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HOW HORIZONTAL SHAREHOLDING HARMS OUR ECONOMY—AND WHY ANTITRUST LAW CAN FIX IT

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HOW HORIZONTAL SHAREHOLDING HARMS OUR ECONOMY—AND WHY ANTITRUST LAW CAN FIX IT

Abstract. *New economic proofs and empirical evidence provide powerful confirmation that, even when horizontal shareholders individually have minority stakes, horizontal shareholding in concentrated markets often has anticompetitive effects. The new economic proofs show that, without any need for coordination or communication, horizontal shareholding will cause corporate managers to lessen competition to the extent they care about their vote share or re-election odds and will cause executive compensation to be less sensitive to firm performance. The new empirical evidence includes two new cross-industry studies which confirm that, just as the proofs predict, increased horizontal shareholding reduces the sensitivity of executive compensation to firm performance and increases the gap between corporate profits and investment. The new empirical evidence also includes two new industry studies that extend to the pharmaceutical industry the two prior industry studies finding that horizontal shareholding had anticompetitive effects in airline and banking markets. I also provide new analysis demonstrating that critiques of the airline and banking industry studies either conflict with the evidence or, when taken into account, increase the estimated adverse price effects from horizontal shareholding. I further provide new theoretical and factual explanations to show why, contrary to the claims of others, non-horizontal shareholder interests, vertical shareholdings, and index fund incentives do not prevent anticompetitive effects from horizontal shareholding. Finally, I provide new legal theories for tackling the problem of horizontal shareholding. I show that when horizontal shareholding has anticompetitive effects, it is illegal not only under Clayton Act §7, but also under Sherman Act §1. In fact, the historic trusts that were the core target of antitrust law were horizontal shareholders. I further show that anticompetitive horizontal shareholding also constitutes an illegal agreement or concerted practice under EU Treaty Article 101, as well as an abuse of collective dominance under Article 102. I conclude by showing that horizontal shareholding not only lessens the market concentration that traditional merger law can tolerate, but also means that what otherwise seem like non-horizontal mergers should often be treated as horizontal. Those implications for traditional merger analysis become even stronger if we fail to tackle horizontal shareholding directly.*

INTRODUCTION

When the leading shareholders of horizontal competitors overlap, horizontal shareholding exists.[1] In my initial *Harvard Law Review* article on horizontal shareholding, I showed that economic theory and two industry studies indicated that high levels of horizontal shareholding in concentrated product markets can have anticompetitive effects, even when each individual horizontal shareholder has a minority stake.[2] I argued that those anticompetitive effects could help explain longstanding economics puzzles, including executive compensation methods that inefficiently reward executives for industry performance, the historic increase in the gap between corporate profits and investment, and the recent rise in economic inequality.[3] I also showed that when horizontal shareholding has likely anticompetitive effects, it can be remedied under Clayton Act §7.[4] I recommended that antitrust agencies should investigate any horizontal stock acquisitions that have resulted or would result in an ΔMHHI (a measure of horizontal shareholding levels) that exceeds 200 and an MHHI (a measure of product market concentration level with horizontal shareholding) that exceeds 2500, in order to determine whether those horizontal stock acquisitions raised prices or were likely to do so.[5] I also stressed that antitrust agencies should, at a minimum, consider the impact of horizontal shareholding when assessing the likely effects of proposed corporate mergers.[6]

My claims have all been hotly contested. However, as I show in Part I, new proofs and empirical evidence strongly confirm my economic claims. One new economic

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[1] Although the literature often refers to this as "common ownership," I use the term "horizontal shareholding" because common ownership can also exist when shareholders own stock in two *non*competing corporations, so horizontal shareholding is actually a subset of common ownership. When the common ownership is between vertically-related firms, I will call it "vertical shareholding." As discussed below, vertical shareholding can raise its own competitive issues. *See infra* Part II.B. When common shareholding is neither horizontal nor vertical, it would seem to raise anticompetitive concerns only if one of the firms is a potential entrant into the other firm's market, in which case the common shareholding might discourage potential horizontal competition. *See* Jonathan B. Baker, *Overlapping Financial Investor Ownership, Market Power, and Antitrust Enforcement: My Qualified Agreement with Professor Elhauge*, 129 HARVARD L. REV. FORUM 212, 226 (2016). A recent empirical study in the pharmaceutical industry shows that common shareholding among potential horizontal competitors does in fact anticompetitively discourage entry. *See infra* Part I.D.4.

[2] Elhauge, *Horizontal Shareholding*, 129 HARVARD LAW REVIEW 1267, 1267-78 (2016), https://ssrn.com/abstract=2632024.

[3] *Id.* at 1278-1301.

[4] *Id.* at 1301-1316.

[5] *Id.* at 1303.

[6] *Id.*

proof establishes that, if corporate managers maximize either their expected vote share or re-election odds, they will maximize a weighted average of their shareholders' profits from all their stockholdings and thus will lessen competition the more that those shareholdings are horizontal, even if each horizontal shareholder has a minority stake. Another new economic proof shows that with horizontal shareholding, corporations maximize their shareholders' interests by making executive compensation less sensitive to their own firm's performance because that reduces competition between firms in a way that increases shareholder profits. Neither new proof requires any communication or coordination between different shareholders, between different managers, or between shareholders and managers. Thus, any absence of such communication or coordination does not indicate the absence of anticompetitive effects.

These new economic proofs have been confirmed by two new cross-industry empirical studies and two new industry studies. One cross-industry study shows that increased horizontal shareholding does make executive compensation less sensitive to their own firm's performance, just as the economic proof predicts. The other new cross-industry study shows not only that the recent historically large gap between corporate investment and profits is mainly driven by horizontal shareholding levels in concentrated markets, but also that within any industry, the investment-profit gap is mainly driven by those firms with high horizontal shareholding levels. The two new industry studies find that horizontal shareholding in pharmaceutical markets delays and prevents competitive entry.

I further provide new analysis demonstrating that various critiques of the two earlier industry studies are meritless. Those two industry studies found that horizontal shareholding had adverse price effects in concentrated airline and banking markets. They have been critiqued in other articles, some funded by the sort of institutional investors that have large horizontal shareholdings. A few of these critiques are valid, but as I show, addressing those valid critiques actually ***increases*** the estimated price effects. The other critiques are all mistaken. For example, some rest on endogeneity claims that are flatly contradicted by the evidence. Another critique uses purported proxies for horizontal shareholding that are actually negatively correlated with horizontal shareholding and uses market models that wrongly assume longer airline routes have lower costs. Other critiques erroneously measure horizontal shareholdings without aggregating the shares held by the same fund families, ignore actual market shares, exclude the transactions most likely to have price effects, and wrongly set many horizontal shareholding rights to zero.

In short, contrary to the claims of some, we do not have the sort of empirical uncertainty that justifies further delaying any enforcement actions against horizontal

shareholding. The economic proofs are powerful, the critiques of the two initial industry studies are flawed, two new studies extend the findings of anticompetitive effects to a third industry, and two cross-industry studies generalize the empirical findings beyond the four industry studies. Moreover, my proposal is simply that antitrust agencies investigate concentrated markets with high horizontal shareholding to ascertain whether anticompetitive effects exist, so any empirical uncertainty would be resolved in the enforcement action anyway. The dubious claims of empirical uncertainty hardly provide any justification for refusing to even investigate such cases.

Nor are critics right that the causal mechanisms are unclear. Rather, the causal mechanisms by which horizontal shareholding reduces competition include all the ordinary mechanisms by which managers are incentivized to act in the interests of their shareholders: shareholding voting, executive compensation, the market for corporate control, the stock market, and the labor market. Although these mechanisms do not require direct communication with horizontal shareholders, there is also ample evidence that such direct communications do occur, which can amplify the anticompetitive effects. Further, horizontal shareholding can decrease competition through the even simpler mechanism of reducing the incentives of shareholders to pressure managers to compete.

In Part II, I address arguments by others that anticompetitive effects from horizontal shareholding are implausible on various theoretical grounds. Not only do these arguments conflict with the empirical evidence discussed in Part I, but I provide new analysis demonstrating that these arguments are unsound in their own right. One argument has been that any anticompetitive effects would be prevented because they conflict with the interests of non-horizontal shareholders and indeed would violate fiduciary duties to protect their interests. This argument is flawed because non-horizontal shareholders affirmatively benefit from the fact that horizontal shareholdings reduce competition at both their firm and rival firms simultaneously. This argument also ignores the business judgment rule and would, if accepted, imply that mergers that involve the acquisition of a controlling interest of less than 100% can never be anticompetitive, which is implausible and clearly rejected by antitrust law.

Another argument has been that any anticompetitive incentives from horizontal shareholdings are negated by those shareholders' investments in vertically-related corporations. This argument ignores not only the reality that horizontal shareholders generally are not equally invested in vertically-related firms but also the point that, even when they are, such investments would create two layers of horizontal shareholdings that would compound, rather than negate, the anticompetitive effects.

It also ignores the fact that vertical shareholdings can create their own anticompetitive effects.

A final argument has been that horizontal shareholding cannot have anticompetitive effects because index funds lack incentives to exert any effort to facilitate anticompetitive firm behavior. I show that, to the contrary, economic theory indicates that index funds have strong incentives to do so because their anticompetitive gains are vast while the incremental effort costs are generally zero or negative. I also show that in any event horizontal shareholdings are generally not held by index funds and that, even when they are, their shares are voted by fund families that also have actively-managed funds. Finally, the argument that index funds lack incentives to exert effort to increase corporate valuations conflicts with copious empirical evidence, which indicates not only that index funds engage in extensive efforts to influence the corporations they hold (on both competition and other dimensions), but that their efforts are highly effective.

In Part III, I turn to legal remedies. I first defend my conclusion that any horizontal shareholdings that have anticompetitive effects are prohibited by Clayton Act §7's ban on any stock acquisitions that have anticompetitive effects. In doing so, I respond to various new critiques, and I provide new analysis showing both why this legal remedy raises no insuperable administrability problems and why this interpretation is dictated by the legislative text, structure, and history.

In Part IV, I provide new legal theories for tackling horizontal shareholding. I show that when horizontal shareholding has anticompetitive effects, it not only violates Clayton Act §7, but also violates Sherman Act §1. The very name of the legal field – anti*trust* law – comes from the fact that the Sherman Act aimed to prohibit certain pre-1890 trusts that were themselves horizontal shareholders in competing firms. It has thus always been the case that horizontal shareholding by a common shareholder is an agreement or combination covered by Sherman Act §1.

I further show that EU competition law can also tackle horizontal shareholding. Although EU merger control law is narrower than Clayton Act §7, I show that EU law's prohibition of anticompetitive agreements and concerted practices under Article 101 of the Treaty on the Functioning of the European Union (TFEU) is at least as broad as Sherman Act §1's prohibition of anticompetitive agreements, and is thus broad enough to condemn anticompetitive horizontal shareholding. Even broader is EU law on collective dominance and excessive pricing under TFEU Article 102, which provides a straightforward solution to the problem of horizontal shareholding.

Finally, I show in Part V that even if courts or agencies misinterpret competition law not to apply to horizontal shareholding directly, such horizontal shareholding still alters traditional merger analysis. After all, such traditional analysis requires assessing whether mergers and cross-shareholdings have likely anticompetitive effects, and the likelihood of such effects is increased by horizontal shareholding in concentrated markets. Indeed, the less that our antitrust regimes do to directly tackle horizontal shareholding, the lower the concentration levels they can tolerate when doing traditional merger analysis. Horizontal shareholding can also mean that a merger that would otherwise be deemed non-horizontal (because the merging firms compete in different markets) should instead be deemed horizontal if the merger increases shareholder overlap between the merged firm and its competitors. Given these implications, rising levels of horizontal shareholding, especially if we continue to do nothing to directly tackle them, provide strong support for current antitrust movements that decry our increasing levels of national industrial concentration.

I. NEW ECONOMIC PROOFS AND EMPIRICAL EVIDENCE

Economic models have long proved that when profit-maximizing firms are independent (i.e., have no interest in the profits of other firms) and compete by setting output, then the extent to which prices exceed marginal cost will equal the market HHI (a measure of market concentration) divided by the market demand elasticity.[7] Professors Bresnahan and Salop proved that when some of the firms were joint ventures in which some competitors had profit and/or control interests, then the extent to which market prices exceed marginal cost will instead depend on a modified HHI (or MHHI) that reflects those horizontal profit and/or control interests in competing firms.[8] O'Brien and Salop later extended this proof to consider not only joint ventures but also cross shareholdings between firms, and to apply not only to markets where firms compete by setting output, but also to differentiated markets where firms compete by setting prices.[9] Their proofs showed that in both sorts of markets, the degree to which prices will exceed costs turns on the extent of horizontal profit and influence interests between the firms.

In their Appendix, O'Brien and Salop further generalized their proof in a way that made it broad enough to encompass horizontal shareholding.[10] However, they

[7] *See* CARLTON & PERLOF, MODERN INDUSTRIAL ORGANIZATION 268 (3rd ed. 2000).
[8] Timothy F. Bresnahan & Steven C. Salop, *Quantifying the Competitive Effects of Production Joint Ventures*, 4 INT'L J. INDUS. ORG. 155 (1986).
[9] Daniel P. O'Brien & Steven C. Salop, *Competitive Effects of Partial Ownership: Financial Interest and Corporate Control*, 67 ANTITRUST L.J. 559, 594-602 (2000).
[10] *Id.* at 608-14.

provided no method for determining the degree of influence each shareholder had at each firm, which was necessary to calculate MHHIs.[11] Azar, Schmalz, and Tecu proposed calculating MHHIs using the common sense assumption that each shareholder's influence turned on its share of stock relative to other shareholders, noting that ΔMHHI (the difference between MHHI and HHI) would then provide a useful measure of common ownership concentration (i.e., the level of horizontal shareholding).[12] They also offered, and empirically confirmed, the hypothesis that, so measured, higher ΔMHHIs would lead to higher prices, by showing with a 99% level of statistical confidence that, in the airline industry, higher ΔMHHIs raised ticket prices in markets with HHI levels over 2500.[13] Azar, Raina, and Schmalz provided further confirmation, showing that in the banking industry, where there is both significant horizontal shareholding by common investors and significant cross-shareholding among the banks themselves, a generalized measure (called GHHI) that took into account both horizontal shareholding and cross shareholding had a statistically significant adverse effect on bank fees and rates.[14]

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[11] *Id.* at 608-14; O'Brien & Waehrer, *The Competitive Effects of Common Ownership: We Know Less than We Think,* 81 ANTITRUST L.J. 729, 739, 742 (2017) (emphasizing that their measure was consistent with any possible assumption about the degree of shareholder influence, including the assumption that shareholders have zero influence).

[12] Azar, Schmalz & Tecu, *Anticompetitive Effects of Common Ownership* 73 J. FIN. 1514, 1522, 1525 (2018) [hereinafter "Azar, Schmalz & Tecu, *Airline Study*"].

[13] *Id.* at 1522-23, 1529-31, 1550.

[14] Azar, Raina & Schmalz, *Ultimate Ownership and Bank Competition* (July 24, 2016), http://ssrn.com/abstract=2710252. While horizontal shareholding describes situations when the leading shareholders of horizontal competitors overlap, horizontal cross shareholding describes situations when one or more competitors have minority shareholdings directly in one or more competing firms. In markets with a mix of both horizontal shareholding and cross shareholding, the ΔMHHI and MHHI measures used to calculate the level of horizontal shareholding and market concentration need to be generalized into ΔGHHI and GHHI measures to take into account the fact that some shareholders can influence horizontal competitors not only through their shareholdings in those competitors, but also indirectly through their shareholdings in intermediary corporations that have stock in the horizontal competitor. Elhauge, *supra* note 2, at 1277 n.48; Brito, Osorio, Ribeiro & Vasconcelos, *Unilateral Effects Screens for Partial Horizontal Acquisitions: The Generalized HHI and GUPPI*, 59 INT'L J. INDUS. ORG. 127 (2018). For example, if a shareholder that has horizontal shareholdings of X% in firm *A* and Y% in firm *B,* but firm *A* also has a Z% cross shareholding in firm *B,* then MHHI needs to be adjusted to GHHI to take into account that the shareholder's X% in firm *A* gives it an indirect interest in firm *B* on top of its Y% holding in firm *B*. Thus, in cases involving a mix of horizontal shareholding and cross shareholding, my recommendation would be to investigate markets in which the ΔGHHI exceeded 200 and the GHHI exceeded 2500, in order to determine whether the combination of horizontal and cross shareholding likely raised prices.

Although assuming that shareholders' influence turns on their shares of stock relative to other shareholders makes some intuitive sense, the use of this assumption to calculate MHHIs and GHHIs has been critiqued as not resting on any firm economic proof and for creating anomalies in certain hypotheticals.[15] Further, although the airline and banking studies did provide powerful empirical confirmation that the MHHI and GHHI measures do relate to anticompetitive effects, those studies have been critiqued on various grounds, including that they might not generalize to other industries.[16]

But as I show below, we now have new economic proofs that mathematically establish the extent to which (a) corporate managers who want to win votes or re-elections will consider the interests of horizontal shareholders and (b) corporations will maximize the interests of their shareholders by adopting executive compensation methods that are less sensitive to firm performance the greater the horizontal shareholding level. We also now have new empirical studies confirming that, across all industries, higher horizontal shareholding levels increase both the distortion of executive compensation and the gap between corporate investment and profits. In addition, we now have two new studies that find similar anticompetitive effects from horizontal shareholding in the pharmaceutical industry. Further, I provide new analysis establishing that most of the critiques of the airline and banking studies are incorrect, and that addressing the subset of those critiques that are valid actually increases the estimated price effects.

A. New Economic Proofs on Shareholder Voting Effects

New economic proofs have gone well beyond simply assuming that the extent to which firms consider the interests of each shareholder turns on its share of stock relative to other shareholders. New scholarship now mathematically proves that if corporate managers try to maximize either their expected share of votes or their probability of winning re-election, then managers will maximize the weighted average of their shareholders' profits from all their stockholdings.[17] For example, if all shareholders have equivalent horizontal holdings across all firms (such as with indexing), managers seeking to maximize either vote share or re-election odds will have each corporation price at monopoly levels despite nominal competition.[18]

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[15] O'Brien & Waehrer, *supra* note , at 760-61.
[16] *See infra* Part I.D.
[17] José Azar, *Portfolio Diversification, Market Power, and the Theory of the Firm* at 12-14 (Aug. 23, 2017), https://ssrn.com/abstract=2811221.
[18] *Id.* at 15-17.

Some assert that similar results would not hold if shareholders have varying levels of horizontal shareholding in different corporations.[19] But the new proofs fully account for such variation, showing that it simply alters the precise weight managers put on each shareholder, without changing the basic result that the effects are to increase prices. If managers maximize their expected vote share, shareholders will be weighted proportionally to their voting shares, as the MHHI measure assumes, so increased horizontal shareholding will proportionally increase prices.[20] If managers maximize their probability of re-election, shareholders will be weighted by the odds that the particular shareholder's vote will be pivotal, which gives extra weight to the largest shareholders, who typically are now horizontal shareholders.[21] In such cases, one can calculate a GHHI measure that weights shareholders by the odds their votes will be pivotal.[22]

Some also assume that horizontal shareholding cannot have anticompetitive effects on prices unless shareholders either communicate with managers or facilitate coordination among managers of different business corporations. But the new proofs require no communication between firms, between shareholders, or between managers and shareholders, though they do find that shareholder-manager communication can exacerbate the problem by giving more weight to the shareholders who communicate.[23] To be sure, one might question whether managers care solely about maximizing their vote share or re-election odds, but it seems hard to deny that vote share and re-election odds play significant roles in the decisionmaking function of managers. To whatever extent one thinks managers do pay attention to vote share or re-election odds, this new economic analysis mathematically proves that prices will be increased by high levels of horizontal shareholding across a set of firms that have collective market power.

B. New Proofs and Evidence on Executive Compensation Effects

To the extent that corporate managers are not influenced by vote share or re-election odds, the most likely factor influencing their decisionmaking is their financial compensation. Bengt Holmström's Nobel prizewinning work proved that it would be efficient for incentive-based compensation to be based only on the performance

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[19] Rock & Rubinfeld, *Antitrust for Institutional Investors ,* 82 ANTITRUST L.J. 221, 232-39 (2018) [hereinafter "Rock & Rubinfeld, *Antitrust*"]; Patel, *Common Ownership, Institutional Investors, and Antitrust,* 82 ANTITRUST L.J. 279, 311-13 (2018).
[20] Azar, *supra* note 14, at 12-13.
[21] *Id.* at 13-14.
[22] *See* Brito, Osorio, Ribeiro & Vasconcelos, *supra* note .
[23] Azar, *supra* note 14, at 14-15.

of the executive's firm relative to other firms, and that firms would do so if each firm just maximized its own profits.[24] This raised a puzzle because in fact corporations use executive compensation methods that inefficiently reward executives in part for industry performance.

What a new mathematical proof shows is that increased levels of horizontal shareholding mean that shareholder interests are maximized by executive compensation that is less sensitive to firm performance, because that gives managers weaker incentives to exert effort and lower costs, which reduces competition among the firms owned by the horizontal shareholders.[25] Importantly, this proof holds even though it assumes uncoordinated competition among the firms.[26]

This new economic proof was confirmed with a new cross-industry empirical study, which shows that (just as this proof predicts) in industry markets with higher horizontal shareholding levels, corporations adopt compensation methods that make changes in executive wealth less sensitive to their own firm's performance.[27] This new empirical evidence is undisputed. To be sure, there was a conflict among older empirical studies about that measured something else: whether horizontal shareholding led corporations to adopt compensation methods that made executive ***annual pay*** less sensitive to their own firm's performance.[28] Several critics have cited this conflict in the older studies on annual pay to argue that the issue is empirically uncertain.[29] But there is no such conflict about the effect of horizontal

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[24] Bengt Holmström, *Moral Hazard in Teams*, 13(2) BELL J. ECON. 324-40 (1982).

[25] Anton, Ederer, Gine & Schmalz, *Common Ownership, Competition, and Top Management Incentives* at 2-3, 8-14 (June 6, 2018), http://ssrn.com/abstract=2802332 [hereinafter "Anton, et al, 2018"].

[26] *Id.* at 8.

[27] *Id.* at 2-4, 21-36.

[28] Two studies found that it did. *See* Anton, Ederer, Gine & Schmalz, *Common Ownership, Competition, and Top Management Incentives* (August 15, 2016), http://ssrn.com/abstract=2802332; Lantian (Max) Liang, *Common Ownership and Executive Compensation* (October 2016). Another study found that that horizontal shareholding on average has no significant effect on annual executive pay. *See* Rebecca DeSimone, *Stealth Socialism? Common ownership and executive incentives* 2 (Oct 7, 2017). Finally, a fourth study found that horizontal shareholding made annual managerial pay more sensitive to own-firm performance, *see* Kwon, *Executive Compensation under Common Ownership* at 13 (April 13, 2017), although this study reports calculating the horizontal shareholding level from the Thomson-Reuters database without making any of the corrections necessary to make it accurate, *id.* at 13; *infra* at __ (describing the necessary corrections).

[29] *See* Douglas H. Ginsburg & Keith Klovers, *Common Sense about Common Ownership*, CONCURRENCES REVIEW No 2-2018, at ¶ 2 n.7, www.concurrences.com; Hemphill and Kahan, *The Strategies of Anticompetitive Common Ownership* at 26 (August 7, 2018), https://ssrn.com/abstract=3210373; Lambert & Sykuta, *supra* note , at 13 n.41, 21 n.74; O'Brien

shareholding on changes in executive ***wealth***, which has a far stronger connection to executive incentives. As one of the studies finding no effect on annual managerial pay observed, "annual flow compensation is an imperfect measure of executive incentives to compete."[30] The reason is that "78.1 percent of the value of the compensation of the median CEO was from long-term incentive grants" (like restricted stock or stock options), "whose value depends on the stock price of the company when they have vested or can be exercised" (which wealth-based measures take into account), rather than the stated value in the year when the grants are made (which is all that annual pay measures consider).[31]

Moreover, while critics had claimed that the earlier studies finding that horizontal shareholding adversely affected executive compensation depended on certain methodological choices, the new wealth-based compensation study rebutted those claims. Critics had charged that the earlier studies depended on their use of the dollar (rather than percentage) change in executive compensation.[32] But the new study found adverse effects on executive compensation whether it used the absolute or percentage change in compensation.[33] Critics had also claimed that the earlier studies might have been affected by their use of an MHHI measure of horizontal shareholding, which they argued was endogenous because it depended on market shares.[34] But the new study found adverse effects whether it used MHHI or an alternative measure of horizontal shareholding that did not depend on market shares, and also confirmed that finding using the exogenous effect on horizontal shareholding of a merger between two large horizontal shareholders.[35]

In short, the new economic proof and new cross-industry empirical study establishes that higher horizontal shareholding levels lead to compensation methods that lessen the incentives of corporate managers to compete. This effect on compensation incentives will predictably lessen competition without requiring any shareholder communications on competitive strategy.

& Waehrer, *supra* note , at 762-63; FTC Commissioner Noah Joshua Phillips, *Taking Stock: Assessing Common Ownership* at 5 n.11 (June 1, 2018), https://www.ftc.gov/public-statements/2018/06/taking-stock-assessing-common-ownership; Rock & Rubinfeld, *Antitrust, supra* note , at 247; Committee on Capital Markets Regulation, *Common Ownership and Antitrust Concerns* 1-2, 6-7 (Nov. 2017) [hereinafter "Capital Markets Committee"].

[30] Simone, *supra* note , at 17.

[31] *Id.* at 18.

[32] O'Brien & Waehrer, *supra* note , at 762-63; Capital Markets Committee, *supra* note , at 9.

[33] Anton, et al, 2018, at 22, 24.

[34] O'Brien & Waehrer, *supra* note , at 764; Capital Markets Committee, *supra* note , at 8.

[35] Anton, et al, 2018, at 3-4, 23-28.

C. New Empirical Evidence on the Investment-Profit Gap

New empirical studies also strongly confirm my prediction that horizontal shareholding can help explain the historic increase in the gap between corporate profits and investment and the recent rise in economic inequality.[36] This new literature shows that we had a sharp rise in horizontal shareholding from 1999 to 2014, with the probability of two competing firms in the S&P 1500 having a large horizontal shareholder increasing from 16% to 90% over that period.[37] This sharp rise in horizontal shareholding coincides with the fact that the recent large divergence between corporate profits and investment began in 2000.[38] It also coincides with the period during which we have had the highest growth in corporate profits and greatest decline in labor's share of national income since World War II.[39]

Standing alone, such parallel timing could be a coincidence and reflect economic factors other than horizontal shareholding that changed during the same time period. But a new cross-industry empirical study has directly found that the gap between corporate investment and profitability is mainly driven by the level of horizontal shareholder ownership in concentrated markets.[40] Further, the new study found that, within any industry, the investment-profit gap is mainly driven by those firms with high horizontal shareholding levels.[41] This new empirical evidence now affirmatively establishes a link between anticompetitive horizontal shareholding and the economywide lack of corporate investment that has contributed to low economic growth in recent decades.

This new empirical evidence also indicates that the main cause of the investment-profit gap cannot be general macroeconomic, technological, or policy trends, such as recessions, increased automation, decreased productivity, a slowdown in technological innovation, or government spending, taxes, or labor law changes. If such general trends were the main cause, they should result in a similar profit-investment gap across the economy, rather than a gap that is mainly driven by concentrated markets with high horizontal shareholdings. Even less can such general trends explain why, within any industry, the investment-profit gap is mainly driven by firms with high horizontal shareholding levels. If automation,

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[36] Elhauge, *supra* note 2, at 1281-1301.
[37] Azar, *supra* note 14, at 2 & Figure 1.
[38] Germán Gutiérrez & Thomas Philippon, *Investmentless Growth: An Empirical Investigation*, BROOKINGS PAPERS ON ECONOMIC ACTIVITY 89, 91, 95-101, 123-125 (Fall 2017).
[39] Azar, *supra* note 14, at 2 & Figure 2.
[40] Gutiérrez & Philippon, *supra* note 34, at 92-93, 120, 126-131.
[41] *Id.* at 93, 129-131.

technological factors, or government policies were the main driver of low investment, that should apply equally to all firms in an industry, not mainly to those firms with high levels of horizontal shareholding.

Although this new cross-industry study does not directly examine economic inequality, a connection to economic inequality is logically suggested by its proof of an empirical connection between horizontal shareholding in concentrated markets and a gap between high corporate profits and low corporate investment. The reason is that those high corporate profits go to shareholders who are disproportionately wealthy and reflect high prices that are disproportionately borne by the non-wealthy, and the lack of corporate investment depresses employment and wages in a way that further disproportionately harms the non-wealthy.[42]

D. The Two Initial Industry Studies Have Proven Robust to Critiques and Extended to a Third Industry

1. The Methodological Critiques of the Airline Study. Various methodological critiques have been leveled against the Airline Study that empirically demonstrated that higher levels of horizontal shareholding raised prices in concentrated route markets. But it turns out that their critiques were all either contradicted by the evidence or, when taken into account, actually increased the estimated price increase.

(i) Endogeneity. The main methodological critique has been that the correlation between ΔMHHI and prices might be endogenously driven by increased demand on certain routes affecting both ΔMHHI and prices.[43] Increased demand could independently increase prices, which could affect airline entry or expansion in a way that alters market shares or affect investments in a way that alters shareholding levels, and altering market shares or shareholding levels could in turn affect the calculated ΔMHHI. The critics argue that the correlation between ΔMHHI and prices might thus reflect reverse causation, in which higher prices cause higher ΔMHHI, rather than vice versa. This is certainly a valid issue to investigate, but the concern turns out to be unfounded, for several reasons.

