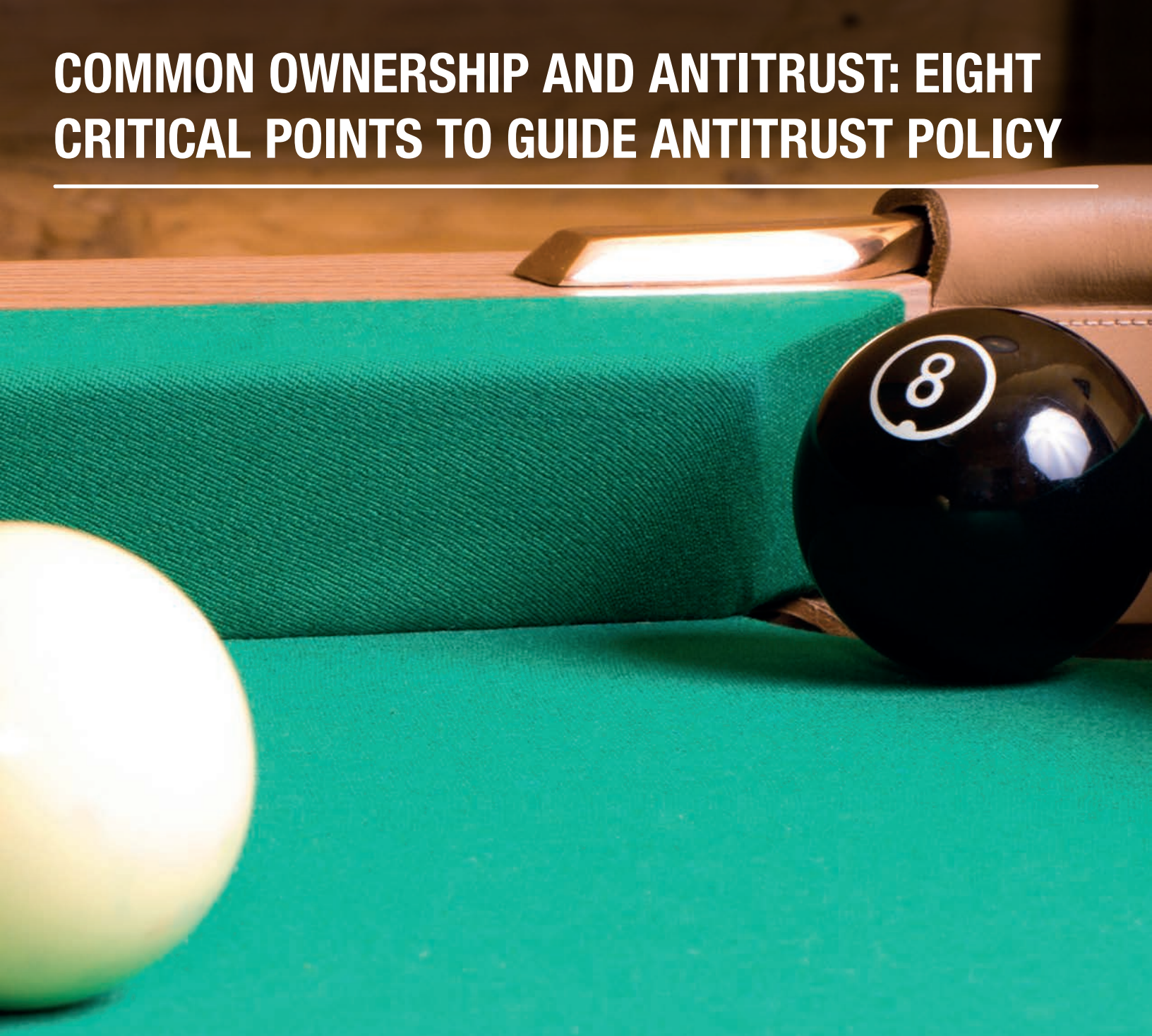
7 Einer Elhauge, *Horizontal Shareholding*, 129 Harv. L. Rev. 1267, 1304, 1308 n.205 (2016); Einer Elhauge, *New Evidence, Proofs, and Legal Theories on Horizontal Shareholding* (Jan. 11, 2018) (Working Paper), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3096812.

8 See Note to the OECD by the United States at ¶¶ 2-4, 9, Hearing on Common Ownership by Institutional Investors and Its Impact on Competition, OECD DAF/COMP/WD(2017)86 (Dec. 6, 2017) (pointing out that "common ownership is distinct from cross-ownership," "the U.S. antitrust agencies have not litigated a case involving common ownership by a single institutional investor," and the portion of the U.S. Horizontal Merger Guidelines that Elhauge cited "is concerned more directly with cross-ownership" (cleaned up)).

9 See VII Phillip E. Areeda & Herbert Hovenkamp, Antitrust Law ¶ 1502 (4th ed. 2014) (describing the "classic" burden-shifting framework, which concludes with an inquiry into whether "the restraint [is] reasonably necessary for the achievement of any such legitimate objectives," and thereby considers whether a less restrictive alternative exists).

10 *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 227 ("Tacit collusion, sometimes called oligopolistic price coordination or conscious parallelism, describes the process, not in itself unlawful, by which firms in a concentrated market might in effect share monopoly power, setting their prices at a profit-maximizing, supra-competitive level by recognizing their shared economic interests and their interdependence with respect to price and output decisions").

COMMON OWNERSHIP AND ANTITRUST: EIGHT CRITICAL POINTS TO GUIDE ANTITRUST POLICY



BY MENESH S. PATEL[1]

1 Acting Professor of Law, University of California, Davis, School of Law.

I. INTRODUCTION

Common ownership became the subject of extensive scholarly debate after economists conducted empirical studies showing a potential causal relationship between common ownership and competitive harm in the airline and banking industries.[2] Common ownership has since moved beyond the academic realm, and is now the active subject of worldwide regulatory concern. This past December, the Federal Trade Commission conducted an all-day hearing addressing the potential competitive effects of common ownership.[3] The Department of Justice very recently indicated that it too is more closely evaluating common ownership.[4] The European Commission also has announced that it is looking into the common ownership issue.[5] Other jurisdictions' competition authorities appear to be following suit.[6]

In this short article, I relay eight critical points that can aid the ongoing and early development of antitrust policy relating to common ownership. These critical points touch on some of the most salient issues concerning the relationship between common ownership and competitive harm and have important implications on how regulators should craft antitrust policy as it relates to common ownership.

Taken together, these eight points demonstrate a broader point that, while common ownership can theoretically harm competition, there is no simple answer to whether a particular manifestation of common ownership in a given market will generate substantial competitive harm. At its core, common ownership is no different than the many other potential sources of competitive harm that antitrust regulators capably evaluate as a matter of course. Specifically, like these other sources of potential competitive harm, whether a specific instance of common ownership generates competitive effects will depend on a panoply of factors relating to market structure, market participant incentives and behavior, and other economic fundamentals. This simple point generates a correspondingly simple proposition about how regulators should structure antitrust policy concerning common ownership: rather than *per se* prohibitions, safe harbors, or wide-scale investigations, regulators should evaluate the competitive effects of common ownership on a case-by-case basis, just as they currently evaluate other potential sources of competitive harm.

II. COMMON OWNERSHIP: EIGHT CRITICAL POINTS

The following eight points can serve as helpful guides for regulators when formulating antitrust policy concerning common ownership.[7]

Critical Point 1: Recent empirical and theoretical work on common ownership is based largely on a specific microeconomic model of firm behavior which predicts that common ownership generates unilateral effects through price increases.

The recent economic and legal studies of common ownership are based principally on an economic model of common ownership developed by Daniel O'Brien & Steven Salop,[8] who built on earlier work by Timothy Bresnahan & Steven Salop.[9] The model specifies a market in which

2 José Azar, Martin Schmalz & Isabel Tecu, *Anticompetitive Effects of Common Ownership*, 78 J. Fin. 1513 (2018); José Azar, Sahil Raina & Martin Schmalz, *Ultimate Ownership and Bank Competition* (July 23, 2016) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2710252.

3 Competition and Consumer Protection in the 21st Century: Hearing Before the Fed. Trade Comm'n (Dec. 6, 2018), https://www.ftc.gov/news-events/events-calendar/ftc-hearing-8-competition-consumer-protection-21st-century. See also Prepared Remarks of FTC Commissioner Noah Joshua Phillips, Taking Stock: Assessing Common Ownership (June 1, 2018), https://www.ftc.gov/system/files/documents/public_statements/1382461/phillips_-_taking_stock_6-1-18_0.pdf.

4 See Andrew C. Finch, Concentrating on Competition: An Antitrust Perspective on Platforms and Industry Consolidation (Dec. 13, 2018), https://www.justice.gov/opa/speech/file/1120486/download, at 13.

5 See Margrethe Vestager, Competition in Changing Times (Feb. 16, 2018), https://ec.europa.eu/commission/commissioners/2014-2019/vestager/announcements/competition-changing-times-0_en.

6 See Julius Melnitzer, *Are Big Fund Managers' Sizable Holdings in Companies Hurting Competition? The Competition Bureau Thinks it Might*, Fin. Post (Mar. 5, 2019), https://business.financialpost.com/investing/are-big-fund-managers-sizeable-holdings-in-companies-hurting-competition-the-competition-bureau-thinks-it-might (discussing common ownership investigations by Canada's Competition Bureau).

7 Some of these points are developed further in Menesh S. Patel, *Common Ownership, Institutional Investors, and Antitrust*, 82 Antitrust L.J. 279 (2018). For recent surveys of common ownership, see Martin C. Schmalz, *Common-Ownership Concentration and Corporate Conduct*, 10 Ann. Rev. of Fin. Econ. 413 (2018) and Matthew Backus, Christopher Conlon & Michael Sinkinson, *The Common Ownership Hypothesis: Theory and Evidence* (Jan. 2019) (unpublished manuscript), https://www.brookings.edu/wp-content/uploads/2019/02/ES_20190205_Common-Ownership.pdf.

8 Daniel P. O'Brien & Steven C. Salop, C*ompetitive Effects and Partial Ownership: Financial Interest and Corporate Control*, 67 Antitrust L.J. 559 (2000).

9 Timothy F. Bresnahan & Steven C. Salop, *Quantifying the Competitive Effects of Production Joint Ventures*, 4 Int'l J. Indus. Org. 155 (1986). Einer Elhauge identifies an early paper by Julio Rotemberg in which Rotemberg links common ownership and incentives to compete. See Einer Elhauge, *Horizontal Shareholding*, 109 Harv. L. Rev. 1267, 1273 n.28 (2016) (citing Julio J. Rotemberg, *Financial Transaction Costs and Industrial Performance* 2 (1984) (unpublished manuscript), dspace.mit.edu/handle/1721.1/47993).

competing firms sell a homogeneous good through Cournot (i.e. quantity) competition. The model includes common ownership – investors in the model each hold shares in one or more of the competing firms in the relevant market. The model postulates that each firm's manager maximizes a weighted sum of shareholders' portfolios, which, for a particular shareholder, is assumed to equal the sum of the profits the shareholder obtains from all firms in the relevant market.

The O'Brien-Salop model predicts that common ownership generates unilateral effects through price increases. The reasoning is straightforward. Because a manager is assumed to choose how vigorously to compete by assessing the effects of that level of competition on each of its shareholder's portfolios, and because at least some shareholders' portfolios will include interests in rival firms, the manager will compete less vigorously than if there were no common ownership, since some of the profits lost by the firm from its diminished competition will be returned back to the firm's shareholders through their interests in rival firms.

In the context of the O'Brien-Salop model, therefore, common ownership impairs consumer welfare by causing firms to compete less and prices to rise. These competitive effects are similar to the competitive effects of a firm's acquisition of an ownership interest in a rival firm. Scholars have extensively studied the competitive effects of such partial ownership acquisitions, and they have been the subject of enforcement activity. Finally, note that within the structure of the O'Brien-Salop model, common owners need not exercise actual control over firms for common ownership to generate competitive harm.

Critical Point 2: The underlying economic model of common ownership postulates a specific objective of firm managers, and if managers behave in a manner different than that specified by the underlying model, even extensive common ownership may not substantially impair competition.

A fundamental assumption of the common ownership model discussed above is that firm managers set the level of competition in order to maximize the weighted sum of shareholder portfolios. While this assumption makes the model tractable, it is not yet supported by sufficient theoretical or empirical support,[10] and alternate specifications of the manager's objective function can result in even high levels of common ownership having little or no adverse competitive effects. The clearest example is if firm managers maximize the profits of their own firms rather than the weighted sum of shareholder portfolios. In this case, common ownership would have no competitive effects, since each manager's competition decision would be equivalent to her decision if there were no common ownership.

Indeed, there are strong reasons why firm managers may not behave in the manner postulated by the common ownership model. It can be shown that the assumption that a manager maximizes the weighted sum of shareholder portfolios is equivalent to the manager maximizing a combination of her own firm's profits *and the profits of all other firms in the relevant market subject to common ownership*.[11] Stated differently, the model of common ownership effectively specifies that when deciding how vigorously to compete, a firm's manager trades-off the profits of her own firm for the profits of all other firms in the relevant market in which the firm's shareholders have a concurrent equity interest.

Legal rules and the risk of legal sanction may dissuade managers from behaving in this manner. For instance, under state corporate law, directors, officers, and other fiduciaries have a fiduciary obligation to make a good faith effort to further the best interests of their corporation and its shareholders. This legal obligation may disincentivize firm managers from trading off their own firm's profit for the profits of rival firms and cause managers to instead focus solely on maximizing their own firm's profit.[12] Even if common ownership were to ultimately cause the firm's profits to increase because of the resulting diminution to market-wide competition, the risk of liability may eliminate or at least mitigate managers' incentives to trade off their own profit for the profit of rival firms.

There are many other reasonable specifications for managerial behavior that may cause common ownership to have little or no competitive effects. To take one example, if firm managers look to the profits of other firms when making output or pricing decisions only when the extent of common ownership exceeds some threshold amount, then common ownership levels below this threshold will not generate any competitive effects.

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10 O'Brien & Salop are careful in their modeling. They expressly make clear that while "a parsimonious way to model shareholder influence is to assume that the manager of the firm maximizes a weighted sum of the shareholder's returns," managers' actual objectives will "turn[] on the corporate control structure of the firm, which determines each shareholder's influence over decision-making within the firm." O'Brien & Salop, *supra* note 8, at 609.

11 See, e.g. Patel, *supra* note 7, at 317.

12 Somewhat forgotten in recent academic discussion of common ownership is that O'Brien & Salop themselves discuss the role of fiduciary duty in shaping managerial objectives. See, e.g. O'Brien & Salop, *supra* note 8, at 571 & 580-81.

Critical Point 3: The distribution of ownership interests, including in economically related markets, can mute common ownership's competitive effects.

Much of the recent theoretical and empirical academic scholarship on common ownership focuses exclusively on common owners' interests in horizontal competitors. But common owners, especially large institutional investors, often will also have concurrent interests in firms in economically related markets, such as downstream firms, upstream suppliers, and firms in complementary markets. These other ownership interests can cause common ownership to have greater or lesser competitive effects than if the competitive effects analysis focused solely on common owners' interests in horizontal competitors.[13] For instance, if common owners have significant interests in downstream firms, then their preference for diminished competition in the relevant market will abate.

As a theoretical matter, if it is the case that firm managers set the level of competition to maximize the weighted sum of shareholder portfolios, there is no obvious reason why managers would focus only on the specific portion of shareholder portfolios relating to firms in the relevant market, rather than shareholders' entire portfolios, which may include interests in economically related markets. More generally, if firm managers are assumed to maximize shareholders' joint utility, then managers would be expected to evaluate the effects of their competition decisions on shareholders' entire portfolios, rather than just a portion of those portfolios.

The extent of competitive harm caused by common ownership also will depend on the distribution of investors' interests across firms in the relevant market. In a given market, shareholders' ownership interests across rival firms may vary significantly. For instance, some shareholders may have ownership interests in some rival firms, though not the same rival firms, while the remaining shareholders may have no ownership interests in rival firms. These heterogeneous holdings may hinder shareholders' ability to agree on the extent to which the firm should diminish its level of competition and the particular form of that diminished competition. Furthermore, depending on the particular distribution of common ownership interests across rival firms, a common ownership-induced reduction in competition could make some shareholders worse off than if there were no common ownership.[14] These shareholders would have an incentive to prevent the firm from curtailing its level of competition in response to common ownership.

Critical Point 4: Common ownership's competitive effects will depend on the structure of the relevant market, including the extent of substitutability and ease of entry.

Like any other potential source of competitive harm, the competitive effects of common ownership in a particular market will depend on the underlying properties and structure of the relevant market. The extent of product substitutability is one example. Suppose, for example, that there are three firms, A, B, and C, and that firms A and B are subject to common ownership, while firm C is not. If the three products are homogenous, the anticompetitive effects arising from common ownership would be different than if the products instead were differentiated and A and B were poor substitutes for one another. In the latter case, firms A and B would be less likely to curtail competition in response to common ownership, as more of the sales they lose would be diverted to the firm not subject to common ownership (firm C) rather than the other commonly owned firm.

As another example, the competitive effects of common ownership in a market with relatively easy entry will be less than in a market with difficult entry, all else being equal. In the extreme case in which entry is complete and costless, common ownership would generate no competitive effects; with or without common ownership, prices would be at or tending to their competitive levels.

Critical Point 5: Empirical analysis concerning the competitive effects of common ownership is ongoing and the results so far are mixed.

The two initial empirical studies on common ownership suggested that common ownership was having dramatic competitive effects in the markets examined. The authors of the airline study concluded that common ownership increases U.S. airline ticket prices by 3 to 7 percent, or even 10 to 12 percent.[15] The authors of the banking study found that common ownership was positively related to the amount of bank deposit fees

13 For early discussion of this point, see John R. Woodbury, *Paper Trail: Working Papers and Recent Scholarship*, Antitrust Source 6 (Dec. 2014), www.americanbar.org/content/dam/aba/publishing/antitrust_source/dec14_paper_trail_12_16f.authcheckdam.pdf and Jonathan B. Baker, *Overlapping Financial Investor Ownership, Market Power, and Antitrust Enforcement: My Qualified Agreement with Professor Elhauge*, 129 Harv. L. Rev. F. 212, 217 (2016).

14 See, e.g. Patel, *supra* note 7, at 312. For a thorough analysis of theories of common ownership that involve either a conflict or consensus among firm investors, see C. Scott Hemphill & Marcel Kahan, *The Strategies of Anticompetitive Common Ownership*, Yale L.J. (forthcoming), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3210373 (Mar. 29, 2019).

15 Azar, Schmalz & Tecu, *supra* note 2, at 1517-18.

and deposit threshold.[16] Both studies used leading econometric techniques to evaluate the empirical relationship between common ownership and competitive effects.

However, there is an ongoing academic debate whether these empirical findings reflect a causal relationship between common ownership and competitive effects or spurious correlation. Some scholars have argued that the empirical results suffer from endogeneity issues.[17] Others have conducted empirical studies showing little or no relationship between common ownership and competitive effects in the airline industry,[18] the banking industry,[19] or industry-wide.[20] Other scholars have observed that well-known data problems may be clouding the empirical results.[21] And yet others have argued that the empirical evidence does not support the potential underlying mechanisms that may link common ownership with competitive harm, such as the structure of executive pay.[22] At this stage, it would be premature to conclude that the empirical evidence demonstrates that common ownership causes substantial competitive harm in the evaluated markets.[23]

Critical Point 6: The modified concentration measures used in the recent studies of common ownership may be poor predictors of competitive effects, and antitrust policy should not be based on either of the two measures.

Recent studies of common ownership extensively use two modified measures of market concentration, the Modified HHI (or the MHHI) and the MHHI delta. The MHHI is defined as the sum of the HHI, the standard measure of market concentration used in merger analysis, and the MHHI delta, which is a measure intended to reflect the extent of common ownership among firms in the relevant market.[24] The MHHI thus takes the HHI and adds to it a measure of common ownership.