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[42] Elhauge, *supra* note 2, at 1292-97.

[43] O'Brien & Waehrer, *supra* note , at 732-33, 753-55, 757-58; Rock & Rubinfeld, *Defusing the Antitrust Threat to Institutional Investor Involvement in Corporate Governance* at 13 (March 1, 2017), https://ssrn.com/abstract=2925855; Lambert & Sykuta, *supra* note , at 29-31; Capital Markets Committee, *supra* note , at 5-6.

To begin with, to the extent that increased demand (or anything else) were independently increasing prices, any market entry or expansion encouraged by those higher prices is more likely to come from airlines with lower horizontal shareholding levels, and any investment that induced by higher prices is more likely to come from the sort of active investors who invest selectively in some firms rather than horizontally across the airlines, both of which would mean that increased prices would predictably ***decrease*** MHHI levels.[44] Such endogeneity would thus likely create a negative correlation between prices and MHHI levels, which would mean that the positive correlation found in the Airline Study's main regressions conservatively ***under***estimated the adverse price effect from increases in horizontal shareholding.[45] As shown below, this prediction was confirmed by the fact that a test that eliminated the endogeneity concern increased the estimated price effect from 3-7% to 10-12%.[46]

The theory that the Airline Study's positive correlation between ΔMHHI and higher prices might be driven by increased demand also conflicts with copious evidence to the contrary. The Airline Study shows that increases in ΔMHHI are correlated not only with increased prices, but also with ***decreased*** output.[47] This is the opposite of what would occur if the price increase were driven by a demand increase, and instead is consistent with higher ΔMHHI causing a reduction in output that increased prices. The Airline Study even shows that the ratio of the estimated percentage decrease in output to increase in price is consistent with prior demand elasticity findings that showed the extent to which decreasing airline output would increase ticket prices.[48] Lambert and Sykuta mistakenly argue that this negative correlation between output and ΔMHHI might arise if routes with fewer passengers have fewer airlines and thus higher market shares and ΔMHHI levels.[49] But in fact the Airline Study uses fixed effect variables for each route, and thus already controls for any intrinsic differences

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[44] Elhauge, *The Growing Problem, supra* note , at 7-8; Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1529.

[45] The same goes for O'Brien and Waehrer's related endogeneity argument that increased horizontal shareholding itself might raise prices in a way that disproportionately lowers the market share of dominant firms and thus lowers MHHI and ΔMHHI. O'Brien & Waehrer, *supra* note , at 744-46. To the extent that feedback effect occurs, it creates an offsetting negative correlation between prices and MHHI levels that means the Airline Study underestimated the price effects. Further, their argument presupposes that increased horizontal shareholding does increase prices, which is precisely the point that they were trying to deny.

[46] *See infra* at__.

[47] Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1517, 1541, 1544.

[48] *Id.* at 1544.

[49] Lambert & Sykuta, *supra* note , at 31.

(like size) between different routes.[50] Accordingly, the effects measured by the Airline Study are driven by how changes over time in ΔMHHI change prices and output, not (as Lambert and Sykuta's critique supposes) by simply comparing prices and output in routes with higher ΔMHHI to those in routes with lower ΔMHHI.

Other evidence also contradicts the theory that the ΔMHHI-price correlation might be driven by demand (or anything else) independently increasing prices and those prices then increasing ΔMHHI. If price increases were causing increases in ΔMHHI, rather than vice versa, then higher prices should be correlated with later increases in ΔMHHI. But the evidence disproves such a correlation.[51] Instead, it shows that increases in ΔMHHI are correlated with later increases in prices, indicating that the direction of causation instead runs from the horizontal shareholding to the high prices.[52] Further, if price changes were causing changes in market share that changed ΔMHHI mechanically in ways that did not correspond to changes in shareholder influence, then they should correlate even if one measured ΔMHHI using only smaller or short-term shareholders unlikely to exert influence. But additional tests show there is no such correlation and that instead the correlation between prices and ΔMHHI is driven almost entirely by the large long-term shareholders that are likely to exert influence over corporate decision making.[53]

Finally, another part of the Airline Study used a merger between two large institutional investors, BlackRock and Barclay's Global Investors (BGI), to control for the possibility that airline ΔMHHI might be endogenously affected by changes in airline demand and prices.[54] Because both BlackRock and BGI had stock in some airlines but not others, their merger increased horizontal shareholding and ΔMHHI in some routes but not others. This effect on airline ΔMHHI levels was clearly exogenous, because it is implausible that the BlackRock-BGI merger was caused by changes in airline demand or prices, given that only a small fraction of the merging firm's portfolios was in airline stocks and that the merger arose out of a bidding contest for BGI's ETF funds, rather than out of any focus on the combination of BlackRock and BGI's airline shareholdings.[55] The Airline Study ran two regressions based on only the portion of ΔMHHI changes that were attributable to the merger.[56] The first was a differences-in-differences regression that compared airline routes where the merger raised ΔMHHI to those where the merger did not,

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[50] Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1517, 1528-29.
[51] *Id.* at 1535-36.
[52] *Id.*
[53] *Id.* at 1518, 1545.
[54] *Id.* at 1517-18, 1535-41.
[55] Id. at 1518, 1535. 1538.
[56] *Id.* at 1538.

and it found that prices were significantly higher in routes where the merger raised ΔMHHI.[57] The second regression used the portion of ΔMHHI change attributable to the merger in each route as an instrumental variable, finding that it had a statistically significant effect on route prices.[58]

Indeed, the estimated price effect in the instrument variable regression meant that the average ΔMHHI resulting from airline horizontal shareholding increases ticket prices by 10-12%, substantially higher than the 3-7% indicated in the main regression.[59] This confirms the theoretical prediction I noted above, that any endogeneity in the main regression would just make it conservative.

O'Brien and Waehrer critiqued the instrumental variable regression in the initial version of the Airline Study on the ground that, while it corrected for endogenous effects on ΔMHHI, it failed to control for endogenous effects on the HHI variable that it also used.[60] This was a sound point, but as O'Brien and Waehrer themselves acknowledge, the final version of the Airline Study uses the *pre*-merger HHIs on each route.[61] O'Brien and Waehrer assert without explanation that this does not resolve their endogeneity concern,[62] but in fact using pre-merger HHIs controls for any endogenous effect of the BlackRock-BGI merger on HHI levels.

(ii) Miscellaneous Methodological Critiques. Rock and Rubinfeld have also offered various other methodological critiques. First, they critiqued the Airline Study for initially defining route markets by airport pairs, rather than by city pairs.[63] This was a good point. Competition for flights between LaGuardia and San Francisco airports are likely affected by flights between any New York area airport (LaGuardia, JFK, or Newark) and any Bay Area Airport (San Francisco or Oakland). But the final Airline Study shows that using city pairs actually makes the estimated harmful price effects ***larger***.[64] In response, Rock and Rubinfeld now say this issue

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[57] *Id.* at 1538-40. Similar to their critique of the main regression, Lambert and Sykuta argue that this result might also arise because of an intrinsic difference between routes with different numbers of passengers. Lambert & Sykuta, *supra* note , at 31 n.106. They again seemed to have missed the fact that the Airline Study controlled for this possibility by using a different fixed effect variable for each route. Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1539.

[58] *Id.* at 1540-41.

[59] *Id.* at 1517-18, 1541, 1559.

[60] O'Brien & Waehrer, *supra* note , at 756-58.

[61] *Id.* at 756 n.61.

[62] *Id.*

[63] Rock & Rubinfeld, *Defusing, supra* note , at 12.

[64] Changing the market definition from airport pairs to city pairs increased the relevant coefficient from .202 to .287, *see* Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1530, 1532, 1534,

is likely "minor".[65] But actually it is quite telling that increases in accuracy (from better defining markets or reducing endogeneity) increase the measured effect, because that is just what one would predict if the effect were real.

Second, Rock and Rubinfeld argue that the Airline Study might be affected by a panoply of other factors. They argue that prices might be lower in routes with lower ΔMHHI because of the presence of low-cost carriers like Southwest.[66] But the Airline Study's regressions explicitly control for the presence of Southwest and other low-cost carriers.[67] Rock and Rubinfeld also argue that the regressions focused on the effects of the BlackRock-BGI merger might be confounded by various airline mergers and the Great Recession.[68] But the Airline Study explicitly controls for those airline mergers and recession effects.[69] Rock and Rubinfeld further argue that the Airline Study results might be affected by changes in fuel costs or differences in route size.[70] But the Airline Study not only uses fixed effects that control for variations in fuel costs across routes and over time, but also adds an interaction variable to control for the possibility that changes in fuel costs might have different effects in routes with longer distances, and it showed that doing so ***increased*** the estimated price effects.[71] Thus, none of these methodological critiques proves telling.

(iii) Critiques of the MHHI measure. O'Brien and Waehrer critiqued the Airline Study's MHHI measure because its assumption that shareholder influence turns on their relative shares produces, in extreme cases, allegedly counterintuitive implications.[72] Suppose that one horizontal shareholder has one percent of shares in all three firms competing in a market, and 10,000 non-horizontal shareholders hold equal amounts (i.e., .0099% each) of the other 99 percent in each firm. Then the MHHI measure will, because it is based on relative individual shares, indicate that

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which, given that weighted average ΔMHHI was 2044, corresponds to a change in estimated price increase from 4.1% to 4.9%, *id.* at 1526, 1529.

[65] Rock & Rubinfeld, *Antitrust, supra* note , at 246.

[66] *Id.* at 244-45.

[67] Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1529-32, 1536, 1540, 1542, 1547.

[68] Rock & Rubinfeld, *Antitrust, supra* note , at 243-44.

[69] Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1539-40.

[70] Rock & Rubinfeld, *Antitrust, supra* note , at 244.

[71] This change increased the relevant coefficient from .194 to .219, Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1517, 1528-30, which, given that weighted average ΔMHHI was 2044, corresponds to a change in estimated price increase from 4.0% to 4.5%, *id.* at 1526, 1529.

[72] O'Brien & Waehrer, *supra* note , at 760-61.

the result will be near-monopoly pricing, which O'Brien and Waehrer find counterintuitive.[73]

However, it is not clear it is so counter-intuitive that near-monopoly pricing would result in such a hypothetical. To begin with, the non-horizontal shareholders have no incentive to fight horizontal shareholding that results in near-monopoly pricing at both their firm and rival firms, given that it increases profits for non-horizontal shareholders as well.[74] Nor is it clear that a leading shareholder with a small absolute share cannot plausibly control a corporation when the remaining shareholders are trivially small. In one well-known corporate law case from the 1960s, a three percent shareholder was able to control seven out of ten seats on the board of directors.[75] We are not used to such scenarios nowadays, but that is because the growth of institutional investors today means that the remaining shareholders in publicly-traded corporations are never small enough for one shareholder to be able to dominate with 1-3 percent of shares. By 2015, on average 70 percent of the stock of publicly traded corporations was held by institutional investors, with 17.6 percent on average held by the big three index fund families alone.[76] Thus, a one percent shareholder could never dominate the typical modern publicly-traded corporation, in which many institutional investors will hold more than one percent of the corporate stock, with several holding between five and ten percent.

Which brings us to the next problem with this critique: it involves an extreme hypothetical that has little relevance to current reality. Even if one thought the MHHI measure broke down in extreme cases involving small horizontal shareholders when the remaining shareholders are trivially small, that limitation would not be relevant given the actual structure of modern shareholdings.[77] Indeed,

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[73] *Id.*

[74] *See infra* Part III.A.

[75] Caplan v. Lionel Corp., 246 N.Y.S.2d 913 (1964).

[76] *See* Lewellen & Lewellen, *Institutional Investors and Corporate Governance: The Incentive to Be Engaged* 1 (Nov. 4, 2018), https://ssrn.com/abstract=3265761; Fichtner, et al., *Hidden power of the Big Three? Passive index funds, re-concentration of corporate ownership, and new financial risk*, 19 BUSINESS & POLITICS 298, 313 (2017).

[77] Relatedly, Lambert and Sykuta critique the MHHI measure because in stylized hypotheticals it can lead to MHHIs way over 10,000. Lambert & Sykuta, *supra* note , at 15 n.49. But given actual horizontal shareholding levels, the maximum measured MHHI for airlines is 10,218. Azar, Schmalz & Tecu, *Airline Study, supra* note, at 1524. Thus, Lambert and Sykuta's concern turns out not to be relevant given actual horizontal shareholding levels. Part of the reason we do not observe actual MHHIs significantly over 10,000 may be that certain horizontal shareholding levels tend to conflict with certain market share distributions. For example, in Lambert and Sykuta's stylized hypothetical, five institutional investors have much bigger shares of three firms than a fourth firm, totally control the fourth firm, but nonetheless allow the fourth firm to have the same

given that institutional investors are far more likely to vote than trivially small shareholders, the MHHI measure probably, if anything, understates the influence of the large institutional investors that are usually the leading horizontal shareholders. While individual shareholders have 30% of all shares in publicly-traded firms, they vote only 28% of their shares, whereas institutional investors vote 91% of their shares.[78] Accordingly, although institutional investors own 70% of shares in publicly-traded firms, they cast 88% of votes in those firms.[79]

In any event, the Airline Study affirmatively shows that relaxing the assumption that influence turns on relative share did not change its results. That study gets similar results if it includes only large shareholders or if it instead (as O'Brien and Waehrer suggested) weighs each shareholder by the probability that its vote will be pivotal.[80]

Some instead critique the fact that the MHHI measure used in the Airline Study aggregates the shares of the funds held within a single fund family.[81] One critique, by Ginsburg and Klovers, depends on their mistaken premise that fund families typically do not control voting by their member funds, which is inaccurate for reasons detailed in Part II.C.2.[82] Another critique, by Lambert and Sykuta, mistakenly presumes that fund families do not have incentives to vote all the fund shares in ways that maximize the returns of the fund family,[83] which is inaccurate for reasons detailed in Part II.C.1-4.[84] Yet another critique, by Hemphill and Kahan,

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market share as the three firms in which they have much larger shares. Lambert & Sykuta, *supra* note , at 15 n.49. The assumptions in their hypothetical are internally inconsistent because if the institutional investors had much bigger shares in the three firms and totally controlled the fourth, they would have incentives to constrict the output of the fourth firm far below the output of the other three firms. In any event, even in their stylized hypotheticals, a MHHI above 10,000 might be substantively accurate because while a monopolist produces in the most efficient way it can, horizontal shareholding that lessens competition might predictably keep substantial amounts of output at less efficient firms, thus resulting in even higher prices than pure monopoly pricing. *See* Brito, Ribeiro & Vasconcelos, *Can Partial Horizontal Ownership Lessen Competition More Than a Monopoly?* (Dec. 3, 2018), https://ssrn.com/abstract=3295318..

[78] ProxyPulse, 2018 Proxy Season Review (Oct. 2018), https://www.broadridge.com/proxypulse/.

[79] (.91)(70%)/[(.91)(70%) + (.28)(30%)] = 88%.

[80] Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1534, 1544-46.

[81] Ginsburg & Klovers, *supra* note , at ¶¶ 17-18; Lambert & Sykuta, *supra* note , at 23-28.

[82] Ginsburg & Klovers, *supra* note , at ¶¶ 13-16.

[83] Lambert & Sykuta, *supra* note , at 23-28.

[84] *See also* Fisch, Hamdani, & Solomon, *Passive Investors* at 8 (June 29, 2018), http://ssrn.com/abstract=3192069 (observing that the individual "funds themselves have no independent operations or employees, and the operational decisions of the fund are made by external service providers. Funds themselves do not make money – the fees that they collect go, in part, to pay for services such as investment advice and administrative support, with the remainder going to the fund sponsor," i.e., the fund family).

complains that MHHI aggregates all fund family shareholdings equally, rather than taking into account that fund families earn lower fees on shares held by their index funds than on shares held by active funds that might not be horizontally invested.[85] But whether or not any individual fund is horizontally invested, fund families with high horizontal shareholding levels can decrease competition at firms held by both their index and active funds in a way that increases the value of both and thus increases fees at both, as discussed in Part II.

A more serious issue is that an institutional investor increases profits not only by earning greater fees (which rise across all horizontal shareholdings if reduced competition increases corporate profits), but also by encouraging greater investment flow into its funds from rival funds (which rises the greater the difference in the funds' performance). If an institutional investor has horizontal shareholdings that are highly overweighted toward one firm relative to rival firms, then that institutional investor could increase its profits by *reducing* value at the rival firms if the reduced fees on that rival firm stock are offset by the increased investment flow that results from increasing the performance difference with other institutional investors that hold more stock in those rival firms.[86] However, even in this case the institutional investor gains less from encouraging competition by the one firm than it would if it did not have the horizontal shareholdings in rival firms. Further, the average distribution of horizontal shareholdings across firms in concentrated industries is not sufficiently unbalanced to give the average institutional investor incentives to reduce performance at rival firms.[87] For example, Lewellen and Lewellen show that, in industries with 6-10 firms, the average institutional investor in one firm gains $73,400 per year if the value of all the rival firms increases by 1%.[88] This is less than the $100,800 per year that the average institutional investor gains if it increases the value of their main firm by 1%,[89] but encouraging reduced competition would increase the performance of that firm as well as the rival firms.

Lewellen and Lewellen themselves draw the inference that this mix of direct incentives and flow incentives gives institutional investors weak incentives to encourage diminished competition.[90] But their analysis rests on an implicit premise that institutional investors face an unavoidable tradeoff between procompetitively increasing value of the main firm by 1% and anticompetitively increasing the value of rival firms by 1%. If so, then the average institutional investor in an industry with

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[85] Hemphill and Kahan, *supra* note , at 9, 49-50, 57.
[86] *See* Lewellen & Lewellen, *supra* note , at 8.
[87] *Id.* at 4, 25-28.
[88] *Id.* at 4.
[89] *Id.* at 4.
[90] *Id.* at 25-28

6-10 firms would choose the former because the net gains are $100,800 - $73,400 = $27,400. But the actual choice of institutional investors is between either encouraging that procompetitive conduct or encouraging a lessening of competition that increases value by 1% across all the firms in the industry. The latter choice would gain $100,800 + $73,400 = $174,200 and thus dominate the former choice.[91]

Moreover, to the extent that institutional investors are highly overweighted in one firm relative to the rival firms, their horizontal shareholdings will contribute little to MHHI. The reason is that such high overweighting means their shares in the rival firms will be very low relative to the shares of other institutional investors, which means (as discussed above) that the MHHI measure will calculate that the overweighted investors have very little influence over the rival firms. Thus, markets with high ΔMHHI levels are far less likely to exhibit the sort of highly unbalanced horizontal shareholdings that could create flow incentives strong enough to make leading shareholders want the value of the rival firms they hold to actually decrease.

In any event, all these critiques of the MHHI measure miss the point of the empirical analysis. The Airline Study does not infer anticompetitive effects from *a priori* assumptions that MHHI must affect prices. Rather, the Airline Study empirically tests the ***hypothesis*** that horizontal shareholding, as measured by ΔMHHI, increases prices.[92] Thus, the Airline Study ***validates*** its MHHI measure by showing that empirically it has a highly statistically significant correlation with higher prices, despite manifold controls for other possible causes or endogeneity.

To be sure, maybe we can develop more-refined measures of horizontal shareholding that have even greater statistical significance and explanatory power than MHHI does. For example, I and some co-authors have proposed an alternative method that avoids the implication that horizontal shareholders with a small total share generate near-monopoly pricing when the remaining shareholders are highly dispersed.[93] If critics are right that this implication is implausible and arises often enough to be practically significant, then future empirical testing should establish that this alternative method predicts firm prices even better than MHHI does. But that does

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[91] Moreover, even if there were no anticompetitive option, this average level of horizontal shareholdings reduces the gains from the procompetitive conduct from $100,800 to $27,400, thus giving the average institutional investor only 27% of the incentives to expend effort to encourage such corporate conduct as it would have had without the horizontal shareholding. Such horizontal shareholdings will thus predictably reduce the amount of effort institutional investors exert to encourage procompetitive conduct.

[92] Azar, Schmalz & Tecu, *Airline Study*, *supra* note , at 1522-23.

[93] *See* Brito, Elhauge, Ribeiro & Vasconcelos, *Modeling Horizontal Shareholding with Ownership Dispersion* (2018), https://ssrn.com/abstract=3264113 or http://dx.doi.org/10.2139/ssrn.3264113.

not alter the reality that taking MHHI into account predicts prices better than ignoring horizontal shareholding altogether.

Likewise, perhaps methods of measuring MHHI and aggregating the shareholdings of fund families can be fine-tuned to take into account not only the varying fee levels for shareholdings held in different funds but also the effect of flow incentives.[94] If such fine-tuning improves empirical accuracy, it should be adopted. But it is clear that measures of horizontal shareholding that respond to these sorts of complications by instead failing to aggregate fund family shareholdings at all turn out to have less or no statistical significance, thus indicating that their failure to aggregate misses a key effect that the MHHI measure does capture.[95]

Similar flaws apply to the claims by Hemphill and Kahan that the MHHI measure presumes that horizontal shareholders pursue an anticompetitive strategy that other investors oppose and thus rules out value-increasing strategies.[96] Hemphill and Kahan's premise is mistaken because horizontal shareholding actually enhances the profits of non-horizontal shareholders, by reducing competitiveness not just at their firm, but also at that firm's *rivals*.[97] Indeed, Hemphill and Kahan admit this is so, but assert this proposition is inconsistent with the fact that MHHI decreases with increased non-horizontal shareholding.[98] But there is no inconsistency. Increased non-horizontal shareholding means lower levels of horizontal shareholding that would otherwise reduce competition at ***both*** the firm and its rivals, and thus diminishes MHHI and predicted anticompetitive effects. This is not at all in conflict with the fact that such non-horizontal shareholders (although unable to themselves generate the same anticompetitive effects) also benefit from (and thus have no incentive to oppose) the anticompetitive effects of horizontal shareholding.

Anyway, the proposition that higher ΔMHHI increases prices is not an assumption, but rather a hypothesis that the Airline Study empirically tests and sustains. Hemphill and Kahan argue that horizontal shareholders might push firms to lower cost, but they themselves admit there is no persuasive theory to explain why horizontal shareholders would be more likely than non-horizontal shareholders to get the corporation to pursue such a value-increasing strategy,[99] in which case there is no reason to think that such cost-reductions would increase with higher ΔMHHI. Moreover, if Hemphill and Kahan were right that higher horizontal shareholding

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[94] *See* Lewellen & Lewellen, *supra* note , at 8 & n.3.
[95] *See infra* Parts I.D.2-3.
[96] Hemphill and Kahan, *supra* note , at 6-7 & n.12, 17, 21-22, 46.
[97] *See infra* Part III.A.
[98] Hemphill and Kahan, *supra* note , at 21-22.
[99] Hemphill and Kahan, *supra* note , at 9, 47.

lowers firm costs in a way that offsets any anticompetitive effects, then the empirical test would not show that higher ΔMHHI raises airline prices. But it does, thus supporting the anticompetitive hypothesis and contradicting Hemphill and Kahan's contrary hypothesis.

2. The Critiques That Re-Run the Airline Study Using Different Assumptions. A couple of papers have purported to show that horizontal shareholding does not increase airline pricing by re-running the Airline Study using different assumptions. These papers actually replicate the Airline Study's finding that horizontal shareholding raises market prices, even using the critics' own re-construction of the data and different measures of horizontal shareholding. These papers are able to negate those price effects only by altering the regression in incorrect ways, such as by incorrectly using an instrumental variable that is negatively correlated with horizontal shareholding or by incorrectly setting many shareholding rights equal to zero.

(i) The ICI Paper. The first of these papers was funded by the Investment Company Institute (ICI), an association of institutional investors that for the preceding three years was headed by the CEO of Vanguard.[100] This ICI paper first reconstructs the data from scratch and ***replicates*** the results of the Airline Study.[101] This part of the ICI paper thus affirmatively confirms that the results of the Airline Study are not an artifact of any data errors. The ICI paper next modifies the original airline study in three ways.

First, the ICI paper re-runs the Airline Study's main regression of prices on horizontal shareholding levels, but replaces actual MHHI and ΔMHHI with the paper's own "construction" of horizontal shareholder incentive terms.[102] Even using its own constructed measure of horizontal shareholding, the ICI paper find that horizontal shareholding increases prices in a statistically significant way.[103] This part of the paper thus actually confirms that the results of the original airline study were ***not*** driven by the MHHI measure of horizontal shareholding that it used.

Second, the ICI paper re-runs the BlackRock-BGI instrumental variable regression, but the paper changes the instruments to (a) a dummy variable if the market was affected by the BlackRock-BGI merger at all and (b) the number of airlines in each

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[100] Kennedy, et al, *The Competitive Effects of Common Ownership: Economic Foundations and Empirical Evidence* at n.* (July 2017), https://ssrn.com/abstract=3008331. The Investment Company Institute also funded O'Brien and Waehrer's methodological critique. *See* O'Brien & Waehrer, *supra* note , at 729 n.*.

[101] Kennedy, et al, *supra* note 65, at 10-14.

[102] *Id.* at 14-15.

[103] *Id.* at 16.

market that are included in the Russell 1000 index.[104] The first change in instruments means that much of the modified study now compares routes unaffected by the merger to routes with trivial effects, which naturally reduces the measured effect and statistical power. Further the combination of modifications results in the ICI paper implausibly finding that horizontal shareholding has a large ***negative*** effect on prices. This implausible finding seems to reflect a flaw in the modified instruments that the ICI paper uses as a purported proxy for horizontal shareholding, because the paper's first stage results indicate that the BlackRock-BGI merger somehow had a significant ***negative*** effect on horizontal shareholding levels, which is impossible given that the merger clearly combined horizontal shareholders.[105]

In short, although the ICI paper claims a negative relation between horizontal shareholding and price, it does so only by using a purported proxy for horizontal shareholding levels that in reality is ***negatively*** related to actual horizontal shareholding levels. Not surprisingly, if one uses a proxy that is negatively related to horizontal shareholding, one finds that the proxy is negatively related to prices. But that just confirms that actual horizontal shareholding does increase prices.

Third, the ICI paper creates its own model of market demand and supply and estimates results using its own measure of horizontal shareholding.[106] This modification finds no statistically significant link between horizontal shareholding and prices, but its attempt to reconstruct market demand and supply is clearly erroneous because it finds that longer routes have ***lower*** marginal costs, which contradicts the physical reality that it takes more fuel to fly longer distances.[107] Also, this modification only uses one tenth of the actual data, which makes it far less likely to find an effect.[108]

In short, the ICI Paper actually replicates the Airline Study's finding that horizontal shareholding increases prices even with their own reconstruction of the data and measure of horizontal shareholding levels. They eliminate statistically significant results only by incorrectly either using an instrumental variable that is actually

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[104] *Id.* at 15.

[105] *Id.* at Table 6; Azar, Schmalz & Tecu, *The Competitive Effects of Common Ownership: Economic Foundations and Empirical Evidence: Reply* at 4 (September 28, 2017), https://ssrn.com/abstract=3044908 [hereinafter "Azar, Schmalz, and Tecu, *Reply to Kennedy, et al.*"].

[106] Kennedy, et al, *supra* note 65, at 5, 16-22.

[107] *Id.* at 22; Azar, Schmalz & Tecu, *Reply to Kennedy, et al.*, *supra* note , at 3, 5.

[108] Kennedy, et al, *supra* note 65, at 20-21; Azar, Schmalz & Tecu, *Reply to Kennedy, et al.*, *supra* note , at 3-5.

negatively correlated with horizontal shareholding or using a market model that wrongly assumes that flying longer routes reduces marginal costs.

(ii) Dennis, Gerardi, and Schenone. Another article by Dennis, Gerardi, and Schenone purports to show that re-running the Airline Study using different assumptions affirmatively shows that horizontal shareholding has no anticompetitive effects on airline pricing.[109] However, their analysis has several flaws.

They begin their analysis by inaccurately asserting that my proposal was that any stock acquisition resulting in "significant" horizontal shareholdings should be challenged because it always violates the Clayton Act.[110] In reality, I expressly rejected any such categorical ban on "significant" horizontal shareholdings as far too overinclusive.[111] Instead, I made the far more limited proposal that when there was both a ***high*** (not merely significant) level of horizontal shareholding (ΔMHHI > 200) ***and*** high product market concentration (MHHI > 2500), the market should be ***investigated*** in order to determine whether the horizontal shareholding created the likely anticompetitive effects required by the Clayton Act.[112] Given their false premise about my position, Dennis, Gerardi, and Schenone then stress that such a categorical ban on horizontal shareholding would have severe undesirable consequences and that their policy concerns about those consequences are what motivated them to re-do the Airline Study to test whether horizontal shareholding really had anticompetitive effects on airline pricing.[113] However, their efforts to re-do the Airline Study suffer from several methodological defects.

First, to measure horizontal shareholding levels, Dennis, Gerardi, and Schenone simply use the raw shareholdings that institutional investors with over $100 million in assets report on 13F forms.[114] Because the 13F forms often fail to aggregate shares held by different funds within a common fund family, this means that, unlike the original Airline Study, Dennis, Gerardi, and Schenone often fail to combine the shareholdings of funds that are voted by a common fund family and thus fail to accurately measure horizontal shareholding levels.[115] This error infects all of their

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[109] Dennis, Gerardi, & Schenone, *Common Ownership Does Not Have Anti-Competitive Effects in the Airline Industry* (February 5, 2018), https://ssrn.com/abstract=3063465.
[110] *Id.* at 2.
[111] Elhauge, *supra* note 2, at 1301-02.
[112] *Id.* at 1303.
[113] Dennis, Gerardi, & Schenone, *supra* note , at 2.
[114] *Id.* at 9 & n.13, 16.
[115] Azar, Schmalz & Tecu, *Reply to: Common Ownership Does Not Have Anti-Competitive Effects in the Airline Industry* 2-3 (April 24, 2018) [hereinafter "Azar, Schmalz & Tecu, *Reply to Dennis, et al.*"]; Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1525-26 & n.11; Lewellen &

analysis and reduces all their estimated price effects.[116] Their reliance on 13F data that is limited to large institutional investors also means that, unlike the original Airline Study, their main analysis omits all individual shareholders, which again means they fail to accurately measure horizontal shareholding levels and further reduces their estimated price effects.[117] Even with their erroneous measures of horizontal shareholding levels, they find statistically significant adverse price effects from horizontal shareholding, albeit smaller ones than the original airline study.[118]

Second, Dennis, Gerardi, and Schenone argue that if one does not weight routes by the number of passengers, then the effects on average carrier prices are statistically significant only for the 5% largest routes and the effects on market prices are significantly reduced in size and are largest for the 5% largest routes.[119] However, these findings are an artifact of their inaccurate measure of horizontal shareholding levels. If one uses their inaccurate measure without changing the original airline study's weighting of routes, then one produces the similar result of reducing

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Lewellen, *supra* note , at 9. Lambert and Sykuta wrongly assume that 13F forms always aggregate all shares within a common fund family, Lambert & Sykuta, *supra* note , at 23, but that is not the case. Lambert and Sykuta also oddly assert that even if Dennis, Gerardi, and Schenone used flawed data, the fact that they arrived at divergent results would still undermine the robustness of the original airline study. *Id.* at 32 n.111. That assertion makes no sense. One can always reach divergent results from any study if one re-runs the study using erroneously altered data. Doing so hardly undermines the robustness of the study; it merely shows the effects of using erroneous data.

[116] Dennis, Gerardi, & Schenone, *supra* note , at Tables III-IV (showing that their price coefficients are all smaller than the results in Azar, Schmalz, and Tecu).

[117] Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1525 (supplementing data on 13F forms with SEC data on noninstitutional owners who hold 5% or more of an airline's stock). Dennis, Gerardi, and Schenone argue that if one corrects the omission of individual investors for individuals holding more than 5% of a corporation, the results for three of their tables are not changed much. *Id.* Appendix at 18-24. But in fact their own tables show that excluding individual investors in their main results did reduce the measured effects for those three tables. *Compare id.* Tables III-V (results excluding individual investors), *with* Tables A.XI-XIII (results including individual investors). The exclusion of individual investors in their main analysis thus attenuates their results and biases their analysis against finding effects in their other tables (which they report only with the exclusion of individual investors). Part of their argument seems to be that individuals are usually not horizontal shareholders, which they presume means they cannot affect the measure of horizontal shareholding. *Id.* Appendix at 19. But their premise is mistaken because failing to consider such individuals could artificially inflate horizontal shareholding levels in certain routes and thus attenuate the correlation between prices and horizontal shareholding levels. In any event, it is not clear why they not do simply use the more accurate data for all their analysis. Further, their three appendix tables that include individual investors are infected by their other error (discussed later in text) of setting shared voting rights equal to zero. *Id.* Appendix at 19.

[118] *Id.* at Tables III-IV.

[119] *Id.* at 13-15.

statistical significance, especially on the smallest routes.[120] Conversely, if one instead uses an accurate measure of horizontal shareholding levels but does not weight routes by the number of passengers, then the results remain statistically significant for all but the smallest markets, as in the original airline study.[121] Thus, their finding is driven by their inaccurate measurement of horizontal shareholding, not by their unweighting of routes. Moreover, weighting routes by passengers is preferable because failing to do so necessarily has the effect of overweighing price observations on routes with fewer passengers.

In any event, even with both their erroneous measure of horizontal shareholding and their unweighting of routes, Dennis, Gerardi, and Schenone still find statistically significant (albeit smaller) adverse effects on market prices for routes both large and small.[122] Thus, it is hard to see why they believe this finding supports their title's claim to have proven that common ownership does not have anticompetitive effects in the airline industry.[123] Instead, they actually show that that the finding of anticompetitive effects can be ***replicated*** even if one uses their erroneous measure of horizontal shareholding levels and fails to weigh routes by the number of passengers.

Third, to account for the fact that some airlines operated in bankruptcy, Dennis, Gerardi, and Schenone set shareholders' profit and control rights equal to zero whenever an airline was in chapter 11.[124] They find that combining this method with their erroneous measure of horizontal shareholding levels eliminates any statistically significant effects.[125] But setting shareholder rights equal to zero when a firm is chapter 11 is a mistake because, as they themselves acknowledge, shareholders generally retain shares after a chapter 11 reorganization.[126] Thus, while reorganizations are likely to reduce shareholders' expected profit and control rights, setting those rights equal to zero clearly understates shareholder influence. A neutral method would instead test whether the results are changed if one excludes those time periods when some airlines were in chapter 11, given that their shareholder profit

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[120] Azar, Schmalz & Tecu, *Reply to Dennis, et al., supra* note, at 2-5.
[121] *Id.* at 6-9. Lambert and Sykuta are thus mistaken when they assert that Dennis, Gerardi, and Schenone showed that unweighting the regressions "alone either eliminated or drastically reduced" the effects. Lambert & Sykuta, *supra* note , at 33.
[122] Dennis, Gerardi, & Schenone, *supra* note , at 14-15 & Tables V-VI.
[123] *Id.* at 1.
[124] *Id.* at 15-16.
[125] *Id.* at 18 & Tables VII-VIII.
[126] *Id.* at 15.

and control rights become uncertain. The Airline Study shows that when that neutral method is used, it ***increases*** the estimated price effects.[127]

Fourth, when institutional investors report "shared" voting rights on their 13F forms, Dennis, Gerardi, and Schenone set their voting rights equal to zero.[128] They find that if one combines this method with their erroneous measure of horizontal shareholding levels and their erroneous treatment of chapter 11 airlines, then the estimated price effect is smaller and becomes statistically insignificant even for the largest markets.[129] But setting shared voting rights equal to zero is incorrect because having shared voting rights simply means that an entity controls the voting of another entity and exercises those voting rights on important matters like contested elections.[130] Setting shareholding voting rights equal to zero in such cases clearly understates the voting influence of such entities, and thus compounds their erroneous measure of horizontal shareholding levels and treatment of chapter 11 airlines.

Fifth, Dennis, Gerardi, and Schenone modify the data to exclude all airline tickets other than nonstop coach itineraries.[131] They find that if one combines this exclusion of ticket data with their erroneous measure of horizontal shareholding levels, unweighting of routes by passengers, and setting of shared or bankrupt control rights equal to zero, then there is no statistically significant correlation between horizontal shareholding and ticket prices.[132] Not only does this approach repeat the four errors pointed out in the preceding paragraphs, but excluding all but nonstop coach tickets further distorts the analysis because it excludes the higher-priced itineraries most likely to evidence price effects. It also results in a sample that is only 16% of the

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[127] Excluding bankruptcy periods increased the estimated coefficient from .202 to .265, *see* Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1530-32, which, given that weighted average ΔMHHI was 2044, corresponds to a change in estimated price increase from 4.1% to 5.4%, *id.* at 1526, 1529.

[128] Dennis, Gerardi, & Schenone, *supra* note , at 17.

[129] *Id.* at 18 & Tables VII-VIII. Dennis, Gerardi, and Schenone do not report their results if one sets shared voting rights equal to zero without setting all shareholder rights equal to zero for airlines in chapter 11.

[130] SEC, Division of Investment Management: Frequently Asked Questions About Form 13F, at Answer to Question 46 ("If you control another entity (or are controlled by another entity), you should report shared-defined investment discretion."), Answer to Question 50a ("If you vote on non-routine matters (e.g., contested election of directors, merger, sale of substantial assets, change in articles of incorporation effecting shareholders, change in fundamental investment policy), you have either sole or shared voting authority"), https://www.sec.gov/divisions/investment/13ffaq.htm.

[131] Dennis, Gerardi, & Schenone, *supra* note , at 4-5, 19-23.

[132] *Id.* at 5, 23-24 & Tables XI-XII.

size of the original airline study sample,[133] which further attenuates the ability to find statistically significant effects.

Finally, in order to avoid possible endogenous effects of prices on market shares and HHI and ΔMHHI levels, Dennis, Gerardi, and Schenone modify the analysis to replace the airlines' actual market shares on the relevant routes with a proxy based on the airlines' share of all passengers going to or from each end point.[134] They find that if they combine this proxy for market share with their erroneous measure of horizontal shareholding levels and their restriction of the data to nonstop coach tickets, then they can eliminate any statistically significant effect of horizontal shareholding on prices.[135] But their proxy for market shares on any given route will predictably be distorted by airline shares on entirely different routes to or from those end points. For example, suppose two airlines each have a 50% share of flights from Boston to Martha's Vineyard, but those two airlines only have a 5% share of all flights going to or from Boston and to or from Martha's Vineyard. Dennis, Gerardi, and Schenone's approach would wrongly treat the airlines as having only a 5% share of the Boston to Martha's Vineyard route, thus vastly understating market concentration. Or suppose two airlines had a 20% share of all flights going to or from Boston and Martha's Vineyard, but did not fly between Boston and Martha's Vineyard at all. Dennis, Gerardi, and Schenone's approach would wrongly treat these airlines as each having a 20% share of the Boston to Martha's Vineyard route, even though their actual market share on that route is 0%. Their distorted measure of market share thus compounds the problems created by their erroneous measure of horizontal shareholding levels and ticket data restriction.

In short, Dennis, Gerardi, and Schenone actually replicate the Airline Study's finding that horizontal shareholding increases market prices even with their erroneous non-aggregation of horizontal shareholdings and failure to weight routes by passengers. They eliminate statistically significant results only by incorrectly setting many horizontal shareholder rights equal to zero, excluding 84% of the ticket data, and using a distorted measure of market shares.

3. The Critique of the Banking Study. Gramlich and Grundl re-run the banking study using various modifications that lead them to find smaller and more mixed effects.[136] However, like the Dennis, Gerardi, and Schenone study just discussed in the preceding section, this critique simply uses the institutional shareholdings

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[133] Azar, Schmalz & Tecu, *Reply to Dennis, et al., supra* note 84, at 9.
[134] Dennis, Gerardi, & Schenone, *supra* note , at 5, 24-25.
[135] *Id.* at 5, 25 & Table XIII.
[136] Gramlich & Grundl, *Estimating the Competitive Effects of Common Ownership* (April 21, 2017), http://dx.doi.org/10.17016/FEDS.2017.029r1.

reported in the 13F data, and thus fails to aggregate shares voted by the same fund family.[137] Gramlich and Grundl also stressed that their empirical findings were preliminary due to known irregularities in the 13F data that they had not yet investigated and corrected.[138]

Further, Gramlich and Grundl's critique of the original banking study modifies the MHHI measure to exclude its market share and market concentration components: i.e., their measure just reflects average horizontal shareholding levels without considering market concentration levels.[139] As they point out, the advantage to their approach is that it eliminates any concern about endogenous effects on market concentration (i.e., on HHI).[140] But the downside is that this makes their critique's measure far less relevant to anticompetitive effects. After all, prior empirical work had shown that adverse price effects depend not only on the horizontal shareholding levels that the critique measures, but also on the market concentration levels that the critique omits.[141] Likewise, economic theory indicates that even absolute horizontal mergers between some firms in an unconcentrated market are unlikely to affect prices,[142] so that high horizontal shareholding levels between some firms in an unconcentrated market are *a fortiori* unlikely to affect prices. It is thus not surprising that a measure like theirs, which focuses only on the average horizontal shareholding level without considering market concentration levels, will create more noise and make effects harder to observe.[143]

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[137] *Id.* at 4, 13.

[138] *Id.* at 1, 4. The need to correct the well-known inaccuracies in the 13F data by cross-checking against other sources has been repeated stressed in the literature. *See* Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1525-26 & n.11; Dennis, Gerardi, & Schenone, *supra* note , at 9 n.13; Lewellen & Lewellen, *supra* note , at 9.

[139] Gramlich & Grundl, *supra* note , at 3, 8-9.

[140] *Id.* at 3, 30.

[141] Elhauge, *supra* note 2, at 1276-77.

[142] *See* DOJ & FTC, Horizontal Merger Guidelines (2010).

[143] Their average horizontal shareholding measure simply divides the sum of horizontal shareholding levels by the number of rivals in the market. Gramlich & Grundl, *supra* note , at 9. Suppose, for example, there are 10 firms each with 1% market share that have high horizontal shareholding levels among them, but there are another 9 firms with 10% market share each that have no horizontal shareholding. The Gramlich-Grundl measure would find an average horizontal shareholding level that was substantial, even though the lack of market concentration would predict no adverse price effects. Such cases would predictably create mixed effects for the correlation between the Gramlich-Grundl measure and adverse price effects, but that is because the Gramlich-Grundl measure less accurately measures what does affect prices, which is a combination of market concentration ***and*** horizontal shareholding levels.

In short, the Gramlich and Grundl critique of the banking study not only relies on unreliable data about horizontal shareholding levels, but also considers only those horizontal shareholding levels without considering the impact of market concentration on likely price effects. Those flaws likely explain why the critique finds smaller and more mixed effects than the original banking study. The study thus actually provides strong grounds to instead use an MHHI measure that (1) measures horizontal shareholding levels in a way that corrects data errors and aggregates the shares held by a fund family and (2) incorporates the effect of market concentration, because that MHHI level is what has the statistically significant correlation to adverse price effects that the modified measure obscures.

4. New Studies in the Pharmaceutical Industry Confirm that Horizontal Shareholding Sometimes Has Anticompetitive Effects. The proposition that horizontal shareholding sometimes has anticompetitive effects has now also been confirmed by two new empirical studies in the pharmaceutical industry. One study finds that increased horizontal shareholding between an incumbent brand and an entering generic results in a 12% increase in the odds that they will enter into reverse payments settlements that delay generic entry and produces a larger delay of entry.[144] Another study finds that increased common ownership between drug manufacturers and potential generic entrants reduces the odds of generic entry by 9-13%.[145]

E. The State of the Empirical Literature Is Not Too Uncertain to Take Enforcement Action

1. The Claim that We Have Only Two Disputed Industry Studies. Some (including the current U.S. antitrust agencies) have concluded that the anticompetitive effects of horizontal shareholding remain too empirically uncertain for enforcement action because we have studies confirming such effects in only two industries—airlines and banking—and because the findings for those two industries have been disputed in other papers.[146] But the claim that we only have empirical confirmation in those two industries is no longer true. Similar results have now been found not only in two

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[144] Jin Xie & Joseph Gerakosz, *Institutional Cross-Holdings and Generic Entry in the Pharmaceutical Industry* (Nov. 16, 2018), https://ssrn.com/abstract=3285161.

[145] See Newham, et al, *Common Ownership and Market Entry: Evidence from the Pharmaceutical Industry* (May 2018), http://d.repec.org/n?u=RePEc:upf:upfgen:1612&r=law.

[146] *See* Note by the United States to OECD, Hearing on Common Ownership by Institutional Investors and Its Impact on Competition, OECD DAF/COMP/WD(2017)86, at ¶¶ 12, 15 (Dec. 6, 2017) [hereinafter "US OECD Note"]; Phillips, *supra* note , at 3-5; Ginsburg & Klovers, *supra* note , at ¶¶ 2, 6; Baker, *supra* note 1, at 231; Capital Markets Committee, *supra* note , at 1-2, 6-7.

empirical studies in the pharmaceutical industry, but also across all industries given the two new cross-industry studies.[147] It is implausible to think that all these industry studies and cross-industry studies are producing similar results if horizontal shareholding does not have any anticompetitive effects.

Nor can agencies and courts escape their responsibilities by throwing up their hands and saying the effects are unclear whenever dueling empirical studies exist. Instead, agencies and courts have to engage the merits and reach judgments about which study used a better methodology to address the issue.[148] Given the flaws identified in the preceding section, the counter-studies provide no sound basis for concluding that the issue empirically ambiguous in the airline or banking industries. Further, in the banking industry, the only counter-study on the effects of horizontal shareholding expressly states that its findings are preliminary because it relies on 13F data with known irregularities that they have not yet investigated and corrected.[149] It is thus particularly surprising that those urging inaction on horizontal shareholding have claimed that this counter-study affirmatively supports their claim that horizontal shareholding has uncertain empirical effects on banking fees.[150]

Moreover, the agencies cannot really defend current enforcement practices based on empirical uncertainty because its current practices rest on an affirmative empirical premise. Current practices rely on HHIs when assessing mergers and stock acquisitions, but relying on HHIs is not neutral about whether horizontal shareholding has anticompetitive effects. To the contrary, HHI measures assume that horizontal shareholding has ***zero*** effect on competitive interactions. Likewise, when the agencies rely on merger simulation models, those models assume that horizontal shareholding has no effect on firm incentives. We certainly lack any theoretical or empirical basis for assuming that horizontal shareholding has zero effect, yet the agencies are effectively relying on that assumption all the time when they make predictions about the likely effects of mergers and stock acquisitions.

In any event, recall that my proposal is simply that antitrust agencies consider horizontal shareholding when assessing mergers and cross-shareholdings and

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[147] *See supra* Part I.B-D.

[148] That is particularly true where, as here, the studies purporting to "disprove" effects do not actually do so, but rather show that under their modified data or assumptions, the effects are not statistically significant. To put it another way, the results of the Airline Study that found effects are all within the standard error bounds of the counter-studies failing to find statistically significant effects. Thus, the latter cannot really disprove the former, because the results of the former are in fact with the confidence interval of the latter.

[149] *See supra* Part I.D.4; Gramlich & Grundl, *supra* note , at 1, 4.

[150] *See* US OECD Note, *supra* note , at ¶ 12 & n.26, ¶ 15; Phillips, *supra* note , at 3-4 & n.6, Ginsburg & Klovers, *supra* note , at ¶ 2 & n.7, ¶ 6; Capital Markets Committee, *supra* note , at 8.

investigate any markets with a sufficiently high level of horizontal shareholding (ΔMHHI > 200) and product market concentration (MHHI > 2500), in order to determine whether the horizontal shareholding has any anticompetitive effects in that market.[151] This proposed consideration and investigation would not result in enforcement actions unless the agency determined that anticompetitive effects likely did empirically exist in that market and could not result in antitrust liability unless the agency could prove those likely effects to a court of law. Thus any empirical uncertainty would be resolved in the enforcement actions anyway. The flawed critiques of two industry studies hardly provide any justification for refusing to even consider or investigate whether horizontal shareholding has anticompetitive effects in any market.

2. The Causal Mechanisms. Some (again including the current U.S. antitrust agencies) have suggested or argued that we should not act on the empirical findings that horizontal shareholdings have anticompetitive effects until we have clearer proof on the precise causal mechanism.[152] This argument fails both because proof of mechanisms is not necessary for desirable enforcement and because ample proof of mechanisms already exists.

First, clear proof on the precise causal mechanism is not necessary to make enforcement proper or desirable. The Clayton Act bans mergers and stock acquisitions that are likely to have anticompetitive effects regardless of whether the precise mechanism for those effects is known.[153] Nor is such proof on the causal mechanism necessary to make enforcement desirable as a matter of policy. After all, the tobacco industry argued for decades that we should not act on the empirical evidence that smoking causes cancer because we did not have clear proof of the precise causal mechanism by which smoking causes cancer, and delaying tobacco

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[151] Elhauge, *supra* note 2, at 1303. I thus propose the same sort of case-by-case approach that the US antitrust agencies have indicated they would take if and when they were convinced that specific horizontal shareholdings had anticompetitive effects. US OECD Note, *supra* note , at ¶ 3. Menesh Patel has echoed my call for case-by-case enforcement, but asserts it is inconsistent with investigating markets with high concentration and horizontal shareholding. Patel, *supra* note , at 282-83. There is no inconsistency: one needs to investigate such markets in order to determine when case-by-case analysis indicates enforcement is merited. Patel does not explain how, without any investigation, one is supposed to know when to do the case-by-case analysis that he agrees with me should occur.

[152] US OECD Note, *supra* note , at ¶¶ 13, 15; Ginsburg & Klovers, *supra* note , at ¶ 6; Phillips, *supra* note , at 5-6.

[153] Scott Morton & Hovenkamp, *Horizontal Shareholding and Antitrust Policy,* 127 YALE L.J. 2016, 2034-35 (2018).

regulation for that reason is now generally understood to have been a mistake.[154] To be sure, there are sound grounds to ignore a correlation as spurious when there is no plausible causal mechanism, such as the correlation between margarine consumption and Maine divorce rates.[155] But when (as for smoking and horizontal shareholding) there are plausible causal mechanisms, it is hard to see why one should ignore multiple statistical correlations between the conduct and serious societal harm that properly control for other possible reasons for the correlation and that show a less than 1% chance that the correlation is random, just because of arguments that we do not have ironclad proof of just how the causal mechanism works. As a policy matter, ignoring statistical correlations that have such low odds of being random results in enduring a risk of social harm that greatly exceeds the risk of harm from regulating the conduct.

Second, the causal mechanisms related to horizontal shareholding are not just plausible, but clearly well founded. The following sections summarize the evidence supporting multiple causal mechanisms.

(i) Board Elections. One causal mechanism is that horizontal shareholders vote in elections for the board of directors. Economic proofs show that their voting will incline managers to lessen competition, as long as managers care either about their vote share or their odds of re-election.[156] All of the big three index fund families (BlackRock, Vanguard, and State Street) use shareholding voting to oppose or support the election of particular board members.[157]

Some argue that shareholder voting on director elections is unlikely to influence corporate behavior.[158] But their claim is contrary to what institutional investors themselves have concluded. BlackRock stresses, "'The implicit sanction of a vote against management if a company is not responsive to shareholder concerns about corporate governance matters' has led to a series of serious changes in major companies."[159] State Street acknowledges that its ability to vote against

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[154] *See* Tim Harford, *Cigarettes, damn cigarettes, and statistics,* FINANCIAL TIMES (April 10, 2015); Milberger, et al., *Tobacco manufacturers' defence against plaintiffs' claims of cancer causation: throwing mud at the wall and hoping some of it will stick*, 15(Suppl 4) Tobacco Control iv17 (Dec. 2006).

[155] Harford, *supra* note .

[156] *See supra* Part I.A.

[157] Sarah Krouse, *At BlackRock, Vanguard and State Street, 'Engagement' Has Different Meanings*, WALL ST. J. (Jan. 20, 2018).

[158] Rock & Rubinfeld, *Antitrust, supra* note , at 239-40; Hemphill and Kahan, *supra* note , at 30.

[159] Tim Wallace, *Index funds must use their huge power over companies, says BlackRock chief Laryy Fink*, Telegraph.co.uk (April 29, 2018).

management "ensures" that its "interests are given due consideration."[160] More generally, 53 percent of all institutional investors admitted in a survey that they tried to influence managers by voting against them.[161]

Hemphill and Kahan argue that shareholder voting is unlikely to affect corporate behavior because most corporate elections are uncontested.[162] But empirical evidence shows that, even in uncontested elections, an increased share of votes withheld from directors significantly increases the odds that those directors will depart the board, lose key committee seats, and get fewer directorships at other firms.[163] Corporate managers thus have strong incentives to care if horizontal shareholders are withholding votes from them in board elections. Further, boards routinely consult with their major shareholders about whether to even put a director candidate forward for election.[164] Empirical studies also show that decisions to oust managers from their jobs are driven almost as much by industry performance as by individual firm performance, giving managers powerful incentives to take industry performance into account in a way that keeps horizontal shareholders happy.[165]

(ii) Executive Compensation. Another causal mechanism is that horizontal shareholders vote on executive compensation, and higher horizontal shareholding is associated with executive compensation being less sensitive to firm performance, which directly incentivizes less aggressive competition.[166] Some argue that shareholders are unlikely to influence executive compensation because shareholder voting on compensation is either nonbinding or about high-level terms of compensation.[167] But empirical evidence establishes that, even in non-binding votes, higher levels of shareholder dissent on executive compensation lead to lower CEO pay.[168] And the high-level terms are precisely what determines the extent to which compensation is sensitive to firm performance. Further, given that 45% of passive investor engagements with corporations are about the structure of executive compensation, horizontal shareholders can influence which method of executive

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[160] Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1557.
[161] Elhauge, *supra* note 2, at 1307.
[162] Hemphill and Kahan, *supra* note , at 30.
[163] Aggarwal, Dahiya & Prabhala, *The Power of Shareholder Votes: Evidence from Uncontested Director Elections* at 4-7, 21-30 (March 24, 2017), https://ssrn.com/abstract=2609532.
[164] Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1557.
[165] See Elhauge, *supra* note 2, at 1279-81.
[166] *See supra* Part I.B.
[167] Rock & Rubinfeld, *Antitrust, supra* note , at 239-40.
[168] Martin J. Conyon, *Shareholder Dissent on Say-on-Pay Voting and CEO Compensation* at 3, 19-20 (March 16, 2016), https://ssrn.com/abstract=2748645.

compensation is put up for a vote.[169] Moreover, because making compensation more sensitive to firm performance imposes additional effort costs on managers, adopting such compensation may require affirmative pressure by shareholders, so it can suffice if horizontal shareholders are simply less likely to exert pressure on management to propose such compensation.[170]

It is hard to see what additional evidence could reasonably be demanded on the above two causal mechanisms. Would doubters be persuaded only if corporate managers expressly admitted that they behaved less competitively because they knew horizontal shareholders were voting on their elections or because they cared about their executive compensation? We are unlikely to ever get such evidence, but the reason is not that it is not true; it is that managers have no incentives to admit it. Nor is managerial consciousness necessary for anticompetitive effects: it suffices that the sorts of managers who may naturally behave less competitively do better in elections or that managers tend to continue with whatever behavior gets better compensated without necessarily thinking of it as less competitive.

(iii) The Market for Corporate Control. Another plausible causal mechanisms is the market for corporate control. Managers have strong incentives to keep horizontal shareholders happy to get their backing in the event of a control contest. For example, a control contest designed to get managers of DuPont to behave more competitively was defeated by the decisive votes of horizontal shareholders who were invested in DuPont's main competitor.[171] How horizontal shareholders vote in control contests can thus directly affect whether the corporation pursues a less competitive strategy. Moreover, because managers can anticipate that future control contests can occur, they have incentives to act in ways that please the horizontal shareholders that may be decisive in any future control contest. Because SEC rules require all institutional investors to disclose their holdings in competitors, managers will know which of their leading investors are horizontally invested and thus will know that those shareholders will enjoy increased profits on those horizontal investments if the managers behave less competitively.[172]

(iv) The Stock Market. The stock market is another plausible causal mechanism. Managers might reasonably fear that if they displease their horizontal shareholders, those shareholders might sell their investments, which would depress the stock price and the value of executive stock options that are a major component of their compensation. For example, Southwest Airlines reportedly reduced capacity

[169] Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1556.
[170] Anton, et al., 2018, *supra* note , at 2-4.
[171] Elhauge, *supra* note 2, at 1270-71.
[172] Elhauge, *supra* note 2, at 1280.

increases after being critiqued by investors who were urging all airlines to hold down capacity.[173] This particular mechanism does not work for index funds, which cannot sell in reaction to behavior they do not favor, but most horizontal shareholdings are not in index funds.[174]

(v) The Labor Market. Yet another plausible mechanism is the labor market. Directors who want additional directorships at other corporations and executives who want a promotion to their next job at another corporation will be affected by how favorably disposed the leading shareholders will be at those other corporations. But the leading shareholders at those other corporations are likely to be the same large institutional investors who are horizontal shareholders at their old firm. Directors and executives who want higher odds of gaining directorships or promotions thus have incentives to please those horizontal shareholders, who will be pleased by the increased returns that result from diminished competition.[175] Consistent with this mechanism, empirical evidence shows that increasing the share of votes withheld from a director in an election at one corporation reduces the number of directorships that person has at other corporations.[176]

(vi) Direct Communication. Another plausible mechanism for influence involves communication between horizontal shareholders and managers. Although such direct communications between managers and horizontal shareholders are not necessary for anticompetitive effects,[177] this does not mean that such communications do not occur. Indeed, 63 percent of institutional investors admitted that they engaged in direct discussions with corporate managers, and one admitted that high on the list of topics was urging managers to raise prices rather than compete for market share.[178] In 2017, BlackRock had over 1,600 private engagements with firms that they held, Vanguard had over 950, and State Street had over 675, and these numbers do not include letters that are sent to portfolio companies.[179] BlackRock has also reportedly said that "meetings behind closed doors can go further than votes against management" and gives executives one year before voting against them if

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[173] Drew, "Airlines Under Justice Dept. Investigation Over Possible Collusion," N.Y. TIMES (July 1, 2015).

[174] *See infra* Part II.C.

[175] Rather than considering this mechanism, Lambert and Sykuta simply assume that shareholders at other corporations will favor managers who competed in ways that decreased those shareholders returns across their entire portfolio. Lambert & Sykuta, *supra* note , at 21.

[176] Aggarwal, Dahiya & Prabhala, *supra* note , at 5-6, 26-28.

[177] *See supra* Part I.A-B. Some rely on arguments that mistakenly assume such direct communications are necessary for a causal mechanism. *See* Phillips, *supra* note , at 5-6.