Because of the inherent problems with these two modified measures, it would be unwise to base antitrust policy on either of them. Most important, neither the MHHI nor the MHHI delta is a good general predictor of competitive effects. The reason for this is based on the analytical origins of the modified measures. The two measures arise out of the O'Brien-Salop model discussed above and, in the confines of that specific model, provide a particular reflection of common ownership's competitive effects.[25] However, if the postulates of the model are not satisfied, then those modified measures will not serve as good gauges of competitive harm. For instance, the common ownership model from which the MHHI and the MHHI delta originate assumes that firms sell homogenous products; however, if products are differentiated, the MHHI will not properly reflect the extent of competitive harm.[26] Additionally, as others have shown, even without product differentiation, if the relevant market materially differs from the model in which the MHHI and MHHI delta are derived, those modified measures will be poor predictors of common ownership's competitive effects.[27]

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16 Azar, Raina & Schmalz, *supra* note 2.

17 See Daniel P. O'Brien & Keith Waehrer, *The Competitive Effects of Common Ownership: We Know Less Than We Think*, 81 Antitrust L.J. 729, 747-48 & 752-56 (2017); Edward B. Rock & Daniel L. Rubinfeld, *Antitrust for Institutional Investors*, 82 Antitrust L.J. 221, 242 (2018).

18 See Pauline Kennedy, Daniel P. O'Brien, Minjae Song & Keith Waehrer, *The Competitive Effects of Common Ownership: Economic Foundations and Empirical Evidence*, (July 2017) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3008331; Patrick J. Dennis, Kristopher Geraldi & Carola Schenone, *Common Ownership Does Not Have Anti-Competitive Effects in the Airline Industry*, (Feb. 2018) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3063465. Azar et al. provide a reply to Kennedy et al. in José Azar, Martin C. Schmalz & Isabel Tecu, *The Competitive Effects of Common Ownership: Economic Foundations and Empirical Evidence: Reply*, (Sept. 2018) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3044908.

19 See Jacob Gramlich & Serafin Grundl, *Estimating the Competitive Effects of Common Ownership*, (Apr. 2017) (unpublished manuscript), papers.ssrn.com/sol3/papers.cfm?abstract_id=2940137.

20 See Andrew Koch, Mario A. Panayides & Shawn Thomas, *Common Ownership and Competition in Product Markets*, (Feb. 2019) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2965058.

21 See, e.g. Backus et al., *supra* note 7, at 9-12.

22 See, e.g. David I. Walker, *Common Ownership and Executive Incentives: The Implausibility of Compensation as an Anticompetitive Mechanism*, (Mar. 2019) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3345120.

23 In addition to the empirical debate, there is also an ongoing academic debate about the extent to which Section 7 of the Clayton Act reaches common ownership. Compare Elhauge, *supra* note 9, at 1302-09 *with* Douglas H. Ginsberg & Keith Klovers, *Common Sense About Common Ownership*, Concurrences Review N° 2-2018 6-10 (2019).

24 See O'Brien & Salop, *supra* note 8, at 610-11.

25 Specifically, in the O'Brien-Salop model, the MHHI is proportional to the average Lerner Index. See *id.* at 610.

26 For additional discussion, see Patel, *supra* note 7, at 307-09.

27 See O'Brien & Waehrer, *supra* note 8, at 744-47.

Critical Point 7: Common ownership may generate efficiencies, both within market efficiencies and out-of-market efficiencies, the latter of which may not be credited by courts in a competitive effects analysis.

Common ownership may generate efficiencies for consumers in the relevant market and generate out-of-market efficiencies. With respect to in-market efficiencies, there is a growing empirical literature suggesting that common ownership may increase innovation and R&D, at least with respect to particular types of common owners.[28] The proffered causal connection between common ownership and R&D is that common ownership causes firms to internalize technological spillovers, which have long been understood as impediments to welfare enhancing R&D activities. Like the empirical research on common ownership's price effects, the research concerning the effects of common ownership on R&D is still in its early stages, and needs time to coalesce and develop before it can be the basis of policy prescriptions. And, of course, whether common ownership generates offsetting benefits to consumers such as increased R&D and innovation depends on the relevant characteristics of the particular market at issue.

Common ownership may also generate efficiencies outside of the relevant market. With respect to institutional investors' equity interests in particular, potential efficiencies include improved corporate governance for the firms in which institutional owners have large interests, capital market benefits resulting from investors finding it is easier or less costly to diversify portfolio risk, and increased liquidity in equity markets.[29] Because these efficiencies do not accrue, at least in the first instance, to the benefit of consumers in the relevant market, under prevailing Section 7 law, courts may not credit these out-of-market when conducting a competitive effects analysis of common ownership.[30] This provides another reason why regulators should proceed with deliberate care when fashioning antitrust policy concerning common ownership.

Critical Point 8: Common ownership can have uncertain effects on the likelihood of coordinated behavior.

Existing research on common ownership largely addresses common ownership's prospect of generating consumer harm through unilateral effects. Relatively little research has been conducted into whether, and the mechanisms through which, common ownership can heighten the prospects of coordinated behavior.[31]

Common ownership can have countervailing effects on the likelihood of coordinated conduct. For example, a common owner may serve as an intermediary between the firms in which it has an interest, in the process making it easier for those firms to reach and sustain a collusive agreement, and also to detect deviations from the collusive agreement. But the dynamics may be more complex. If common ownership generates unilateral effects, then it will be more difficult for firms to effectively punish deviations from the collusive agreement, since the profit the deviating firm will make after punishment will be higher than if there were no common ownership. The bottom line is that as a general matter, it is uncertain whether common ownership will increase or decrease the likelihood of coordinated conduct, and the answer depends on the particulars of the market at issue.

III. CONCLUSION

There is no question that the amount of common ownership has substantially increased in recent decades and that a number of institutional investors now hold non-trivial interests in competing firms across a broad range of market segments. There is also no question that sound economic theories link common ownership with the potential for competitive harm. But what is less certain is how antitrust policy should be crafted to address common ownership's potential for competitive harm in light of our current understanding of common ownership's potential and actual competitive effects.

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28 See Jie He & Jiekun Huang, *Product Market Competition in a World of Cross-Ownership: Evidence from Institutional Blockholdings*, 30 Rev. Fin. Studs. 2674 (2017); Miguel Antón, Florian Ederer, Mireia Giné & Martin Schmalz, *Innovation: The Bright Side of Common Ownership?* (Sept. 2018) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3099578; Paul Borochin, Jie Yang & Rongrong Zhang, *Common Ownership Types and Their Effects on Innovation and Competition*, (Mar. 2019) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3204767. There is also a growing theoretical literature examining the effects of common ownership on R&D. See, e.g. Ángel L. López & Xavier Vives, *Overlapping Ownership, R&D Spillovers, and Antitrust Policy*, (Oct. 2017) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2844112.

29 For additional discussion of these potential efficiency gains, see Baker, *supra* note 13, at 227–31. For an argument that the diversification efficiency gains and corporate governance efficiency gains attributed to common ownership may be overstated, see Eric A. Posner, Fiona Scott Morton & E. Glen Weyl, *A Proposal to Limit the Anti-Competitive Power of Institutional Investors*, 81 Antitrust L.J. 669, 710-716 (2017).

30 See *United States v. Phila. Nat'l Bank*, 374 U.S. 321, 370 (1963).

31 Exceptions include Patel, *supra* note 7, at 318-23, which elaborates on the points below, and Edward B. Rock & Daniel L. Rubinfeld, *Common Ownership and Coordinated Effects*, (Dec. 2018) (unpublished manuscript), https://lsr.nellco.org/cgi/viewcontent.cgi?article=1478&context=nyu_lewp, which conducts a careful and systematic evaluation of the possible ways that common ownership may or may not generate coordinated effects.

The eight points above collectively provide an answer to that question. Common ownership is similar to other potential sources of competitive harm – such as mergers and the acquisition of partial ownership interests – that may generate substantial competitive harm in some contexts but be competitively benign in others. For that reason, antitrust policy concerning common ownership should hew closely to antitrust's modern approach of evaluating the competitive effects of a transaction or course of conduct on a case-by-case basis. The relevant antitrust question is not whether common ownership generally harms competition but instead, whether a particular manifestation of common ownership in a specific relevant market substantially impairs competition. The eight points outlined above can help guide that necessary inquiry.

THE COMPETITIVE EFFECTS OF COMMON OWNERSHIP: THEORY, APPLICATIONS, AND MIS-APPLICATIONS

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I. INTRODUCTION

In the 1990s, I helped develop a theory of partial ownership to analyze the competitive effects of partial, common ownership of competing firms.[2] Twenty years later, empirical work purportedly motivated by that theory claimed to show that the common ownership of airlines and banks by institutional investors raises airfares and banking fees.[3] Because a large fraction of publicly-traded stock is held by institutional investors, these papers had a huge impact.[4] Academic interest in common ownership by institutional investors took off, and policy interest rose in tandem.[5] The impact is wide-ranging: Some commentators suggest that the rise in common ownership might explain historically high profit margins;[6] antitrust investigations have weighed the impact of common ownership by institutional investors in their decisions;[7] the law and economics conference community has held multiple sessions on common ownership;[8] the OECD and U.S. Federal Trade Commission have held meetings and hearings on the topic, etc.[9]

Unfortunately, many commentators and even some researchers are out over their skis on this issue. Although it is not controversial that common ownership can harm competition in some cases — a complete merger, after all, is a special case — and the theory for how this can happen is now quite well understood, many claims about common ownership are based on a misapplication of the theory of partial ownership to the common ownership question. The purpose of this paper is to take a step back and assess what the theory of partial ownership does and does not say about the competitive effects of common ownership and evaluate the empirical work and policy debate in that light.

II. WHAT IS PARTIAL OWNERSHIP AND WHY DO WE NEED A THEORY ABOUT IT?

Most economic theory, and most applications of economics to policy, assume that the firm is a monolithic decision-maker whose objective is to maximize the firm's profits. The economics we see in textbooks is built on this assumption. But this assumption is an abstraction. Many firms have more than one owner, and each owner partially owns the firm. If the owners agree that the firm's objective should be to maximize the profits of the firm, then the assumption that the firm behaves as a monolith is fine. But if different owners want the firm to pursue different objectives for whatever reason, how will the firm behave?

The theory of partial ownership addresses this question by distilling potentially divergent objectives of each firm's owners into a single objective for the firm. This objective, which I discuss in detail below, is based on the ownership and control structure of the firms under analysis, and it can be quite different from the standard objective of maximizing the firm's own profits. The theory then analyzes how markets function when each firm independently pursues its objective.

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2 O'Brien, Daniel, & Stephen Salop, "Competitive Effects of Partial Ownership: Financial Interest and Corporate Control," *Antitrust Law Journal*, 67, no. 3 (2000): 559-614. The theory is developed in detail in the Appendices.

3 Azar, J., Schmalz, M.C. & Tecu, I., 2018, "Anticompetitive Effects of Common Ownership," *The Journal of Finance*, *73*(4), pp.1513-1565; Azar, José, Sahil Raina & Martin C. Schmalz, "Ultimate ownership and bank competition," (2016), Available at https://ssrn.com/abstract=2710252 or http://dx.doi.org/10.2139/ssrn.2710252.

4 It became the second most downloaded paper in history in the relevant SSRN category about a year after it was first posted.

5 See, e.g. the following papers and the references therein: O'Brien, Daniel P. & Keith Waehrer, "The Competitive Effects of Common Ownership: We Know Less Than We Think," *Antitrust Law Journal* 81, no. 3 (2017): 729-776; "Common Ownership by Institutional Investors and its Impact on Competition," OECD, October 30, 2017; Backus, Matthew, Christopher Conlon & Michael Sinkinson, *Common Ownership in America: 1980-2017*. No. w25454. National Bureau of Economic Research, 2019.

6 See Shambaugh, Jay, Ryan Nunn, Audrey Breitwieser & Patrick Liu, "The State of Competition and Dynamism: Facts about Concentration, Start-Ups, and Related Policies," *Economic Facts. Washington, DC: Brookings Institute, June* (2018). The rise of margins is documented in De Locker, Jan & Jan Eeckhout, "The Rise of Market Power and the Macroeconomic Implications," NBER Working paper 23687, August 1017, available at https://www.nber.org/papers/w23687.pdf.

7 For example, the European's decision regarding the Dow/Dupont merger devoted an entire annex to the issue of common ownership by institutional investors. See http://ec.europa.eu/competition/mergers/cases/decisions/m7932_13668_3.pdf, Annex 5.

8 For example: "Family Ties: Antitrust Issues with Common Ownership," ABA Spring Meetings, 67th ABA Section of Antitrust Law Spring Meeting, March 26-29, 2019; and "Cross Holdings in the Crosshairs: The Potential Anticompetitive Impact of Industry-Focused Minority Shareholdings," ABA Section of Antitrust Law, October 3, 2018.

9 Common Ownership by Institutional Investors and Its Impact on Competition, OECD, Paris, December 6, 2017, http://www.oecd.org/competition/common-ownership-and-its-impact-on-competition.htm. FTC Hearings on Competition and Consumer Protection in the 21st Century, Hearing Number 8: Common Ownership, December 6, 2018, transcripts available at https://www.ftc.gov/news-events/events-calendar/ftc-hearing-8-competition-consumer-protection-21st-century.

I have been using the term "partial ownership." Where does "common ownership" fit in? Common ownership occurs when one or more owners of a company also owns one or more other companies.[10] The companies are said to be commonly owned in this case because they have some owners in common. A pure merger generates a special case of common ownership where the merging firms become commonly owned through merger. Interesting questions arise when both common ownership and partial ownership are present at the same time and partial owners have influence over management. When different partial owners have different common ownership interests in firms whose profits are interrelated in some way, different owners are apt to have divergent interests.

For example, a non-common owner that holds shares of firm A and does not hold shares in competing firm B wants firm A's manager to pursue strategies that maximize the profits of firm A. But a common owner that owns shares of firm A and competing firm B may want the manager of firm A to compete less aggressively to increase its returns from its partial ownership of firm B. Similarly, a common owner of firm A and a *complementary* firm C may want the manager of firm A to charge a *lower* price than preferred by non-common owners because a lower price increases the common owner's returns from its ownership of complementary firm C. These examples illustrate how different degrees of partial, common ownership by different owners can create divergent interests among the owners, which is the situation the theory of partial ownership addresses.

III. THREE CORE ELEMENTS OF THE THEORY OF PARTIAL, COMMON OWNERSHIP

In weighing owners' divergent interests and distilling them into an objective for the firm, the theory assumes, naturally enough, that each manager pursues strategies in the interests of its firm's owners. Specifically, the theory assumes that the objective of each firm's manager is to maximize a *control-weighted* average of the *investment returns* to the firm's owners from the owners' shareholdings in the *relevant common ownership group*. The usefulness of this theory for understanding specific cases of common ownership depends upon the accuracy of assumptions that relate to the three italicized elements, each of which I will unpack.

A. Control Weights

The theory assumes that managers care about the returns to their owners, but because the owners typically have different common ownership interests in related firms, the owners have different preferences over the manager's choices. Therefore, the manager has to decide how much weight to give each owner's preferences in deciding what to do. The weight given to a particular owner is the owner's control weight. Under the theory, this is just a number between 0 and 1 such that the control weights sum to 1 across owners of a given firm. In practice, the magnitude of these weights is critical. If common owners' control weights are 0, for example, common ownership has no effect; if their control weights are positive, common ownership of competitors can have anticompetitive effects, and common ownership of producers of complements can have procompetitive effects. The size of these effects depends in a complex way on the full panoply of owners' financial interests and control weights across interrelated firms.

Here is a dose of economic humility. Economists do not have robust, tested theories about how ownership shares translate into control weights when owners have divergent interests. The theory of partial ownership recognizes this point, and while it presents a theory that depends on control weights, the theory itself does not choose these weights. Ultimately, the choice of control weights is an empirical issue, and it may also be governed by legal constraints as discussed below. Nevertheless, many applications of the theory of partial ownership, including the airline and banking papers that elevated common ownership questions to the fore, simply *assume* that control weights equal ownership shares ("proportional control").[11] However, the theory of partial ownership does not make this assumption, and there is no empirical basis for it that I know of.[12]

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10 Thus, partial ownership encompasses common ownership. Some authors refer to situations where *firms* own shares of other *firms* as "cross ownership," distinguishing it from common ownership. This case can be analyzed in partial ownership framework presented in O'Brien & Salop (2000) by recognizing how profits and control rights flow through to ultimate shareholders.

11 The *assumption* of proportional control apparently first appeared in an unpublished working paper by Julio Rotemberg in 1984 (Rotemberg, Julio J., "Financial Transaction Costs and Industrial Performance," Working paper 1554-84, Alfred P. Sloan School of Management, 1984.) O'Brien & Salop were unaware of Rotemberg's paper when they developed their analysis. They presented the proportional control assumption as nothing more than a convenient way to allow an owner's control weight to go from zero to one as the owner's financial interest goes from zero to 100 percent. Recognizing that the relationship between ownership and control is more complex and may be subject to legal constraints, O'Brien & Salop considered a range of possible control scenarios, and the predictions of the theory depend heavily on which scenario applies.

12 Some have argued the price-MHHI regressions in the airline and banking papers measure control weights. This is not correct. As discussed below, because the theory of partial ownership does not predict a specific relationship between price and the MHHI, a price-MHHI regression cannot measure control weights or test statistically whether they are equal to or different from some hypothesized value.

The proportional control assumption has some counterintuitive implications. Suppose a company is owned by a set of common owners that hold significant shares of the company and a large number of non-common owners that hold small shares of the company, i.e. non-common ownership is diffuse. Under proportional control, the non-common owners in this situation have essentially *no say* in the direction of the firm. Their control weights are near zero. On the other hand, a common owner that holds even 1 percent of the firm has almost complete control over the firm if the remaining ownership is diffuse. Under proportional control, if a single common owner held 1 percent of every competing firm and the remaining ownership were diffuse, the industry would be monopolized.[13]

This is a prediction of the theory under the proportional control assumption, but is it reasonable? There are at least two issues, both of which expose gaps in the literature.

First, if common ownership through minority positions carried a degree of control (e.g. proportional control) that tended to monopolize a market, a natural question is whether this could persist given natural forces in the market for corporate control. It seems likely in this situation that an outside investor could and likely would purchase a block of shares of one of the competitors, use its influence to convince management to lower the firm's price, and increase its investment returns by taking business from the firm whose governance structure supports monopoly pricing.[14] In short, the theory of partial ownership and applications of the theory to date assume that the ownership positions of third parties that are not involved in the transaction under analysis are fixed. However, if minority positions that involve common ownership carried control or influence capable of monopolizing markets, forces would likely emerge in the market for corporate control that would tend to unravel the monopoly behavior. To my knowledge, the role of the market for corporate control in constraining potential anticompetitive effects of common ownership has not been addressed in the literature.

Second, legal constraints may also play an important role in determining appropriate control weights. In the U.S., a firm's directors have a fiduciary obligation to the firm and to the firm's owners, as to their interest in the firm. In other words, the law technically obligates directors to pursue strategies in the best interest of the firm they direct, which means they should *not* permit managers to place weight in their objective functions on returns to shareholders from the shareholders' ownership interests in other firms. Instead, they should require management to place all weight in their objectives on owners' interests in the firm they manage. Of course, there are costs to enforcing fiduciary obligation laws, which may limit their impact. However, it is noteworthy that the compensation of most corporate managers is based partly on the firm's stock, and this gives the manager at least a short run incentive to price in way that maximize the profits of the firm, consistent with fiduciary obligations, and inconsistent with anticompetitive price effects from common ownership.

Some have argued that laws on fiduciary obligation do not prevent common ownership from causing anticompetitive effects because non-common owners benefit from allowing common owners to use their influence to encourage higher prices. This argument fails to recognize the difference between the unilateral effects of common ownership that arise in the theory of partial ownership and coordinated competitive effects. All owners — common and non-common — can benefit from collusion, but non-common owners have unilateral incentives to encourage their managers to pursue strategies in the interest of the firm that do not result in collusion.[15]

B. Relevant Common Ownership Group

This group consists of firms that are commonly owned and whose profits are interrelated in some way. For example, airlines that are commonly owned and compete for travelers are in a relevant common ownership group. Similarly, if the airlines' suppliers and customers are also owned by the same set of common owners, they are in the same relevant common ownership group.[16] Most empirical studies of common ownership, including the airline and banking papers, assume that the relevant common ownership group consists of a single industry and ignores effects on

13 It should be noted that control scenarios predicted by voting models (e.g. the Banzhaf Power Index) also have this property. The notion that small minority shareholders have *no say* in the direction of the firm and are at the mercy of larger (but still small) shareholders runs counter to both intuition and the law and suggest that these control scenarios are missing something. One missing element is the ability of shareholders to form blocks and vote their shares that way. Another missing element is the market for corporate control, e.g. the ability of outside shareholders to purchase blocks of shares.