[178] Elhauge, supra note 2, at 1269-70, 1307.

[179] Krouse, *supra* note .

they do not listen.[180] BlackRock's CEO has added, "we are taking a more active dialogue with our companies and are imposing more of what we think is correct."[181] He even declared, "We can tell a company to fire 5,000 employees tomorrow."[182]

(vii) Reduced Pressure to Compete. Finally, the causal mechanism could actually be that horizontal shareholding ***reduces*** the incentives of shareholders to pressure managers to compete more vigorously. Competing harder with other corporations is hard work for corporate managers. It requires coming up with ways to lower costs, improve quality, or market more effectively. Because competing vigorously is hard work, managers are less likely to do it unless their shareholders are actively pressing them to compete. Horizontal shareholding can thus make managers less likely to compete simply because it makes those shareholders ***less*** willing to exert effort to pressure managers to compete.[183]

(viii) Macro v. Micro Mechanisms. For all the above mechanisms, Hemphill and Kahan distinguish between whether they are used as macro mechanisms (affecting the general tendency of managers to compete) or micro mechanisms (that affect specific competitive decisions in specific markets).[184] They argue that: (a) the Airline Study and other industry-specific studies failed to test for macro mechanisms because they found effects based on differences between local markets with different ΔMHHIs; and (b) although some macro mechanisms are plausible (including executive compensation and influencing corporate control contests), active micro mechanisms are implausible because horizontal shareholders neither could nor would affect decisions in specific local markets.[185] They therefore conclude that the industry-specific studies fail to provide empirical evidence for any plausible active causal mechanism. They acknowledge that the passive micro mechanism of selectively failing to promote competition in some markets could be plausible for some investors, but argue that such a micro strategy is not plausible for the index funds that have much of the horizontal shareholdings.[186] However, Hemphill and Kahan are wrong in concluding that the Airline Study failed to test for macro mechanisms, wrong that micro mechanisms are implausible, and wrong in assuming that the empirical evidence rises or falls with the industry-specific studies.

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[180] Fichtner, et al, *supra* note , at 318-19.
[181] *Id*. at 318.
[182] Anton, et al, 2018, *supra* note , at 4 n.2.
[183] Martin C. Schmalz, *Common-Ownership Concentration and Corporate Conduct*, ANNUAL REV. FIN. ECON. 1, 24 (Dec. 2018); Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1552-53.
[184] *See* Hemphill & Kahan, *supra* note , at 6-7, 11.
[185] *Id.* at 7,11, 24-26, 31-46, 61-62.
[186] *Id.* at 8, 42-43, 65-67.

First, it is not true that the Airline Study found effects based on differences between routes. To the contrary, because the Airline Study used fixed effects variables for each route, the effects it found were based on how changing ΔMHHI over time changes prices over time in all those routes.[187] The existence of a large number of routes gave the Airline Study a large number of observations to better achieve statistical significance, and enabled the study to better control for differences among route characteristics, but the study did not rest on any assumption that anticompetitive influence was targeted at certain routes, rather than generally reducing the tendency of airlines to be competitive.[188] To the contrary, the Airline Study actually ran an alternative regression that used one variable for an airline's average ΔMHHI across all routes (which would be relevant to the effect of horizontal shareholding on the airline's general competitive tendencies) and another variable for the variation in ΔMHHI from that average in specific routes (which would be relevant to the effect of horizontal shareholding on the airline's route-specific competitive tendencies).[189] Both had the effect of raising prices with a statistical confidence level of 99%, but the coefficient for the airline-wide ΔMHHI effect was nine times greater than the coefficient for the route-specific ΔMHHI effect.[190] Thus, the Airline Study actually indicates that horizontal shareholding's effects were 90% on the general competitiveness of an airline and only 10% on route-specific competitiveness.[191]

Second, it is not true that micro mechanisms are implausible. The Airline Study actually provides direct evidence that, during airline earnings calls, horizontal shareholders have criticized airline decisions to add capacity to specific markets, and have even stressed that they were communicating the same critique to other airlines.[192] Moreover, as just noted, the Airline Study shows that horizontal shareholding did have an effect on specific routes, with a statistical confidence level of 99%. Although the size of this effect was smaller than the effect on general competitiveness, this finding confirms that there were in fact route-specific effects. Further, if horizontal shareholders were expending effort to influence competitiveness on specific routes, it makes sense that they would expend more effort on the larger routes where the anticompetitive gains would be larger. Consistent with this possibility, the Airline Study shows that the effect of ΔMHHI

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[187] *See supra* at I.D.1(i).
[188] Azar, Schmalz & Tecu, *Airline Study*, *supra* note , at 1550-51.
[189] Azar, Schmalz & Tecu, *Internet Appendix for "Anticompetitive Effects of Common Ownership,"* at 18, Table IA.VIII, https://doi.org/10.1111/jofi.12698.
[190] *Id.*
[191] Azar, Schmalz & Tecu, *Airline Study*, *supra* note , at 1550-51.
[192] *Id.* at 1555-56.

on prices was greater the larger the route.[193] Finally, the banking study shows that horizontal shareholding has stronger effects on specific local markets where GHHI is high, and the pharmaceutical studies shows that horizontal shareholding has effects on settlements and entry that are specific to the markets in which horizontal shareholding is greater.[194] When so many studies find micro effects, it might be time to doubt the logic behind the claim that micro effects are implausible.

There is strong reason to doubt that logic not only because specific communications are possible, but also because there is no reason to think that general mechanisms like voting cannot have micro effects. Horizontal shareholders (including index funds) could simply vote (in elections or control contests) for managers who have the general tendency of taking into account the interests of horizontal shareholders, a general tendency that would cause those managers to act differently in routes with higher ΔMHHI. To draw an analogy, suppose federal voting rights were changed so that Puerto Rico could participate in the Electoral College that elects Presidents, and we asked ourselves whether this might affect federal responses to hurricanes. By the logic of Hemphill and Kahan, such voting rights could only affect the general responsiveness of Presidents to any area that suffers hurricanes, but could not differentially affect responsiveness to hurricanes in specific areas. But would anyone doubt that giving Puerto Rico these voting rights would result in Presidents becoming specifically more responsive to Puerto Rican hurricanes than they were previously?

Third, the industry studies that prove micro effects are not the only empirical studies that confirm horizontal shareholding can have anticompetitive effects. Empirical studies on executive compensation and the investment-profit gap confirm that horizontal shareholding has a general effect on executive compensation methods and investment levels at certain firms and in certain industries.[195] Because these studies show that horizontal shareholding had general effects on firms and industries, they empirically confirm a macro mechanism.

(ix) The Combination of Mechanisms. The above combination of mechanisms is neither surprising nor mysterious. For decades, corporate law and economics scholarship has argued that the separation of ownership and control is not as big a problem as Berle and Means thought,[196] because managers are disciplined to serve shareholder interests by a combination of shareholder voting, executive

[193] *Id.* at 1550.
[194] *See supra* Parts I.D.3-4.
[195] *See supra* at I.B-C.
[196] ADOLF BERLE & GARDINER MEANS, THE MODERN CORPORATION AND PRIVATE PROPERTY (1932).

compensation incentives, control contests, capital markets, labor markets, and legal duties.[197] Although these mechanisms cannot totally eliminate agency slack, the defense of the structure of modern publicly-held corporations generally rests on the claim that the combination of these mechanisms does assure managers are primarily influenced by the interests of their shareholders.

Taking a step back, the critics are effectively claiming that firm managers are entirely unaffected in their competitive decisions when their leading shareholders derive profits (often more profits) from the firm's rivals. This claim is quite implausible. If the political boundaries of the United States were redrawn to include Canada, no one would doubt for an instant that this would make U.S. Presidents much more attentive to the interests of Canadians, even though political voters have diverging interests, massive information problems, and cannot vote on any specific Presidential decisions. Further, in political situations, the only source of accountability is voting by individuals on who to elect to office. For corporations, the sources of voting accountability include not only election voting by large institutional investors (which each have a much higher share of the vote than political voters), but also voting on many specific corporate decisions. Moreover, the sources of accountability include not only voting, but also executive compensation incentives, control contests, stock markets, labor markets, and direct communications. It would be remarkable if those methods of accountability did not make firm managers pay attention to the profit interests of their leading shareholders, and those profit interests clearly change when those leading shareholders are also leading shareholders in the firm's competitors.

Hemphill and Kahan argue we should wait for clearer proof of which of these causal mechanisms are most effective before taking enforcement action, in part because such proof might suggest enforcement targeted more narrowly at some of the causal mechanisms.[198] But this argument presumes that: (a) there is little social harm from waiting, (b) only a limited subset of these causal mechanisms is effective; and (c) such a subset could be effectively policed.

Unfortunately, none of those three premises are accurate. First, as amply shown by the statistical evidence, the societal harm from waiting to take action is vast. Second, banning some subset of mechanisms is unlikely to be effective, because a combination of all the above mechanisms is likely to influence corporate management. Indeed, even if one mechanism dominated now, banning only that mechanism would likely induce horizontal shareholders to shift to greater use of the

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[197] *See, e.g.,* Easterbrook, *Managers' Discretion and Investors' Welfare: Theories and Evidence,* 9 DEL. J. CORP. L. 540, 543 (1984).

[198] *See* Hemphill & Kahan, *supra* note , at 6, 68-69.

other mechanisms in order to further their interests. Third, policing a subset of these mechanisms is unlikely to be effective. Any categorical prohibition on allowing institutional investors to vote, influence executive compensation or hiring, take sides in control contests, sell stock, or communicate with managers would be overbroad and create more problems than it solves. Yet the alternative of selectively punishing these mechanisms when they are used anticompetitively would raise insuperable enforcement difficulties. For example, a prohibition on anticompetitive shareholder communications would not be practical to enforce because those communications are usually not public. Nor does it seem feasible to define and enforce a legal ban on horizontal shareholders considering their horizontal interests when they vote or make future hiring decisions or a ban on managers considering that the fact that greater competition may make them less likely to receive horizontal shareholder support in future board elections, control contests, or job searches. Even less plausible would be defining an affirmative legal duty on horizontal shareholders to pressure managers to compete just as much as they would have without their horizontal interests. In contrast, the existence of high levels of horizontal shareholding in concentrated markets is public, easy to monitor, and easy to ban.

In the end, the problem lies in the structural incentives created by horizontal shareholdings in concentrated markets, just as the problem with anticompetitive mergers and cross-shareholdings lies in the structural incentives they create. Behavioral remedies that try to target particular means or uses of horizontal shareholder influence are likely to be ineffective and hard to police. Indeed, they raise even greater enforcement difficulties than the behavioral remedies that many have concluded cannot effectively police anticompetitive mergers or cross-shareholdings.[199] Because horizontal shareholding in concentrated markets is a structural problem, the only effective remedy is preventing or undoing that anticompetitive structure.

II. REBUTTING CLAIMS THAT ANTICOMPETITIVE EFFECTS FROM HORIZONTAL SHAREHOLDING ARE THEORETICALLY IMPLAUSIBLE

Several commentators have argued that anticompetitive effects from horizontal shareholding are implausible because they would be prevented by non-horizontal shareholder interests, vertical shareholdings, and/or weak index fund incentives. All

[199] *See, e.g.*, https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-keynote-address-american-bar (Nov. 16, 2017) (mergers); David Gilo, *The Anticompetitive Effect of Passive Investment*, 99 MICH. L. REV. 1, 45-46 (2000) (cross-shareholdings).

of these theoretical arguments clearly conflict with the empirical data detailed in Part I, which shows that horizontal shareholding does have anticompetitive effects, thus indicating that there must be some flaws in these theoretical arguments. Here in Part II, this article explains what those flaws are, and why they make these theoretical arguments are unsound in their own right.

A. Non-Horizontal Shareholder Interests and Fiduciary Duties Do Not Prevent Anticompetitive Effects

Some argue that horizontal shareholders cannot cause corporations to behave less competitively because managers will also be influenced by non-horizontal shareholders with conflicting interests,[200] and indeed are bound by fiduciary duties to take into account the interests of all their shareholders.[201] The current U.S. antitrust agencies cited this argument among the reasons not to yet take enforcement action.[202]

There are two empirical problems with this theoretical claim. To begin with, some critics making this claim rely on an inaccurate description of shareholder heterogeneity. In particular, Rock and Rubinfeld take an Airline Study table that shows each major's airlines' top ten shareholders, purport to reorganize it into a spreadsheet showing each institutional investors' airline shareholdings, and then claim the results "dramatically show" that many of those investors hold 0% in several of the top six airlines.[203] But the large number of zeroes in their spreadsheet actually reflects two major errors that they made in creating that spreadsheet. First, they incorrectly replaced several of top-ten shareholders' actual shareholdings with the number zero. For example, although Rock and Rubinfeld themselves acknowledge that Fidelity had 7.58% of Jet Blue and that PAR Capital had 5.18% of United and 3.65% of Alaska Air, in their spreadsheet they incorrectly replaced all those large shareholdings with 0%.[204] Second, their spreadsheet inexplicably assumes that any shareholder outside the top ten at any airline holds 0% in that airline. This is clearly incorrect. For example, at United the tenth largest shareholder had 2.15% of its stock. An institutional investor that held 2% at United would nonetheless incorrectly be deemed by Rock and Rubinfeld to have 0% in United.

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[200] Hemphill and Kahan, *supra* note , at 41; Rock & Rubinfeld, *Antitrust, supra* note , at 232-35, 250-51.
[201] O'Brien & Waehrer, *supra* note , at 734, 765-66; Lambert & Sykuta, *supra* note , at 21-22.
[202] US OECD Note, *supra* note , at ¶¶ 13, 15.
[203] Rock & Rubinfeld, *Antitrust, supra* note , at 233-234.
[204] *Compare id.* at 233 (acknowledging these shareholdings), *with id.* at 234 (replacing these shareholdings with zero.)

Most of the zeros in Rock and Rubinfeld's spreadsheet reflect the fact that these two errors incorrectly replaced institutional investors' true shareholdings with zero.

The more decisive empirical problem with this theoretical assertion is that it conflicts with the empirical data showing that horizontal shareholding does have adverse effects. When a theoretical claim does not fit the facts, it indicates there must be some flaw in the theory. Consistent with the empirical evidence, there are in fact many theoretical flaws with this claim.

First, the causal mechanisms described above assume managers ***do*** take into account the interests of all their shareholders, horizontal and non-horizontal. What the proofs show is that taking all shareholder interests into account will encourage managers to compete less the more those shareholders are horizontally invested.[205]

Second, it is not true that horizontal shareholdings harm non-horizontal shareholders. To be sure, non-horizontal shareholders at a firm may favor a different ***firm-specific*** strategy than the firm's horizontal shareholders. But that does not mean that the nonhorizontal shareholders are harmed by horizontal shareholders because horizontal shareholders ***also*** reduce the competitiveness of rival firms. Thus, horizontal shareholding increases profits for all the affected firms, which benefits non-horizontal shareholders as well as horizontal shareholders.[206] Non-horizontal shareholders therefore affirmatively benefit from the fact that horizontal shareholding reduces competition at both their firm and its rivals. One cannot separate horizontal shareholding's effect on their firm from its effect on the rival firms because horizontal shareholders by definition are invested in both and profit from reducing competition at both, not from hampering one firm to benefit the rival firms. Accordingly, non-horizontal shareholders have no more incentive to object to anticompetitive horizontal shareholding than they would to object to their firm entering a legally-permitted cartel with rival firms.

Third, this claim misunderstands corporate law on fiduciary duty claims. Managerial judgments about competitive actions would be protected from any fiduciary duty claim by the business judgment rule.[207] As long as managers are exercising their business judgment when making competitive decisions, courts will not second-guess whether managers could have increased profits by taking some other course of action or even whether managers were actually motivated by

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[205] *See supra* at Part I.A.

[206] This was proven as far back as 1984. *See* Rotemberg J., *Financial transaction costs and industrial performance*, Working Paper, Alfred P. Sloan School of Management (1984).

[207] Elhauge, *Sacrificing Corporate Profits in the Public Interest*, 80 NYU. L. REV. 733, 770-774 (2005) (detailing the operational discretion provided by the business judgment rule).

profits.[208] Further, the business judgment rule is especially deferential when managers make decisions about output and pricing.[209] Managers thus face no serious risk of fiduciary duty liability for choosing to take less competitive action than they could have.

Fourth, even if we ignore the reality that the business judgment rule would bar any fiduciary claim, non-horizontal shareholders would have no incentives to bring such a claim when horizontal shareholding has anticompetitive effects, given that those effects increase profits at all the horizontal competitors. Undoing the horizontal shareholding or preventing the horizontal shareholders from exerting influence would thus reduce the returns enjoyed by the non-horizontal shareholders. Even if the non-horizontal shareholders brought suit despite their lack of incentives, they would for the same reason be unable to prove any injury or collect any damages.

Finally, this argument logically conflicts with well-established antitrust law deeming anticompetitive concerns to arise when one firm acquires a controlling interest of less than 100% in a competitor.[210] If this argument were right, such acquisitions would raise no anticompetitive concerns because fiduciary duties to the non-controlling non-horizontal shareholders of the competitor would prevent the acquirer from ever using their control to lessen competition. The reality that antitrust law takes the opposite position means that it necessarily rejects the claim that fiduciary duties to the non-horizontal shareholders suffice to prevent anticompetitive effects. It would thus be inconsistent to take a contrary position on horizontal shareholding.

B. Vertical Shareholdings Do Not Prevent Anticompetitive Effects

Some argue that the interests of horizontal shareholders in anticompetitively increasing industry profits are totally negated by their vertical investments, which give them incentives to avoid anticompetitive harm to suppliers or customers of that industry in which the horizontal shareholders are also invested.[211] This hypothesis conflicts not only with the four industry studies, but also with the cross-industry empirical studies showing that horizontal shareholding leads to less efficient

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[208] *Id.*

[209] *Id.* at 773; Dodge v. Ford Motor Company, 170 N.W. 668, 684 (Mich. 1919).

[210] DOJ & FTC, Horizontal Merger Guidelines § 13 (2010) ("When the Agencies determine that a partial acquisition results in effective control of the target firm, . . . they analyze the transaction much as they do a merger.")

[211] Rock & Rubinfeld, *Antitrust, supra* note , at 236; Lambert & Sykuta, *supra* note , at 19-20. *Cf.* Hemphill & Kahan, *supra* note , at 49-50 (suggesting that such vertical investments may prevent anticompetitive harm); Phillips, *supra* note , at 12-13 (same); Capital Markets Committee, *supra* note , at 3 (same).

executive compensation and a greater investment-profit gap.[212] Moreover, this hypothesis is theoretically unsound in its own right.

To begin with, there is no reason to think that horizontal shareholders will usually have similarly-sized investments in vertically-related corporations. Actively-managed funds may have no such investments at all. Index funds will be more likely to hold stock in some vertically-related corporations. But index funds are not the dominant horizontal shareholders, at least not yet.[213] Further, even for index funds, there is no reason to think their common shareholding will be equally weighted at each market level. Index funds for particular industries, for example, will have horizontal shareholdings across that industry, but will not typically be invested in those who purchase from that industry. Even a large general index fund will tend to have shareholdings that are more horizontal than vertical because the firms in which they invest will mainly have buyers and suppliers who are not corporations or are corporations below the index's capitalization cutoffs.

Ginsburg and Klovers assert the contrary, arguing that it is plausible that an S&P 500 index fund would have no incentive have the four major airlines that it holds raise prices, given that the anticompetitive effects of higher airline pricing would be visited on the other 496 corporations that the S&P 500 index holds.[214] But even their own hand-picked example of a large general index fund disproves their point. Because an S&P 500 index fund will have horizontal shareholdings across all four major airlines, the fund will derive 100% the benefits from their higher airline prices. In contrast, only 31% of airline passengers are business travelers,[215] and only 17% of business workers are employed by S&P 500 companies.[216] Multiplying 31% by 17%, this means that an S&P 500 index fund's vertical shareholdings will roughly incur only 5% of the higher airfares.

Lambert and Sykuta stress that an S&P 500 index fund will also own some upstream suppliers,[217] but it is implausible that negative upstream effects on them will offset the profits from higher downstream prices that are 95% externalized outside the S&P 500. To begin with, most input costs are supplied by labor or by businesses not

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[212] *See supra* Part I.
[213] *See* Elhauge, *supra* note 2, at 1315-16 & n.233 (pointing out that index funds held only 10-20% of US stock in 2013).
[214] Ginsburg & Klovers, *supra* note , at ¶¶ 36-37.
[215] John P. Heimlick, *Status of Air Travel in the USA* at 5 (April 23, 2016), *airlines.org/wp-content/uploads/2016/04/2016Survey.pdf.*
[216] http://www.businessinsider.com/sp-500-employment-vs-smaller-businesses-2015-6
[217] Lambert & Sykuta, *supra* note , at 19-20.

within the S&P 500.[218] Even to the extent that other upstream suppliers are within the S&P 500, the upstream effects of heightened downstream market power would be some combination of a lower upstream price per upstream unit (which is just a transfer payment from seller to buyer that has offsetting benefits and costs for a vertical shareholders) and lower upstream output (which is no different than what a vertically-integrated monopolist would suffer and thus is clearly not enough to discourage monopoly pricing).

An S&P 500 index fund would thus have every incentive to facilitate airfare overcharges that benefit the corporations they hold with gains that are twenty times the fraction of that overcharge that they incur. For other horizontal shareholders that are not large general index funds, the percentage of higher prices that they would externalize onto buyers or suppliers that they own is likely to be far less than 5%. Such vertical investments thus would generally fail to negate the incentives of horizontal shareholders to favor increased airline prices.

In short, even if horizontal shareholders in one industry have investments in vertically-related corporations, they will have incentives to favor anticompetitive effects in the horizontal industry, not only because their investments in vertically-related corporations are unlikely to be similarly sized, but also because a large share of anticompetitive effects will be inflicted on corporations they are not invested in or on purchasers and suppliers in which they cannot be invested (such as consumers, labor, or unincorporated businesses).

Even to the extent that horizontal shareholders ***were*** equally invested vertically in the sellers and buyers of some product, the relevant corporate purchasers are likely to externalize much of the overcharge on to consumers further downstream. Indeed, if horizontal shareholders are equally invested in vertically-related markets, they will by definition also be horizontal shareholders in the vertically-related markets, and

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[218] Labor, professional services, or employee business expenses account for 43% of airline operating expenses. http://airlines.org/dataset/a4a-quarterly-passenger-airline-cost-index-u-s-passenger-airlines/. Non-aircraft rents (mainly for airport terminals) or landing fees are another 7%. *Id.* So a total of 50% of expenses are clearly not supplied by S&P 500 firms. Another 27% of operating expenses are for things that likely are mainly supplied by non-S&P 500 firms, such as fees to regional air carriers, utilities, and office supplies. *Id.* The remaining 23% of airline operating expenses are for jet fuel and the cost of owning or renting aircraft, and even in these categories only two of the top five jet fuel supplies (Exxon and Chevron) are in the S&P 500, https://www.businesswire.com/news/home/20160725005404/en/Technavio-Announces-Top-Vendors-Global-Aviation-Fuel, only 40% of aircrafts are supplied by firms (namely Boeing) in the S&P 500, *see* AviationDaily (June 20, 2016), and none of the 3 largest aircraft leasing companies are in the S&P 500, https://seekingalpha.com/article/2923476-comparing-the-3-largest-aircraft-leasing-companies.

thus they will have incentives to impose an additional anticompetitive markup in the downstream market, inflating the overcharge further. The situation would have the same economics as the successive monopolies problem.[219] Thus, even when horizontal shareholders are equally invested in vertically-related firms, their shareholdings will create multi-level horizontal shareholding that will likely compound the anticompetitive incentives, rather than offset them.

The argument that the anticompetitive effects of horizontal shareholding will be negated by vertical shareholdings also ignores the fact that vertical shareholdings can actually affirmatively create their own anticompetitive effects. Vertical shareholdings can induce one of the vertically-related corporations to refuse to deal with rivals of the other or to charge those rivals higher prices, thus raising anticompetitive concerns similar to vertical mergers.[220] For example, when assessing a recent merger, Portugal's competition authority found that vertical common shareholding exacerbated the anticompetitive effects of horizontal shareholding.[221] Indeed, economic models prove that vertical foreclosure of rivals can actually be ***more*** profitable with partial ownership than with a full vertical merger.[222]

This is not to deny that perhaps in some specific case horizontal shareholders may be able to show that their specific pattern of vertical shareholdings negated any adverse price effect. Under my approach, such a case-specific showing would negate liability even if the MHHI and ΔMHHI were high. But neither theory nor empirical evidence provides any sound grounds to believe that vertical shareholdings will generally negate anticompetitive effects from horizontal shareholding.

C. Index Fund Incentives Do Not Prevent Anticompetitive Effects

Some argue that horizontal shareholding is unlikely to have anticompetitive effects because one prominent set of horizontal shareholders, namely index funds, lack incentives to exert any effort to influence corporations to behave anticompetitively. Some simply argue that because any increased corporate profits accrue across the

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[219] EINER R. ELHAUGE, UNITED STATES ANTITRUST LAW AND ECONOMICS 320 (3rd ed. 2018) [hereinafter "ELHAUGE, US ANTITRUST"].

[220] *Cf.* United States v. E.I. du Pont de Nemours & Co., 353 U.S. 586 (1957) (condemning one firm's minority shareholding in a vertically-related firm because of foreclosure concerns).

[221] Note by Portugal to OECD, Hearing on Common Ownership by Institutional Investors and Its Impact on Competition, OECD DAF/COMP/WD(2017)76, at ¶¶ 35-37 (Dec. 1, 2017)

[222] *See* Roger D. Blair, et al., *A Note on Vertical Market Foreclosure,* 5 REV. INDUS. ORG. 31 (1990); Nadav Levy, et al., *Partial vertical integration, ownership structure, and foreclosure*, 10 AMER. ECON. J.: MICROECONOMICS 132 (1980).

index whether or not an investor makes any effort, an index fund has no incentives to exert effort to increase corporate valuations because that will not make the index fund perform better than other similar index funds and thus will not attract more investment flow into the fund.[223] But that argument ignores the fact that index funds earn annual fees that are a percentage of the market value of their stockholdings, and thus index funds have incentives to increase that value by increasing corporate profits, even if doing so did not attract more investment flow into the fund. A more sophisticated analysis by Bebchuk, Cohen, and Hirst not only argues that increasing corporate valuations will not help attract additional investment into index funds, but also takes index fund fees into account, concluding that because those fees average 0.12% of asset value, they are too small to induce index funds to exert any effort on increasing corporate valuations (by encouraging any profit-increasing firm behavior, whether or not anticompetitive).[224] I focus on the analysis of Bebchuk, Cohen, and Hirst, both because they provide the most complete and sophisticated critique and because the U.S. antitrust agencies relied on them to conclude that it was premature to take enforcement action.[225]

Given their premise that improving corporate valuations cannot attract additional investment flow into the funds, Bebchuk, Cohen, and Hirst argue that an index fund will exert effort to increase corporate value only if $\alpha\Delta V > C + IC$, where α is the

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[223] *See* Rock & Rubinfeld, *Antitrust, supra* note , at 236; Lambert & Sykuta, *supra* note , at 19, 26-27. *See also* O'Brien & Waehrer, *supra* note , at 764-65 (making a similar point.) I will use the term "index funds" to include funds like ETFs that likewise use passive indexes for choosing how much to invest in each stock. I do not refer to them as "passive investors" because while they passively choose what investments to make, they need not be (and claim not to be) passive about influencing the corporations whose stock they hold. Elhauge, *supra* note 2, at 1306-07 (noting that index funds like Vanguard say they "passive investors, not passive owners.")

[224] *See* Bebchuk, Cohen & Hirst, *The Agency Problems of Institutional Investors*, 31 JOURNAL OF ECONOMIC PERSPECTIVES 89, 90, 96-102, 108-109 (2017); Bebchuk & Hirst, *Index Funds and the Future of Corporate Governance: Theory, Evidence, And Policy* 4, 17-21 (Nov. 23, 2018), https://ssrn.com/abstract=3282794. *See also* Hemphill & Kahan, *supra* note , at 7, 49, 52, 65-66 (making a similar claim.) Ginsburg and Klovers more vaguely assert that because investment funds are nominal owners, rather than economic owners of the underlying shares, the funds lack incentives to facilitate anticompetitive increases in corporate value. *See* Ginsburg & Klovers, *supra* note , at ¶¶ 11, 19-22. But Ginsburg and Klovers do not consider the incentives of funds to reap larger fees or increased investment flow. *See infra* II.C.1-3 (showing that taking those incentives into account produces a different conclusion). Moreover, as Ginsburg and Klovers themselves stress, investment funds have fiduciary duties to further the interests of the economic owners. *See id.* ¶ 5. When an index fund holds horizontal competitors, those fiduciary duties creates additional incentives (over and above fees and investment flow) for the index funds to facilitate anticompetitive increases in corporate value when that benefits the economic owners, who will reap 100% of the gain in corporate value.

[225] US OECD Note, *supra* note , at ¶13 & n.30, ¶ 15; Phillips, *supra* note at 11.

percentage fee the fund charges, ΔV is the increase in corporate value the fund can create, C is the direct cost of the effort, and IC is the indirect cost that results if index fund efforts aggravate corporate managers and cause them to divert their corporation's 401(k) or pension assets to other funds.[226] Bebchuk, Cohen, and Hirst state that the average index fund fee is 0.12% of assets, and argue that this fee is insufficient to induce adequate effort.[227] For example, they say that even if an index fund earning 0.12% could increase an individual corporation's value by $1 million, it would not exert the effort to do so unless the cost of that effort were below $1,200, and even then it might avoid the effort to avoid the indirect costs of annoying corporate management.[228] They then leap from that premise to the conclusion that their "analysis suggests that it is implausible to expect that index fund managers would seek to facilitate significant anticompetitive behavior."[229]

This leap is unjustified, for reasons I detail below but first summarize here. The argument of Bebchuk, Cohen, and Hirst works well to explain why index funds have little incentive to improve the efficiency of an ***individual*** corporation, which would generally make the corporation ***more*** competitive. But it applies poorly to index fund decisions regarding ***general*** governance matters on which they have to vote anyway and which apply across ***all*** the corporations in their portfolio in a way that can make those corporations behave ***less*** competitively. Such decisions can strongly facilitate anticompetitive behavior across those corporations, and for such decisions the costs of investment effort (both C and IC) are generally zero or negative. Further, even when such costs are positive, the benefits of an anticompetitive increase in portfolio value ($\alpha\Delta V$) are vast and dwarf the costs.

Moreover, while improved performance cannot help an index fund attract investment flow in competition with identical index funds, it can and has helped index funds attract over $3 trillion of dollars in investments in competition with other investment vehicles.[230] Given that the big three index fund families control 95% of all index fund assets,[231] and all have different arrays and sizes of index funds, their incentives to encourage investment flow also give them strong incentives to encourage anticompetitive increases in the performance of their funds.

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[226] *See* Bebchuk, Cohen & Hirst, *supra* note , at 96-97, 101-102. *See also* Bebchuk & Hirst, *supra* note , at 17-19, 21-22 (same point with different variable notation).
[227] *Id.* at 94.
[228] *Id.* at 97.
[229] *Id.* at 109. *See also* Bebchuk & Hirst, *supra* note , at 7, 64 (making similar assertions that their analysis somehow shows that anticompetitive concerns are "not warranted" or a "red herring").
[230] *See* Fichtner, et al,, *supra* note , at 302-303.
[231] *Id.* at 304 Table 1.

Bebchuk, Cohen, and Hirst also incorrectly assume that the concern about anticompetitive horizontal shareholding is limited to index funds.[232] But, as discussed below, index funds are not the main horizontal shareholders. Further, the shares held by index funds are generally voted at the fund family level by funds that also have hundreds of billions of dollars in active funds. Thus, even for index fund shareholdings, what matters are not the incentives of the index funds, but rather the incentives of the fund families that include large holdings in active-managed funds.

Bebchuk, Cohen, and Hirst are also wrong that their conclusion that index fund effort levels will fall short of the ideal level of investor effort justifies their inference that index funds cannot be influential enough to lessen competition. What matters for anticompetitive effects is the *relative* influence of horizontal shareholders compared to other shareholders, and there is every reason to think that non-institutional investors will have even less incentive to exercise effort.

Finally, Bebchuk, Cohen, and Hirst's analysis is simply inconsistent with the empirical evidence. That evidence not only includes many empirical studies showing (as detailed in Part I) that horizontal shareholding does have anticompetitive effects, but also (as detailed below) includes dozens of ***other*** empirical studies showing that many other aspects of corporate decisionmaking are strongly influenced by index fund families specifically and common shareholding more generally. This wealth of empirical evidence resolves any theoretical dispute decidedly against Bebchuk, Cohen, and Hirst's claim that index fund families lack incentives to exert sufficient effort to influence corporate decisionmaking, as well as against their inference that therefore horizontal shareholding cannot influence corporate decisionmaking.

1. The Incremental Costs of Facilitating Lessened Competition Are Generally Zero or Negative. First, an index fund generally faces no incremental cost for encouraging anticompetitive behavior over competitive behavior. As Bebchuk, Cohen, and Hirst acknowledge, investment funds have legal requirements to incur the costs of voting in an informed manner.[233] Those costs are thus mandatory, and it costs the same to vote either way. Thus, Bebchuk, Cohen, and Hirst admit that "when investment managers decide how to cast a vote or what position to take in interactions with corporate managers," their actions do not "not involve additional cost," which means $C = 0$ and fund managers will vote or advocate for whichever position increases corporate value (i.e, for whichever corporate choice has $\Delta V > 0$).[234] Given that voting and interactions with corporate managers are the main

[232] *See* Bebchuk, Cohen & Hirst, *supra* note , at 108.
[233] Bebchuk, Cohen & Hirst, *supra* note , at 95.
[234] *Id.* at 96.

mechanisms by which institutional investors influence corporations, this means index funds have no disincentive to influence corporations in the anticompetitive direction that increases corporate value across the funds' portfolios. When making decisions on voting or interacting on executive compensation, board elections, control contests, stock sales, or hiring, it takes no more effort for index funds to favor than oppose decisions that lessen competition, so index funds have clear incentives to favor such decisions in order to increase their profits.

Indeed, *C* is probably ***negative*** when it comes to shareholder influence on competitive behavior. As discussed previously, because competing vigorously is hard work for managers, they are less likely to do it unless their shareholders are actively pressing them to compete.[235] Horizontal shareholdings can thus induce less competitive corporate behavior by incentivizing horizontal investors to expend ***less*** effort on encouraging greater competition or cost reductions than they would have exerted if they invested in only one of the competing corporations. Such diminished shareholder efforts would actually save them costs, thus resulting in negative *C*, but still create anticompetitive effects relative to the competition that would have existed without the horizontal shareholding.

Nor is there any reason to think that the indirect costs of influencing less competitive corporate behavior are positive. As just noted, corporate managers are more likely to be pleased than annoyed by being allowed to exert less effort on competition, and voting for managers who do not compete vigorously will only please them more. Moreover, as discussed above, one of the main mechanisms for encouraging less competitive behavior is for shareholders to approve executive compensation methods that make executive compensation less sensitive to firm performance.[236] Corporate managers are hardly likely to object to horizontal shareholders favoring executive compensation methods that pay the corporate managers more when they exert less competitive effort. To the contrary, they are likely to be pleased since they will share in the anticompetitive profits while working less hard.

Thus, *IC* is likely at worst zero. Indeed, corporate managers are likely to affirmatively appreciate index funds that vote for executive compensation that pays the corporate managers more for less competitive effort, making those managers more likely to direct their corporation's 401(k) or pension assets to those funds. Voting for more competitive behavior and executive compensation is thus more likely to incur indirect costs, meaning that *IC* is likely ***negative*** when institutional investors vote for less competitive behavior and executive compensation.

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[235] *See supra* Part I.E.2(vii).
[236] *See supra* Part I.C.

In contrast, the hypotheticals that Bebchuk, Cohen, and Hirst offer to illustrate why index funds are unlikely to exert the effort necessary to improve corporate value instead involve situations where investor effort would increase the corporate value of only ***one individual*** corporation.[237] Indeed, Bebchuk and Hirst acknowledge that their analysis claims to show only that "index fund managers have weak incentives to engage in stewardship aimed at enhancing the value of ***particular*** companies."[238] Such efforts would by definition make that particular corporation ***more*** competitive with other corporations, given that the improvement in operations is only for that particular corporation. Bebchuk, Cohen, and Hirst are likely right that index funds have less incentive to engage in that sort of activity. Coming up with methods to make a particular corporation more efficient and making sure those methods are implemented properly are activities that will take significant effort that can only be recouped from the increased value of that particular corporation. Such efforts are also more likely to ruffle corporate manager feathers, thus meaning the index fund would incur more direct and indirect costs to pursue such efforts. But that is part of the problem. Not only (for reasons detailed above) do index funds still have ample incentive to engage in the costless activity of exercising their votes and influence in ways that favor less competitive managers and executive compensation methods, but index funds also (for the reasons Bebchuk, Cohen, and Hirst stress) have far less incentive to press corporations to increase their individual competitiveness

In short, although (assuming no effect on investment flow) an index fund will exert effort to increase corporate value only if $\alpha\Delta V > C + IC$, both *C* and *IC* are likely zero or negative when it comes to influencing corporations to behave less competitively, even though they are likely to be positive when it comes to trying to pressure corporations to behave more competitively. Thus, index funds will have incentives to exercise their votes and influence in ways that encourage less competition by their portfolio corporations whenever $\alpha\Delta V > 0$, which is always because the value of their shareholdings will increase with greater anticompetitive profits.

2. Even When Effort Costs Are Positive, They Are Small Relative to the Anticompetitive Gains. Even if one ignores the above analysis and assumes that there is some positive cost to using index fund influence to encourage less competitive corporate behavior, any cost is likely to be small compared to $\alpha\Delta V$. For example, suppose one thinks it does take some incremental cost *C* for an index fund to figure out that it should decide to approve executive compensation methods that are less sensitive to firm performance (such as stock options whose exercise prices

[237] *See* Bebchuk, Cohen & Hirst, *supra* note , at 96-97, 99; Bebchuk & Hirst, *supra* note , at 18.
[238] Bebchuk & Hirst, *supra* note , at 64 (emphasis added).

are not indexed to filter out general industry performance), because that is best calculated to lead to the diminished incentives to compete that increase the value of the index fund investments across all the corporations in the industry. That cost hardly seems high. Further, given the nature of the issue, the index fund can apply any such decision on executive compensation methods to its voting across all owned corporations and thus spread that cost *C* across all the index fund's investments in corporations. The same is true for any governance issue that comes up across all corporations.[239] Index funds can further lower their costs by following the advice of proxy advisors or active investors that have aligned incentives.

Not only can an index fund spread such costs across its investments in many corporations, it can also spread those costs across a long time horizon. Because index funds cannot exit firms, they know that any investment in figuring out how to improve corporate profits will be reaped for years and decades to come.

Further, index funds generally do not vote their own shares: instead, their shares are voted at the fund family level (e.g., by BlackRock, Vanguard and State Street for all their respective funds), rather than separately by each index fund.[240] In response to an earlier version of this paper that made the same statement, Ginsburg and Klovers inaccurately asserted that my statement was "pure ipse dixit" and that I never "cite any source" for it.[241] In fact, I cited precisely the source that I cite here for this statement, which they apparently missed.[242] If they had examined that source, they would have seen that it relied on the fact that "recent empirical work shows that institutional investors like BlackRock, Vanguard and State Street closely control the voting of all their funds. For every 100,000 shareholder proposals, the number of which resulted in any of their funds voting different from the others was only 6 at Vanguard, 18 at BlackRock and 195 at State Street."[243] In other words, the source I cited showed that fund families got their different funds to vote consistently 99.99%

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[239] John Coates, *The Future of Corporate Governance Part I: The Problem of Twelve* 2, 15-16 (Sept 20, 2018), https://ssrn.com/abstract=3247337 (noting that Bebchuk, Cohen & Hirst "mistakenly assume that index funds must make significant expenditures to influence companies and neglect economies of scale in exercise of power," such as the fact that "index funds form 'policies' regarding various kinds of decisions that the boards and managers of their portfolio companies must make," and thus "can exploit economies of scale in asset management and governance" by spreading the "fixed costs in forming policy views on governance issues ... over all public companies owned by an index fund."); Fisch, Hamdani, & Solomon, *supra* note , at 15-16.

[240] Elhauge, *The Growing Problem, supra* note , at 5.

[241] Ginsburg & Klovers, *supra* note , at ¶ 13 & n.38.

[242] Elhauge, *New Evidence, Proofs, and Legal Theories on Horizontal Shareholding* at 27 & n.110 (Jan. 11, 2018), https://ssrn.com/abstract=3096812.

[243] Elhauge, *The Growing Problem, supra* note , at 5.

of the time at Vanguard, 99.98% of the time at BlackRock, and 99.8% of the time at State Street. This data shows precisely what Ginsburg and Klovers deny: that the fund families focused on index funds "typically" vote all the funds' shares the same way at the fund family level.[244]

Ginsburg and Klovers also ignore that I went on two cite two more sources for the proposition that the fund families that own index funds do exert influence.[245] One source surveyed the fund families and found that they reported that "at BlackRock, Amundi, and UBS, the policy is for active fund managers to ***vote consistently across all funds***, but they retain the authority to vote differently from the house view. This contrasts with the approach adopted at Vanguard, SSgA [i.e., State Street], and LGIM, where the ***corporate-governance teams have ultimate authority on the final votes***. This ***is to ensure consistency and efficacy***, as well as to minimize potential conflicts of interest."[246] The other source reports that in interviews with the heads of BlackRock's Investment Stewardship team, they state that, "Their decisions in monitoring portfolio companies and voting proxies are made in collaboration with the firm's 125 investment teams, whether the holding is in active or passive portfolios. Over the course of a year they cast votes at about 17,000 shareholder meetings and meet with more than 1,500 companies annually."[247] BlackRock's policy of consistent voting by its funds is clearly effective given that it results in 99.98% consistency. Indeed, BlackRock's consistency somewhat exceeds the 99.8% consistency at State Street, which acknowledges explicitly that it uses "a centralized governance and stewardship process covering all discretionary holdings across our global investment centers. This allows us to ensure we speak and act with a single voice and maximize our influence with companies by leveraging the weight of our assets."[248] In short, Ginsburg and Klovers' empirically baseless assertion conflicts not only with the data, but with how the index fund families characterize their own voting process.

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[244] Ginsburg & Klovers, *supra* note , at ¶ 13. Other fund families that are focused on actively-managed funds, such as Fidelity, are somewhat more likely to allow their funds to vote differently. But active funds do not have the same alleged disincentives to exert influence as index funds, and even Fidelity's funds vote in parallel 97% of the time. *See* Fichtner, et al., *supra* note , at 317.

[245] Elhauge, *New Evidence, supra* note , at 27 & n.112.

[246] *See* Bioy, et al, *Passive Fund Providers and Investment Stewardship,* https://corpgov.law.harvard.edu/2017/12/21/passive-fund-providers-and-investment-stewardship/ (emphasis added).

[247] Wilcox & Sodali, *Getting Along with BlackRock*, https://corpgov.law.harvard.edu/2017/11/06/getting-along-with-blackrock; Elhauge, *supra* note 20, at 5.

[248] Schmalz, *supra* note , at 16 n.13. Ginsburg & Klovers

Although index fund families like BlackRock, Vanguard and State Street are focused on index funds, they also have huge holding in actively-managed funds.[249] But suppose, to be conservative, we assume that these fund families had 100% of their assets in identical index funds. Would $\alpha\Delta V$ give them insufficient incentives to exert much effort in influencing corporate behavior? The answer is no because both α and ΔV are much larger than Bebchuk, Cohen, and Hirst assume.

To begin with, while the average index fund fee is 0.12% of asset value, this fee is repeatedly annually. Thus, if a fund could increase asset value by $1 million, the gain is not $1,200, but rather is $1,200 *per year*. Assuming a typical 10% rate of return, this stream of fees would have a present value of $12,000. In other words, given the present value of the increased stream of fees, α at index funds is really 1.2%, not 0.12%.

Moreover, because we are talking about policies about how to vote on matters (like executive compensation methods) that affect competition across the portfolio of the fund families that hold these index funds, ΔV is massive. For example, Blackrock manages a total of $3.3 trillion in stock.[250] As a rough matter, the data suggests that 60% or more of U.S. stock is in markets with a high MHHI (over 2500) and high ΔMHHI (over 200), for which anticompetitive effects seem likely.[251] Another rough estimate is that in markets with such high levels of concentration and horizontal shareholding, corporate profit margins are doubled or more.[252] Thus, if BlackRock

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[249] *See infra* at Part II.C.4.

[250] *See* BlackRock Q1 2018 Earnings at 2 (April 12, 2018), https://tinyurl.com/y8eg52v7.

[251] One study indicated that, in 2013, 64% of industries had an HHI over 2500, which likely understates the percentage of markets that are highly concentrated because the industries are generally larger than markets. *See* Elhauge, *supra* note 2, at n.50. Another study found that, in 2013, the average HHI and ΔMHHI respectively exceeded 2500 and 200 in eight out of 9 industry categories (all of them other than agriculture). *See* Anton, et al, 2018, *supra* note , at Table 2, Panel B; Elhauge, *supra* note 2, at n.50. Further, these levels are likely higher today given that over time the U.S. has had increases both in market concentration levels, *see* Gustavo Grullon, et al., *Are US Industries Becoming More Concentrated?* (October 2016), https://finance.eller.arizona.edu/sites/finance/files/grullon_11.4.16.pdf; Gutiérrez & Philippon, *How EU Markets Became More Competitive Than Us Markets: A Study Of Institutional Drift* at Figures 1-6 (June 2018), http://www.nber.org/papers/w24700, and in horizontal shareholding levels, *see* Anton, et al., 2018, *supra* note , at Figure I; *supra* Part I.C.

[252] The airline study found that horizontal shareholding increased prices by 3-7% in the direct regressions and 10-12% in the instrumental variable study that controlled for endogenity. *See supra* Part I.D.1. These price effects are substantially larger than the average airline profit margin over this time, which more than doubled from 1-2.4% in 2008 to 4% in 2015. *See* IATA, Air travel demand, IATA Economics Briefing at 7 (2008); IATA, Airline profitability strengthens further, IATA Press Release at 1 (2015). This period from 2008 to 2015 coincided with a period when

can figure out how to vote its shares to increase its horizontal interest in diminished competition, the total gain to it could be as high as (1.2%)($3.3 trillion)(60%)(50%) = $12 billion. Potential gains of $12 billion provide plenty of incentive to incur whatever incremental costs there might be to figuring out how to vote or interact in ways that favor the sorts of managers or executive compensation methods that best advance those horizontal interests. Of course, this is a very rough back-of-the envelope calculations. But even if the actual expected gain were only ***one-hundredth*** as large, it would still provide a strong incentive of $120 million. One can buy a lot of effort for that kind of money.

Bebchuk and Hirst argue incentives must be low because large index fund families do not spend much on trying to influence corporate conduct, with their estimate being that for example BlackRock spends only $9.9 million a year on stewardship staff.[253] But that is a large sum to spend annually, with the capitalized present value being $99 million, assuming again a 10% rate of return. In any event, the reason these costs are not larger is because, as detailed above, the costs of using voting and other powers to influence corporate conduct are low, not because the incentives to do so are low. The fact that large index fund families have powerful incentives to influence corporate conduct does not mean they have any incentive to inefficiently expend unnecessary costs to do so.

Likewise, Bebchuk and Hirst argue that index fund families cannot be exerting significant influence on corporate decisionmaking because they spend less than 3.5 person-days per billion-dollar investment and have private conversations with less than 18% of their portfolio companies.[254] But Bebchuk and Hirst's argument wrongly assumes that index fund families can increase corporate value only by doing a time-consuming *individuated* analysis of each portfolio company.[255] As noted above, that is likely true for efforts to encourage, say, procompetitive cost reductions, but it is not true for figuring out a general strategy for voting or setting executive compensation across all the corporations that is most likely to lessen competition in a way that increases value at all those corporations.

Moreover, even for individuated efforts, this data is perfectly consistent with the fund families being efficient in how they influence corporations. Statistics on private engagements exclude letters sent to portfolio companies.[256] Index funds use

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average HHIs in airline markets were relatively flat but average MHHI was growing rapidly. *See* Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1526-27.

[253] Bebchuk & Hirst, *supra* note , at 32-33.

[254] *Id.* at 33-38.

[255] *Id.* at 36.

[256] Krouse, *supra* note .

such writings to narrow the number of companies who need private conversations. For example, BlackRock requires each of its portfolio companies to send in writing the information that BlackRock requires at least once a year, and BlackRock then initiates private conversations only for the minority of companies that fail either to provide needed information or to follow through with their commitments.[257] This efficiently narrows the need for private conversations to a fraction of portfolio companies, but does not show a lack of influence. To the contrary, "Even if the out-of-pocket cost of an engagement is quite low, the impact of the information provided during the engagement have important effects on portfolio companies … because the engagements provide important signals to managers as to how the investors will behave should votes come up, on issues, or on other matters, including control contests, activist campaigns, or mergers," which "provides a powerful incentive to portfolio company managers to respond to the desires, however economically expressed, of the index provider agents."[258]

3. Index Fund Families Do Have Incentives to Compete for Investment Flow. The above shows that even if improving corporate valuations did not increase the flow of investment to index fund families, they would have ample incentives to exercise their influence in ways that increased corporate valuations by lessening corporate competition. But another flaw with the critique lies in its mistaken premise that increasing corporate valuations cannot help attract additional investment flow into index fund families.

The reasoning that critics offer for this premise assumes that index fund families can attract additional investment flow only by competing with other similar index funds.[259] They reason that because any increase in corporate value will similarly improve the performance of other index funds with the same method of indexing, such an increase in corporate value cannot provide index funds with any competitive advantage over a similar index fund. But index funds do not compete only with similar index funds. They also compete for investment flow with active funds.[260] Indeed, they do so quite successfully. In 2015, the net flow from active to index

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[257] Wilcox & Sodali, *supra* note .

[258] Coates, *supra* note , at 16-17; *see also supra* Part I.E.2(vi) (collecting sources reporting that BlackRock regards those private conversations as highly effective, in part because BlackRock will vote against executives who do not listen).

[259] *See* Bebchuk, Cohen & Hirst, supra note , at 97-98; Lambert & Sykuta, *supra* note , at 19, 26-27; Rock & Rubinfeld, *Antitrust, supra* note , at 236.

[260] Fisch, Hamdani, & Solomon, *supra* note , at 3-5. 10-14.

funds was $575 billion.[261] Index funds also compete with the alternative of investors personally investing in stocks of their own choosing.

If index funds can increase the performance of the corporations they hold, that will help them compete for investment flow with active funds and personal investments.[262] For example, suppose that by lessening competition, index funds can increase by 10% the profits of their portfolio of horizontally competing corporations. Because active funds will not hold the same portfolio of corporations with the same weights, there is no reason to think that the performance of the active funds will increase by the same percentage, which can create a competitive advantage for the index funds. Further, even to the extent that active funds on average benefit by the same 10% increase in corporate valuation, the increase in performance at the active funds will be less because they will deduct additional fees, on average charging 0.79% compared to the average 0.12% for index funds.[263] Thus, even a uniform 10% increase in corporate valuation would increase index fund performance by 9.88% (10% minus 0.12%), while increasing active fund performance by only 9.21% (10% minus 0.79%).

A similar or higher performance for less fees is indeed the major lure of index funds that has made them so successful in competing with active funds. Given their higher fees, the only way that active funds can win such a competition is by offering a higher performance than index funds. But any increase in performance across the portfolio held by index funds leaves less room for active funds to increase performance any further. Indeed, to the extent that index funds and other horizontal shareholders increase performance by lessening competitive behavior across the portfolio, that can affirmatively preclude the possibility that active funds could gain any performance edge by trying to invest in particular corporations that they think could outcompete other firms or by trying to influence particular corporations to be more competitive. To put it another way, given that index funds charge lower fees than active funds, encouraging lessened competition that increases profits across all the firms held by index funds will tend to give those index funds a higher net rate of return than active funds can offer with higher fees and efforts to overweight firms they think are competitive winners.

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[261] *See* Patricia Oey & Christina West, *Average Fund Costs Continued to Decline in 2015 But Investors Are Not Necessarily Paying Less*, MORNINGSTAR MANAGER RESEARCH at 5 (April 26, 2016).

[262] Fisch, Hamdani, & Solomon, *supra* note , at 4 & n.12, 10-11 (noting that empirical literature indicates that increasing performance by 1% results in a 1.3% increase in investment inflow).

[263] *See* Bebchuk, Cohen & Hirst, *supra* note , at 94-95.

Nor do collective action problems among index fund families prevent them from exercising effort to increase the net performance of index funds relative to active funds. In 2016, the big three index fund families controlled 95% of all index fund assets, with BlackRock holding 39%, Vanguard 33%, and State Street 23%.[264] Suppose that the increased performance from anticompetitive profits across the index fund portfolios is responsible for, say, half the $575 billion that competitively flowed from active funds to index funds in 2015. Suppose further that the amount of that flow that goes to each index fund family is proportional to their share of all index fund assets. Then that increased performance will reap additional annual investments of $112 billion at BlackRock, $95 billion at Vanguard, and $66 billion at State Street. Those additional investments will annually increase the present value of fees by 1.2% of those figures, or $1.34 billion at BlackRock, $1.14 billion at Vanguard, and $0.79 billion at State Street. Further, that increased flow might be expected to recur in future years, so the total prevent value of the increased flow could be as high as $13.4 billion at BlackRock, $11.4 billion at Vanguard, and $7.9 billion at State Street. This again provides ample incentive to invest in efforts to figure out how to vote or interact in ways that lessen competition.

Indeed, when one combines the increased investment flow and the increased fees on any given investment amount, BlackRock has potential gains of over $20 billion if it can figure out how to vote and interact in ways that lessen competition. And Vanguard and State Street have potential gains of over $10 billion for doing the same. Again, these are just rough back-of-the envelope calculations, but even if the expected gains were only ***one-hundredth*** of these potential gains, they would still provide strong incentives that exceed $100 million for each of the big index fund families. The fact that the large index fund families do not spend that much just reflects the fact that (as discussed above) the costs of exerting influence are low, not a lack of incentives. There is thus no sound basis for the assertion of that it is implausible that index funds would have any incentives to vote or interact in ways that lessen competition among the corporations that they hold in their portfolios.

Further, although some like Bebcuk and Hirst argue that index fund managers have "precisely zero" incentive to compete for investment flow with other index funds,[265] they are mistaken. Index fund families have at least two sources of incentives to compete with each other's index funds based on overall portfolio performance. First, although some of their index funds are similar, many are customized indexes that are unique to particular fund families; in fact, there are now more indexes than there

[264] Fitchner, et al., *supra* note , at 304 Table 1.
[265] Bebchuk & Hirst, *supra* note , at 19.

are publicly-traded stocks.[266] If an index fund family can facilitate a lessening of competition among the firms belonging to their particular array of index funds, that will increase the performance of their set of index funds relative to the performance of other index fund families, which will have a different array of index funds that may not hold all the same firms or may hold them in smaller proportion given different methods of indexing. Second, if a fund family can develop a general brand reputation for having funds with higher rates of return, such a reputation can help them win investment flows against other index fund families even when an investor is choosing between identical sorts of index funds. This brandwide effect on investment flow is supported by empirical evidence that high-performing funds increase the growth of other funds in the same fund family.[267]

4. Index Funds Are Not the Only Horizontal Shareholders and Are Voted by Fund Families That Also Have Active Funds. Bebchuk, Cohen, and Hirst assume that the concern about anticompetitive horizontal shareholding is limited to index funds.[268] But most horizontal shareholdings are probably not in index funds given that index funds accounted for only 29% of all institutional investor funds in 2015.[269] Moreover, this 29% figure excludes from the denominator individuals or firms like Berkshire Hathaway, which also hold considerable horizontal shareholdings.[270] Active funds have even greater percentage incentives than index funds to expend effort, not only because active funds earn a higher fee (0.79% versus 0.12% for index funds), but also because active funds can attract greater investment flow if their funds perform better than others.[271] Bebchuk, Cohen, and Hirst argue that the latter effect may be limited to the extent that active funds have holdings that overlap index funds, but acknowledge that it provides incentives to increase corporate performance to the extent that the fund family holding the active funds is overweight in the corporations whose value would be increased by effort.[272] Further, Bebchuk, Cohen, and Hirst agree that activist hedge funds have strong incentives to exert effort to

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[266] Fisch, Hamdani, & Solomon, *supra* note , at 9-10.
[267] *See* Lewellen & Lewellen, *supra* note , at 10-11 (collecting literature).
[268] *See* Bebchuk, Cohen & Hirst, *supra* note , at 108.
[269] *See* Patricia Oey & Christina West, *Average Fund Costs Continued to Decline in 2015 But Investors Are Not Necessarily Paying Less*, MORNINGSTAR MANAGER RESEARCH at 5 (April 26, 2016).
[270] *See* Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1516 (reporting that Berkshire Hathaway is the largest shareholder at Delta and United Airlines, the second largest shareholder at Southwest Airlines, and the third largest shareholder at American Airlines, with shareholdings ranging from 7-9% in these airlines).
[271] *See* Bebchuk, Cohen & Hirst, supra note , at 94-95, 97-99.
[272] *Id.* at 99.

increase corporate value, and such hedge funds often have horizontal shareholdings as well.[273]

Lewellen and Lewellen calculate that the average institutional investor, including both index and active funds, gains $143,100 per year (through a combination of a direct increase in fees and increased investment flow into their fund) if it can increase the value of ***one*** firm in its portfolio by 1%.[274] Assuming a discount rate of 10%, that $143,100 increase in annual cash flow has a present value of $1,431,000. Further, the typical stockholding is 1.67% of the portfolio of the average institutional investor.[275] If, given the figures noted above, we assume that 60% of their stock is in markets where the levels of horizontal shareholding and market concentration are high enough to make anticompetitive gains feasible and that the anticompetitive gains are 100% because they can double firm profit margin,[276] that means the average institutional investor could gain $1,431,000 times 60/1.67 times 100 = $5.1 billion, if it can figure out how to vote in a way that reduces competition. Again, $5.1 billion would fund enormous effort, and even if this figure is 100 times too high, it would mean that the average institutional investor would reap $51 million in profits from figuring out how to use its voting power and other influence to reduce competition among its portfolio firms, which would more than suffice to fund sufficient effort levels. The incentives are even higher to reduce competition among large firms held by institutional investors, because their average institutional investor gains $377,700 in annual cash flow if firm value increases by 1%.[277]

Moreover, while index fund families like BlackRock, Vanguard and State Street have 80% or more of their equity in index funds, they actually also have hundreds of billions of dollars of stock in active funds, including hedge funds.[278] Further, because the active fund fees are so much higher, fund families like BlackRock earn about as much in fees from their active funds as from their passive funds.[279] Those

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[273] *Id.* at 104-106.
[274] *See* Lewellen & Lewellen, *supra* note , at 3, 29.
[275] *Id.*
[276] *See supra* at __.
[277] *See* Lewellen & Lewellen, *supra* note , at 4.
[278] Fichtner, et al., *supra* note, at 304 Table 1; https://www.blackrock.com/institutions/en-us/strategies/alternative-strategies/hedge-funds; https://www.wsj.com/articles/state-street-hurt-by-hedge-fund-outflows-1493208070.
[279] Fisch, Hamdani, & Solomon, *supra* note , at 8-9. Hemphill and Kahan stress that this difference in fees can cut the other way when the active funds are not horizontally invested. *See* Hemphill & Kahan, *supra* note , at 50. But active funds have most of the horizontal investments, and MHHI calculations already take into account the level of both horizontal and nonhorizontal shareholding that the various investors may have. To be sure, this argument might suggest that perhaps MHHI measures should be fine-tuned to take into account the greater fees earned by active funds in both

active funds do not lose any of their incentives to exert effort to increase corporate value by being in the same fund family as index funds. To the contrary, being coupled with index funds only increases the incentives of the active funds because their efforts will be more effective, given that the fund family can vote not only the active fund shares, but also the index fund shares.[280] Further, the fact that shares held by index funds are generally voted at the fund family level means that, even for index fund shareholdings, the incentives to exert effort that matter are not those of the index funds, but rather those of the fund families, which will have at least as much incentive to exert effort as their active funds. Lewellen & Lewellen conclude that the average large institutional investor, including both index and active funds, gains $335,900 per year (through a combination of a direct increase in fees and increased flow of investment into their fund) if it can increase the value of one firm in its portfolio by 1%.[281]

Even if index funds were not voted by their fund families, index funds could rely on the investigative efforts of active horizontal shareholders. This is especially true when the active funds are in the same fund family, but index funds can also mimic the voting of active independent horizontal shareholders with whom their interests are aligned. Index funds can and do also rely on proxy advisors to guide their voting, and thus benefit from the investigative efforts of those proxy advisors.