14 Because the best response of firm A to a rival firm B that sets the monopoly price or output is to set a lower price or higher output, an investor would have an incentive to acquire a block of shares in firm A at existing share prices and move management in this direction.

15 Of course, evidence that non-common owners of different firms coordinated to influence their management to behave anticompetitively or that common owners induced anticompetitive behavior could provide economic grounds for antitrust intervention.

16 The literature on partial, common ownership, including O'Brien & Salop (2000), has tended to focus on the common ownership of competing firms. However, the main contribution of the theory of partial ownership is to distill potentially divergent interests of owners into a single objective for the firm, and this does not depend on whether commonly-owned products are substitutes or complements or whether they are sold in vertically-related markets. The method for determining the firm's objective applies to all these cases.

the companies' suppliers and customers. However, the same institutional investors that own the airlines, for example, also own airline suppliers (e.g. Boeing, Rockwell, United Technologies, etc.) and customers (virtually all companies that have business travel).

Why is this important? The modified Herfindahl-Hirschman Index ("MHHI") used to proxy[17] common ownership in the airline paper (and the banking paper) ignores the impact of airline prices on airline suppliers and business travelers, yet an increase in airfares has a *negative effect* on both groups. Both impacts give common owners incentives to *lower* price rather than raise it. Similarly, in the European Commission's use of the MHHI to analyze the Dow-Dupont merger, they assume that institutional investors would ignore the impact of the agrochemical companies' strategies on their suppliers and buyers, which institutional investors also partially own. These impacts can give common owners incentives to reduce price rather than raise it. In essence, common ownership by institutional investors involves both horizontal and vertical (or complementary) effects, but the empirical work to date does not account for this fact.

In addition, antitrust analysis focuses on behavior in specific markets using what economists call "partial equilibrium" analysis. That analysis assumes that it is reasonable to hold constant effects in markets that are not at issue when analyzing effects in specific markets. The justification for this approach is that the markets in question are generally "small" relative to the entire economy. However, common ownership by institutional investors involves investment in practically every industry in the economy. It is likely not appropriate to apply partial equilibrium analysis — e.g. an analysis that focuses on only on one industry like airlines — to address questions about common ownership by institutional investors that involve the entire economy.[18] The general equilibrium effects of common ownership are an active area of research.[19]

The MHHI used to proxy common ownership in the airline and banking papers has other serious deficiencies as a measure of common ownership, as discussed further below. The point here is that even with those other deficiencies, the MHHI calculated for a specific industry like airlines does not account for the fact that the relevant common ownership group for institutional investors is practically the entire economy. Even if institutional investors had control over the strategic decisions of the firms they own, the analysis of the effects of that ownership would have to account for these macro-level effects. The airline and banking papers do not do this.

C. Investment Returns as the Objective

The theory assumes that owners' objectives are to maximize the value of their shareholdings. However, institutional investors make money by attracting retail investors and charging for their services. It is not obvious that an institutional investor would accomplish this by instructing company A to pull its competitive punches against competing company B to increase the value of the institution's shareholdings in company B. Suppose, for example, that Vanguard instructed United Airlines to raise price to increase the value of Vanguard's position in American Airlines. If Fidelity owns a larger share of American than Vanguard does, Vanguard's strategy would increase the value of Fidelity's portfolio by more than it increases the value of its own portfolio.

The general point is that institutional investors that purchase shares for their retail investors likely have different incentives than investors that purchase shares for themselves. The theory of partial ownership was built to capture the incentives of investors that hold their own shares. It was not built to capture the incentives of institutional investors that compete with each other in another market. It is not immediately obvious how this affects the analysis, but at a minimum, more research is warranted to understand this before drawing conclusions from the theory of partial ownership about the effects of common ownership by institutional investors.

I conclude this section by summarizing circumstances where I think the theory of partial ownership is properly and improperly applied. The theory can be (and in my experience has been) quite useful when three conditions are met: (1) Control weights are reasonably clear or can be bounded in ways that bound the predictions in useful ways; (2) the relevant common ownership group is properly defined; and (3) owners have the objective of maximizing their returns across the relevant common ownership group. These conditions often hold in transactions that involve changes in partial ownership among a few companies or investors, and in these cases, the theory often yields insights. However, for macro-level common ownership by institutional investors, a specific set of problems arise: (1) Control weights are not clear; (2) the empirical research to date assumes the wrong relevant common ownership group; and (3) there is likely a mismatch between the objectives of actual asset managers and the objectives of owners assumed in the theory.

17 The MHHI itself has major problems as a proxy for common ownership, as discussed below. The point here is that this index also ignores effects from having suppliers and customers in the same relevant common ownership group.

18 The theory of partial ownership of O'Brien & Salop assumes that managers account for the effects of their actions on investors' portfolio returns but not on the prices they pay for the products of the commonly-owned firms. This assumption may be reasonable if the common owners' consumption of the products in the relevant common ownership group is small relative to their portfolio returns. However, it likely is not reasonable when the relevant common ownership group is the entire economy.

19 The rise in institutional investing has brought portfolio diversification to the masses at low transaction costs, creating large benefits for consumers. A complete general equilibrium analysis of the effects of common ownership by institutional investors would incorporate these benefits.

IV. EVALUATING THE EMPIRICAL WORK

The empirical work in the airline paper proxies common ownership with the MHHI or related concentration measures derived under two faulty assumptions: (1) The relevant common ownership group consists of only airlines (ignoring commonly owned suppliers and customers); and (2) institutional investors care only about portfolio returns. These assumptions are not correct, and this by itself raises significant doubt about the empirical research.

For the purposes of discussing additional issues with the empirical evidence, I abstract from these issues. I do not mean to suggest that these problems are unimportant, but abstracting from them facilitates a coherent discussion of other critical empirical issues that arise in assessing the competitive effects of common ownership.

Let's start with the empirical question. The heart of the question is whether common ownership causes firms to behave less competitively by raising price, reducing output, cutting capacity or investment, etc. The way this happens under the theory is as follows. First, each firm's manager accounts for the effects of its decisions on the returns to owners from their holdings of all firms in the market. Effectively, each firm's manager places weight on both the profits of the firm it manages and the profits of other firms in the industry according to ownership and control structure of the industry. This causes the managers of commonly owned firms to pull their competitive punches. The way managers account for rivals' profits is captured in "common ownership incentives terms," which reflect the fraction of each rival's profit a manager accounts for in making strategic decisions for the firm it manages.[20] In a market with N firms, there are N^2-N common ownership incentive terms (because there are N-1 such terms for each of N firms, and N x (N-1) is N^2-N). The question of whether common ownership affects competition under the theory comes down to whether some set of common ownership incentive terms are positive. In principle, this is something that can be measured empirically.

In industrial organization, there are basically two approaches to measuring these terms econometrically. One approach, commonly called the "reduced-form" approach, is to estimate a relationship between price and some measure of common ownership, which should include all of the common ownership incentives terms because each one matters. This is the spirit of the approach in the airline and banking papers. But a difficulty with this approach is that theory implies that prices depend on the full panoply of common ownership incentive terms, the interactions of these terms with each other, and the interaction of these terms and cost and demand factors.[21] This makes it impractical to estimate a true reduced form because there are just too many variables. The airline and banking papers addressed this problem by using an index to summarize common ownership — the MHHI — but this creates problems that I discuss in a moment.

The other empirical approach is to build an oligopoly model and measure the common ownership incentive terms as they appear in that model. The advantage of this approach is that it is possible to capture the full panoply of interactions in a rigorous way. This is the approach taken in *Kennedy et al.* (2017) and *Backus et al.* (2018), which do not find support for anticompetitive effects of common ownership in the airline industry and ready-to-eat breakfast cereal industry, respectively.[22]

With these two accepted approaches to the empirical question in mind, consider the empirical approach in the airline paper that claims to find that common ownership by institutional investors raised price. That paper uses two approaches, a price regression that relates airfares to the route-specific MHHI, and what purports to be a difference-in-differences analysis that examines the effects of the change in common ownership caused by the Blackrock-Barclays merger on airfares. Both approaches are supposed to be reduced-form approaches, but they have serious shortcomings.

The problem with the price-MHHI regression is that the MHHI is a measure of concentration, not a measure of common ownership. There are two issues. First, theory does not predict a particular relationship between price and the MHHI. It is possible for a change in common ownership that raises the MHHI to raise or lower price, and it is possible for a change in common ownership that lowers the MHHI to raise or lower price. The reasons behind the failure of the MHHI to predict price are somewhat complex. One reason is that common ownership has multiple dimensions — the N^2-N common ownership incentive terms I described above — and the MHHI has only a single dimension. It is generally not

20 The common ownership incentive terms arise from algebra that boils down owners' financial holdings and control weights into managers' incentives. O'Brien & Salop (2000) derive these incentive terms and show that they depend on a simple ratio of the "across-firms" concentration of ownership and control divided by "within-firm" concentration of ownership and control. See Appendix C of O'Brien & Salop for more details.

21 See Kennedy, Pauline, O'Brien, Daniel P., Song, Minjae & Waehrer, Keith, "The Competitive Effects of Common Ownership: Economic Foundations and Empirical Evidence," (July 24, 2017), Available at https://ssrn.com/abstract=3008331 or http://dx.doi.org/10.2139/ssrn.3008331 and Backus, Matthew, Christopher Conlon & Michael Sinkinson, "Common Ownership and Competition in the Ready-to-Eat Cereal Industry," New York University Stern Working Paper (2018).

22 *Id.*

possible to capture the multi-dimensional effects of common ownership on price with a single dimensional index. A second reason is that the MHHI depends on market shares, and market shares can move in ways that raise or lower the MHHI for any given change in common ownership.[23] These issues mean that changes in common ownership that raise the MHHI can raise or lower price, and similarly, changes in common ownership that lower the MHHI can raise or lower price. Therefore, it is not possible to determine the effects of common ownership just by looking at the correlation between price and the MHHI as was done in the airline and banking papers.

Because the MHHI depends on both common ownership and shares, the correlation between price and MHHI can yield false positives or false negatives. Consider a simplified example. Let's say it just snowed in the Lake Tahoe area, it's ski season, and the demand for air travel to Tahoe has risen. Airfares rise, and an airline with flexible capacity takes advantage and sees its market share rise relative to the market shares of less flexible airlines. If the flexible airline had a large share to begin with, price and the MHHI may both rise. The reason is that an increase in a large firm's share may increase the MHHI. On the other hand, if the flexible airline has a small share, snow may cause the MHHI to go down, but price to go up. The reason is that an increase in a small firm's share may reduce the MHHI.

This example illustrates two points about the price-MHHI relationship. One point is that price and the MHHI can move in the same direction or in opposite directions. The second point is that the relationship between price and the MHHI in data need not have anything to do with common ownership. None of the movements of price and the MHHI in this example have anything to do with changes in common ownership. They are driven by changes in snow.[24]

The airline paper also presents what purports to be a difference-in-differences analysis of the effects of the Blackrock-Barclays merger, which increased common ownership in many pair-wise markets. In principle, that merger provides an experiment that should allow determining the effects of common ownership under the theory. *Kennedy et al.* have studied this problem using a difference-in-differences technique applied to the same data as the airline paper and find that the change in common ownership caused by the Blackrock-Barclays merger did not raise airfares. This finding differs from the findings of the quasi-difference-in-differences analysis in the airline paper, which does find effects. But if you look closely, the key explanatory variable in airline paper's quasi difference-in-differences analysis is based on the MHHI. While the MHHI is a reasonable measure of concentration in the presence of common ownership, the relationship between price and the MHHI does not identify the relationship between price and common ownership.

Kennedy et al. (2017) also estimate a structural oligopoly model that allows testing between different control assumptions.[25] That analysis does not reject the hypothesis that institutional investors have no control over airline prices, and it rejects the hypothesis of proportional or Banzhaf control, which would lead to common ownership having positive price effects. The main difference between the analysis of *Kennedy et al.* and that of *Azar et al.* is that *Kennedy et al.* use a methodology rooted in the economic theory of partial ownership. When they do that, they do not find effects.

As I indicated at the beginning of this section, the airline paper and other applications of the theory of partial ownership to the question of common ownership by institutional investors have other problems relating to the definition of the relevant common ownership group and the mismatch between institutional investors' objectives and the objectives assumed in the theory. The analysis in this section exposes a third problem, which is that the empirical methodology in the airline paper does not identify the effects of common ownership. My conclusion, at least at this juncture, is that the empirical findings in the airline paper are spurious.

23 For a detailed discussion of both issues, see O'Brien, Daniel P., "Price-Concentration Analysis: Ending the Myth, and Moving Forward," (July 24, 2017) Available at https://ssrn.com/abstract=3008326 or http://dx.doi.org/10.2139/ssrn.3008326, and the references therein.

24 It is tempting to describe this problem as "endogeneity" that can be solved by using instrumental variable techniques, e.g. by using instruments for the MHHI. However, the deeper issue is that the correlation between price and the MHHI — whether instrumented or not — is not sufficient to identify the effects of common ownership. Thus, instrumenting for the MHHI does not solve the problem. See O'Brien (2017).

25 See also *Backus et al.* (2018), who find that classic competition (with no effect of common ownership) is most consistent with demand and supply data in that industry.

V. CONCLUSION

There is widespread agreement that common ownership can have anticompetitive effects in some circumstances. After all, a complete merger is a special case. However, much of the controversy over common ownership in recent years is based on mis-applications of the theory of partial ownership to the common ownership question.

I highlighted four main issues. First, the effects of common ownership depend critically on how ownership translates into control, and the literature is unsettled on this point. Second, the empirical literature that brought the common ownership issue to the fore assumes that the relevant common ownership group is a single industry (e.g. airline or banking). However, the investments of institutional investors cover practically the entire economy, including many firms that sell complementary products. The partial ownership framework that undergirds the empirical work does not take this into account, nor does it recognize general equilibrium issues associated with economy-wide investments. Third, the incentives of institutional investors that compete with each other for retail investors are likely different than the incentives of non-institutional owners modelled by the theory. Finally, correlations between price and the MHHI estimated in the empirical literature do not identify the competitive effects of common ownership.

Where does this leave us? From a policy perspective, the theory of partial ownership has value for the analysis of specific transactions such as joint ventures, partial acquisitions of one firm by another, and changes in common ownership where the relevant common ownership group is small and well-defined, and the nature of control is relatively clear. From a more academic perspective, the theory may also have value as a starting point for additional modelling to address common ownership by institutional investors in a general equilibrium context, and the theory has been used that way. But I do not think that either the theoretical work or empirical work to date provides a basis for altering antitrust or regulatory policy toward common ownership by institutional investors.

COMPETITION AND COMMON OWNERSHIP – A GOVERNANCE PERSPECTIVE

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I. INTRODUCTION

Interest in the potential anticompetitive effects of "common ownership" – defined as stock ownership in competing companies by an investor holding less than control amounts – has emerged from recent studies that suggest a correlation between common ownership and higher prices in certain concentrated industries.[2] The empirical evidence is under development and debate,[3] yet proposals have already been made to restrict the ownership stakes of institutional investors.[4] Antitrust policy development in this area should be approached with great care given the relatively early stage development of the evidence, the ongoing debate about whether the evidence of an anticompetitive effect is sufficiently durable and robust, and the potential implications a restrictive investment rule would have on institutional investors' beneficial roles in satisfying consumer interests in diversified investment vehicles for retirement and college savings, and in promoting improved corporate governance practices. This article discusses corporate governance issues related to the common ownership debate and observes as follows:

- First, while institutional investor influence on publicly traded corporations has increased considerably in the past twenty years, the subjects of this influence – as evidenced by the topics on which they vote and engage – do not typically include ordinary course business decisions such as the prices to charge, or the products to offer.

- Second, both institutional investors and the proxy advisors who make recommendations on how these investors should exercise their advisory vote on executive compensation heavily emphasize – as reflected in their proxy voting policies – that executive compensation should be aligned with company performance relative to their peers (including competitors) and not with industry-wide performance. In other words, institutional investors expressly pressure boards of directors to link management's incentive compensation to success in outperforming competitors.

- Third, the topics on which corporations and their institutional investors engage is heavily influenced by legal concerns, including the need to strictly comply with federal securities and antitrust laws and regulations. In preparation for engagement with investors, corporate directors and managers are advised by legal counsel. Focused attention by counsel in line with written Securities and Exchange Commission ("SEC") and other guidance on engagement activity undermines the notion that engagement is a means through which investors encourage companies to soften their competition or through which companies communicate confidential information about their competitive plans.

- Fourth, institutional investor engagement with portfolio companies has contributed to decisions by corporate boards to improve corporate governance practices, and to provide greater transparency into board decision-making.

From a corporate governance perspective, the hypothesis of broad anticompetitive collusion linked to common ownership does not fit with how institutional investors and companies engage with one another. (As noted by the United States in its submission to the OECD, regulators already have sufficient tools to address intentional anticompetitive conduct should evidence of specific instances of such conduct arise.[5]) Restricting institutional investor investment and related governance engagement would have broad implications outside the antitrust policy sphere.

2 Jose Azar, Martin C. Schmalz & Isabel Tecu, "Anticompetitive Effects of Common Ownership," 73 J. of Fin. 1513 (August 2018) (airlines); Jose Azar, Sahil Raina & Martin C. Schmalz, "Ultimate Ownership and Bank Competition," (Jul. 23, 2016) (commercial banking), available at http://ssrn.com/abstract+2710252. For a review of this literature see Martin C. Schmalz, "Common Ownership, Concentration and Corporate Conduct," SSRN Scholarly Paper ID 3165340 (Soc. Sci. Res. Network), Feb. 26, 2018.

3 Edward B. Rock & Daniel L. Rubinfeld, "Antitrust for Institutional Investors," 82 Antitrust L. J. 221 (2018); C. Scott Hemphill & Marcel Kahan, "The Strategies of Anticompetitive Common Ownership," at 6 (August 1, 2018; last revised December 17, 2018), NYU Law and Economics Research Paper No. 18-29; European Corporate Governance Institute (ECGI) - Law Working Paper No. 423/2018, available at https://ssrn.com/abstract=3210373.

4 Eric A. Posner, Fiona M. Scott Morton & E. Glen Weyl, "A Proposal to Limit the Anticompetitive Power of Institutional Investors," 81 Antitrust L. J. 669, at 724 (2017); Edward B. Rock & Daniel L. Rubinfeld, "Antitrust for Institutional Investors," 82 Antitrust L. J. 221 (2018).

5 Note submitted by the United States to the OECD for December 6, 2017 OECD Hearing on Common Ownership by Institutional Investors and Its Impact on Competition, (Nov. 28, 2017) at 3.

II. SHAREHOLDER INFLUENCE DOES NOT EXTEND TO ORDINARY BUSINESS MATTERS

While institutional investor influence on publicly traded corporations has increased considerably in the past twenty years, the subjects of this influence – as evidenced by the topics on which they vote and engage – do not typically extend to ordinary course business decisions by portfolio companies such as the prices to charge or the products to offer.

Under state law, shareholder decision rights are generally limited to a short list of fundamental matters that transcend the direction and management of the business (which is the responsibility of the board of directors, not the shareholders), such as electing directors, amending the certificate of incorporation and the bylaws, and approving significant corporate transactions such as mergers, consolidations, or the sale of substantially all of the assets. In addition, shareholders of New York Stock Exchange and Nasdaq listed companies must approve equity compensation plans and certain share issuances. Outside of their limited decision rights, shareholders cannot dictate the actions of the corporation's board or officers who, as fiduciaries, are required to make their own judgments in "managing the business and affairs of the corporation." Instead, shareholder influence comes in large measure from their ability under federal law and regulation to bring non-binding shareholder proposals in company proxy materials,[6] and also to have an advisory vote on executive compensation and on "golden parachute" compensation.[7] Publicly traded companies face significant pressure to address compensation issues when the shareholder vote does not significantly support the board's approach to executive compensation issues, and also to implement majority-supported shareholder proposals, even though the shareholder vote is non-binding. Failure to be responsive to shareholder votes can lead the proxy advisory firms who advise institutional investors to recommend voting against the re-election of directors.[8]

Under SEC regulations, ordinary business operations are not a proper subject of shareholder proposals.[9] Absent a sufficiently significant policy issue, matters of ordinary business, such as what products to offer, what prices to charge, and what areas to compete in, are excluded from shareholder proposals.

The framework for shareholder efforts to influence corporate behavior is in the delineation of shareholder rights and board responsibilities under state law and the additional federal overlay of areas that are appropriate for shareholder proposals to be included in the company's proxy materials. As reflected in their own stated engagement priorities, large institutional investors focus their efforts to influence portfolio companies not on ordinary business operations, but on shareholder rights, board accountability and attention to strategy, governance processes, the structure of executive incentive compensation, and company disclosure of policies regarding corporate social and environmental responsibility. For example, BlackRock's Investment Stewardship Engagement Priorities for 2019 include: (1) Governance including board composition, effectiveness, diversity, and accountability; (2) Corporate strategy and capital allocation that provide a clear sense of the direction a company intends to take; (3) Executive pay policies that link closely to long-term strategy, goals and performance; (4) Disclosure of environmental risks and opportunities to enhance understanding of board and management oversight of policies, risk factors and opportunities that drive long-term financial performance; and (5) Human capital management including sound business practices that create an engaged and stable workforce.

According to stewardship reports from large institutional investors and surveys of corporate directors and members of management, the most common topics for engagement in 2018 and 2017 were:

- Board composition, quality and accountability, including the alignment of board composition and strategy, director tenure and diversity, independent board leadership and board oversight of risk and strategy;
- Climate related risk reporting and board oversight re sustainability;
- Executive compensation including alignment of compensation with company performance;
- Shareholder rights including annual election of directors, supermajority vote requirements, special meeting and written consent thresholds, and proxy access;

6 Securities Exchange Act of 1934, as amended ("Exchange Act") Rule 14a-8 and SEC Division of Corporation Finance Staff Legal Bulletins 14 & 14A - 14J.

7 See Exchange Act Rule 14a-21.

8 Institutional Shareholder Services ("ISS"), United States Proxy Voting Guidelines (Dec. 2018) at 13, 40 and 42-43; Glass Lewis, 2019 Proxy Paper Guidelines, United States (Oct. 2018) at 10, 14, 16 and 34.

9 Exchange Act Rule 14a-8(i)(7); SEC Division of Corporation Finance Staff Legal Bulletin No. 14I (CF) (Nov. 1, 2017).

- Gender pay parity; and
- Risks associated with opioids and weapons.[10]

III. INSTITUTIONAL INVESTORS SEEK COMPANY-SPECIFIC ALIGNMENT OF PAY AND PERFORMANCE

The express voting policies of both institutional investors and their proxy advisors heavily emphasize that executive compensation should be aligned with company performance relative to their peers (including competitors) and not with industry-wide performance. These express policies are directly at odds with the hypothesis that corporations in concentrated industries with common ownership by large institutional investors understand that these investors want them not to compete, and prefer that compensation is aligned with industry rather than company performance.

The proxy voting policies of the largest institutional investors provide in clear and direct terms that misalignment between pay and company performance is grounds for a negative "say-on-pay" vote and in certain circumstances grounds for a negative vote on the re-election of compensation committee members.[11] Similarly, proxy advisors ISS and Glass Lewis both incorporate relative performance evaluation into their analysis and will issue negative recommendations for the shareholder advisory vote on executive compensation if executive pay and company performance are not aligned.[12] Misalignment of pay and company performance relative to peers is the most common reason for proxy advisors to recommend a negative vote on compensation and for a company to fail to achieve high levels of shareholder support on the advisory vote on executive compensation.[13]

Boards and their compensation committees pay close attention to investor and proxy advisor policies on compensation, the vote recommendations of the proxy advisors, and the outcome of the votes. If the shareholder advisory vote on executive compensation fails, or passes but without a high level of majority support (70 percent or more), it is common practice among S&P 500 companies to engage with investors to find out what drove the vote results and to adjust compensation structure and metrics in response.[14]

IV. SHAREHOLDER ENGAGEMENT IS SUBJECT TO STRICT LEGAL LIMITS AND LEGAL SCRUTINY

Since the advent of the mandated shareholder vote on executive compensation ("say-on-pay") in 2011, engagement efforts between shareholders and corporations have increased exponentially. Engagement has proven to be an effective tool for releasing tensions between shareholders and corporations, improving boards' understanding of shareholder concerns, and improving shareholders' understanding of how boards of portfolio companies approach their oversight of long-term strategy and other responsibilities. Corporate engagement efforts may be motivated by an interest in convincing shareholders to provide support for management on say-on-pay or on a shareholder activism issue, but increasingly corporations undertake engagement efforts on a regular basis to help strengthen relations with key shareholders and to foster a better understanding of how shareholders view the company. Similarly, large institutional shareholders may seek engagement with portfolio companies to explain their point of view on a corporate governance matter, or to learn more about the drivers of corporate decisions. For example, Vanguard states that its aim in engagement is to build a strong understanding of how companies govern their long-term strategy, not to seek to influence company strategy.

10 BlackRock, Investment Stewardship 2018 Annual Report (Aug. 2018); State Street, Stewardship 2017 (July 2018); State Street, Stewardship Activity Reports Q1 & Q2 2018; Vanguard, Investment Stewardship Annual Report 2018 (Aug. 2018); Vanguard, Engaging with Vanguard (2018).

11 BlackRock, Proxy Voting Guidelines for U.S. Securities (Feb. 2018) at Appendix; BlackRock, BlackRock Investment Stewardship's Approach to Executive Compensation (Mar. 2018); State Street, Global Proxy Voting and Engagement Principles (Mar. 2018); State Street, Proxy Voting and Engagement Guidelines – North America (Mar. 2018); Vanguard, Policies and Guidelines (last accessed Apr. 14, 2019).

12 ISS, United States Proxy Voting Guidelines (Dec. 2018) at 40. ISS, Pay-for-Performance Mechanics (Dec. 2017); Glass Lewis, 2019 Proxy Paper Guidelines, United States (Oct. 2018) at 32, 34 and 36.

13 ISS, U.S. Compensation 2018 Proxy Season Review (Aug. 27, 2018) at 5. See also Semler Brossy, 2018 Say on Pay Results (Oct. 4, 2018) at 8.

14 Radford Aon, Lessons from the 2018 Proxy Season for Say-on-Pay and Equity Plan Votes (July 2018). See also Exequity, Bouncing Back from a Low Say-on-Pay Vote (Aug. 28, 2018); Semler Brossy, Handling Say-on-Pay Aftershocks: How Directors Can Prepare for Elections After a Poor Vote Outcome (Aug. 17, 2015).

The topics on which corporations and their institutional investors engage are heavily influenced by legal concerns, including the need to strictly comply with federal securities and antitrust laws and regulations. It is common practice for legal counsel to provide corporate directors and members of the management team with strict instructions about the rules of engagement and the parameters of topics for engagement.[15] In line with SEC Staff Guidance and other guidance on engagement practices, discussion topics are typically pre-cleared with the shareholder, and company counsel either participates in the meeting or briefs the company's participants in advance.[16] Thus, focused attention by counsel in line with written guidance on engagement activity undermines the notion that engagement is a means through which investors encourage companies to soften their competition, or through which companies communicate confidential information about their competitive plans: Specifically, through engagement policies and direct instruction from counsel, participants are reminded that they must not selectively disclose material non-public information in violation of Regulation FD. They are reminded about tipping and insider trading liability that could result from someone misusing material non-public information, and if engagement is occurring during proxy season, special care is given to abide by the proxy solicitation rules which only permit attempts to influence shareholder votes based on what has been disclosed in filed proxy soliciting material. Directors and officers are also reminded not to discuss competitive information, customer-specific information or details about the company's pricing, production capacity or market share.

Participation by independent directors is becoming more common in meetings with institutional investors. For example, if executive compensation is to be a topic of discussion, the compensation committee chair often participates, and engagement efforts are often reported to the board or an appropriate board committee. Hence, while engagement between institutional investors and directors and management members reflect a range of styles, common guardrails have emerged as a result of SEC guidance, the counsel of legal advisors and the emergence of "best practice" guidance such as the SDX Protocol which identifies common engagement topics and procedures.

Given the legal concerns that need to be navigated in engagements between corporations and their shareholders, and the involvement of counsel in preparing for these efforts – and at times participation by independent directors – engagement efforts are under considerable scrutiny and are unlikely to provide opportunity for investors to influence boards and managers to ease up on competition.

V. INSTITUTIONAL STEWARDSHIP BENEFITS CORPORATE GOVERNANCE

While the stewardship impact of large institutional investors on the accountability of corporate boards and managers may not yet be sufficient in the views of some observers,[17] institutional investors have become far more engaged in efforts to influence corporate governance over the past decade. The engagement with portfolio companies has contributed to decisions by corporate boards to improve corporate governance practices, and to provide greater transparency into board decision-making. For example, in response to a combination of engagement and non-binding shareholder proposals, a majority of S&P 500 boards now require annual election of all directors ("declassified" boards), majority voting in the election of directors (replacing plurality voting standards in uncontested elections), and shareholder access to the company's proxy to nominate directors.

This investor influence has a multiplier effect: Other corporate boards take heed of these developments as evidence of evolving best practices and broad shareholder expectations, making it more likely that corporate boards will implement these kinds of changes without the same level of direct shareholder engagement (and thereby reducing the risk of likelihood of any engagement effort that may soften competition), and in many instances voluntarily.

15 See Sidley Austin LLP, Outline of Key Legal Considerations in Shareholder-Company Engagement (Feb. 2016), Investment Company Institute 2016 Mutual Funds and Investment Management Conference (Orlando, FL, Mar. 13-16, 2016), Supplemental Materials for Session 2-D, available at https://www.ici.org/pdf/16_mfimc_ebinder.pdf (last accessed Apr. 14, 2019) (hereinafter "Sidley Outline of Key Legal Considerations in Shareholder-Company Engagement"); NACD, Governance Challenges 2018: Board-Shareholder Engagement in the New Investor Environment (2018) (hereinafter, "NACD Governance Challenges 2018"); The Conference Board, Guidelines for Investor Engagement (Mar. 2014); The Shareholder-Director Exchange, Introduction and Protocol (Feb. 2014).

16 SEC Staff Compliance & Disclosure Interpretations, Regulation FD, Question 101.11 (June 4, 2010); NACD Governance Challenges 2018; The Conference Board, Guidelines for Investor Engagement (Mar. 2014); The Shareholder-Director Exchange, Introduction and Protocol (Feb. 2014).

17 See Lucian Bebchuk & Scott Hirst, "Index Funds and the Future of Corporate Governance: Theory, Evidence, and Policy," (Working Draft June 2018; last revised, November 2018) and papers cited therein at note 13 and accompanying text.

VI. CONCLUSION

If a decline in competition in concentrated industries occurs where there is also common ownership, the type of engagement between institutional investors and portfolio companies that has arisen largely in the last decade (in the wake of the Dodd-Frank Wall Street Reform and Consumer Protection Act) is an unlikely mechanism through which investors and portfolio companies might plan anti-competitive actions. Antitrust regulators already have ample tools to address intentional anticompetitive behavior should they find instances of illegal activity.

To the extent that even absent intentional anticompetitive conduct, anticompetitive effects arise where there is common ownership (evidence of which is neither fully developed nor agreed upon),[18] policy makers will face difficult tradeoffs given the benefits that institutional investors provide by satisfying consumer interests in diversified investment vehicles for retirement and college savings, and by engaging on corporate governance matters with portfolio companies.

18 Einer Elhauge, "Horizontal Shareholding," 129 Harv. L. Rev. 1267, at 1270 (2016). But see, e.g. C. Scott Hemphill & Marcel Kahan, "The Strategies of Anticompetitive Common Ownership," at 6 (August 1, 2018; last revised December 17, 2018), NYU Law and Economics Research Paper No. 18-29; European Corporate Governance Institute (ECGI) - Law Working Paper No. 423/2018, available at https://ssrn.com/abstract=3210373.

DOES COMMON OWNERSHIP INCREASE INCENTIVES FOR MERGERS AND ACQUISITIONS?

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I. INTRODUCTION

There is a growing awareness of the rise of common ownership of publicly traded firms due to portfolio diversification. In the words of FTC Commissioner Noah Phillips, "common ownership is a reality of today's economy."[2] Recent theoretical and empirical work has explored the implications of this phenomenon for both market competition and innovation. In this article, we would like to point to another implication of common ownership: its effect on the incentives for firms to engage in mergers and acquisitions.

Previous studies have found empirical evidence that the market, on average, reacts negatively when a public firm announces an acquisition of another public firm, destroying the acquirer's shareholder value. The impulses behind such value-destroying acquisitions have been attributed to CEO empire-building, overconfidence, and the lack of shareholder monitoring.[3] Still, a puzzle arises as to why acquirer shareholders approve these bad deals despite losing wealth.[4] While the lack of incentives and power to monitor due to short investment horizons could be an explanation,[5] Matvos and Ostrovsky shed light on this puzzle with a new perspective by showing that acquirer shareholders can benefit even from a bad deal when they also hold stakes in the target company, which usually gains value due to the takeover premium. However, Harford et al. argue that cross-ownership at the individual shareholder level is too small to compensate for the loss from acquirer stakes.[6]

Both of these papers looked only at the implications of common ownership of the target and ignored common ownership of rival firms. The latter is potentially more impactful, given that non-merging rivals are often much larger than merging partners, and the competitive effects of the merger could affect their valuation significantly. There is also empirical evidence that non-merging rival firms gain on average after a merger between two firms in their industry.[7]

In a recent empirical paper, we look into this hypothesis and find that, indeed, if we account for acquirer shareholders' ownership in both the target and non-merging industry rivals when measuring their profits from a value-destroying acquisition, we can rationalize the approval of a large portion of "bad deals" that reduce the valuation of the acquiring firm.[8] While target ownership indeed only matters to a small subset of acquirer shareholders, a significantly larger amount of diversified acquirer shareholders end up with a gain in a bad deal at the industry portfolio level through their ownership of non-merging rival firms.

2 Noah J. Phillips, 2018, "Taking Stock: Assessing Common Ownership," The Global Antitrust Economics Conference, New York, NY. https://www.ftc.gov/system/files/documents/public_statements/1382461/phillips_-_taking_stock_6-1-18_0.pdf.

3 See, for example, Malmendier & Tate, "Who makes acquisitions? CEO overconfidence and the market's reaction," 89(1) Journal of Financial Economics 20-43 (2008).

4 The announcement return is the market's best estimate of the value of the deal, which has been shown to only underestimate the magnitude of value destruction in the long run.

5 See Gaspar, Massa & Matos, "Shareholder investment horizons and the market for corporate control," 76(1) Journal of Financial Economics 135-165 (2015).

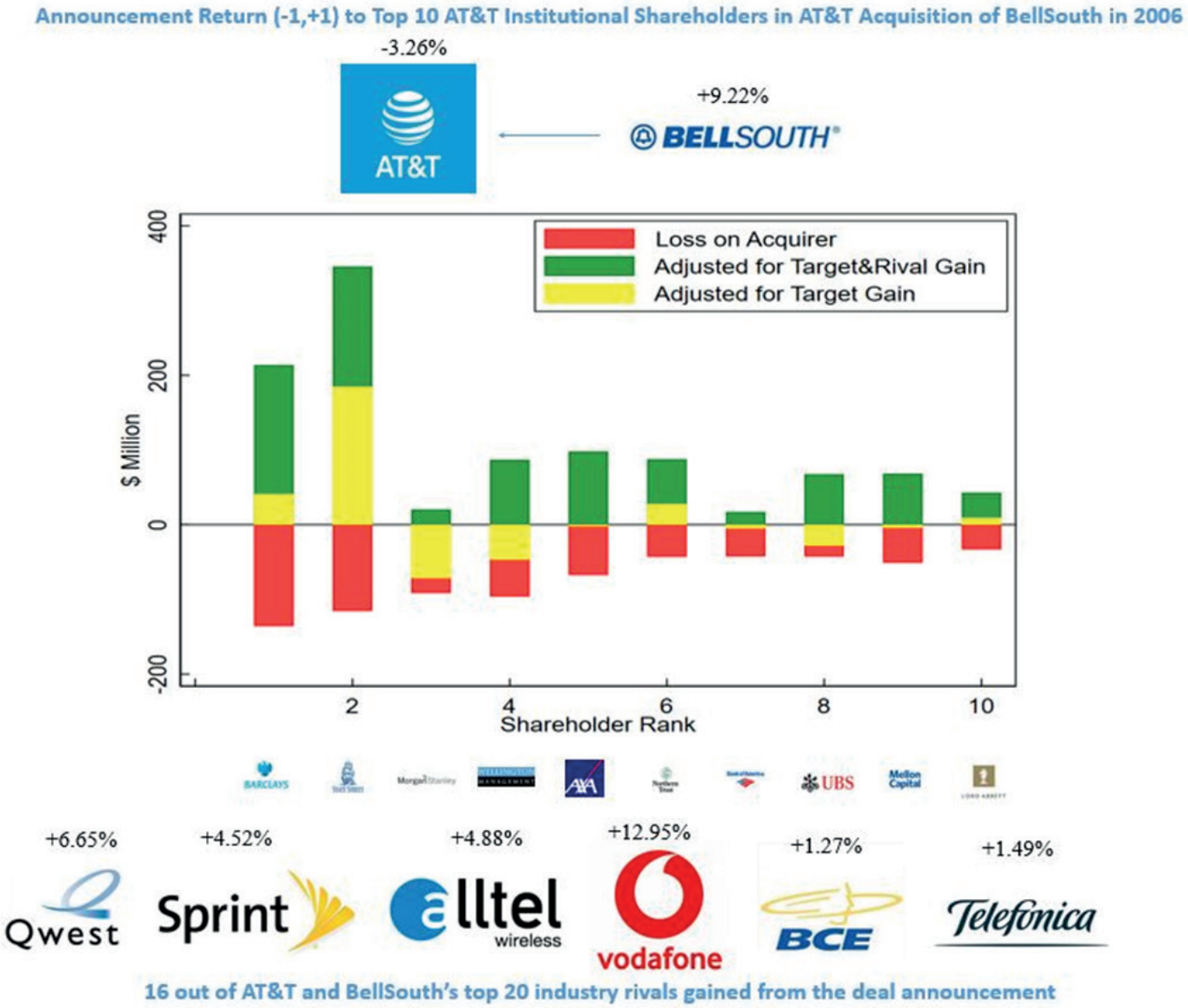
6 Matvos & Ostrovsky, "Cross-ownership, returns, and voting in mergers," 89(3) Journal of Financial Economics 391-403 (2008); Harford, Jenter & Li, "Institutional cross-holdings and their effect on acquisition decisions," 99(1) Journal of Financial Economics 27-39 (2011).

7 Song & Walkling, "Abnormal returns to rivals of acquisition targets: A test of the acquisition probability hypothesis," 55(2) Journal of Financial Economics 143-171 (2000); Salant, Switzer & Reynolds, "Losses from horizontal merger: the effects of an exogenous change in industry structure on Cournot-Nash equilibrium," 98 (2) The Quarterly Journal of Economics 185–199 (1983).

8 Anton, Azar, Gine & Lin, "Beyond the Target: M&A Decisions and Rival Ownership," available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3226390.

II. AN EXAMPLE – AT&T'S ACQUISITION OF BELLSOUTH

Figure 1: Announcement Returns to Top 10 AT&T Shareholders



Source: Antón, Azar, Gine, and Lin (2019)

AT&T's US $73 billion acquisition of BellSouth in 2006 was the second largest M&A deal in the U.S. during the 2000s. The deal was not well received by the market, and led to a 3.26 percent abnormal loss for AT&T shareholders during the 3-day announcement window. As presented in Figure 1, the top ten largest institutional shareholders of AT&T stock all suffered substantial losses from the announcement of this deal.

Unsurprisingly, the target BellSouth experienced a 9.22 percent abnormal gain during the same time period. Ownership in BellSouth does offset the loss from AT&T for four of the top ten shareholders mentioned above.

Meanwhile, sixteen out of AT&T's top twenty industry rivals experienced abnormal gains during the deal's announcement window. After accounting for both target and rival ownership by AT&T shareholders, as suggested by Anton et al., all of AT&T's top ten shareholders end up with a positive abnormal gain during the announcement of the deal. This example illustrates the idea that it can be rational for diversified acquirer shareholders to approve value-destroying acquisitions when they focus on portfolio value maximization, instead of firm value maximization.