5. What Matters Is Relative Shareholder Influence, Not Whether Shareholder Effort Is Fully Optimal. Bebchuk, Cohen, and Hirst's argument explicitly rests on comparing the likely effort level of index funds with the effort level of a sole 100% owner, which they say equals the ideal level of effort that would maximize corporate value.[282] Their benchmark argument is flawed for two reasons. First, they are mistaken in how they characterize the optimal effort benchmark. Second, falling short of an optimal effort benchmark is not relevant to whether horizontal shareholding has anticompetitive effects, which turns not on the influence of horizontal shareholders relative to an ideal, but rather on their influence relative to other shareholders.

Bebchuk, Cohen, and Hirst argue that their sole 100% owner benchmark means that it would be ideal for investors to expend effort costs of up to the increase in corporate

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their horizontal and non-horizontal shareholdings. *See supra* Part I.D.1(iii). But a lack of such fine-tuning would simply attenuate the empirical results from current MHHI measures and indicate that even stronger effects would be likely be found with such fine-tuning.

[280] *See supra* II.C.2 (showing that both index and active fund shares are voted at the fund family level at the index fund families).

[281] *See* Lewellen & Lewellen, *supra* note , at Abstract, 3.

[282] *See* Bebchuk, Cohen & Hirst, *supra* note , at 95-96; Bebchuk & Hirst, *supra* note , at 35-36.

value.[283] For example, they say that if investor efforts could increase corporate value by $1 million, it would be optimal for the investor to spend up to $1 million to achieve that increase in corporate value. But if investors spent $1 million to increase corporate value by $1 million, then there would be no gain in social welfare. To maximize total social welfare, we actually want to maximize the ***total difference*** between increased corporate value and any incurred effort costs. This total difference is maximized by taking additional effort if the ***marginal*** improvement in corporate value exceeds the ***marginal*** cost of such effort. But this total difference is not increased by expending effort as long as the ***total*** gain in corporate performance exceeds the ***total*** cost of effort. Indeed, given that additional efforts will have diminishing marginal returns (e.g., the initial hour spent studying an issue to figure out how to vote has greater incremental value than subsequent hours), the optimal level of effort will result in a large difference between the total gain in corporate valuation and total effort cost. To be sure, because (like all investors) index funds only gain a fraction of any gain in corporate value, they will not have incentives to fully expend effort whenever the marginal gains exceed the marginal costs. But at initial effort levels, the marginal gains can far exceed the marginal costs, which can thus incentivize considerable effort even if index funds get only a fraction of the gains.

Moreover, to assess whether horizontal shareholding leads to anticompetitive effects, the relevant baseline for comparison is not a world in which each firm had a 100% sole owner. The relevant baseline is instead a world with the same mix of institutional and individual investors as we actually have, but with them being prohibited from having large horizontal investments across competitors in concentrated markets in cases when that leads to likely anticompetitive effects. The fact that the horizontal investors we have now would expend less effort than 100% sole owners just means that 100% horizontal ownership would be even more anticompetitive than current horizontal shareholding, which is as unsurprising as it is irrelevant. As long as actual horizontal shareholders have enough influence to facilitate anticompetitive effects relative to a world where they were not horizontally invested, then it is worth prohibiting those horizontal shareholdings. Indeed, to the extent those horizontal shareholdings are prohibited, then index funds and other investors will have to concentrate their investments in one of the firms in each product market, which will actually increase their incentives to expend efforts to make those firms more efficient and competitive.

[283] *Id.* at 96.

Any shortfall in the effort levels of index funds and other horizontal shareholders would affect the predicted anticompetitive effects only if the shortfall were so severe that the horizontal shareholders had much less influence than other shareholders. But Bebchuk, Cohen, and Hirst provide no evidence or reason to think that is the case, and it seems clear that actually the contrary is true. Even though institutional investors with horizontal shareholdings lack incentives to fully expend the optimal level of effort, small nonhorizontal shareholders have far less incentive, given that their small shareholdings mean they get a smaller percentage of any increase in corporate value and cast too few votes to have significant odds of affecting the outcome. Thus, small nonhorizontal shareholders are likely invest in even less effort.[284]

Accordingly, institutional investors are typically regarded as far more informed and influential than individual shareholders.[285] Indeed, individual shareholders are generally deemed to be rationally apathetic about voting at all.[286] Consistent with this conclusion, individual shareholders vote only 28% of their shares, whereas institutional investors on average vote 91% of their shares, with the result that although institutional investors own 70% of shares, they cast 88% of votes in publicly traded companies.[287] The disjunction is even greater with large index fund families like BlackRock that vote 100% of their shares.[288] Assuming that 100% figure holds true for Vanguard and State Street as well, this means that the 17.6% of publicly-traded stock held by the big three fund families translates to 24.4% of votes cast at all publicly-traded companies.[289] Among all S&P 500 firms, the percentages are even higher, with the big three holding over 20% of stock and institutional investors holding 80%, which translates to the big three casting 25.5% and

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[284] *Accord* Coates, *supra* note , at 2 (noting that the "'sole owner' benchmark … can be misleading. Indexed owners are typically displacing not sole owners but dispersed owners -- individuals and institutions with incentives that are as weak or weaker than those of indexed funds.")

[285] *See, e.g.,* Bernard S. Black, *Agents Watching Agents: The Promise of Institutional Investor Voice*, 39 UCLA L. REV. 811 (1992); Mark J. Roe, *A Political Theory of American Corporate Finance*, 91 COLUM. L. REV. 10 (1991).

[286] *See, e.g.,* ROBERT CLARK, CORPORATE LAW 390-93 (1986); Frank H. Easterbrook & Daniel R. Fischel, *The Corporate Contract*, 89 COLUM. L. REV. 1416, 1443 (1989).

[287] *See supra* I.D(1)(iii).

[288] Fisch, Hamdani, & Solomon, *supra* note , at 21 & n.111.

[289] *See supra* I.D(1)(iii) (17.6% of publicly-traded firms in 2015). All institutional investors vote (.91)(70%) = 63.7% of all shares, and individual investors vote (.28)(30%) = 8.4% of all shares, so 72.1% of all shares are voted. Given the assumption that the big three vote all their shares, they thus cast 17.6%/72.1% = 24.4% of all votes.

institutional investors casting 92.9% of votes cast at S&P 500 firms.[290] Thus, nonvoting by smaller shareholders strongly increases the relative influence of index fund families and other institutional investors with horizontal shareholdings, and indicates that MHHI and ΔMHHI figures likely understate the influence of horizontal shareholders.

Further, large institutional investors have greater incentives to exert effort than smaller institutional investors. This is true even though smaller investors are more likely to be overweight in a particular firm in a way that gives them a higher percentage gain from increasing firm value. The reason is that given the size of the large institutional investors, they gain much more from any given percentage increase in firm value. Thus, while small institutional investors with high percentage gains reap an increased annual cash flow of $22,300 if a firm they hold increases in value by 1%, a large institutional investor gains $335,900 in annual cash flow from the same 1% increase in value.[291] As Lewellen and Lewellen point out, "the largest institutional investors—because of their size—actually have stronger incentives to be engaged that many activist investors."[292]

More generally, many factors indicate that, if anything, index funds are likely to exert more effort relative to other shareholders. (a) Unlike other investors, index funds cannot exit firms, which increases their incentives to exert the effort necessary to exercise voice.[293] This can give index funds greater incentives to exert effort than active funds, which might simply sell their shares rather than exert any effort. (b) The index fund families that vote index fund shares have very large shareholdings compared to other investors, which means that any effort they exert is more likely to be effective at influencing corporate actions. As just noted, the big three index funds alone owned 17.6% and voted 24.4% of stock in publicly-traded firms in 2015 and owned over 20% and voted 25.5% of the stock in the S&P 500 in 2018. In other

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[290] Fichtner & Heemskerk, *The New Permanent Universal Owners: Index Funds, (Im)patient Capital, and the Claim of Long-termism* 6 (2018), https://corpnet.uva.nl/publications/ (over 20% of S&P 500 held by big three in 2018); McGrath, *80% of Equity Market Capt Held by Institutions,* https://www.pionline.com/article/20170425/INTERACTIVE/170429926/80-of-equity-market-cap-held-by-institutions (80% of S&P 500 held by institutional investors in 2017). All institutional investors vote (.91)(80%) = 72.8% of all S&P 500 shares, and individual investors vote (.28)(20%) = 5.6% of them, so 78.4% of all shares are voted, with 20%/78.4% = 25.5% of all votes cast by the big three, and 72.8/78.4 = 92.9% of votes cast by all institutional investors.

[291] *See* Lewellen & Lewellen, *supra* note , at 3-4.

[292] *Id.* at 17-19.

[293] *See* Appel, Gormley & Keim, *Passive Investors, Not Passive Owners*, 121 J. FIN. ECON. 111, 113 (2016). *See generally* ALBERT O. HIRSCHMAN, EXIT, VOICE, AND LOYALTY: RESPONSES TO DECLINE IN FIRMS, ORGANIZATIONS, AND STATES (1970).

words, compared to other investors, the marginal gains from effort are likely to be much larger for index funds because their large shareholdings gives them more power to influence the corporation.[294] (c) Unlike individual investors, index funds have fiduciary duties to vote their shares knowledgeably.[295] The law thus requires them to expend efforts that other shareholders may simply skip. (d) Unlike other investors, index funds can usually apply any effort to arrive at a position on common governance issues (like executive compensation methods) across many more corporations, which means that index funds will incur less effort cost per stockholding than other investors.[296]

6. Empirical Evidence Shows That Index Fund Families Do Exert Effort and Influence. In any event, Bebchuk, Cohen, and Hirst's theoretical argument is simply inconsistent with the empirical evidence. The evidence shows that the fund families focused on index funds in fact exert large and increasing efforts to influence corporations. As noted above, the evidence indicates that they try to influence corporations through voting and extensive private communications, with BlackRock even bragging that it was "imposing more of what we think is correct" that "We can tell a company to fire 5,000 employees tomorrow."[297] Further, in recent years they expanded their staff for voting and stewardship by 65% at BlackRock, 110% at Vanguard, and 38% at State Street.[298] An interview with the heads of stewardship at BlackRock reports that their "focus is heavily on governance and board oversight", that they "require companies to provide '... sufficient information in their disclosures to fully inform our assessment of the quality of governance,'" that BlackRock wants disclosure on governance, corporate strategy, and executive compensation, that the "BlackRock team will initiate engagements on its own when … when companies have failed to satisfy BlackRock's informational needs," and that BlackRock has voted against directors who did not meet with BlackRock to explain their business strategy.[299]

More generally, a survey of institutional investors shows that 63% of them talk with corporate managers, 53% of them try to influence managers by voting against them, and only 19% make no efforts to influence corporate management.[300] Nor, contrary

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[294] *See* Appel, Gormley & Keim, *supra* note , at 113; Fisch, Hamdani, & Solomon, *supra* note , at 16-17, 23.
[295] *See* Appel, Gormley & Keim, *supra* note , at 113.
[296] *See* Appel, Gormley & Keim, *supra* note , at 113; Fisch, Hamdani, & Solomon, *supra* note , at 15-16.
[297] *See supra* I.E.2.
[298] Bioy, *supra* note .
[299] Wilcox & Sodali, *supra* note .
[300] Elhauge, *supra* note , at 1307.

to the claims of Bebchuk and Hirst,[301] are index funds less likely to vote against managers than other investors. To the contrary, increased ownership by index funds is associated with a statistically significant ***increase*** in votes against managers and a greater number of shareholder proposals being made and successfully adopted.[302]

Moreover, recent empirical studies show that index fund influence is actually effective in changing corporate governance. Increased ownership by index funds has statistically significant correlations with increased board independence and experience, higher executive turnover, weakened takeover defenses, increased corporate disclosure, and reduced executive misbehavior.[303] This evidence is not consistent with the conclusion that index funds exert so little effort that they are unlikely to influence corporations. The empirical literature also shows that institutional investors influence corporate policies ranging from CEO pay, investments, takeovers, board structure, and output prices.[304] This empirical literature conflicts with Bebchuk, Cohen, and Hirst's conclusion that neither index funds nor typical active funds have much incentive to exert effort to influence corporate conduct.[305]

Most strikingly, empirical studies show that increased ownership by index funds is associated with a statistically significant increase in corporate rates of returns and profits with lower risk.[306] This directly contradicts the Bebchuk, Cohen, and Hirst claim that it is implausible that index funds would do anything to increase the performance of their portfolio of firms. Indeed, this statistical finding suggests not only that index funds must be doing something to increase the performance of the corporations they hold, but must actually be doing it better than other investors.

Some commentators acknowledge that the empirical evidence shows that index funds and other institutional investors do influence corporations to increase

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[301] *See* Bebchuk & Hirst, *supra* note , at 4-6, 21-29, 41-45 (arguing that index funds have incentives to be excessively deferential to managers when voting or deciding on shareholder proposals).

[302] Appel, Gormley & Keim, *supra* note , at 114, 127-128; Harford, Kecskés, & Mansi, *Do Long-Term Investors Improve Corporate Decision Making?* at 3-6, 20 & Table 2 (Nov. 25, 2017), https://ssrn.com/abstract=2505261.

[303] Appel, Gormley & Keim, *supra* note , at 114, 124-126; Boone & White, *The effect of institutional ownership on firm transparency and information production*, 117 J. FIN. ECON. 508, 510 (2015); Harford, Kecskés, & Mansi, *supra* note , at 3-6, 20-22 & Tables 2-4.

[304] *See* Lewellen & Lewellen, *supra* note , at 5, 22-23 (collecting literature).

[305] *See* Bebchuk, Cohen & Hirst, supra note , at 99.

[306] Appel, Gormley & Keim, *supra* note , at 114, 129-130; Harford, Kecskés, & Mansi, *supra* note , at 5-6, 27-33 & Tables 9-13. Increased index fund ownership is also associated with lower corporate investment, increased innovation, lower debt, and higher dividends and share repurchases. *Id.* at 4-6, 23-26 & Tables 5-8.

corporate value by making corporations more efficient or better governed, but simultaneously rely on an argument that their insufficient incentives to increase corporate value means they cannot be influencing corporations to increase corporate value in anticompetitive ways.[307] However, their positions are internally inconsistent because the arguments for why index funds and other institutional investors supposedly lack incentives to increase corporate value apply whether that increased value comes from enhanced efficiency or decreased competition.[308] The empirical evidence that they in fact do increase corporate value in efficient ways thus shows that something must be wrong with the insufficient incentives argument.

Further, this index fund effect on corporate performance does not reflect piggybacking on hedge fund activism, because increased index fund ownership is also associated with a statistically significant decline in hedge fund activism.[309] However, when activists do target a firm, increased index fund ownership is associated with a statistically significant increase in more active forms of activism, including increasing: (1) the likelihoods that activists will launch a proxy fight and seek and successfully obtain board representation; (2) the number of board seats that the activists will seek and successfully obtain; and (3) the likelihood that the activists will succeed in removing takeover defenses and causing a sale of the targeted firm.[310] This combination of findings suggests that index fund ownership not only generally increases corporate value in a way that leaves fewer opportunities for value-increasing hedge-fund activism, but also encourages those activist campaigns that are launched to be more active because they can appeal for the votes of index funds that want to increase corporate value and have enough votes to strongly influence the outcome. Both findings conflict with the claim that index funds are unlikely to have any influence on corporate behavior.

Finally, the Bebchuk, Cohen, and Hirst claim conflicts with all the empirical evidence collected in Part I, which shows that increased horizontal shareholding by institutional investors on concentrated markets actually affects executive compensation methods, reduces corporate investment, and increases product prices. Further, their claim conflicts with a myriad of other empirical studies that show that common shareholding affects corporate behavior in ways that are not necessarily anticompetitive. For example, empirical studies have shown that common shareholding affects corporations' profitability, mergers, contracting, advertising,

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[307] *See* Lambert & Sykuta, *supra* note , at 19, 26-27, 50-54; Phillips, *supra* note , at 11-12.
[308] *See* Bebchuk, Cohen & Hirst, *supra* note , at 90, 95-98 (indicating that their arguments about insufficient incentives applies to all stewardship activities that increase corporate value).
[309] Appel, Gormley & Keim, *supra* note , at 114, 128.
[310] Appel, Gormley & Keim, *Standing on the shoulders of giants: The effect of passive investors on activism* at 3-4 (June 30, 2018), https://ssrn.com/abstract=2693145.

alliances, innovation, holdup, cash retention, product positioning, knowledge diffusion, and the rates and risks of loans.[311] At some point, theoretical claims that it is implausible that common shareholding could affect corporate behavior must give way to the dozens of empirical studies showing that it does just that.

In short, even if one thought that the theoretical points discussed above did not cut clearly in one direction or the other, the empirical evidence firms resolves the theoretical debate against the claim that index fund families lack incentives to exert any effort to influence corporate decisionmaking and thus could not plausibly be influencing corporations to increase profits by lessening competition.

III. THE REMEDY PROVIDED BY U.S LAW ON STOCK ACQUISITIONS

A. Why the Clayton Act Bans Anticompetitive Horizontal Shareholding

My argument that Clayton Act §7 bans any horizontal shareholding that has anticompetitive effects was straightforward.[312] Clayton Act §7 prohibits stock acquisitions that may substantially lessen competition. Thus, the stock acquisitions that create horizontal shareholdings are illegal whenever those horizontal shareholdings are shown to have created actual or likely anticompetitive effects. As I showed, the solely-for-investment "exception" is no obstacle for two reasons. First, a stock acquisition can be solely for investment only if the investor does not vote or otherwise influence corporate behavior at all, which is rarely the case for leading horizontal shareholders.[313] Second, even if a stock acquisition were solely for investment, that does not really create an exception, but rather merely changes the standard of proof from "may" substantially lessen competition to instead require evidence that the stock acquisition was intended to have anticompetitive effects or actually has or likely would have anticompetitive effects.[314] Because my

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[311] Schmalz, *supra* note , at 19-23.
[312] Elhauge, *supra* note 2, at 1302-04.
[313] *Id.* at 1305-1307.
[314] *Id.* at 1305, 1307-09. A OECD background note seemed to suggest that jurisdiction under Clayton Act § 7 is limited to acquisitions of more than 10% of a corporation's voting stock. DAF/COMP(2017)10 at 8 (Oct. 30, 2017). If such a suggestion was intended, it would be incorrect. U.S. law is rather than an acquirer of less than 10% need not *notify* the agencies in advance *if* the acquisition is solely for investment. Elhauge, *supra* note 2, at 1310. If the investment is not passive, then an acquirer of less than 10% must still notify the agencies. *Id.* at 1310-11. Further, under U.S. law, an exemption from advance notification does not eliminate substantive jurisdiction over a stock acquisition. Thus, even when stock acquisitions below 10%

recommendation was to bring enforcement actions when horizontal stock acquisitions were shown to have actually raised prices or be likely to do so, any such change in the standard of proof would not provide any obstacle.

Since then, the legal literature has gotten only stronger in support of my analysis. The Areeda-Hovenkamp antitrust law treatise now concurs with my conclusion that Clayton Act §7 condemns any stock acquisitions that create horizontal shareholdings that have actual or likely anticompetitive effects, notwithstanding the so-called solely-for-investment "exception."[315] To be sure, the treatise's reasoning takes a different route, but it comes to the same destination. The treatise reasons that whether a stock acquisition is made "solely for investment" is determined under an objective intent standard. Accordingly, the treatise concludes, whenever a horizontal stock acquisition has likely anticompetitive effects, the acquirer must have objectively intended those anticompetitive effects and thus could not be making the acquisition ***solely*** for investment.[316] Further, the treatise concludes, even when anticompetitive effects were not likely at the time of a stock acquisition, if actual anticompetitive effects later ensue (e.g., because of subsequent horizontal stock acquisitions), then the initial stock acquisition falls outside the solely-for-investment exception because the receipt of anticompetitive benefits means that the investor is "using" the stock "by voting or otherwise" to substantially lessen competition, making it illegal to continue to hold the stock.[317] We thus both reach the same legal conclusion that horizontal stock acquisitions are illegal whenever they are shown to create horizontal shareholding levels that create actual or likely anticompetitive effects.

B. The Legal Remedy Creates No Insuperable Administrability Problems

Posner, Scott Morton, and Weyl agree with my reading of the Clayton Act, but they have raised the administrability concern that my approach means the legality of one

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are sufficiently passive to be exempt from notification, they are still illegal if they are likely to substantially lessen competition or have actually created such anticompetitive effects. *Id.* at 1305-10. The notification exemption for passive sub-10% investments thus poses no obstacle to challenging horizontal shareholdings by passive institutional investors that each are individually below 10% if their horizontal shareholdings collectively have substantially lessened competition or are likely to do so.

[315] AREEDA & HOVENKAMP, ANTITRUST LAW ¶¶ 1203c, 1204b (Sept. 2017).

[316] *Id.*; *see also* Golden Grain Macaroni Co., 78 F.T.C. 63, 172 (1971), modified on other grounds, 472 F.2d 882 (9th Cir. 1972); Gulf & Western Indus. v. Great Atlantic & Pacific Tea Col, 476 F.2d 687, 693 (2d Cir. 1973); Scott Morton & Hovenkamp, *supra* note , at 2035, 2042.

[317] AREEDA & HOVENKAMP, *supra* note , ¶ 1204e.

horizontal stock acquisition can turn on the existence of other, often later, horizontal stock acquisitions.[318] However, the Areeda-Hovenkamp treatise explicitly recognizes the validity of this approach, and this approach is the one traditionally used when anticompetitive effects turn on the collective effect of restraints of trade imposed by multiple suppliers, such as exclusive dealing or vertical price-fixing.[319] The underlying economic reality is that the anticompetitive effects of horizontal shareholdings turn on the collective impact of multiple horizontal stock acquisitions. Sensible legal regulation should thus take into account the fact that the competitive effects of one shareholder's horizontal stock acquisitions depend on the horizontal stock acquisitions of others. It is probably for this reason that the Posner-Scott Morton-Weyl proposal itself ultimately makes the legality of individual horizontal stock acquisitions turn on the existence of others.[320] At least one of the authors of Posner-Scott Morton-Weyl also now agrees that (1) when the aggregation of horizontal stock acquisitions from multiple institutional investors creates the relevant anticompetitive harm, the investors should all be sued rather than focusing on the more recent stock acquisitions; and (2) the legality of stock acquisitions (including horizontal shareholdings) depends on their effects at the time of trial, not the time of acquisition.[321]

After all, U.S. antitrust law is crystal clear that an initially legal stock acquisition becomes illegal if subsequent events mean that continuing to hold the stock would have anticompetitive effects. As the U.S. Supreme Court stressed in *ITT Continental Baking*:

> We need not go beyond the Clayton Act itself to conclude that 'acquisition' as used in § 7 of the Act means holding as well as obtaining assets. … Thus, the framers of the Act did not regard the terms 'acquire' and 'acquisition' as unambiguously banning only the initial transaction of acquisition; rather, they read the ban against 'acquisition' to include a ban against holding certain assets…. '[A]cquisition' can mean, and in the context of § 7 of the Clayton Act does mean, both the purchase of rights in another company and the retention of those rights… [T]here is a violation 'any time when the acquisition threatens to ripen into a prohibited effect.' ... Thus, there

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[318] Posner, Scott Morton & Weyl, *A Proposal to Limit the Anticompetitive Power of Institutional Investors*, 81 ANTITRUST L.J. 669, 677-78, 691-94 (2017).

[319] AREEDA & HOVENKAMP, *supra* note , ¶¶ 1203e, 1204; FTC v. Motion Picture Advertising Service, 344 U.S. 392 (1953); Leegin Creative Leather Products v. PSKS, Inc., 551 U.S. 877, 897 (2007); ELHAUGE, US ANTITRUST, *supra* note , at 343-46.

[320] Elhauge, *The Growing Problem, supra* note , at 13.

[321] Scott Morton & Hovenkamp, *supra* note , at 2037, 2044-47.

> can be a violation at some later time even if there was clearly no violation—no realistic threat of restraint of commerce or creation of a monopoly—at the time of the initial acts of acquisition. Clearly, this result can obtain only because 'acquisition' under § 7 is not a discrete transaction but a status which continues until the transaction is undone.[322]

Indeed, in *du Pont,* the U.S. Supreme Court considered minority stock acquisitions that were deemed benign when initially made, and the Court condemned them based on anticompetitive effects that arose nearly ***40 years*** after the stock was acquired.[323]

Administrability concerns have also been overblown based on an implicit premise that my approach would automatically make horizontal shareholding illegal whenever MHHI exceeds 2500 and ΔMHHI exceeds 200. It would not. Such levels of horizontal shareholding and market concentration would under my analysis instead simply trigger investigation to determine whether, in fact, those horizontal stock acquisitions had raised prices or were likely to do so.[324] Proving that those price effects would "substantially" lessen competition has always been understood to include some showing that the price effects would persist or had persisted over some significant period of time. Indeed, the very SSNIP test used to define markets in order to infer anticompetitive effects from a Clayton Act acquisition depends on the pricing power being "non-transitory."[325] Likewise, market power had always been understood to require some showing that the power to raise prices is durable rather than temporary.[326] Further, as a practical matter, proving anticompetitive effects from past horizontal stock acquisitions will usually be possible only when those horizontal shareholdings were sustained for long enough to be able to

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[322] United States v. ITT Continental Baking Co., 420 U.S. 223, 240-242 (1975). *See also* AREEDA & HOVENKAMP, *supra* note , ¶¶ 1203e, 1204 ("changed circumstances may render unlawful the continued holding of noncontrolling stock whose original acquisition was lawful…. [C]ontinued holding of stock violates §7 if a current acquisition would do so. This conclusion is clearest when the anticompetitive threat results from subsequent active use of the acquired stock, but it is not limited to that case.")

[323] United States v. E.I. du Pont de Nemours & Co., 353 U.S. 586. 588-589, 592, 597-598 (1957).

[324] Elhauge, *supra* note 2, at 1303.

[325] U.S. DOJ-FTC, Horizontal Merger Guidelines § 4.1.1 (2010).

[326] Reazin v. Blue Cross & Blue Shield of Kan., 899 F.2d 951, 968 (10th Cir. 1990) ("market power, to be meaningful for antitrust purposes, must be durable"); AREEDA & HOVENKAMP, *supra* note , ¶ 501 ("Market power need not trouble the antitrust authorities unless it is both substantial in magnitude and durable.")

statistically measure their price effects.[327] Thus, it is not true that under my approach horizontal stock acquisitions would shift rapidly from legality to illegality based on subsequent stock transactions and the mechanical application of an MHHI test. Illegality would require a showing that horizontal shareholdings have adverse price effects for some significant time period, giving horizontal stockholders plenty of time to divest themselves of stockholdings that seem likely to contribute to such adverse effects.