III. A BROADER LOOK AT SHAREHOLDER RETURNS AROUND M&A ANNOUNCEMENTS

There has been extensive theoretical and empirical evidence showing that non-merging industry rivals gain at the expense of the merging firms, both during and after the merger. In the short run, rival stocks experience positive cumulative abnormal returns during the M&A announcement window. In the long run, rivals can gain at the expense of efficiency losses by the merged firm. In a world of increased portfolio diversification, it is almost inescapable to factor in the effect of rival performance when evaluating the incentive of a diversified shareholder for getting involved in a firm's M&A decisions.

Our paper shows that, on average, each acquirer shareholder (especially among the acquirer's top 10 largest shareholders) holds rival shares that provide positive returns during the announcement window of an M&A deal. The cumulative abnormal return is no longer negative for an average acquirer shareholder after accounting for ownership in both the target and non-merging rivals. This effect is particularly pronounced in value-destroying deals, with target and rival gains jointly mitigating 72 percent of the loss from acquirer stake for an average acquirer shareholder, while target gain alone can only lead to an average of 24 percent loss reduction.

Close to a third of the sample of acquirer shareholders in value-destroying acquisitions end up with a net gain after accounting for common ownership (target+rivals). The paper further argues that diversified acquirer shareholders can also benefit from their stakes in non-merging rivals in the long run by showing a negative association between M&A deal synergies and the market/operating performance of non-merging rivals in the two years following deal completion.

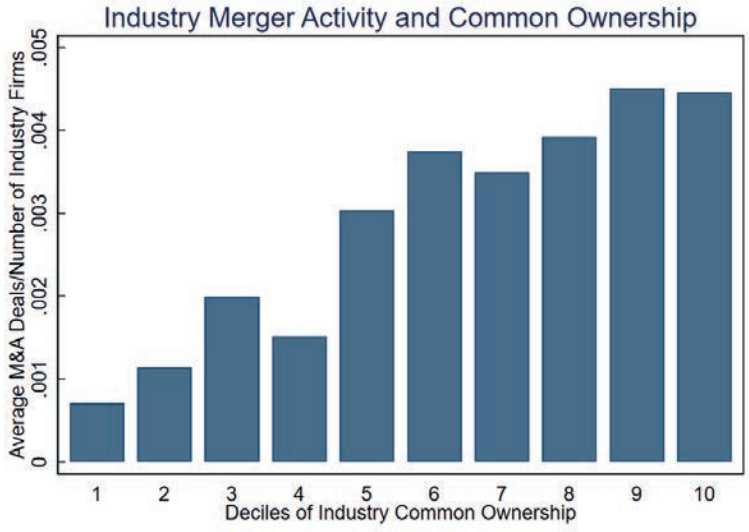
IV. COMMON OWNERSHIP AND M&A ACTIVITY

The evidence presented in the paper suggests a positive correlation between the level of common ownership and M&A frequency within the industry. Based on Figure 2 (taken from the paper), M&A frequency indeed appears to be higher in industries with higher common ownership. The paper conduct further analyses to examine the relationship between the level of common ownership and M&A deal characteristics.

The results indicate that the announcement returns to acquirer shareholders and the synergy level of the merger are lower when acquirer shareholders have high rival ownership, while having high target ownership does not have a significant effect. Such results support the notion that diversified acquirer shareholders require less return and synergies from the merged firm to approve the acquisition since they can benefit from gains by non-merging rivals and increase their overall industry portfolio value.

Furthermore, another set of analyses show that value-destroying acquisitions are also more likely to be completed when acquirer shareholders have higher rival ownership. This suggests that, since acquirer shareholders with high rival ownership are already benefiting from the deals through their rival stakes, they tend to have less incentive to exert scrutiny on the proceedings of bad deals.

Figure 2: Common Ownership Level and M&A Frequency



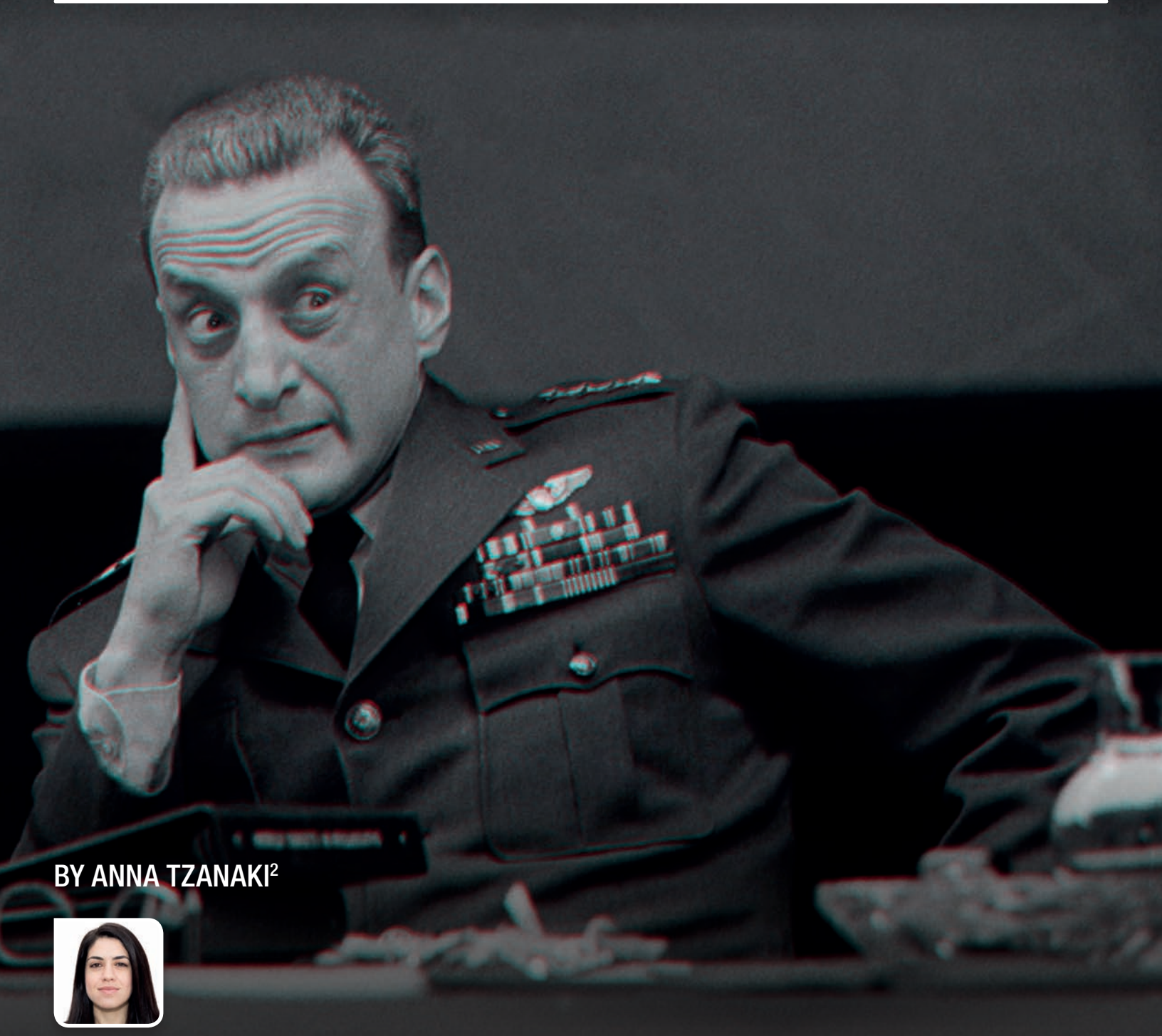
Source: Antón, Azar, Gine, and Lin (2019)

V. CONCLUSION

Finance scholars have wondered for a long time why value-destroying acquisitions get approved. Are shareholders irrational, or unable to effectively monitor empire-building or overconfident managers? That could be part of the explanation. However, we find that the amount of irrationality needed to understand merger activity is reduced drastically when we take common ownership into account. The value of the target firm and, more importantly, of non-merging rivals increases on average around these so-called "bad deals," and the shareholders of the acquiring firm often have substantial stakes in all these firms. When taking this ownership structure into account, many of these deals become rational (or close to rational) for the majority of the acquiring firm's shareholders.

Common ownership can potentially affect firm behavior in a way that reduces the level of competition in an industry. That is not, however, the whole story. The evidence we presented in this article shows how common ownership can operate at a more basic level, by changing the incentives for firms to merge and thus changing the industry's structure itself. Moreover, because merging firm shareholders internalize some of the spillovers that the merger generates on rival firms, the level of efficiencies that is necessary for the merger to be rational is lower than in the absence of common ownership.

THE COMMON OWNERSHIP BOOM – OR: HOW I LEARNED TO START WORRYING AND LOVE ANTITRUST[1]



BY ANNA TZANAKI[2]

1 The title of this article is inspired by Stanley Kubrick's 1964 satirical film "Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb" depicting the fictional, apocalyptic fallout of an accidentally triggered nuclear war between the U.S. and the USSR during the Cold War era.

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I. INTRODUCTION

Is common ownership the Doomsday Machine for the operation of free markets, competition and capitalism as we know it? An observer of cutting-edge law and economics literature may indeed tend to believe that we are approaching a point of ultimate antitrust apocalypse.

If the digital revolution has not managed to challenge the continuing relevance of competition rules and other regulations (e.g. privacy) that have proven agile enough to respond, then will the noted recent boom in common ownership of competing firms play that role?

The dramatic tone of the ongoing transatlantic debate on common ownership is underscored by a set of novel yet controversial economic theories, developing empirical evidence, and timid enforcement action. Commentators are split both as regards the significance and nature of the problem(s) posed by common ownership as well as over the need for regulatory intervention. Policymakers follow on scholarly developments but are reluctant to draw strong conclusions. This is potentially an area of public concern, but the million-dollar question is: how much of a (real) concern? Are we ready to step into action? On what basis? And what should be done when there is no clear consensus on the notion, extent and harmful implications of common ownership?

This short article reflects on these questions by drawing attention to four particular dimensions. In turn, Part II clarifies the definitional contours of common ownership against the divergent terminology used in recent literature. Part III investigates the negative externalities produced by common ownership and ponders on its various potential consequences for financial markets, firm behavior, and industry structure and performance. Part IV looks closer at the causal mechanisms that may link common ownership to anticompetitive harm. Part V considers possible antitrust law solutions to any competition concerns. Part VI concludes.

II. DEFINITIONAL CONNOTATIONS – WHO IS A COMMON OWNER?

In the terra incognita of common ownership we are lost in the very terminology used to describe this complex phenomenon. Is it common knowledge what we mean by "common ownership"? Without a clear definition, further analysis stumbles. The outline of the concept is the first issue that requires attention and clarity.

Recent scholarship discussing "common ownership" often and almost interchangeably employs terms such as "horizontal shareholding,"[3] "parallel non-controlling shareholding,"[4] "multilateral partial ownership,"[5] or "overlapping financial investor ownership."[6] The verbal variance indicates the challenge of describing, let alone explaining, the underlying issue within established frames of reference.

From a competition law and economics perspective, a basic distinction is made between cases of direct ownership links among industrial competitors ("cross-ownership") and indirect ownership links due to one or more overlapping shareholders simultaneously holding equity in competing firms ("common ownership"). The common shareholder(s) is typically not active in the same product market as the partially acquired firms and need not be an industrial firm altogether ("common ownership by financial investors").[7] It is important to note that recent ground-breaking research on common ownership refers to the latter form of common ownership (overlapping fund owners-investors), although this is a special case of the more general scenario of common owners (any overlapping shareholders) of competitors.

But let us take a step back and see how we arrived at the socioeconomic context surrounding the common ownership debate. With the growth of capital markets and big corporations, the capitalistic model of organization has passed through different stages: from the early "sole owner-entrepreneur" to that of "professional business managers" to the contemporary world of "portfolio (money and asset) managers" and,

3 Einer Elhauge, "Horizontal Shareholding," (2016) 129 Harvard Law Review 1267; Fiona Scott Morton & Herbert Hovenkamp, "Horizontal Shareholding and Antitrust Policy," (2018) 127(7) Yale Law Journal 2026.

4 Marco Claudio Corradi & Anna Tzanaki, "Active and Passive Institutional Investors and New Antitrust Challenges: Is EU Competition Law Ready?," (2017) Index Funds – A New Antitrust Frontier? CPI Antitrust Chronicle, June 2017.

5 David Gilo, "Chapter 67: Passive Investment," *Issues in Competition Law and Policy*, vol 3 (ABA Section of Antitrust Law 2008).

6 Jonathan B. Baker, "Overlapping Financial Investor Ownership, Market Power, and Antitrust Enforcement: My Qualified Agreement with Professor Elhauge," (2016) 129 Harvard Law Review Forum 212.

7 Essentially, minority shareholding between rivals is cross-ownership whereas minority shareholding by third parties (usually investors) in several rival firms at the same time is dubbed common ownership. OECD, "Common Ownership by Institutional Investors and Its Impact on Competition," (2017) DAF/COMP(2017)10 9.

in certain countries, to the rising stage of "savings planners."[8] This gradual shift from atomistic, then to managerial, to ultimately agency[9] or fiduciary[10] capitalism bears significant consequences. It is marked by an "increased division of labor, and increased participation in the fruits of the capitalistic enterprise."[11] The benefits of this increasing economic sophistication and specialization in terms of operational and financial efficiency are well recognized. What may not be fully understood yet is that the evolving characteristics of the capitalistic ecosystem may bring about broader implications in the way we perceive, analyze, and regulate ownership, investment, and corporate functions.

Common ownership is an epiphenomenon of these trends. It is the corollary of two steps in this evolutionary process: (i) the more dispersed shareholder base of firms due to increasing stock market investing by individuals, and (ii) the move away from direct and towards indirect ownership due to the rise of institutional investors and the pursuit of financial investment diversification.[12]

Diffusion of corporate ownership characterizing the first step prompted the Berle-Means thesis of a "separation of ownership from control," which served as the paradigmatic frame of analysis for corporate relations between shareholders and business managers over the past century.[13] More recently, with the advent of professional fund managers, a second rapidly accelerating "separation of capital from capital" is evidenced in both the U.S. and Europe.[14] In other words, collectivization of investment led to what I call "the two faces of ownership." That is, property entitlements are now divided between ultimate owners (residual claimants in the profits linked to their portfolio firms' stock) and beneficial owners (institutional intermediaries acting as financial investment advisors and portfolio managers on behalf of ultimate owners). In such a legally and economically complex environment, the question arises whether the very concept of ownership and its definitional contours are affected, and if so, how.[15]

In light of the above competition-focused definition: who is then a "common owner"? Is it retail investors having nominal ownership and retaining mere financial claims, or institutional investors managing capital provided and having actual investment authority and control over firm management by exercising shareholder rights and functions within corporate governance?

What is more, the proliferation of "passive investment" strategies offered by index funds and exchange-traded funds ("ETFs"), plus "closet indexation by active funds," may have inadvertently led to widespread "overlap in ownership by indexation."[16] As we level up stages of capitalism, is "ownership by proxy" conceivable at all? Or conversely, can there be "bare ownership" of capital providers, completely divorced from their exercising shareholder rights in firm governance? In such an intricate universe of pervasive (and hidden) corporate and financial interlocks,[17] we run the risk that once-straightforward answers may no longer be either linguistically accurate or analytically rigorous.

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8 Robert Charles Clark, "The Four Stages of Capitalism: Reflections on Investment Management Treatises," (1981) 94 Harvard Law Review 561.

9 Ronald Gilson & Jeffrey Gordon, "Agency Capitalism: Further Implications of Equity Intermediation," [2014] Columbia Law and Economics Working Paper No. 461.

10 Gerald F. Davis, "A New Finance Capitalism? Mutual Funds and Ownership Re-Concentration in the United States," (2008) 5 European Management Review 11.

11 Clark, *supra* note 8, 567–568.

12 "Direct" is ownership of listed corporate stock by individual investors (ownership by retail investors) whereas "indirect" means ownership via financial intermediaries due to increasing stock market investment of individuals through diversified funds (ownership by institutional investors). OECD, *supra* note 7, 11. This direct-indirect classification of ownership from a financial investment perspective should not be confused with the same linguistic dichotomy used above (see note 7) from a competition law and economics perspective to distinguish cross-ownership from common ownership.

13 Adolf A. Berle & Gardiner C. Means, *The Modern Corporation and Private Property*, (Macmillan Co 1933).

14 Leo E. Strine, "The Delaware Way: How We Do Corporate Law and Some of the New Challenges We (and Europe) Face," (2005) 30(3) Delaware Journal of Corporate Law 673, 687.

15 The above description corresponds to the standard "fiduciary or trust relationship" between economic owners (individual investors) and fund managers (institutional investors). However, depending on the specific investment arrangements between the parties (e.g. ETFs), they could be seen as having a "reverse trust relationship" in the sense that the traditional roles can be reversed whereby the financial investor is the ultimate owner and the investment client is the beneficial owner. In this light, the concept of ownership presumably remains intact. The difficulty lies however in that under different analytical lenses the same set of actors (financial investor) may at the same time have identities of both a fiduciary/ beneficial owner (due to investment funds' fiduciary duties and securities reporting rules) and of an ultimate/ mandate owner (due to the economic reality and *de facto* power dynamics of the relationship). See note 22 below.

16 John C. Coates, "The Future of Corporate Governance Part I: The Problem of Twelve," [2018] Harvard Public Law Working Paper No. 19-07 19.

17 Jan Fichtner, Eelke M. Heemskerk & Javier Garcia-Bernardo, "Hidden Power of the Big Three? Passive Index Funds, Re-Concentration of Corporate Ownership, and New Financial Risk," (2017) 19 Business and Politics 298.

The "index investing revolution"[18] may have created complex legal characterization problems as regards the split personalities of common owners, amplified across multiple and overlapping investments. In this setting, is it an oxymoron to suggest that a single set of actors may be "passive investors," "active owners" and "strategic acquirers" all at once?[19] Approaching common ownership from different analytical perspectives (finance, corporate governance, antitrust) may lead to such diverse and seemingly conflicting epistemic qualifications.

If meaning ascribed to words matters, conceptions of the relative "passivity" of actors or "public" nature of capital markets, listed firms and investors trading in or holding listed stock may become equally convoluted. The academic and policy debate on common ownership presses us to revisit some fundamental theoretical underpinnings of modern economic organization.

III. NEGATIVE EXTERNALITIES – WHAT IS THE PROBLEM?

The above definitional reflections on common ownership allude to the source of potential concern: indirect partial ownership of competitors may produce counterintuitive side-effects and harmful externalities on non-contractual parties. The double separation of "ownership from control" and "ownership from ownership" leads to concurrent, dual "agency costs" between: (i) shareholders-business managers; and (ii) asset owners-financial investment managers.

On the one hand, we have the traditional agency problem in corporate governance whereby cashflow rights accruing to shareholders financing the business enterprise (principals) are separated from actual control over the corporation run by professional managers (agents). On the other hand, financial interests and control rights over invested capital are split between ultimate investment beneficiaries and portfolio managers. In a continuously innovating finance ecosystem, with multiple types of asset owners and managers as well as other intermediaries such as proxy advisors,[20] determination of who is the principal and who the agent, and for what purpose, may not be a trivial legal issue or *a priori* typified. For instance, in the case of ETFs "end investors are not known to the asset managers."[21] Also, it has been suggested that asset managers are in fact "mandate owners" when they hold shares in corporations and/or exercise voting rights while financial risk and/or legal title remains with their clients.[22]

The above noted "double agency costs" and "corporate ownership concentration" associated with common ownership by institutional investors has wide-ranging potential consequences. As we only start to understand the broader implications of "institutional ownership," I focus here on three areas of potential concern: (i) corporate governance; (ii) finance; and (iii) antitrust. More specifically, common institutional ownership may create conflicts of interest between corporate constituents and financial investment stakeholders and also spillover effects on product market competition,[23] with distinct legal and welfare implications. The interplay of these three dimensions of the common ownership problem is particularly significant, as it is said to underscore a "policy trilemma" between shareholder value maximization, portfolio diversification, and competition, all desirable objectives in their own right.[24]

It is recalled that the firm is typically perceived and analyzed in economic conception as a "neutral nexus of contracts."[25] The firm is "not an individual" but "a legal fiction" where "conflicting objectives of individuals are brought into equilibrium within a framework of contractual relations," which delineate the property rights of corporate constituents.[26] Firm behavior is thus the outcome of this process where business managers direct firms to maximize profits in the best interests of shareholders. In a diffused model of corporate ownership, shareholder activism

18 Robin Wigglesworth, "Passive Attack: The Story of a Wall Street Revolution," (*Financial Times*, December 20, 2018). The FT reports on this phenomenon as "the Manhattan Project of investing [that], ultimately, helped birth a nuclear bomb that would rip through the global asset management industry."