C. The Legal Critiques Are Clearly Mistaken

Rock and Rubinfeld originally critiqued my legal analysis based on their claims that (1) Clayton Act § 7 only prohibits stock acquisitions that confer control and (2) the solely-for-investment exception immunizes an investor whenever it exercises influence through ordinary investor activities like voting their shares or communicating with management.[328] But their first claim conflicts with holdings by the U.S. Supreme Court that "A company need not acquire control of another company in order to violate the Clayton Act," and by the Sixth Circuit in *Dairy Farmers* that "We do not agree with the ... conclusion that a lack of control or influence precludes a Section 7 violation" because "even without control or influence, an acquisition may still lessen competition."[329] Their second claim conflicts not only with the above analysis about the solely-for-investment "exception", but also with the fact that Clayton Act § 7 expressly states that even stock acquisitions made solely for investment lose any exemption if the acquirer uses the stock "by voting or otherwise" to bring about anticompetitive effects.[330]

After I pointed out that both their claims were clearly incorrect,[331] Rock and Rubinfeld acknowledged that (given cases like *Dairy* Farmers) they now agree that "a stock acquisition that lessens competition is a prima facie violation of Section 7, whether or not it provides control or influence."[332] They claim that this proposition "is subject to the 'solely for investment' exemption, which was not at issue in *Dairy*

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[327] Indeed, the adverse price effects that were confirmed in the Airline Study come only from long-holding horizontal shareholders, with short-holding horizontal shareholders having no significant effect on prices. Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1546-47.
[328] Rock & Rubinfeld, *Defusing, supra* note , at 18-24.
[329] Denver & Rio Grande W. R.R. v. United States, 387 U.S. 485, 501 (1967); United States v. Dairy Farmers of Am., Inc., 426 F.3d 850, 859–60 (6th Cir. 2005); *see also* AREEDA & HOVENKAMP, *supra* note , ¶ 1203.
[330] 15 U.S.C. § 18 (2012).
[331] Elhauge, *The Growing Problem, supra* note , at 10-12.
[332] Rock & Rubinfeld, *Antitrust*, *supra* note , at 262.

Farmers."[333] But in fact *Dairy Farmers* specifically rejected the argument that "a lack of control over an acquiree corporation placed such acquisition in the 'solely for investment' exception" in a way that meant "control is a necessary requirement for a Section 7 violation."[334] The court cited this rejection of the claim that a lack of control immunized an acquisition under the solely for investment exception in order to support the court's conclusion that "even without control or influence," an acquisition that had anticompetitive effects violated the Act, stressing that "[t]he key inquiry is the effect on competition, regardless of the cause."[335]

Indeed, Rock and Rubinfeld ultimately admit that if they were convinced that horizontal shareholding by institutional investors did have anticompetitive effects, then they would agree that it would be banned by Clayton Act § 7.[336] Their claim that the Clayton Act does not cover horizontal shareholding by institutional investors with individual stakes of less than 15% is thus not really a legal claim that such horizontal shareholding is immunized even when it has anticompetitive effects. It is rather an economic claim that such horizontal shareholding does not actually have such anticompetitive effects. As I showed in Parts I and II, their economic claim is contradicted by mathematical proofs, copious empirical studies, and sound economic analysis. In any event, their analysis effectively concedes that I am right on the legal conclusion that when horizontal shareholding ***does*** have anticompetitive effects, it violates Clayton Act § 7.

Ginsburg and Klovers raise various legal objections, none of which are valid. First, they complain that my statutory analysis relies on the "plain meaning" or "literal meaning" of the statute.[337] This is an odd objection coming from Judge Ginsburg, who joined an opinion stressing (citing Supreme Court authority) that: "The plain meaning of legislation should be conclusive, except in the 'rare cases [in which] the literal application of a statute will produce a result demonstrably at odds with the intentions of its drafters.'"[338] Given Judge Ginsburg's own jurisprudence and concession that my conclusion is supported by the plain meaning of the statute, he should have concluded that the statute does cover anticompetitive horizontal shareholding, unless he had evidence that this conclusion was demonstrably at odds with the intentions of the Congress that enacted the Clayton Act. Yet Ginsburg and

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[333] *Id.*
[334] *Dairy Farmers,* 426 F.3d at 860 n.3.
[335] *Id.* at 860.
[336] Rock & Rubinfeld, *Antitrust*, *supra* note , at 262.
[337] Ginsburg & Klovers, *supra* note , at ¶¶ 29, 30, 32, 47.
[338] Engine Mfrs. Ass'n, ex rel. Certain of its Members v. EPA, 88 F.3d 1075, 1088 (D.C.Cir.1996) (citations omitted).

Klovers provide not one iota of evidence that Congressional intent was demonstrably against covering anticompetitive horizontal shareholding.

Instead, Ginsburg and Klovers argue that the plain meaning rule does not apply to antitrust statutes.[339] They argue that the antitrust rule of reason violates the plain meaning rule because it reads the Sherman Act to condemn only unreasonable restraints, rather than every restraint of trade.[340] But, as I have shown, the rule of reason is compatible with plain meaning because "the word 'restraint' inherently suggests some ***net*** restraint of trade, for trade could hardly be said to be restrained if it were increased."[341] Further, on the specific issue of which investors are covered by the Clayton Act § 7, binding Supreme Court authority stresses that the statute should be interpreted according to its "plain language."[342] Anyway, the proposition that antitrust laws should be read functionally, rather than formalistically, hardly counsels for Ginsburg and Klovers' claim that we should read formalistic limits into the Clayton Act to make it inapplicable even when horizontal stock acquisitions do have anticompetitive effects. Such a functional approach would instead interpret the statute to apply whenever stock acquisitions have anticompetitive effects.

Second, Ginsburg and Klovers argue that my argument should be rejected based on their mistaken premise that the U.S. antitrust agencies, as well as Rock and Rubinfeld, concluded that Clayton Act § 7 applies to anticompetitive cross-shareholding (in which businesses own shares in competing businesses) but not to anticompetitive horizontal shareholding (in which investors own leading shares in competing businesses).[343] Far from concluding that Clayton Act § 7 fails to cover horizontal shareholding even when anticompetitive effects are proven, the U.S. antitrust agencies stressed the opposite: that if they were convinced that horizontal shareholding had anticompetitive effects, then they would consider bringing enforcement actions.[344] If the agencies thought an enforcement action would not be legally permissible in such cases, they would not have reached that conclusion. Likewise, as just discussed a couple paragraphs ago, Rock and Rubinfeld ultimately conceded that horizontal shareholding would violate Clayton Act § 7 if anticompetitive effects were proven.

Moreover, a deeper dive into the statutory language, structure, and legislative history clearly refutes Ginsburg and Klovers's interpretation that Clayton Act § 7 applies to

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[339] Ginsburg & Klovers, *supra* note , at ¶ 29.
[340] *Id.*
[341] ELHAUGE, US ANTITRUST, *supra* note , at 54.
[342] United States v. E.I. du Pont de Nemours & Co., 353 U.S. 586, 597-98 (1957).
[343] Ginsburg & Klovers, *supra* note , at ¶¶ 31, 33, 35.
[344] US OECD Note, *supra* note , at ¶¶ 4, 15.

cross-shareholding but not to horizontal shareholding. Ginsburg and Klovers fail to take into account that Clayton Act § 7 actually has two provisions, which provide:

> (1) "***No person engaged in commerce*** or in any activity affecting commerce shall acquire, directly or indirectly, the whole or any part of the ***stock*** … ***of another person engaged also in commerce*** or in any activity affecting commerce, where in any line of commerce or in any activity affecting commerce in any section of the country, the effect of such acquisition may be substantially to lessen competition…."
>
> (2) "***No person*** shall acquire, directly or indirectly, the whole or any part of the ***stock***. . . of ***one or more persons engaged in commerce*** or in any activity affecting commerce, where in any line of commerce or in any activity affecting commerce in any section of the country, the effect of such acquisition, of such stocks or assets, or of the use of such stock by the voting or granting of proxies or otherwise, may be substantially to lessen competition…"[345]

One could perhaps argue that the first provision should be interpreted to apply to business cross-shareholding, but not to horizontal shareholding by a noncommercial investor in multiple business. However, this argument would not help in the typical case in which the horizontal shareholders are institutional investors, given that institutional investors are "engaged in commerce." In any event, even if one accepted that interpretation, the second provision expressly goes beyond any such limit to cover situations when any person (whether or ***not*** engaged in commerce) acquires stock in multiple commercial entities in a way that lessens competition among them. In short, the second provision explicitly extends the Act in a way that covers situations in which an investor's acquisition of shareholdings in horizontal competitors lessens competition among them. There would be no point to the second provision unless it meant to reject the position that the Act covers only cases where one commercial entity acquires stock in another. The structure of the statute thus clearly rejects the Ginsburg-Klovers assertion that the statute dos not apply to horizontal shareholding even when anticompetitive effects are proven.

Ginsburg and Klovers argument to the contrary is that the statute should be interpreted to exclude horizontal shareholding because, in a 2017 OECD paper, the U.S. antitrust agencies stated that they had litigated cases involving cross-shareholding, but have not yet litigated any case involving horizontal

[345] Clayton Act § 7, 15 U.S.C. § 18 (emphasis added).

shareholding.[346] But they are mistaken both in their premise about what the agencies stated and in their inference from that premise.

As to their premise, in fact the agencies were careful to say only that they had not yet "litigated a case involving common ownership ***by a single institutional investor***."[347] The agencies went on to acknowledge that the DOJ had brought "a case ***against an individual*** under Section 7 for common ownership in Columbia Pictures and MGM Pictures."[348] The agencies noted that the DOJ lost that case,[349] but the reason it lost was not a legal ruling that such horizontal shareholding was not covered by the statute. Rather, the DOJ lost that case because the horizontal shareholder there committed to effectively give up his voting rights by committing to vote his stock as the other shareholders did, which the court concluded triggered the solely-for-investment exception.[350] The agencies also noted that the FTC had brought another case against horizontal shareholding by "two private equity firms."[351] The agencies noted that in that case the horizontal shareholders had strong influence over the corporations at issue,[352] but that goes to the distinct issue of what degree of influence is required. It does not alter the fact that in that case the FTC must have interpreted the statute to extend to horizontal shareholding, rather than limited to cross-shareholding. Further, after the 2017 OECD paper, the FTC secured a 2018 settlement that required a divestiture to prevent a merger from resulting in anticompetitive horizontal shareholding.[353] Again, the FTC stressed the influence of the horizontal shareholders, but requiring such a divestiture necessarily implies an interpretation that the statute does cover horizontal shareholding.

In any event, even if the agencies have never previously brought cases against anticompetitive horizontal shareholding involving institutional investors, one cannot properly infer from that premise any legal immunity for such horizontal shareholding. Until recently, the anticompetitive potential of horizontal shareholding by institutional investors was not appreciated, and thus there would have been no motive to bring such a case. That hardly creates any precedent holding that the statute does ***not*** extend to such horizontal shareholding when it has

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[346] Ginsburg & Klovers, *supra* note , at ¶ 33, 35.
[347] US OECD Note, *supra* note , at ¶ 3 (emphasis added).
[348] *Id.* at ¶ 3 n.4 (emphasis added).
[349] *Id.*
[350] *See* United States v. Tracinda Inv. Corp., 477 F. Supp. 1093, 1098 (C.D. Cal. 1979).
[351] US OECD Note, *supra* note , at ¶ 9 n.14.
[352] *Id.*
[353] Red Ventures Holdco and Bankrate, In the Matter of (April 27, 2018)s, https://www.ftc.gov/enforcement/cases-proceedings/file-no-1710196/red-ventures-holdco-bankrate.

anticompetitive effects. Even less does that show any demonstrable Congressional intent to deviate from the plain meaning of the statute, which does cover anticompetitive horizontal shareholding.

Third, Ginsburg and Klovers argue that the "solely for investment" provision of Clayton Act § 7 means the statute does not apply unless the stock acquirer intended to obtain influence or control from the time of the acquisition.[354] One initial problem with this claim is that it does not bear on whether the statute covers horizontal shareholding. It would rather, if valid, indicate a general requirement of having to prove an intent to influence for any stock acquisition, whether it involved horizontal shareholding or cross shareholding. Nor is there any basis for Ginsburg and Klovers's apparent assumption that such a showing could typically not be made for horizontal shareholders. By definition, such shareholders are the leading shareholders at competing firms, and any large investor that acquires enough stock to be one of the leading shareholders at a firm necessarily knows that such acquisition will give it influence, thus giving it the objective intent to obtain influence.

In any event, Ginsburg and Klovers are clearly mistaken in their claim that Clayton Act § 7 requires an intent to control or influence from the time of acquisition. The solely-for-investment provision states that Clayton Act § 7's prohibition does "not apply to persons purchasing such stock ***solely*** for investment ***and*** not using the same ***by voting or otherwise*** to bring about, or in attempting to bring about, the substantial lessening of competition."[355] Even if we (quite mistakenly) assumed that the "solely for investment" clause was satisfied whenever the acquirer lacked an intent to control or influence from the time of acquisition,[356] the "and" clause makes perfectly clear that would not suffice to establish the exception. Rather, the acquirer must ***also*** show that it did not use the stock to lessen competition substantially or to attempt to do so. If the acquirer actually uses the stock "by voting or otherwise" to have such anticompetitive effects, then the stock acquisition is illegal regardless of the initial intent for the acquisition. Because the anticompetitive effects of horizontal shareholding generally flow from the exercise of voting rights, this means the exception clearly does not apply to such cases. Moreover, the "or otherwise"

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[354] Ginsburg & Klovers, *supra* note , at ¶¶ 33, 41-43.

[355] 15 U.S.C. § 18 (emphasis added).

[356] As the Areeda treatise notes, given antitrust law's objective intent standard, the solely-for-investment standard should be deemed unsatisfied whenever the acquisition is objectively likely to have anticompetitive effects. *See supra* at Part III.A. Further, the substantive solely-for-investment standard fails to be satisfied whenever the acquirer actually acquires an ability to influence corporate behavior (including by voting), which is typically the case for leading horizontal shareholders. Elhauge, *supra* note 2, at 1305-07.

clause means that the exception also does not apply even if the anticompetitive effects do not flow from the exercise of voting rights, but rather because the stock is used to reduce incentives to compete.

Consistent with this statutory interpretation, the U.S. Supreme Court in in *du Pont* expressly held that: "***Even when*** the purchase is solely for investment, the plain language of § 7 contemplates an action ***at any time*** the stock is used to bring about, or in attempting to bring about, the substantial lessening of competition."[357] Thus, even if the initial acquisition was solely for investment, it becomes illegal if at any later time the use of the stock brings about a lessening of competition. The Supreme Court later confirmed in *Denver & Rio Grande* that the statute thus meant that: "A company need not acquire control of another company in order to violate the Clayton Act."[358] The Supreme Court also later confirmed in *ITT Continental Baking* that the statute also meant that: "there is a violation 'any time when the acquisition threatens to ripen into a prohibited effect.' ... Thus, there can be a violation at some later time even if there was clearly no violation—no realistic threat of restraint of commerce or creation of a monopoly—at the time of the initial acts of acquisition."[359] The Supreme Court has thus explicitly and repeatedly rejected not only Ginsburg and Klovers's claim that § 7 requires showing an intent to control or influence, but also their claim that it requires showing illegality at the time of the initial acquisition.

The fact that the statutory text plainly rejects Ginsburg and Klovers' interpretation is actually even more clear for horizontal shareholding than for cross shareholding. The reason is that the second provision of Clayton Act § 7 expressly bans common shareholding when "the effect of such acquisition***,*** of such stocks or assets, ***or*** of the use of such stock by the voting or granting of proxies or otherwise, may be substantially to lessen competition."[360] In other words, the statute expressly applies to horizontal shareholding whenever the anticompetitive effect is caused by (1) the acquisition, (2) the stock itself, ***or*** (3) the use of the stock. This second provision thus expressly rejects the proposition that the anticompetitive effects have to be traced to any intent to control or influence at the moment of acquisition or even to any subsequent use of the stock, by saying the effect could be from the holding of the stock itself. Thus, if the mere holding of the stock creates anticompetitive incentives that are likely to substantially lessen competition, then that suffices regardless of the intent or use of the stock to influence corporate decisionmaking.

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[357] United States v. E.I. du Pont de Nemours & Co., 353 U.S. 586. 588-589, 592, 597-598 (1957) (emphasis added).
[358] Denver & Rio Grande W. R.R. v. United States, 387 U.S. 485, 501 (1967).
[359] United States v. ITT Continental Baking Co., 420 U.S. 223, 240-242 (1975).
[360] Clayton Act § 7, 15 U.S.C. § 18 (emphasis added).

This is consistent with the Supreme Court interpretations noted above, which interpret an illegal "acquisition" to include continuing to hold stock when that stockholding has anticompetitive effects.[361]

Ginsburg and Klovers' position also conflicts with the legislative history, which indicates that one of the aims of the 1950 Clayton Act amendments was to address stockholdings in multiple corporations arising from acquisitions going back to 1940 or earlier.[362] This legislative history indicates a Congressional intent to condemn the ongoing anticompetitive effects of common stockholdings that resulted from old stock acquisitions, rather than just to address the immediate effects of new or recent stock acquisitions.

Lower court decisions also conflict with Ginsburg and Klovers' statutory interpretation. The Sixth Circuit held in *Dairy Farmers* that: "We do not agree with the ... conclusion that a lack of control or influence precludes a Section 7 violation" because "even without control or influence, an acquisition may still lessen competition."[363] It thus flatly rejected Ginsburg and Klovers' claim that control or influence was required. In *Anaconda* and *Tracinda,* two federal district courts held that, "In cases where the 'solely for investment' exemption does not apply, a plaintiff need only show a reasonable probability of a lessening of competition. . . . The statutory exemption, however, conspicuously omits this language. Once it is established to the satisfaction of the Court that the acquisition is 'solely for investment,' the statute requires a showing that the defendant is 'using the (stock) by voting or otherwise to bring about, or in attempting to bring about, the substantial lessening of competition ....'"[364] Both district courts thus directly rejected Ginsburg and Klovers' claim that showing an acquisition is solely for investment suffices to exempt it the Act, holding instead that all such a showing did was change the substantive standard of liability from "a reasonable probability of a lessening of competition" to "'using the (stock) by voting or otherwise to bring about, or in attempting to bring about, the substantial lessening of competition."[365]

In response, Ginsburg and Klovers argue that we should ignore the plain meaning of what the cases say, [366] just as they urge ignoring the plain meaning of what the statute

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[361] *See supra* Part III.B.
[362] HR Rep 1191 at 2-3, 11-13, 81st Cong, 1st Session (1949).
[363] United States v. Dairy Farmers of Am., Inc., 426 F.3d 850, 859–60 (6th Cir. 2005).
[364] Anaconda Co. v. Crane Co., 411 F. Supp. 1210, 1219 (S.D.N.Y. 1975); United States v. Tracinda Inv. Corp., 477 F. Supp. 1093, 1098 (C.D. Cal. 1979).
[365] *Anaconda*, 411 F. Supp. at 1219 (stressing the change in substantive standard); *Tracinda*, 477 F. Supp. at 1098-99 & n.5 (same).
[366] Ginsburg & Klovers, *supra* note , at ¶¶ 40-46.

says.[367] For different cases, they offer different reasons for ignoring what the cases say, none of which are convincing. For the *du Pont* and *Dairy Farmers* cases, they argue that their statements should be ignored as dicta, because in those cases the acquirers did have substantial influence and in the *du Pont* case intended to use it to reduce competition from the time of acquisition.[368] But the point of these cases is that they offer authoritative interpretations of what the statutory standard is, not whether the evidence in those cases happened to exceed that statutory standard. Nor is it clear how Ginsburg and Klovers leap from on observation that influence or an intent to influence were present in these cases to a conclusion that these cases support their claim that such influence or intent is required for liability, when the cases say precisely the opposite. Indeed, if these cases had stated that influence or an intent to influence were required, then by the logic of Ginsburg and Klovers those statements would have to be ignored as dicta because the conduct would be illegal whether or not the statutory standard were laxer.

For the *Denver & Rio Grande* and *ITT Continental Baking* cases, Ginsburg and Klovers argue that we should ignore what they said because they "merely applied the logic of *DuPont*" and thus add nothing to it.[369] But what they add is that the statutory interpretation of *du Pont* was necessary to the holdings of *Denver & Rio Grande* and *ITT Continental Baking,* thus making clear that this statutory interpretation is not dicta, contrary to Ginsburg and Klovers' argument.

In *Denver & Rio Grande,* the question was whether the Interstate Commerce Commission (ICC) had to hold a hearing to consider the legality of an acquisition of 20% of the stock of a corporation.[370] The appellees argued that because Interstate Commerce Act (ICA) § 5 allowed the ICC to approve acquisitions that conferred control, the ICC should not consider anticompetitive effects from partial stock acquisitions under the general public interest standard of ICA § 20.[371] The Supreme Court rejected this argument because the ICC had a statutory obligation to enforce Clayton Act § 7, which the Court stressed did condemn partial stock acquisitions that conferred no control if they produced anticompetitive effects.[372] The interpretation that Clayton Act § 7 condemned stock acquisitions that conferred no control but had anticompetitive effects was thus necessary to the Court's holding that the ICC had to hold a hearing, and clearly not dicta.

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[367] *Id.* at ¶¶ 29, 30, 32, 47.
[368] *Id.* at ¶¶ 43-44.
[369] Ginsburg & Klovers, *supra* note , at ¶ 45-46.
[370] Denver & Rio Grande W. R.R. v. United States, 387 U.S. 485, 487-488 (1967).
[371] *Id.* at 496.
[372] *Id.* at 493-494, 496-497, 501-502.

Ginsburg and Klovers assert that "*ITT Continental Baking* did not concern § 7 at all."[373] But *ITT Continental Baking* involved a Clayton Act § 7 enforcement action that resulted in a consent decree that prohibited "acquiring" other companies, and the question was whether that decree penalized only the initial act of acquisition or also continuing to hold the stock.[374] The Supreme Court concluded that it had to assume that the parties used the term "acquiring" with the specialized meaning of antitrust law, which under Clayton Act § 7 included continuing to retain a stockholding that had anticompetitive effects.[375] The interpretation that Clayton Act § 7 condemned retaining stockholdings that had anticompetitive effects was thus necessary to the Court's holding that such retention was subject to penalties, and clearly not dicta.

For *Anaconda,* Ginsburg and Klovers argue that the court held that what matters is the acquirer's intent to control or influence, not whether it actually used the stock to lessen competition, because the court credited the defendant's representation that it had no intention of acquiring control and then found no § 7 violation.[376] But in fact, the court did not rely solely on the defendant's intent to establish that the acquisition was solely for investment: the court also relied on the fact that a consent order prohibited the stock from being used to lessen competition.[377] Further, even after considering those intentions and consent order, the court stressed that there was "nevertheless" an issue about whether the exemption applied because even if the acquisition was solely for investment, it could be illegal if the stock was later used to lessen competition.[378] The court did not hold that any initial intent immunized the acquirer from such liability. Rather, the court indicated that it was premature to consider liability from the use of stock, given that the stock had not yet been acquired, and that any later use of the stock to lessen competition would be a Clayton Act violation.[379]

For *Tracinda,* Ginsburg and Klovers argue that we should ignore its clear statement that even an acquisition that was made solely for investment would be illegal if the

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[373] Ginsburg & Klovers, *supra* note , at ¶ 46.
[374] United States v. ITT Continental Baking Co., 420 U.S. 223, 225-226 (1975).
[375] *Id.* at 240-244.
[376] Ginsburg & Klovers, *supra* note , at ¶ 42.
[377] Anaconda Co. v. Crane Co., 411 F. Supp. 1210, 1218 (S.D.N.Y. 1975).
[378] *Id.* at 1218-19.
[379] *Id.* at 1219 ("It may well develop at trial that Crane has noninvestment motives not known to this Court or that Crane is attempting to use its shares to lessen competition. But as the proof has developed thus far, Anaconda has failed to make out its Section 7 claim. I find that at this stage there is neither a probability of success nor serious questions going to the merits sufficient to warrant the granting of a preliminary injunction.")

stock were later used to lessen competition, based on their claim that *Tracinda* stated that whether stock is used to lessen competition turns on whether an intent to control exists.[380] But *Tracinda* said nothing of the sort.[381] To the contrary, *Tracinda* stressed that establishing the exemption required satisfying "a 2-pronged test: (1) a factual determination of whether the acquisition was made solely for investment; and (2) a factual determination of whether the stock is being used by voting or otherwise to bring about or attempt to bring about a substantial lessening of competition."[382] It was only the first prong that the court said mainly turned on "whether the stock was purchased for the purpose of taking over the active management and control of the acquired company."[383] The court then separately concluded that "the second prong of the investment exemption test" was satisfied because there was "no actual or threatened lessening of competition since the acquisition."[384] The fact that the court felt obliged to assess that issue clearly indicates that it recognized that even if there were no intent to control, liability would still exist if the stock were later used to lessen competition.

In short, six neutral courts have interpreted Clayton Act § 7 in a way that corresponds to my interpretation of it and flatly contradicts the interpretation of Ginsburg and Klovers. Ginsburg and Klovers argue that their interpretation is supported by the fact that, in their OECD submission, the U.S. antitrust agencies stated that "the investment-only exception applies unless the acquiring party intends to seek control or influence."[385] But that is a mischaracterization of what the agencies stated.[386]

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[380] Ginsburg & Klovers, *supra* note , at ¶ 41.

[381] Ginsburg and Klovers base their assertion on linking a quote about using stock on page 1098 of the opinion with another quote on page 1100 about the absence of proof of intent, *id.,* but the court never linked the two. *See Tracinda*, 477 F. Supp. at 1098, 1100.

[382] *Tracinda*, 477 F. Supp. at 1098.

[383] *Id.* at 1099.

[384] *Id.* at 1101-1102. Ginsburg and Klovers oddly think this plain holding is contradicted by the fact that the court rejected the government's position that the standard should be whether the acquisition may substantially lessen competition. Ginsburg & Klovers, *supra* note , at ¶ 41 & n.99. But the court's rejection simply reflected the fact that, under the statute's plain language, showing an acquisition is solely for investment changes the substantive standard from whether the acquisition may substantially lessen competition to whether it was actually used to lessen competition or attempted to be so used. *Tracinda*, 477 F. Supp. at 1098.

[385] Ginsburg & Klovers, *supra* note , at ¶ 33.

[386] Ginsburg and Klovers based their claim on two things. First, the agencies stated that the exception reflected "an underlying policy of broad support for investment through stock purchases, when such purchases are not part of an effort to control or influence management of the firm." Ginsburg & Klovers, *supra* note , at ¶ 33 (quoting US OECD Note, *supra* note , at ¶ 6). But a policy of broad support is not the same thing as an absolute exception for all such investments. Second, Ginsburg and Klovers characterize the agencies as stating that "the investment-only

Indeed, as I pointed out, this characterization of the agencies' position is flatly in conflict with the U.S. antitrust agencies' merger guidelines, which provide that when a partial stock acquisition lessens incentives to compete, it can violate Clayton Act § 7 "even if cannot influence the conduct of the target firm."[387] Ginsburg and Klovers dismiss this contradiction with their claim because, in their OECD submission, the agencies stated that this section of the merger guidelines "is concerned more directly with cross-ownership".[388] But that is selective quotation: the full quote from the agencies was, "Although the section is concerned more directly with cross-ownership, ***it has some relevance to acquisitions resulting in common ownership.***"[389] In any event, whether the focus was on cross-shareholding is besides the point. The important fact is that the agencies in formal guidelines rejected the proposition that stock acquisitions could be illegal only when they were intended to seek control or influence, which is was the mistaken claim that Ginsburg and Klovers made and that they applied to cases involving cross shareholding as well as horizontal shareholding.[390]

IV. NEW LEGAL THEORIES

I now lay out some new legal theories for tackling horizontal shareholding. These new legal theories are useful for two reasons. First, as discussed in Part III, doubts have been raised about whether Clayton Act §7 can tackle horizontal shareholding, either because of the solely-for-investment exception or because of arguments that it cannot address old stock acquisitions. Although I showed in Part III that those doubts are misplaced, I show below in Section *A* that even if they were valid, horizontal shareholding that has anticompetitive effects can be tackled under the

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exception applies to purchases of shares below 10%—or 15% for institutional investors—unless the stock is acquired 'with the intent of seeking control.'" ***Id.*** But that is not what the agencies said. Instead, the agencies stated that acquisitions of less than 10-15% that were "solely for investment" were exempt only from filing "premerger notification." US OECD Note, *supra* note , at ¶¶ 7-8. The scope of the premerger notification exemption is far broader than the substantive exception, and it is a legal error to conflate the two. Elhauge, *supra* note 2, at 1305-10. Moreover, although the agencies stated that an "intent of seeking control" would surely ***suffice*** to lose the premerger notification exemption, US OECD Note, *supra* note , at ¶ 7, the agencies never said such an intent to seek control was ***necessary*** to lose the premerger notification exemption.

[387] U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, HORIZONTAL MERGER Guidelines § 13 (Aug. 19, 2010)).

[388] Ginsburg & Klovers, *supra* note , at ¶ 29 n.67, ¶ 33.

[389] US OECD Note, *supra* note , at ¶ 9 (emphasis added).

[390] Ginsburg & Klovers, *supra* note , at ¶¶ 41-43.

Sherman Act as an ongoing contract or combination that restrains competition.[391] Indeed, the historic trusts that motivated the creation of antitrust law were horizontal shareholders. Second, even if Clayton Act §7 provides a remedy for horizontal shareholding in the U.S., it would not do so in the EU or many other nations, which have more narrow merger control laws. Section *B* thus lays out some new legal theories for how to tackle horizontal shareholding under EU competition law. I show that while EU merger control law could be interpreted to cover a subset of anticompetitive horizontal shareholding, horizontal shareholding can more fully be addressed as an agreement or concerted practice under TFEU 101 or as collective dominance that leads to excessive pricing under TFEU 102.