19 Ian R Appel, Todd A. Gormley & Donald B Keim, "Passive Investors, Not Passive Owners," (2016) 121(1) Journal of Financial Economics 111; Anna Tzanaki, "The Regulation of Minority Shareholdings and Other Structural Links between Competing Undertakings: A Law & Economics Analysis," (Doctoral Thesis, UCL (University College London) 2017).

20 BlackRock, "The Investment Stewardship Ecosystem," (2018).

21 Jan Fichtner & Eelke M. Heemskerk, "The New Permanent Universal Owners: Index Funds, (Im)Patient Capital, and the Claim of Long-Termism," (2018) 25.

22 Carmel Shenkar, Eelke M. Heemskerk & Jan Fichtner, "The New Mandate Owners: Passive Asset Managers and The Decoupling of Corporate Ownership," (2017) Index Funds – A New Antitrust Frontier? CPI Antitrust Chronicle, June 2017 3.

23 OECD, *supra* note 7.

24 José Azar, "A New Look at Oligopoly: Implicit Collusion Through Portfolio Diversification," (PhD Dissertation, Princeton University 2012).

25 Oliver E. Williamson, "Corporate Finance and Corporate Governance," (1988) 43 Journal of Finance 567.

26 Michael C. Jensen & William H. Meckling, "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," (1976) 3 Journal of Financial Economics 305, 311.

and the market for corporate control are seen as major devices to discipline management and align principal-agent incentives. In case of concentrated corporate ownership, the focus is on resolving intra-shareholder conflicts as controlling shareholder(s) may serve to minimize managerial agency costs but their private interests may be in conflict with those of the minority. Hence, a key function of corporate law is to protect minority shareholders against inappropriate value diversion and constrain controllers' ability to influence managerial decisions.[27]

Common ownership by diversified investors raises serious concerns from a corporate governance perspective to begin with. The paradox we face is that shareholders of operating firms may be "both more active and more conflicted," while institutional investors may have incentives to act "in a way that is bad in the long-run for a particular operating company whose shares they hold if that act would benefit their overall portfolio."[28] In other words, shareholder activism does not necessarily solve the vertical agency problem (shareholder-manager conflicts) but may additionally create a new horizontal one (conflicts between diversified *vis-à-vis* non-diversified shareholders). Furthermore, the impressive feature of this new landscape, where institutional investors hold very small equity positions in individual companies, is that formal "control"[29] is not a necessary medium to effect the above horizontal conflicts, which "may give rise to the expropriation of undiversified shareholders" (a situation akin to "tunneling") and which may seem counterintuitive in a "widely-held firm" setting.[30]

Conversely, the double "ownership splitting" brought about by common institutional ownership may lead to the following paradoxical result: (i) an "ownership deficit" and "risk bearing dilution," meaning inherent governance inertia and inadequate risk assumption due to the free riding problem, and externalization of liability risk linked to indirect partial ownership; (ii) non-firm specific shareholder engagement due to investment diversification and proxy voting; and (iii) indirect concentration of corporate power and economic control due to concentration of "ownership via intermediation" and increased shareholder engagement by a few, large institutional investors.

In this hybrid setting of both dispersed (direct) and concentrated (indirect) ownership, a series of interrelated questions pertaining to the operation of firms and markets emerge:

(a) what do firms maximize in theory and practice (firm value or portfolio value of diversified and collectively dominant shareholders);

(b) whose interests do business managers serve (diversified or undiversified shareholders);

(c) what do (active and passive) investment fund managers strive to maximize (individual client or portfolio value) and at which level (own fund portfolio or fund family value);

(d) whether and how common ownership concentration (diversified shareholder overlap) may translate into corporate power concentration (shareholder power) or lead to poor firm performance (firm value reduction);

(e) whether and how common ownership concentration (diversified shareholder overlap) may translate into industrial concentration (market power) or affect product market competition (consumer welfare);

(f) whether and what legal control mechanisms may address any problematic outcomes (conflicts of interest or welfare reduction)?

27 Jeffrey N. Gordon & Wolf-Georg Ringe (eds), *The Oxford Handbook of Corporate Law and Governance* (Oxford University Press 2018).

28 Strine, *supra* note 14, 689.

29 By "formal control" here I mean *de jure* sole control on a stand-alone basis.

30 Matthew Backus, Christopher Conlon & Michael Sinkinson, "Common Ownership in America: 1980-2017," (2019) NBER Working Paper 25454. Typically, tunneling is associated with corporate governance structures where a "blockholder" has a controlling interest or "when control rights are explicitly divorced from cash flow rights." In this setting, "control" of the firm is indirect and *de facto* due to parallel and formally non-controlling shareholdings by diversified shareholders-investors.

The burgeoning literature on common ownership shows that, at least theoretically, a range of concerning situations may arise such as suboptimal or destructive corporate governance structures, empowered but unaccountable (financial or corporate) agents, lack of transparency about exercise of indirectly concentrated corporate power or investment authority, suboptimal operation of financial markets (increased volatility and blunted price signals due to indexation[31]), inefficiencies in the market for corporate control (gatekeeping role of institutional investors in M&A attempts by other investors[32]), reduced performance or stabilization of product market competition (unilateral or coordinated anticompetitive effects). In turn, common ownership may be seen as a corporate governance, an investor protection or capital markets,[33] or a competition problem.

While exploring the full range of such potential concerns is beyond the scope of this article, what is clear is that common ownership may fundamentally change our perception of current financial, corporate and industrial reality. The implications are devastating because the above questions not only suggest that business organizations (industrial firms or investment funds) may fail to deliver on their social function[34] but also hint to the fact that the "firm" may no longer be the relevant atom of economic analysis, as its previously conceived organizational form and function may no longer correspond to prevailing economic reality. In this light and recalling Coase's words, questions of tractability and the realistic nature of economic assumptions become paramount as well as insurmountable.[35]

IV. ANTICOMPETITIVE MECHANISMS – IN SEARCH OF A CAUSAL LINK?

Zooming into the competition aspect of the common ownership problem, the above observations are of particular relevance. Most scholarly debate on common ownership focuses on and fights over three key issues: (i) empirical research (dis)confirming the anticompetitive effects of common ownership; (ii) economic tools to measure its impact on market concentration and consumer welfare; (iii) potential transmission mechanisms or channels of influence.

On the positive side, perhaps we can agree that effects may vary across industries and also depend on the specific type of investor,[36] and that establishing some sort of causality between common ownership and any purported harmful effects is necessary. Yet, there is fundamental disagreement about the concrete empirical methods and theoretical measuring tools used[37] and, perhaps more importantly, about the broader conceptual exercise of translating ownership patterns to control variables to competitive outcomes.[38]

Economic analysis of common ownership to date has concentrated on modeling and measuring unilateral anticompetitive effects[39] and is thus largely micro-founded and embedded in a corporate governance context where determination of control rights, and appropriate weights corresponding to partial ownership, is a necessary intermediate step to estimating effects on competition.[40] Moreover, criticism regarding the implausibility of anticompetitive strategies or mechanisms underpinning such effects rests on the same analytical foundations.[41]

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31 Coates *supra* note 16, 20.

32 David Gelles & Michael J. de la Merced, "New Alliances in Battle for Corporate Control," (*New York Times*, 18 March 2014).

33 Robert J. Jackson, Jr., "Common Ownership: The Investor Protection Challenge of the 21st Century," (*Harvard Law School Forum on Corporate Governance and Financial Regulation*, 14 December 2018).

34 Strine, *supra* note 14, 687: "The goal of corporations, after all, is to create societal wealth. That means creating new products and services, and delivering them in efficient ways. Corporate governance is a means, not an end".

35 Ronald H. Coase, "The Nature of the Firm," (1937) 4(16) Economica 386, (quoting Joan Robinson).

36 C. Scott Hemphill & Marcel Kahan, "The Strategies of Anticompetitive Common Ownership," [2018] Yale Law Journal (forthcoming); Angel Luis Lopez & Xavier Vives, "Overlapping Ownership, R&D Spillovers, and Antitrust Policy," [2017] IESE Business School WP-1140.

37 Monopolkommission, "Biennial Report XXII: Competition 2018," Chapter II.

38 Xavier Vives, "Institutional Investment, Common Ownership and Antitrust," (2017) Index Funds – A New Antitrust Frontier? CPI Antitrust Chronicle, June 2017.

39 Empirical analysis of the U.S. airline and banking industries and seed sector suggests that common ownership leads to higher prices. José Azar, Martin C. Schmalz & Isabel Tecu, 'Anticompetitive Effects of Common Ownership' (2018) 73 The Journal of Finance 1513; José Azar, Sahil Raina & Martin C. Schmalz, "Ultimate Ownership and Bank Competition," (2016); Mohammad Torshizi & Jennifer Clapp, "Price Effects of Common Ownership in the Seed Sector," (2019).

40 Daniel P. O'Brien & Steven C. Salop, "Competitive Effects of Partial Ownership: Financial Interest and Corporate Control," (2000) 67 Antitrust Law Journal 559; José Azar, "Portfolio Diversification, Market Power, and the Theory of the Firm," (2016).

41 Hemphill & Kahan, *supra* note 36; Daniel P. O'Brien & Keith Waehrer, "The Competitive Effects of Common Ownership: We Know Less Than We Think," (2017) 81(3) Antitrust Law Journal 729; Thomas A. Lambert & Michael E. Sykuta, "The Case for Doing Nothing About Institutional Investors' Common Ownership of Small Stakes in Competing Firms," [2018] University of Missouri School of Law Legal Studies Research Paper No. 2018-21.

Less attention is devoted to potential coordinated effects.[42] This is so even though it is recognized that: (vi) collusive outcomes may be beneficial for all firms and stakeholders involved[43] (i.e. both diversified and undiversified shareholders, business managers, portfolio fund managers, investors in active and passive index funds or investors in both horizontal rivals within an industry and their suppliers and customers upstream and downstream[44]) and thus more likely; (ii) existing legal control mechanisms (fiduciary duties of business or fund managers, antitrust liability) are ineffective or inadequate to address collusive effects; [45] and (iii) diversification benefits are minimal in case of collusion since industry firms subject to joint decisions face similar risks.[46]

Economists are humble to admit the tractability challenge of modeling coordinated effects.[47] To complicate the above analysis even further, potential (explicit or tacit) coordination may not necessarily be socially harmful: it is potentially harmful for consumers in certain cases, but in other instances it might also be pro-competitive or innovation enhancing.[48] Further, while such efficiency enhancing effects may rely on control assumptions,[49] it is clear and critical that coordination need not depend on active influence or control over a firm's management.[50]

More broadly, if the general concern is that common ownership may "facilitate anticompetitive conduct throughout the economy," "further research will also be needed to identify the [precise anticompetitive] mechanisms through which [it] leads firms to raise product prices," e.g. express or tacit coordination via communication or observation, exclusion or discouraging potential competition.[51] Thus, it may be that under certain circumstances, long-term anticompetitive strategies such as (tacit) collusion or (parallel) exclusion may be more likely theories of harm compared to any short-term pricing effects.[52]

These remarks suggest that a one-sided focus on static unilateral effects and anticompetitive mechanisms premised on corporate governance and measured by structural market indices relying on a (partial) merger control model may not be the (only) relevant locus of inquiry. That is, firm management control and market concentration may not be good predictors of harm. Indeed, it is admitted that concentration indices are to be used in merger analysis as a screen to identify a potentially conducive setting for anticompetitive effects to arise, rather than as a conclusive indicator of harm.[53] This observation is important because common ownership is not associated to either formal legal control or even clear economic control of the firm[54] on a stand-alone basis but rather with situations of indirect, *de facto*, collective control in firm governance[55] and product markets due to the interaction and cumulative effect of small parallel holdings in competitors by diversified investors.

Consequently, common ownership forces us to think beyond conventional wisdom in order to cope with the new emerging reality. In light of the above, could it be that the firm becomes an "open box" rather than a "black box"; is hierarchy and (partial) control a useful way of working out firm and market interactions in a world of diversified investors-shareholders; is market concentration, capturing a reduction in the number of firms being formally independent in the market post-merger, a meaningful proxy to screen harmful common ownership situations or correlate to its potential anticompetitive effects? Could it be that our existing tools and methods or even concepts are not only not sharp enough, but also not well suited to fully understand the determinants and implications of common ownership for firm and market outcomes?

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42 Edward B. Rock & Daniel L. Rubinfeld, "Common Ownership and Coordinated Effects," [2018] NYU Law and Economics Research Paper No. 18-40; Tzanaki, *supra* note 19.

43 Monopolkommission, supra note 37, 22.

44 Einer Elhauge, "How Horizontal Shareholding Harms Our Economy - And Why Antitrust Law Can Fix It," (2018) 45–48.

45 Such fiduciary duties acting as legal constraints against the noted "double agency costs" may not be sufficient to eliminate them, either in theory or in practice. *Ibid* 43–45, 49.

46 OECD, *supra* note 7, 29. More generally, within-industry diversification has limited benefit as firms are subject to "industry-wide trends" while common financial investors may have less restrictive alternatives to diversify their portfolios by holding shares in several industrial firms across different industries or by investing in multiple mutual funds or ETFs. Hence, any such "benefits within the relevant industry [would likely] be small relative to the anticompetitive harm." Baker, *supra* note 6, 228–230.

47 Eric A. Posner, Fiona M. Scott Morton & E. Glen Weyl, "A Proposal to Limit the Anti-Competitive Power of Institutional Investors," (2017) 81(3) Antitrust Law Journal 669, 689.

48 Jie (Jack) He & Jiekun Huang, "Product Market Competition in a World of Cross-Ownership: Evidence from Institutional Blockholdings," (2017) 30 The Review of Financial Studies 2674.

49 Lopez & Vives, *supra* note 36.

50 Monopolkommission, *supra* note 37, 23.

51 Baker, *supra* note 6, 213, 217–218, 226.

52 Tzanaki, *supra* note 19; Monopolkommission, *supra* note 37, 22–24.

53 O'Brien & Waehrer, *supra* note 41, 748.

54 *Ibid* 766.

55 Including the market for corporate control.

This reminds of the well-known economists' joke of looking not at where the keys might have been lost but at where the streetlight is. Prudence is not a virtue of drunk men; the task is enlightenment. In looking for alternative paths of inquiry to approaching common ownership and appreciating its operation and welfare consequences – if we follow Brandeis' guidance: "sunlight is said to be the best of disinfectants; electric light the most efficient policeman" – perhaps we can also find that much sought-after missing causal link.[56]

V. ANTITRUST LAW SOLUTIONS – REVOLUTION OR EVOLUTION?

Where does the above leave us then? Is there any point of speaking of solutions when we do not know what the relevant problem is? A closer look suggests that the territory we are currently stepping on might not be a safe one. Why? Because doing nothing might be just as socially harmful as overreacting to the purported concerns.

For instance, merger control enforcement that does not account for common ownership may be misguided in unexpected ways: the type of mergers, and the thresholds and type of market concentration relevant under merger control may change, taking into account common shareholding.[57] Moreover, merger control scrutiny may not be an effective means of regulating potential harm arising from common ownership, either because control and concentration may not be the critical locus of inquiry, or because tacit collusion or anticompetitive outcomes unrelated to a single legal merger situation cannot be coherently or aptly captured via an *ex ante* legal control regime.[58]

In Europe, there is not even the possibility of resorting to merger law to tackle common ownership concerns: the EU merger control regime cannot reach out to non-controlling minority shareholding, while the few Member States that have more encompassing merger rules still require some lower level of active influence linked to the shareholding.[59] Recent practice explicitly discusses common ownership links as a side-issue in notified merger cases.[60] While common shareholding is said to be a relevant "element of context in the assessment," its analysis in these decisions is non-consequential and conclusions on the broader policy issue are left open. U.S. merger control is more open-ended and not reliant on control: formally "passive" common shareholding proven to give rise to actual anticompetitive effects is not safe harbored, while recent enforcement action suggests that *de facto* "active" intent or informal influence may be enough to bring "passive" institutional investment within the reach of the law.[61]

Besides, antitrust law enforcement against common shareholding is also limited. In contrast to merger control that is effects-oriented,[62] antitrust law requires some kind of overt act. In legal terms, this may take the form of an anticompetitive "agreement" or a unilateral practice, i.e. "abusive" exercise of market power (EU) or "monopolization" (U.S.). In theory, the current U.S. and EU antitrust rules can be perceived and interpreted so as to apply to common ownership situations.[63] However, enforcement on the basis of Articles 101 and 102 TFEU against any share acquisition transactions (controlling or non), without express communication or coordination, has been moot since the adoption of the EU Merger Regulation and especially after the modernization of the EU antitrust regime.[64] On the other hand, Sherman Act § 1 has been enforced against anticompetitive horizontal "combinations" and mere stock acquisitions;[65] but "action has never been brought against parallel purchases of noncontrolling interests," although the legal elements of "agreement" and "effects" do not require and apply regardless of control.[66]

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56 As noted by Ludwig Wittgenstein, Remarks on Frazer's Golden Bough: "To convince someone of the truth, it is not enough to state it, but rather one must find the path from error to truth."

57 Elhauge, *supra* note 44, 102–104. E.g. non-horizontal mergers, lower market concentration levels than under traditional merger analysis, relevance of local market concentration.

58 As explained above, the anticompetitive effect arising from common ownership is cumulative and any relevant control is indirect and *de facto*; in addition, merger control scrutiny is not triggered unless there is a new shareholding acquisition(s) by the common owners that meets the relevant statutory criteria.

59 Tzanaki, *supra* note 19; European Commission, "Support Study for Impact Assessment Concerning the Review of Merger Regulation Regarding Minority Shareholdings," (2016) Report by Spark Legal Network and Queen Mary University of London.

60 Case M.7932, *Dow/DuPont* (March 27, 2017); Case M.8084, *Bayer/Monsanto* (April 11, 2018).

61 Corradi & Tzanaki, *supra* note 4, 6 (referring to the *ValueAct* case).

62 U.S. DOJ & FTC Horizontal Merger Guidelines 2010 § 13.

63 Elhauge, *supra* note 44; Tzanaki, *supra* note 19.

64 Tzanaki, *supra* note 19; Corradi & Tzanaki, *supra* note 4, 7.

65 Even when the result was a "single firm that is legally unable to fix prices with itself".

66 Morton & Hovenkamp, *supra* note 3, 2033–2036.

To the praise of regulators on both sides of the Atlantic, steps are being taken to better grasp the extent and significance of the common ownership phenomenon.[67] But what is to be done, if at all, on the current state of awareness and relative (empirical and theoretical) uncertainty? We may know that circumstances have changed, yet we may not know how. In doubt, shall we choose to intervene or not? Shall we presume any anticompetitive effects or introduce safe harbors? Can we rely on existing law or is further legislation necessary?

In the war on common ownership, the battles shall be over default rules. Opinions and concrete choices may vary across jurisdictions in light also of different market conditions, harm potential and industry structure, legal tradition, institutional arrangements and socioeconomic context. However, the present inactive enforcement and underdeveloped law are not a good position to stay. Without credible antitrust enforcement, the law's "non-secret weapon of deterrence" is effectively nullified. In turn, this may lead to more common ownership links in quantity and more harmful ones in quality. The argument usually given against regulatory action is the risk and cost of "chilling" legitimate behavior such as institutional investment. Yet, it is overseen that the law may have a "warming" effect too:[68] it can be designed in a way so as to encourage and allow good quality, not just any, institutional investment. The two opposing effects must be balanced before drawing conclusions on how to design and apply rules in any given case.

If antitrust is the "economic democracy of markets,"[69] perhaps what is needed is a committed evolution of existing law to adapt to the new reality of increasing common ownership. Citizens of the republic (enforcers, business, consumers) are all to benefit from such a development: antitrust enforcement ensures firms and markets operate in the public interest, so the long-term wellbeing of the system and its constituents is preserved. A revolution in the form of new regulation or limiting solutions[70] of the common ownership phenomenon we not yet fully understand may then not only be premature but also counterproductive. Revolutions may also have innocent casualties, sometimes being the social welfare and the openness of the system they were said to protect.

For the time being, we better put to good use what we already have. First, we may need to update traditional merger analysis to account for common shareholding when reviewing mergers between industrial firms or asset managers.[71] Second, we need to reactivate and update antitrust enforcement in line with any new theories of harm (collusion, exclusion) associated with common shareholding that go beyond merger control.[72] Third, we need to more deeply understand all possible ways in which common ownership may lead to anticompetitive effects or efficiencies, so we are able to duly appreciate and balance the two under merger control or antitrust enforcement. Overall, case-by-case analysis[73] based on informed competition policy and detailed enforcement guidance,[74] coupled with staggered legal change,[75] may be a wiser approach to the common ownership challenge.

VI. CONCLUSION

In the common ownership universe, interesting new harm theories spring to life such that our thus-far fundamental view of the world changes. Among others, common ownership may provide the terrestrial matter that brings figures such as Schumpeter and Marx closer than ever,[76] in that it blurs the boundaries between liberal and coordinated market economies. In this exotic universe, free market and stakeholder varieties of capitalism [77] may meet in a given jurisdiction by means of the cohesive force of institutional investor intermediation. In this sense, the echoes of the U.S. President punchline in the Kubrick movie may sound surprisingly prescient, if not apocalyptic:

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67 Tender contract COMP/2018/002 "Collection of European Market Share and Industry Level Concentration Data," (May 2018); U.S. FTC Hearings on Competition and Consumer Protection in the 21st Century, Panel #8: Common Ownership (December 6, 2018).

68 Daniel Jacob Hemel & Ariel Porat, "Free Speech and Cheap Talk," [2019] Journal of Legal Analysis (forthcoming).

69 Eleanor M. Fox, "The Symbiosis of Democracy and Markets," [2018] OECD Global Forum on Competition, DAF/COMP/GF(2017)5 2.

70 Posner, Scott Morton & Weyl, *supra* note 47.

71 Elhauge, *supra* note 44, 98; Azar, Schmalz & Tecu, *supra* note 39, 1560.

72 Rock & Rubinfeld, *supra* note 42; Tzanaki, *supra* note 19.

73 Elhauge, *supra* note 44, 33; Menesh Patel, «Common Ownership, Institutional Investors, and Antitrust,» (2018) 82(1) Antitrust Law Journal 279.

74 See European Parliament resolution of January 31, 2019 on the Annual Report on Competition Policy (2018/2102(INI)) - Brussels, point 31, calling for such guidance.

75 If necessary as regards the EU merger control regime. Anna Tzanaki, "The Legal Treatment of Minority Shareholdings Under EU Competition Law: Present and Future," [2015] Essays in Honour of Professor Panayiotis I. Kanellopoulos, Sakkoulas Publications, Athens 861, 885–886.

76 "Stealth Socialism" (*The Economist*, September 17, 2016).

77 Peter A. Hall & David Soskice, *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage* (Oxford University Press 2001).

"Gentlemen, you can't fight in here! This is the War Room!"

If as said, the current political and legal equilibrium is not sustainable,[78] and if "conspiracy against the public" is the more likely antitrust harm scenario,[79] then we better not stay "passive" observers of the common ownership revolution. Contemporary law and economics researchers should be attentive to this new economic state of affairs for firms, industries and financial markets, and press on exploring the common ownership puzzle through cross-disciplinary collaboration and focusing on asking the right questions. No less, policymakers should be open to any new lessons even when they go beyond traditional frames of jurisdiction-specific orthodoxy. Common ownership brings us together to re-discover points of juncture and convergence in full awareness of our diverging economic pasts, and perhaps with the hope of a shared new vision on socially-oriented growth for our societies and citizens. Let antitrust be the igniting force in this path.

78 Coates, *supra* note 16, 19.

79 Adam Smith, The Wealth of Nations (1776).

COMMON OWNERSHIP: DIVERGENCE AND CONVERGENCE BETWEEN RESEARCH AND THE PUBLIC POLICY DEBATE

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I. INTRODUCTION

A decades-old literature in industrial organization predicts a unilateral reduction in incentives to compete when natural competitors share common investors (see Rotemberg 1984 for an early contribution showing that reduced cost of diversification, perhaps due to the emergence of mutual funds, can cause lessened competition;[2] see Schmalz (2018) for a comprehensive review of the literature).[3] In recent years, about two dozen papers have rejected the null hypothesis that common ownership doesn't matter for firms' competitive behavior or market outcomes (see Schmalz' testimony at the December 2018 FTC hearings).[4] Since then, researchers have debated preferred empirical methodologies (which differ across subfields of economics) and identified open theoretical issues for future research. Importantly, this debate has not produced any paper that that has empirically rejected the hypothesis that there are at least some anticompetitive effects of common ownership in specific subsets of markets, and instead offered strong support for the old paradigm that firms generally compete vigorously in their own self-interest, even if doing so goes against the interest of a (sometimes large) majority of the firm's shareholders.

II. GAPS BETWEEN PUBLIC DISCUSSION AND ACADEMIC KNOWLEDGE

In light of this history, it is curious to observe that some participants in the debate have maintained that the discussion was based on theories and hypotheses, as opposed to empirical facts (e.g. Novick WSJ 2017 claiming the hypotheses "lack factual support from the real world,"[5] or Hubbard (2019) "there is just no evidence").[6] A further claim involves that the debate is largely based on a single paper, namely Azar, Schmalz & Tecu (2018)'s "airline paper."[7] The fact is that by now, more than two dozen empirical studies have documented deviations from the traditional theory.

Yet, confusion continues to be spread also about the theoretical papers that started the literature. Contrary to the emphasis of much of the public debate, the primary concern from common ownership is not that asset managers facilitate information transfers or outright collusion between competitors (though, given the lack of data beyond anecdotes, there is no evidence rejecting that hypothesis). This confusion is difficult to understand, given that already the earliest formal contributions to the literature made this point clear. For example, Rubinstein & Yaari (1983) wrote, "suppose collusion is impossible,"[8] and Rotemberg (1984) states ("In fact managers never need to meet each other.").[9] Instead, the primary concern is that if firms, to some extent, act in their most powerful shareholders' interest, and if these shareholders also hold interests in competitors, firms don't have strong incentives to maximize their own value but instead maximize a weighted average of their own and their competitors' values, corresponding to the composition of their shareholders' portfolios. As such, the evidence theory calls for is that common ownership leads to changes in firm behavior and competitive outcomes. Theory does not call for evidence that common ownership is linked to explicit or implicit collusive agreements (although some theories exist that make this prediction for specific cases of parameters and classes of models). I have addressed further confusions in the debate in OECD (2019).[10]

Factual errors also permeate the discussion. One is that a majority of shareholders in relevant industries don't, in fact, own competitor stock. Another is that common ownership has not been shown to robustly relate to competitive outcomes.

Regarding the first point, Rock & Rubinfeld (2017) base their argument of disbelief on existing empirical results on anticompetitive effects of common ownership on the claim that a large majority of shareholders doesn't in fact also hold competitors, and that managers would therefore have to act against the interest of the majority of shareholders if they were to act in common owners' interest.[11] However, this factual claim is not based on reality. Elhauge (2019) shows that a majority of the data published by Rock & Rubinfeld (2018) counterfactually *assumes* that a given

2 Rotemberg J. (1984), "Financial transaction costs and industrial performance," Work. Pap., Sloan Sch. Manag., Mass. Inst. Technol., Cambridge.

3 Schmalz, M.C. (2018), "Common-Ownership Concentration and Corporate Conduct," Annual Review of Financial Economics, 10(1), pp. 413–448.

4 https://www.ftc.gov/news-events/audio-video/video/ftc-hearing-8-dec-6-remarks-ftc-commissioner-rohit-chopra.

5 Novick, Barbara (2017), Wall Street Journal, "How Index funds democratize investing."

6 Hubbard, Glenn (2019), https://www8.gsb.columbia.edu/valueinvesting/sites/valueinvesting/files/Graham%20%20Doddsville_Issue%2035_vPrint.pdf.

7 Azar J., Schmalz M.C. & Tecu I. (2018a), "Anticompetitive effects of common ownership," J. Finance. 73(4):1513–65.

8 Rubinstein A, Yaari M.E. (1983), "The competitive stock market as cartel maker: some examples," Work. Pap., Suntory Toyota Int. Cent. Econ. Relat. Discipl., Lond. Sch. Econ., London.

9 Rotemberg J. (1984), "Financial transaction costs and industrial performance," Work. Pap., Sloan Sch. Manag., Mass. Inst. Technol., Cambridge.

10 Schmalz M.C. (2017), "Common ownership and competition: facts, misconceptions, and what to do about it," Backgr. Pap., OECD Compet. Comm., 128th Meet., Paris.

11 Rock E.B. & Rubinfeld D.L. (2018), "Antitrust for institutional investors," Antitrust Law J. In press.

shareholder doesn't hold competitors; these assumptions don't correspond to the empirical facts.[12] True common ownership levels, as reported in standard sources such as Thomson-Reuters' compilation of institutional shareholders' 13F filings or Capital IQ, are much higher than reported by Rock & Rubinfeld.

Regarding the second set of claims, Dennis et al. (2018) conclude that "Common ownership does not have anti-competitive effects in the airline industry."[13] This conclusion is based on the assertion that the results in Azar et al. (2018a) rely on weighting regressions by passenger volume, and are driven by the largest five percent of markets. Both of these claims are factually incorrect, as Azar et al. (2018b) verifiably show.[14] (All of Azar et al.'s data and code is available online.) The failure to find anticompetitive effects also in markets below the 95th percentile in terms of passenger volume on behalf of Dennis et al. (2018) appears to be due to their failure to aggregate 13F-reported holdings to the level governance is exercised.[15] This error, known to the authors since 2017, is still not fixed at the time of this writing. (Schmalz (2019) footnote 13 cites papers documenting *de-facto* centralized governance in the largest asset managers, in all but a small fraction of cases.)

More generally, however, there is no paper, to my knowledge, that has empirically rejected the hypothesis that there are any anticompetitive effects of common ownership in specific markets and industries. That includes Kennedy et al. (2017)'s structural study of a 10 percent subsample of U.S. airlines under common ownership. Whereas the paper doesn't find positive effects, it cannot reject that there are positive effects.[16]

That said, the quality of ownership data and the scarcity of price data limits the degree to which academic research can study the common ownership hypothesis. Industry has not been forthcoming with greater disclosure to enable such research, but instead urged regulators to focus attention on other topics (2018 ICI letter to the FTC).[17] The ball is therefore in regulators' court to offer improvements to data availability which would enable more and better research on the question.

A confusion also persists regarding the mechanism of influence of shareholders as it relates to this debate. Recent commentary legal literature emphasizes that, whereas there may be an empirical link between common ownership and lessened competition, research has not shown a causal mechanism between reduced incentives to compete and changes in competitive outcomes.[18] Many propose that future research should attempt to uncover any such link. I am doubtful whether this is a promising route to uncover relevant facts. As explained above, the theory is that firms whose most powerful shareholders also own large stakes in competitors have reduced incentives to compete, compared with firms that don't share common owners. Therefore, pointing to the absence of evidence of collusive agreements between firms connected to common ownership does not speak in any way to the question whether the theories have predictive power to explain competitive outcomes. Also, the proponents of this direction don't seem to apply the same standard of proof to the alternative theory, namely the one that firms will compete as vigorously in their own interest, as in the textbook models of competition, irrespective of their shareholders' economic interests, and irrespective of the degree of common ownership. To my knowledge, we have no direct "causal evidence" of the mechanism by which shareholders make firms behave against their interest.

Setting aside the confusion about collusion versus unilateral effects, the discussion also misses the more conceptual point that a causal interpretation of evidence always comes from the underlying theory – not from the evidence alone. As such, observing a theory is an impossible feat to scientists. Practitioners should thus be aware of differences in the use of language between economists and legal scholars.

12 Elhauge E. (2018), "New evidence, proofs, and legal theories on horizontal shareholding," Work. Pap., Harvard Law Sch., Harvard Univ., Cambridge, MA.

13 Dennis P., Gerardi K. & Schenone C. (2017), "Common ownership does not have anti-competitive effects in the airline industry," Work. Pap., McIntire Sch. Commer., Univ. Va., Albemarle County.

14 Azar J., Schmalz M.C. & Tecu I. (2018b), "Reply to: "Common ownership does not have anticompetitive effects in the airline industry," Work. Pap., IESE Bus. Sch., Univ. Navarra, Barcelona, Spain.

15 *Ibid.*

16 See Azar J., Schmalz M.C. & Tecu I. (2017), "The competitive effects of common ownership: Economic foundations and empirical evidence: Reply," SSRN Work. Pap. 3044908.

17 https://www.ici.org/pdf/18_ici_common_ownership_ltr.pdf.

18 See Rock E.B. & Rubinfeld D.L. (2018), "Antitrust for institutional investors," Antitrust Law J. In press and others.

III. POLICY DEBATE

The modal article discussing potential policy implications seems to focus on whether the workings of index funds or large investors should be changed in light of the theories and empirical findings discussed above. This reflex is natural to some, perhaps because, at the extremes of theory, cheaper diversification is indeed what causes reduced competition (Rotemberg 1984), and index funds reduce the cost of diversification for investors at least compared to direct purchases of diversified stock portfolios. However, index funds have not, in fact, been singled out as the most important harbinger of reduced competition resulting from common ownership, or even just of the secular increase in common ownership itself. Indeed, as governance is typically *de-facto* centralized across funds within fund families, research is not typically conducted at the fund-level at all; as such, index funds in particular are not often the object of study. Moreover, indexing is exonerated as the sole driver of the increase in common ownership by Backus et al. (2019).[19] Snapshots of ownership structures in particular industries indicate that Warren Buffett's Berkshire Hathaway – clearly not an index fund – is a much more important common owner of U.S. airlines than even the largest mutual fund families that offer index funds, such as BlackRock or Vanguard. As such, the response that policy should avoid addressing common ownership in order to protect index funds can at present perhaps be understood as a rhetorical device, but with the understanding that there is a limited link to existing research.

Another assertion in the policy debate concerns the claim that the existence of partial common ownership links across vertically related industries would somehow invalidate the idea that horizontal common ownership links are potentially problematic and deserve attention from researchers and policy makers. The argument appears to be that the economic interest of a common owner of all firms in the economy would be to maximize total welfare. Of course, that's not the case. Such an investor's economic interest would be to maximize total producer surplus. Shareholder welfare is not synonymous with economic efficiency. Therefore, concentrating power over corporations in the hands of a few has long been understood to be a threat to the proper working of a capitalistic system.

IV. CONVERGENCE AND THE PATH FORWARD

This short note was meant to illustrate that some of the most frequently-made arguments exchanged in the public debate are very far removed from the academic research. There is, at this stage, neither convincing theory nor empirical evidence that would justify a confident belief that common ownership at the levels currently observed in several markets doesn't affect competition compared to the benchmark in which each firm is perfectly separately owned. Perhaps this explains why the criticisms levied against recent empirical research have not effectively challenged the notion that horizontal common ownership is an important antitrust problem.

A more useful way of continuing the debate would be to lay to rest arguments known to be flawed and instead to promote future academic research on the many open questions that remain to be addressed. For example, what are the welfare effects of any returns to scale in asset management, including any positive effect of concentration in asset management on the quality of firm governance? Given that asset managers aren't the ultimate owners of the shares, to what extent should we care about whether restrictions on their portfolios lead to a loss of diversification benefits in the portfolio? Are ultimate owners diversified across asset managers? If not, how costly would it be for individuals to diversify across asset managers? How does any such increased cost of achieving diversification on behalf of individual households compare to the likely welfare loss due to anticompetitive effects of common ownership? How does the answer vary across individuals along the wealth distribution? Quantitative answers to these questions would be useful in debating optimal policy responses to the rise of common ownership.

19 Backus M., Conlon C. & Sinkinson M. (2018), "Competition and common ownership in the ready-to-eat cereal industry," Work. Pap., Grad. Sch. Bus., Columbia Univ., New York.

ARE THE REMEDIES FOR THE COMMON OWNERSHIP PROBLEM WORSE THAN THE DISEASE?: ASSESSING THE LIKELY DECISION AND ERROR COSTS OF PROPOSED ANTITRUST INTERVENTIONS

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I. INTRODUCTION

Prominent antitrust scholars have sounded alarms about large institutional investors' "common ownership" of small stakes in competing firms. Writing in the *Harvard Law Review*, Einer Elhauge proclaimed that "[a]n economic blockbuster has recently been exposed" — namely, "[a] small group of institutions has acquired large shareholdings in horizontal competitors throughout our economy, causing them to compete less vigorously against each other."[2] Eric Posner, Fiona Scott Morton, and Glen Weyl argued in the *Antitrust Law Journal* that "the concentration of markets through large institutional investors is the major new antitrust challenge of our time."[3]

These scholars contend that institutional investors' common ownership, or "intra-industry diversification," calls for additional antitrust intervention beyond enforcement of well-established rules designed to prevent collusive conduct (e.g. bans on hub-and-spoke conspiracies, anticompetitive information exchanges, conspiracy-facilitating devices, etc.). In Professor Elhauge's words, "Horizontal shareholding poses the greatest anticompetitive threat of our times, mainly because it is the one anticompetitive problem we are doing nothing about. This enforcement passivity is unwarranted."[4]

In this article, we question whether additional antitrust intervention, beyond enforcement of doctrines aimed at arresting collusion, is justified. We have elsewhere disputed the claim that institutional investors' intra-industry diversification creates a significant competitive problem.[5] We have shown that the theory of anticompetitive harm is flawed because it ignores both institutional investors' *inter*-industry diversification and the personal incentives of corporate managers to maximize own-firm, rather than industry, profits. We have also shown that the empirical studies purporting to support the theory — particularly the well-known airline study by Jose Azar, Martin Schmalz & Isabel Tecu[6] — are methodologically deficient because they (1) do not accurately assess institutional investors' incentives with respect to the behavior of their portfolio firms; and (2) suffer from endogeneity problems.

Here, we focus on the solutions scholars have suggested for addressing the purported problem of common ownership. We show that the proposed interventions would themselves create significant welfare losses. Accordingly, the "enforcement passivity" of which Professor Elhauge complains is, at least on the current record, appropriate.

II. THE PROPOSED INTERVENTIONS

Common ownership critics have proposed to police institutional investors' intra-industry diversification through public and private enforcement actions under Section 7 of the Clayton Act and Section 1 of the Sherman Act. While Section 7 is typically used to police anticompetitive mergers, its literal language, which forbids stock acquisitions that may substantially lessen competition, would appear to reach institutional investors' horizontal shareholding.[7] Section 1 of the Sherman Act prohibits "contracts" and "combinations" that unreasonably restrain trade.[8] Common ownership critics assert that holding small stakes in competing firms is a "combination" achieved via "contract" and that any resulting competition-softening would render the combination/contract unreasonable. Sections 7 and 1 are enforceable by the federal antitrust enforcement agencies as well as by states suing on behalf of their residents in *parens patriae* actions and by private plaintiffs.[9]

The touchstone for liability in these lawsuits would be a pattern of horizontal shareholding that could substantially lessen competition within some market. The most likely means of identifying such an ownership pattern would be through the use of the Modified Herfindahl-Hirschman

2 Einer Elhauge, *Horizontal Shareholding*, 129 Harv. L. Rev. 1267, 1267 (2016).

3 Eric A. Posner, Fiona Scott Morton, & E. Glen Weyl, *A Proposal to Limit the Anticompetitive Power of Institutional Investors*, 81 Antitrust J. L. 669, 669-70 (2017).

4 Einer Elhauge, *How Horizontal Shareholding Harms Our Economy—And Why Antitrust Can Fix It*, page 104 (Dec. 4, 2018 Working Paper, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3293822).

5 Thomas A. Lambert & Michael E. Sykuta, *The Case for Doing Nothing About Institutional Investors' Common Ownership of Small Stakes in Competing Firms*, __ Va. L. & Bus. Rev. __ (forthcoming 2019), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3173787.

6 Jose Azar, Martin Schmalz & Isabel Tecu, *Anticompetitive Effects of Common Ownership*, 73 J. Fin. 1513 (Aug. 2018).

7 15 U.S.C. § 18 ("No person shall acquire … any part of the stock … of one or more persons engaged in commerce …, where in any line of commerce … the effect of such acquisition … may be substantially to lessen competition…").

8 15 U.S.C. §1.

9 15 U.S.C. §§ 15, 15a, 15c.

Index (MHHI). MHHI adjusts the well-known Herfindahl-Hirschman Index (HHI)[10] to account for competition reductions occasioned by common ownership. It does so by adding "MHHIΔ" to HHI. MHHIΔ is a complicated metric that is designed to assess the degree to which the managers of firms within a market, assuming they seek to maximize their shareholders' returns, would cause their firms to eschew vigorous competition in favor of oligopolistic coordination in an effort to maximize industry (rather than own-firm) profits. MHHIΔ gauges the incentive for softened competition by accounting for (1) the size of the financial stakes intra-industry diversified investors hold in the firms competing in a market, and the degree to which, for each such investor, those stakes are equal across firms; (2) the degree of control intra-industry diversified investors exercise over those competing firms; (3) the degree to which the firms have non-diversified shareholders with control over firm management; and (4) the market shares of the competing firms that share common ownership by investors.[11]

Professor Elhauge has proposed MHHI-based thresholds for antitrust enforcement, suggesting that the federal antitrust agencies "should investigate any horizontal stock acquisitions that have created, or would create, [an MHHIΔ] of over 200 in a market with an MHHI over 2500, in order to determine whether those horizontal stock acquisitions raised prices or are likely to do so."[12] Liability would result where (1) common ownership has led to MHHI and MHHIΔ levels in excess of 2500 and 200, respectively; and (2) there are indications that common ownership has had, or threatens, an adverse price effect in the market. Professor Elhauge would also allow private treble damages actions when those requirements are met. For example, "[a] class of passengers injured by paying higher airline fares because of horizontal shareholdings on a concentrated route could . . . bring suit on the theory that the stock acquisitions by institutional investors that created those horizontal shareholdings harmed the passengers by lessening airline competition."[13]

Professors Posner, Weyl & Scott Morton agree with Elhauge that the anticompetitive potential from current levels of horizontal shareholding is sufficient to warrant additional antitrust intervention. They are not in favor, however, of relying on haphazard antitrust suits to address the problem. They instead propose a more rule-based approach, where the specifics of what is allowed and disallowed are set forth *ex ante*.

Under Posner et al.'s proposed rule, any investor holding more than 1 percent of the aggregate equity in an industry deemed oligopolistic by the Federal Trade Commission ("FTC") and U.S. Department of Justice ("DOJ") would be allowed to hold stock in only one firm within that industry.[14] Investors holding less than 1 percent of total industry equity could own shares in multiple industry participants, as could free-standing index funds that committed to pure passivity within the industry.[15] To be "purely passive," the index fund would have to abstain from communicating with management, vote its shares in proportion to other shareholders' votes (negating any voting influence), and trade stocks only in accordance with pre-announced, non-discretionary rules (such as following a particular index as closely as possible).[16] Posner et al. suggest that the FTC and DOJ adopt this rule as an enforcement guideline.[17]

III. EVALUATING THE PROPOSED INTERVENTIONS

Antitrust policies inevitably entail social costs. If they prohibit or discourage efficient activities, the welfare from those activities is squandered. If they fail to prevent anticompetitive conduct, market output will be lower and welfare diminished. Taken together, the welfare losses from false convictions (Type 1 errors) and false acquittals (Type 2 errors) comprise a policy's "error costs."

Error costs may be reduced by making the policy more nuanced — e.g. by adding in exemptions, defenses, etc. in an effort to prevent the bad without discouraging the good. Adding complexity, however, increases the costs of determining what the law allows. Those are "decision costs."

These three sets of costs — false conviction error costs, false acquittal error costs, and decision costs — are intertwined. If policy makers attempt to reduce false acquittals by expanding the scope of a policy's prohibition, they risk false convictions; if they seek to avoid false

10 HHI is calculated by summing the squares of the market shares of the firms in a market. It ranges from near zero to 10,000 (at full monopoly: 100^2).

11 We have elsewhere provided a step-by-step guide to calculating MHHIΔ. See Lambert & Sykuta, supra note 5, at Appendix A.

12 Elhauge, *supra* note 2, at 1303.

13 *Id.*

14 Posner, et al., *supra* note 3, at 701.

15 *Id.* at 708-09.

16 *Id.*

17 *Id.* at 709.

convictions by making the policy more lenient, they increase the chance of false acquittals; if they add nuance in an effort to reduce both errors simultaneously, they enhance decision costs. Accordingly, antitrust policies should not pursue perfection along any single dimension — catch every anticompetitive act, allow every procompetitive one, minimize decision costs — but should instead seek to *optimize* by minimizing the sum of error and decision costs.

Judged according to this criterion, the additional antitrust interventions that have been proposed to address the common ownership problem do not pass muster. They would likely create greater losses than they would avert.

A. The Interventions' Decision Costs

Decision costs are the costs of determining whether conduct is legally permitted. Businesses must incur such costs in planning their affairs; adjudicators, in assessing whether an accused is liable and for how much. Because the additional antitrust interventions that have been proposed for policing common ownership involve highly complex inquiries, they would entail significant decision costs.

1. MHHI-based Lawsuits

Consider first the decision costs adjudicators would face in lawsuits under Sections 7 and 1. To assess whether the MHHI-based thresholds were met, adjudicators would have to define the markets in which firms with common shareholders compete and determine MHHI and MHHIΔ for each. Assuming the thresholds were exceeded, they would have to evaluate complicated econometric evidence to assess whether common ownership had raised or was likely to raise prices and to determine the magnitude of that price effect. The adjudicator would then have to answer a nearly intractable question: How should the economic harm from common ownership be allocated among the institutional investors holding stakes in multiple firms in the industry? It would not work to assign liability only to those diversified investors who could substantially reduce MHHIΔ by divesting, for oftentimes the unilateral divestment of each institutional investor from the market would occasion only a slight reduction in MHHIΔ.[18] An aggressive court might impose joint liability on all intra-industry diversified investors, but the investor(s) from whom the plaintiffs collected would likely seek contribution from the other intra-industry diversified investors. Denying contribution would be intolerably inequitable, but how would a court apportion damages?

The decision costs facing business planners seeking to avoid MHHI-based lawsuits would be even greater. Because no single institutional investor could prevent the adverse price effects that would satisfy the second element of Professor Elhauge's liability test, institutional investors could insulate themselves from liability only by negating the first, which would require them to abstain from common ownership in markets with MHHI and MHHIΔ above certain levels. That means planners would have to calculate MHHI and MHHIΔ in all markets in which their institutions held stock of multiple competitors. They would also have to engage in perpetual monitoring of those markets to see if MHHI and MHHIΔ had risen. Because a market's MHHI and MHHIΔ are influenced by (1) the market shares of participating firms, (2) the ownership percentages of intra-industry diversified investors, and (3) the ownership percentages of non-diversified shareholders, an institutional investor holding stakes in competing firms could find itself at risk of antitrust liability if the market shares of its portfolio firms rose, if other intra-industry diversified investors altered their holdings of firms within the industry, or if major non-diversified shareholders reduced their stakes. Planners for an institutional investor holding stakes in competing firms would have to recalculate MHHI and MHHIΔ on a near daily basis to ensure that the investor's stockholding — the one thing the investor can control — could not be deemed to have contributed to a softening of competition.

2. Posner et al.'s Enforcement Policy

On first glance, the enforcement policy proposed by Posner et al. might appear to lower decision costs. After all, business planners would have to do less investigation to avoid liability if they could rely on easily identifiable safe harbors, and adjudication costs would fall if the enforcement policy made it easier to spot illicit investment patterns. But Posner et al.'s proposed policy creates protection against only *public* enforcement actions. Because private plaintiffs might sue even if an institutional investor was within the public enforcement safe harbor, planners for institutional investors would still need to engage in the analysis described in the previous section. And, if such lawsuits were filed, courts would incur the adjudicative decision costs discussed above.

Moreover, the proposed enforcement policy would impose tremendous new decision costs on the public enforcement agencies. Under the policy, DOJ and FTC would be required to compile an annual list of oligopolistic industries. That would be a massive and costly undertaking, especially since (1) there is no agreed-upon, economically tractable definition of "industry" or "oligopoly" (i.e. something akin to the hypothetical monopolist/SSNIP test used to define antitrust markets); (2) the list would have to be constantly updated, as industry boundaries continually

18 See *id.* at 692-93 (offering example to illustrate that unilateral divestment may have little effect on MHHIΔ).

change and firms regularly enter and exit; and (3) designation of such a list would inspire all sorts of costly interest group manipulation. It is unlikely, then, that Posner et al.'s enforcement policy would reduce the decision costs of policing common ownership through additional antitrust interventions.

Of course, there is a scenario in which most of the decision costs described in this section could be avoided: If institutional investors were to respond to the threat of antitrust liability by ceasing to invest in multiple firms that compete in any concentrated markets, or by remaining fully passive at such firms,[19] then their business planners would not need to make costly assessments of antitrust risk, and adjudicators could avoid the difficult inquiries detailed above.[20] But this outcome, which appears to be the intended result of the proposals by Elhauge and Posner et al., would create substantial error costs.

B. The Interventions' Error Costs

Relative to the regulatory status quo, an antitrust intervention that drove institutional investors in concentrated industries either to forego intra-industry diversification or to remain fully passive may reduce Type II (false acquittal) error costs. If horizontal shareholding has *any* adverse competitive effect in *any* concentrated industry, and if that effect stems from the fact that intra-industry diversified investors are not wholly passive and therefore influence the competitive behavior of their portfolio firms, then an intervention that achieved the aforementioned result would reduce some anticompetitive harms.

Any reduction in Type II error costs, however, would likely be outweighed by an increase in Type I error costs. Indeed, each of the two possible results of stepped-up antitrust intervention — preclusion of intra-industry diversification in concentrated markets or inducement of full passivity by intra-industry diversified investors — would generate significant losses. The former would do so by eliminating welfare-enhancing product offerings; the latter, by exacerbating agency costs.

1. Precluding Intra-Industry Diversification

Driving institutional investors to refrain from intra-industry diversification would eliminate a multitude of investment products that create value for retail investors. Index funds would disappear, as nearly all significant stock indices include multiple competitors from concentrated industries. It is no answer to say that index funds could be offered as long as fund managers invested in only one of the indexed competitors from each concentrated industry, for any fund that was so managed would not be a true index fund, the defining characteristic of which is a lack of investment discretion (and consequently reduced management fees).

Inducing each institutional investor to select only one competitor per concentrated industry would also reduce the number of actively managed mutual funds available to retail investors. Because critics of common ownership maintain that intra-industry diversification *at the institutional investor level* is sufficient to induce competition-softening in concentrated markets, it would not be enough for institutional investors to ensure that each of their funds was invested in only one firm within an oligopolistic industry. Rather, each institutional investor would have to settle on one firm per concentrated industry for all its funds. This requirement would impede institutional investors' ability to offer a variety of actively managed funds organized around distinct investment strategies — e.g. growth, value, income etc. For example, if Southwest Airlines were a growth stock and United Airlines a value stock, an institutional investor could not offer both a growth fund including Southwest and a value fund including United.

Finally, institutional investors' eschewal of intra-industry diversification would prevent them from designing funds that bet on an industry as a whole while limiting exposure to company-specific risks within that industry. Suppose, for example, that a financial crisis led to a precipitous drop in the stock prices of all commercial banks. A retail investor might reasonably conclude that the market had overreacted with respect to the industry as a whole, that the industry would likely rebound, but that some commercial banks would probably fail. Such an investor would wish to invest in the commercial banking sector but to hold a diversified portfolio within that sector. A legal regime that drove fund families to avoid intra-industry diversification would prevent them from offering the sort of fund this investor would prefer.

19 As noted, full passivity would require institutional investors to engage in mirror voting only, to avoid any communication with the management of portfolio companies, and to commit to an investment strategy with no investment discretion. See *supra* note 16 and accompanying text.

20 This outcome would not eliminate the decision costs resulting from the enforcement agencies' having to designate oligopolistic industries under the enforcement policy proposed by Posner et al.

2. Inducing Full Passivity

If institutional investors were to respond to potential antitrust liability not by avoiding intra-industry diversification but by remaining fully passive in any concentrated industries in which they held multiple stocks, the aforementioned error costs could be avoided. In that case, however, another set of significant error costs would emerge: increased "agency costs."

As Adolf Berle and Gardiner Means famously observed, large public corporations are characterized by a separation of ownership and control: The residual claimants of such corporations, the shareholders, have little control over the managers of the businesses, the directors and officers.[21] This separation of ownership and control may lead managers to direct firm resources not to their highest and best ends, as the owners would prefer (and efficiency demands), but to ends that create personal benefits for the managers. Those losses, together with the costs of efforts to avoid them, are agency costs.[22]

Since Andrei Shleifer & Robert Vishny's seminal 1986 paper on large shareholders and corporate control, scholars have repeatedly demonstrated the important role of large shareholders in reducing agency costs.[23] In their subsequent survey of alternate corporate governance systems, Shleifer & Vishny concluded that the optimal corporate governance regime is one with strong legal protections for small shareholders and active ownership by large investors.[24]

As large shareholders, institutional investors, if non-passive, may significantly reduce agency costs at their portfolio firms. Individual shareholders tend to be rationally ignorant of the information needed to engage in effective monitoring of manager-agents because such information is costly to obtain, and each individual shareholder's stake in the company is usually too small to justify the significant expenditures required to get up to speed. Large institutional investors, by contrast, have better access to relevant information (e.g. contacts with firm insiders), a superior ability to process it effectively (e.g. more business expertise, access to shareholder advisory services), and, given their larger stakes in the corporation, a greater motivation to become adequately informed. They therefore tend to be more effective, lower-cost monitors of managerial conduct.

Institutional investors with index funds are especially likely to reduce agency costs. If a company is included in an index that is tracked by a fund offered by an institutional investor, that investor cannot divest from the company and is thus a long-term investor. Empirical evidence suggests that institutional investors with long-term investment horizons significantly improve corporate management.

Consider, for example, a recent study by Jarrad Harford, Ambrus Kecskés & Sattar Mansi.[25] Examining a large panel of firm-years comprising around 3,000 firms annually over a near 30-year period, the authors assessed how stockholding by long-term institutional investors influenced corporate decision-making and performance. They found that investment by long-term institutional investors enhanced the qualifications of corporate managers, reduced measurable instances of managerial misbehavior, boosted innovation, decreased debt maturity (causing firms to become more exposed to financial market discipline), and increased shareholder returns. Their "overarching conclusion [was] that long-term investors are an important force of good corporate governance."[26]

Similarly, Audra Boone & Joshua White examined the effect of institutional ownership on firms' information and trading environments.[27] Again, using a panel of approximately 3000 firms annually over a period of 10 years, they found that firms with greater indexer ownership have richer public information settings, lower information asymmetry in the equity markets, and increased liquidity. They concluded that, "[b]y enhancing the information environment and potentially decreasing the monitoring and trading costs for all investors, indexers create value for other capital market participants."[28]

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21 Adolf A. Berle, Jr. & Gardiner C. Means, The Modern Corporation and Private Property (Routledge, 2d ed. 1991) (first edition published 1932).

22 See Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. Fin. Econ. 305, 308 (1976).

23 Andrei Shleifer & Robert Vishny, *Large Shareholders and Corporate Control*, 94 J Pol. Econ. 461 (1986).

24 Andrei Shleifer & Robert Vishny, *A Survey of Corporate Governance*, 52 J Fin. 737 (1996).

25 Jarrad Harford, Ambrus Kecskés, & Sattar Mansi, *Do Long-Term Investors Improve Corporate Decision Making?*, 50 J. Corp. Fin. 424 (2018).

26 *Id.* at 452.

27 Audra Boone & Joshua White, *The Effect of Institutional Ownership on Firm Transparency and Information Production,* 117 J Fin. Econ. 508 (2015).

28 *Id.* at 510.

Inducing full passivity on the part of institutional investors would thwart significant welfare gains in the form of reductions in agency costs. Institutional investors could hardly be expected to invest in discovering information about managerial performance if they could not use that information to make voting decisions, to engage with managers, or to determine whether to sell, hold, or buy company stock. And it strains credulity to suppose that the laundry list of benefits discovered by Harford et al. could be achieved by long-term institutional investors that had no ability to influence managerial decision-making by either voice (engagement, voting) or threat of exit (selling shares held by their non-index funds).

IV. CONCLUSION

A market failure is a necessary, but insufficient, condition for a regulatory fix. Policymakers should always ask whether a proposed intervention would create greater welfare losses than it would avert. For reasons we have detailed elsewhere, we doubt that the anticompetitive effects of current levels of common ownership, if they exist at all, are significant. We have shown here that the welfare losses from proposed interventions to remedy common ownership harms are likely substantial. It seems, then, that the marginal costs of additional antitrust interventions to police common ownership (beyond enforcement of established rules on hub-and-spoke conspiracies, collusion-facilitative devices, etc.) may well exceed the marginal benefits those interventions would secure. If that is so, the current "enforcement passivity" Professor Elhauge complains of is appropriate.

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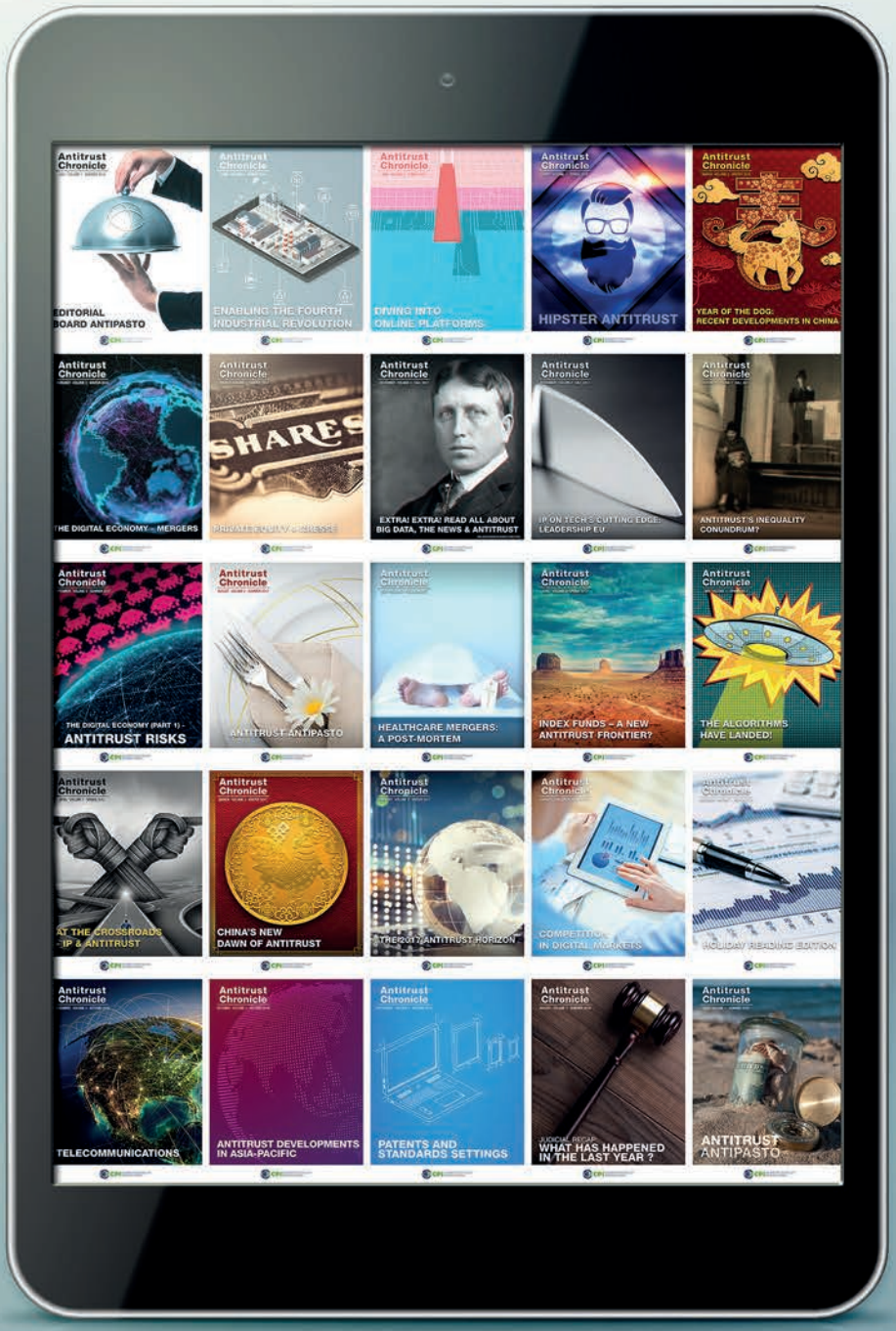

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