A. Tackling Horizontal Shareholding under the Sherman Act

Sherman Act § 1 applies to any "contract, combination in the form of trust or otherwise, or conspiracy" that imposes a net restraint on competition.[392] The "contract" element is clearly met because horizontal shareholding involves formal contracts between corporations and common investors. Those contracts are what give horizontal shareholders rights to vote for corporate management and a share of corporate profits. Of course, shareholder-corporate contracts ordinarily do not restrain competition. But they are contracts that clearly meet the statute's agreement requirement. Further, if shareholder-corporate contracts between horizontal shareholders and competing corporations do incentivize those corporations to behave less competitively, they impose a net restraint on competition. Thus, whenever horizontal shareholdings have anticompetitive effects, they constitute contracts in restraint of trade that violate Sherman Act § 1.

This conclusion holds even though each individual shareholder-corporate contract would not, standing alone, restrain competition. It suffices that the horizontal shareholders have contracts with competing firms and that the effect of the voting and profit rights in those contracts is to lessen competition between those firms. Antitrust has long judged the anticompetitive effects of multiple contracts based on their aggregate impact, such as when it judges exclusive dealing contracts based on

[391] In my earlier article, I briefly noted this possibility, without elaborating the basis for this legal theory. Elhauge, *supra* note 2, at 1304.
[392] 15 U.S.C. § 1; ELHAUGE, US ANTITRUST, *supra* note , at 54-55.

cumulative foreclosure or vertical price-fixing contracts based on whether they are sufficiently widespread to facilitate oligopolistic coordination.[393]

Indeed, the reason that the Sherman Act was called an anti*trust* law was that it aimed to prohibit trusts that in fact were horizontal shareholders. These pre-Sherman Act trusts were formed by having the stockholders of the competing firms transfer their stock to the trust, in exchange for a trust certificate entitling each stockholder to a share of the trust's income.[394] The trusts then used their horizontal shareholdings to elect directors of each firm that would refrain from competition. The firms paid their profits as dividends to the trust, which then distributed those profits to the holders of trust certificates. The shareholder-corporate contract between the trust and each individual corporation did not, standing alone, restrain competition. But because the trust was a horizontal shareholder that had such contracts with competing corporations, those contracts did restrain competition. The same is true when institutional investors are the horizontal shareholders that have shareholder-corporate contracts with competing corporations. Indeed, many ETFs with horizontal shareholdings are literally trusts.

The statute also applies to any "combination in the form of trust or otherwise."[395] This text clearly indicates that the statute deems trusts one form of "combination" between the competing firms. It does so even though the only thing combining the firms is the fact that their shareholder rights are held by a common horizontal investor, namely the trust. Likewise, if the shareholders in two competing firms exchange their shares in those firms for shares in a holding corporation that becomes a controlling horizontal shareholder in the two competing firms, then even if the arrangement is not a "trust", it constitutes a "combination" in restraint of trade that is covered by Sherman Act § 1.[396] Thus, antitrust treatment of both trusts and holding corporations establishes that showing a horizontal agreement or combination does not require proving a direct agreement between two competing firms, but rather can be proven through shareholder contracts between each firm and common horizontal shareholders that indirectly link those two competing firms. Accordingly, when a common set of institutional investors are leading shareholders at competing firms, the shareholder contracts between those firms and their common

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[393] FTC v. Motion Picture Advertising Service, 344 U.S. 392 (1953); Leegin Creative Leather Products v. PSKS, Inc., 551 U.S. 877, 897 (2007); ELHAUGE, US ANTITRUST, *supra* note , at 343-46.

[394] *See* Sherman Anti-Trust Act (1890), available at https://www.ourdocuments.gov/print_friendly.php?flash=true&page=&doc=51&title=Sherman+Anti-Trust+Act+%281890%29.

[395] 15 U.S.C. § 1; ELHAUGE, US ANTITRUST, *supra* note , at 54-55.

[396] Northern Sec. Co. v. United States, 193 U.S. 197, 325-27 (1904).

horizontal shareholders also satisfy the contract or combination requirement of Sherman Act § 1.

One might mistakenly think that, although horizontal shareholdings meet the contract or combination requirement, they would not constitute anticompetitive restraints of trade unless they also exercised control and specified particular firm prices or conduct. But that does not follow. Although the pre-Sherman Act trusts did tend to engage in that level of anticompetitive micromanagement, the statute banned trusts whether they did so or not. Such specific control is not required for an anticompetitive restraint. For example, agreements to exchange certain sorts of information or engage in other practices that facilitate oligopolistic coordination have long been illegal, even though they do not control or specify any particular price.[397]

Nor is it necessary that the agreement either specify or coordinate prices, as long as the agreement has some other anticompetitive effect, such as diminishing incentives to compete. Consider the following hypothetical. Suppose competing firms both contracted with a third entity, let's call it the competition referee. Under each of their separate contracts with the referee, each firm agrees that if it takes a sale away from another firm that contracts with the referee, then the firm's owners must pay a fine to the referee. In exchange, the referee agrees that if a sale is taken away from the first firm, the referee will pay the firm's owners the fine paid by the owners of the firm that took away that sale. The referee would not control either firm nor specify any particular price that either should charge. But there is no doubt that this creates a horizontal agreement that discourages and thus restrains ordinary competitive behavior and would thus be covered by Sherman Act § 1.

Horizontal shareholdings have the same restraining effect as such referee contracts, because they mean that firms acting on behalf of their shareholders will realize that, when they take away sales from a rival firm, their owners effectively pay a fine equal to the profits that those horizontally-invested owners lose from the rival firm when it loses a sale.[398] This effect will restrain the incentives of both firms to compete, even if their managers never discuss specific prices or conduct with each other.

Ginsburg and Klovers oddly assert that my showing that the agreements involved in horizontal shareholding decrease incentives to compete ***without*** requiring any coordination among firms somehow implicitly rests on a claim that mere coordination (i.e., conscious parallelism) is illegal.[399] In fact, my point is precisely

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[397] ELHAUGE, US ANTITRUST, *supra* note , at 628, 661-703.
[398] Elhauge, *supra* note 2, at 1269-70. *See supra* Part I.
[399] Ginsburg & Klovers, *supra* note , at ¶ 55.

the opposite: the agreements restrain incentives to compete (much like a merger agreement might) ***even without*** any post-agreement coordination, and thus are restraints of trade whether or not such coordination is shown. Further, even if the agreements involved in horizontal shareholding ***did*** create harm by facilitating coordination, Ginsburg and Klovers mistakenly ignore the clear doctrine that agreements to facilitate oligopolistic coordination are illegal, even when pure coordination itself would not be.[400]

To be sure, horizontal shareholdings by institutional investors do differ from pre-Sherman Act trusts and my referee contracts in one important respect. Namely, those trusts and referee contracts involve horizontal agreements with no plausible procompetitive justification, and thus are illegal per se. In contrast, horizontal shareholdings by institutional investors do provide investment capital and diversification benefits, and thus they should be reviewed under the rule of reason, rather than condemned per se. Because those potential benefits suffice to trigger rule-of-reason review, anticompetitive effects must be established for illegality and defendants get a chance to prove that any anticompetitive effects are offset by procompetitive benefits.

However, under the rule of reason, these potential procompetitive benefits are unlikely to actually justify otherwise anticompetitive horizontal shareholding. After all, nonhorizontal shareholding can almost always provide the same investment capital. Further, even if restrictions on horizontal shareholding meant that institutional investors could no longer be fully diversified across firms in the same industries, individual investors could still achieve full diversification benefits by simply investing in multiple institutional investors.[401] That would be a clear less restrictive alternative for achieving any diversification benefits without the anticompetitive effects that result when institutional investors are leading shareholders at horizontal competitors.

Ginsburg and Klovers argue that individual investments across multiple institutional investors is not a less restrictive alternative because any individual investors who chose to make such investments would indirectly have horizontal shareholdings in the underlying firms.[402] But the institutional investors that will own and vote those shares would not be horizontally invested, and they would have incentives to exercise their votes and influence to enhance the performance of their own funds to increase their fees and investment flow.[403] Even to the extent that an individual

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[400] ELHAUGE, US ANTITRUST, *supra* note , at 628, 661-703.
[401] Posner, Scott Morton, & Weyl, *supra* note , at 711.
[402] Ginsburg & Klovers, *supra* note , at ¶¶ 48-49.
[403] *See supra* II.C.

investor might be able to control the exercise of their fraction of each of their funds' shareholdings in the relevant firms, their fraction would be tiny and unlikely to result in any significant ΔMHHI levels, especially given the existence of large leading nonhorizontal shareholders, and thus would not trigger any reasonable thresholds for likely anticompetitive effects. This alternative would thus be much less restrictive of competition than horizontal shareholding by institutional investors that results in high ΔMHHI levels and likely anticompetitive effects. Ginsburg and Klovers's argument to the contrary fails to even consider the alternative's different effect on ΔMHHI levels or likely anticompetitive effects, but instead rests on their mistaken formalistic premise that avoiding anticompetitive effects requires banning any individual investor from ever making any investments in multiple institutional investors that result in indirect horizontal shareholdings.[404]

Even if one incorrectly thought that diversification benefits had to be achieved through investments at diversified institutional investors, any diversification benefits those institutions would lose from having to invest in only one competitor in each concentrated market have been shown to be small in relation to the anticompetitive harm.[405] Any diversification benefits would also be offset by the fact that investing in one competitor per market would increase the investor's share of voting power in the firms in which they invest, thus reducing the separation of ownership and control in a way that lowers managerial agency costs. Nor, under antitrust law, can any net

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[404] Ginsburg & Klovers, *supra* note , at ¶¶ 49-50. Ginsburg and Klovers later make a claim that conflicts with this formalistic claim but that is equally unconnected to the ΔMHHI levels that are relevant to likely anticompetitive effects. Namely, they support Rock and Rubinfeld's proposal for a safe harbor whenever an investor holds less than 15% stock in a corporation "because even the proponents' econometric studies do not find anticompetitive effects when common shareholdings fall below that threshold." *Id.* at ¶ 52. But Ginsburg and Klovers are simply wrong in asserting that the proponents' econometric studies find no anticompetitive effects when each institutional investor holds less than 15%. To the contrary, the markets in which those studies found anticompetitive effects involved situations in which multiple horizontal shareholders, each with less than 15% stock, resulted in high ΔMHHI levels. *See* Part I. Rock and Rubinfeld neither cited any econometric evidence for their proposed 15% safe harbor nor made any claim that it was supported by econometric evidence.

[405] Elhauge, *supra* note 2, at 1303-04; Scott Morton & Hovenkamp, *supra* note , at 2038-39; Posner, Scott Morton, & Weyl, *supra* note , at 710-11, 714-15, 717-21 (concluding that randomly picking one firm per market would only sacrifice 1% of the diversification benefits, while improving corporate governance and eliminating enormous anticompetitive effects). Lambert and Sykuta argue that this possibility conflicts with the defining characteristic of index funds, the lack of investment discretion that eliminates the costs of deciding in which companies to invest. Lambert & Sykuta, *supra* note , at 48. But their argument is mistaken because randomly picking the firm in which to invest for each market also eliminates any decisionmaking costs.

benefits from horizontal shareholding to investors in the investment market legally offset any anticompetitive harm to consumers in the relevant product market.[406]

In short, even if one thought, wrongly,[407] that horizontal shareholding could not be condemned under Clayton Act § 7 because the stock acquisitions were solely for investment or did not confer control or were too long ago, such horizontal shareholdings still form an ongoing contract or combination that triggers rule of reason review under Sherman Act § 1. Horizontal shareholdings would accordingly violate Sherman Act § 1 whenever they are proven to create anticompetitive effects that are not offset by procompetitive benefits to the same product market.

B. Tackling Horizontal Shareholding under EU Competition Law

In the EU, concerns have been raised that there may be a regulatory gap that limits the ability of EU competition law to remedy horizontal shareholding, even when it does have significant anticompetitive effects. This perceived gap rests largely on the fact that the EU Merger Regulation is limited to acquisitions that confer control, defined as "the possibility of exercising decisive influence" over business

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[406] Lambert and Sykuta argue that this proposition applies under Clayton Act §7, but not under Sherman Act §1. Lambert & Sykuta, *supra* note , at 35 n.127. However, the same proposition applies to both statutes and is for both supported by the judicial inadministrability of making incommensurable tradeoffs between harms to one market and benefits to another market. The proposition that "anticompetitive effects in one market could be justified by procompetitive consequences in another" was first rejected under Clayton Act §7 in United States v. Phila. Nat'l Bank, 374 U.S. 321, 370–71 (1963). But *Phila. Nat'l Bank* was later extended to the Sherman Act in United States v. Topco Associates, Inc., 405 U. S. 596 (1972), which held that under the Sherman Act competition

> cannot be foreclosed with respect to one sector of the economy because certain private citizens or groups believe that such foreclosure might promote greater competition in a more important sector of the economy. Cf. United States v. Philadelphia National Bank, 374 U.S. 321, 371 (1963)…. If a decision is to be made to sacrifice competition in one portion of the economy for greater competition in another portion, this . . . is a decision that must be made by Congress and not by private forces or by the courts. Private forces are too keenly aware of their own interests in making such decisions and courts are ill-equipped and ill-situated for such decisionmaking.

Id. at 610-611. Further, the recent decision in *Ohio v. American Express Co,* 138 S.Ct. 2274 (2018), indicated that under the Sherman Act a finding that merchants and cardholders were in a common two-sided market for credit card transactions was necessary to justify considering whether higher fees to merchants were offset by higher rewards to credit cardholders.

[407] *See supra* Part III.

activities,[408] which makes it narrower than Clayton Act § 7, which bans any stock acquisition likely to substantially lessen competition.[409] However, EU competition law is far from impotent to deal with anticompetitive horizontal shareholding. To begin with, the EU merger regulation is not as narrow as it might seem. More important, EU law on agreements and concerted practices is at least as broad as US law on agreements, and thus it can reach the agreements that create horizontal shareholdings whenever they have anticompetitive effects. Further, far broader than US law is EU law on collective dominance and excessive pricing, which provides a natural legal solution to anticompetitive horizontal shareholding that does not require proving any ongoing set of agreements.

1. EU Merger Regulation. Although the EU merger regulation is narrower than the Clayton Act, it does cover acquisitions that give a set of minority shareholders joint de facto control because of strong common financial interests.[410] This regulation could be interpreted to mean that, if a series of acquisitions gave a set of horizontal shareholders enough shares that they might collectively exercise decisive influence over business activities, perhaps in part because other shareholders are dispersed, then the acquisitions that conferred that potential collective influence are subject to the merger regulation.[411] If (under such an interpretation) horizontal stock acquisitions create a potential collective influence sufficient to trigger jurisdiction under the merger regulation, their substantive assessment need not turn on any exercise of control, but rather can be based on anything that might result in anticompetitive effects, including any effect the horizontal shareholdings might have on firm incentives to compete.[412] Thus, if horizontal stock acquisitions potentially give horizontal shareholders a collective decisive influence, those acquisitions could be enjoined based on evidence that the horizontal shareholding would diminish incentives to compete, even if joint control is never actually exercised.[413] The

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[408] DAF/COMP(2017)10 at 43 n.7 (Oct. 30, 2017); Commission Consolidated Jurisdictional Notice under Council Regulation 139/2004 on the control of concentrations between undertakings, [2008] OJ C 95/1, at ¶¶ 7, 16.

[409] *See supra* Part I.B.

[410] Commission Consolidated Jurisdictional Notice, *supra* note 125, at ¶ 76 ("collective action can occur on a *de facto* basis where strong common interests exist between the minority shareholders").

[411] If an acquisition does confer the necessary change in joint control, then the Commission can order the divestiture of the prior minority shareholdings as well. *See* ANNA TZANAKI, THE REGULATION OF MINORITY SHAREHOLDINGS AND OTHER STRUCTURAL LINKS BETWEEN COMPETING UNDERTAKINGS UNDER EU COMPETITION LAW: A LAW & ECONOMICS ANALYSIS 47-48 (2017)(collecting cases).

[412] *Id.* at 49-50, 56-57 (collecting cases).

[413] Commission Consolidated Jurisdictional Notice, *supra* note 125, at ¶ 16 ("Control is defined by Article 3(2) of the Merger Regulation as the possibility of exercising decisive influence on an

German Monopolies Commission has suggested such an interpretation, arguing that when institutional investors are equally diversified across an industry, they have parallel interests that would justify aggregating their shareholdings.[414]

To be sure, such an interpretation does face some obstacles. First, the European Commission has stated that, "In general, a common interest as financial investors (or creditors) of a company in a return on investment does not constitute a commonality of interests leading to the exercise of de facto joint control."[415] But to state that something "in general" is not the case is to acknowledge that sometimes it *is* the case, and horizontal shareholdings by institutional investors that lead to anticompetitive effects would seem to merit being treated as an exceptional case. Moreover, anticompetitive horizontal shareholdings are not actually covered by this statement, because with such horizontal shareholdings the common interest is not just in a return on investment in "a company", but is rather in anticompetitive profits across ***multiple*** competing firms.

Second, the European Commission has also stated that "the possibility of changing coalitions between minority shareholders will normally exclude the assumption of joint control."[416] But "normally" is not always, and again anticompetitive horizontal shareholdings would merit being treated as the exceptional case. Indeed, anticompetitive horizontal shareholdings are probably not covered by the statement, because such anticompetitive effects indicate the existence of a stable coalition among the horizontal shareholders in favor of diminished competition, given the structural incentives created by their shareholdings in other firms.

Granted, interpreting EU merger regulation to cover the de facto joint control of horizontal shareholders would require a change in prevailing enforcement practice, because so far the cases finding joint control have involved more direct links between the shareholders. But given the economic proofs and empirical evidence that high levels of horizontal shareholding in concentrated markets often have strong anticompetitive effects,[417] such a change in enforcement practice would be merited. After all, EU competition law has a history of sensibly interpreting its merger regulation to prevent anticompetitive effects rather than leave regulatory gaps. The

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undertaking. It is therefore not necessary to show that the decisive influence is or will be actually exercised.")

[414] Germany, *Common Ownership by Institutional Investors and Its Impact On Competition*, DAF/COMP/WD(2017)87, at ¶ 21 (Nov. 29, 2017), http://www.oecd.org/daf/competition/common-ownership-and-its-impact-on-competition.htm.

[415] Commission Consolidated Jurisdictional Notice, *supra* note 125, at ¶ 79.

[416] *Id.* ¶ 80.

[417] *See supra* Part I.

original merger regulation prohibited only concentrations that created or strengthened a dominant position, thus seeming to leave a regulatory gap for acquisitions that created or strengthened oligopolies.[418] But EU tribunals solved this problem by first concluding that oligopolies constituted a collective dominant position when there were contractual or structural links among the oligopoly firms, and then later extending the concept to oligopolies for which no such contractual or structural links existed.[419] Likewise, while current enforcement practice has challenged de facto joint control only in cases where there are some contractual or direct links among the shareholders, a parallel interpretation could easily extend the concept to cases where no such contractual or direct links between the shareholders exist.

The best argument against such an interpretation is that it might not be needed to address the problem of anticompetitive horizontal shareholding, because other EU competition laws offer a better solution. After all, even with the above interpretation, EU merger law could remedy only those horizontal stock acquisitions that changed control by potentially giving the horizontal shareholders decisive joint influence over business activities. Although this will capture some cases of anticompetitive horizontal shareholding, horizontal shareholding can also have anticompetitive effects for structural reasons that do not depend on such collective decisive influence.[420] EU merger law thus cannot remedy all the horizontal shareholdings that have anticompetitive effects. Luckily, TFEU Articles 101 and 102 can remedy any anticompetitive horizontal shareholding, as I show next.

2. EU Law on Anticompetitive Agreements or Concerted Practices. TFEU Article 101 prohibits "agreements" or "concerted practices" between undertakings that have the effect of restricting competition. Article 101's ban on anticompetitive "agreements" is just as broad as the Sherman Act's ban on anticompetitive "contracts" or "combinations."[421] As detailed in Part IV.A, such a ban on anticompetitive agreements readily applies to horizontal shareholding because it involves contractual agreements between institutional investors and competing corporations that have anticompetitive effects. The same logic should apply in every other nation with a competition law that bans anticompetitive agreements.

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[418] *See* ELHAUGE & GERADIN, GLOBAL ANTITRUST LAW & ECONOMICS 992-993, 1045 (3d ed. 2018).
[419] *Id.* at 1045-1047.
[420] *See supra* Part I.
[421] *See* ELHAUGE & GERADIN, supra note , at Chapter 6 (showing in detail that U.S. and EU competition law cases are quite parallel on what they consider an agreement covered by Sherman Act § 1 or TFEU Article 101).

Indeed, in *Philip Morris*, the European Court of Justice already specifically held that acquiring a minority stockholding in a corporation is an agreement that can violate TFEU Article 101, even if it appears to be a "passive investment", if the agreement to buy the stock "has the object or effect of influencing the competitive behaviour of the companies on the relevant market."[422] The particular theory of influence raised in that case was that the stock might be voted in a way that would anticompetitively influence the target corporation's actions, on which the Court deferred to the Commission's findings that such anticompetitive influence was unlikely.[423] But that reasoning at a minimum indicated that if voting the stock were likely to have an anticompetitive influence on corporate behavior, then it would fall within TFEU Article 101. Further, the general statement of the Court was broader, treating the stock acquisition as an agreement that could be illegal whenever it has the "effect of influencing the competitive behaviour of the companies."[424] This language covers any influence the stock might have, including the fact that shareholdings and profit interests might alter the incentives of either company to compete with the other. *Philip Morris* thus allows horizontal shareholdings to be condemned as agreements under TFEU Article 101 whenever those shareholdings have or are likely to have adverse effects on firm competition for any reason.

Moreover, TFEU Article 101 extends beyond agreements to also capture "concerted practices".[425] The European Court of Justice has explained that the purpose of this "concerted practices" provision "is to bring within the prohibition of [Article 101] a form of coordination between undertakings which, without having reached the stage where an agreement properly so-called has been concluded, knowingly substitutes practical cooperation between them for the risks of competition".[426] The European Court of Justice has also stressed:

> "The criteria of coordination […] must be understood in the light of the concept inherent in the provisions of the Treaty relating to competition that each economic operator must determine *independently* the policy which he intends to adopt on the common market … Although it is correct to say that this requirement of independence does not deprive economic operators of the right to adapt themselves intelligently to the existing and anticipated conduct of their competitors, it does however strictly preclude any direct or *indirect* contact between such operators,

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[422] British American Tobacco v Commission (Philip Morris), [1987] E.C.R. 4487, at ¶ 45.
[423] *Id.* ¶¶ 46-64.
[424] *Id.* ¶ 45.
[425] ELHAUGE & GERADIN, supra note , at 892.
[426] ICI v. Commission, [1972] E.C.R. 619, at ¶ 64.

> the object or effect whereof is … to influence the conduct on the market of an actual or potential competitor…."[427]

This concept of concerted practices applies readily to horizontal shareholding, which causes firms to no longer behave independently because they are indirectly linked through their common shareholders in a way that influences their competitive behavior. Such horizontal shareholding thus suffices to create a concerted practice among the competing firms. The same would be true in other nations like China and Taiwan that also ban "concerted action" that has anticompetitive effects.[428]

EU caselaw has also held that when one firm acquires a minority stockholding in a competing firm, that can constitute an abuse of dominance under TFEU Article 102 if one of the firms has a dominant position and the shareholding results "at least in some influence" on a firm's commercial conduct.[429] It has even held that sufficient influence can exist despite a lack of voting rights and the existence of a covenant not to exert any influence on the corporate board, as long as the firm would naturally take the interests of its shareholder into account.[430] For present purposes, this holding is mainly interesting because it confirms a broad view of what constitutes "influence" that is not limited to exercising voting rights and could be met even for passive horizontal shareholders, given that managers will naturally also take their interests into account. But this is not the abuse of dominance theory that is interesting for horizontal shareholding, which usually does not involve investments in or by a firm that alone has a dominant position. Instead, the interesting abuse of dominance theory for horizontal shareholding is that it creates a collective dominant position that leads to excessive pricing, as discussed next.

3. EU Law on Collective Dominance and Excessive Pricing. Unlike Sherman Act § 2, TFEU Article 102 also applies to collective dominance[431] and bans abusing that dominance through excessive pricing.[432] To be sure, there has not been much enforcement of the ban on excessive pricing by a dominant firm or set of firms. But such nonenforcement reflects the fact that monopoly or oligopoly pricing should not be deemed an anticompetitive abuse for good substantive reasons that do not apply to horizontal shareholding. Single-firm monopoly pricing should not be regarded as

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[427] Suiker Unie [1975] ECR 1663, at ¶¶ 173-174.
[428] China Anti–Monopoly Law Art. 13; Taiwan Fair Trade Act Art. 7.
[429] *Philip Morris*, [1987] E.C.R. 4487, at ¶65; Warner-Lambert/Gilette, [1993] OJ L 116/21, at ¶24.
[430] Warner-Lambert/Gilette, [1993] OJ L 116/21, at ¶ 25.
[431] TFEU Article 102 (banning "Any abuse by one *or more* undertakings of a dominant position"); ELHAUGE & GERADIN, supra note , at 307-308.
[432] TFEU Article 102(a) (banning the abuse of imposing "unfair … prices"); United Brands v. Commission, [1978] E.C.R. 207.

an abuse of a dominant position not only because the offense cannot be meaningfully defined, but also because when such monopoly power is obtained legitimately, the profits from monopoly pricing are an affirmatively desirable reward for making procompetitive investments that enable a firm to offer a product that is so much better than rival options that it enjoys monopoly power.[433] Oligopoly pricing should not be regarded as an abuse of a collective dominant position because such price interdependence arises from the unavoidable act of offering prices, an act that is necessary to compete at all, and thus it is impossible to define the illegal conduct that the price-coordinating firms are supposed to avoid.[434]

None of those substantive reasons provides any obstacle to applying TFEU Article 102 to condemn horizontal shareholding when it creates a collective dominance that produces excessive pricing. Unlike with monopoly pricing, the profits from anticompetitive horizontal shareholding do not reflect a desirable reward for procompetitive investments. To the contrary, they reflect a diminution of competition between firms that economic proofs and empirical studies show affirmatively lowers output and investment.[435] Unlike with oligopoly pricing, horizontal shareholding does not reflect an unavoidable act, like pricing. Holding leading shares in horizontal competitors is easily avoidable conduct and hardly necessary for market competition. The offense can thus readily be defined in a way that lets investors know what sort of conduct they need to avoid.

When horizontal shareholding has anticompetitive effects, it is because it creates contractual and structural links between competing firms that diminish those firms' incentives to compete with each other.[436] Even if those links did nothing other than facilitate oligopolistic coordination among those firms, it would create a collective dominant position under EU competition law.[437] But anticompetitive horizontal shareholding is even worse because it creates contractual and structural links that, even without any coordination, anticompetitively reduce the incentives of each firm to compete with each other and thus allows them to collectively exercise a market power to raise prices. Even before EU competition law concluded that pure oligopolistic coordination could constitute a collective dominant position, it clearly concluded that when contractual or structural links reduce competition and raise

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[433] ELHAUGE & GERADIN, supra note , at 305, 441-442; Elhauge, *Disgorgement as an Antitrust Remedy*, 76 ANTITRUST LAW JOURNAL 79, 89-90 (2009); Elhauge, *Defining Better Monopolization Standards*, 56 STANFORD LAW REVIEW 253, 331-32 (2003).
[434] ELHAUGE & GERADIN, supra note , at 308, 893, 942.
[435] *See supra* Part I.
[436] *See supra* Parts I & IV.A.
[437] Gencor Limited v. Commission, [1999] E.C.R. II–753; Airtours v. Commission, [2002] E.C.R. II–2585, at ¶ 61.

prices, those links create a collective dominant position.[438] Under this theory, showing any ongoing agreement among the firms on pricing or other business conduct would not be necessary. It would suffice that the horizontal shareholding created a collective dominance among the competing firms that led to anticompetitive pricing.

Indeed, applying TFEU Article 102 to horizontal shareholding might finally provide an answer to the puzzle of what to do with Article 102's ban on abusing a dominant position through excessive pricing. The current lack of enforcement of this provision is something of an embarrassment because the provision must have been meant to have ***some*** impact, so effectively reading the provision out of the Treaty hardly seems faithful to its text. Using the provision to prohibit horizontal shareholding when it creates a collective dominance that leads to anticompetitive pricing would finally give the provision meaning, while remedying a serious anticompetitive problem.

Tackling horizontal shareholding as collective dominance that leads to excessive pricing is also possible in other nations such as China, Russia, Taiwan, and Turkey, which (like the EU) have abuse of dominance statutes that apply to collective dominance[439] and treat excessive pricing as an abuse of dominance.[440]

V. THE IMPLICATIONS OF HORIZONTAL SHAREHOLDING FOR TRADITIONAL MERGER ANALYSIS

Suppose one concluded (incorrectly, given my analysis above) that anticompetitive levels of horizontal shareholding either are not illegal, have no administrable legal remedy, or should be permitted because any harms are the unavoidable byproduct of large diversified institutional investors whose benefits outweigh those anticompetitive harms. Even then, the anticompetitive effects of horizontal shareholding in concentrated markets have important implications for traditional analysis of ordinary mergers or cross-shareholdings between corporations. Namely, those implications: (1) reduce the market concentration levels that we can tolerate

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[438] France v. Commission (Kali & Salz), [1998] E.C.R. I–1375, at ¶¶ 171, 221.

[439] China Anti-Monopoly Law Arts. 17 & 19; Russia Competition Law Arts. 4(10), 5; Taiwan Fair Trade Act, Arts. 5 & 5–1; Turkey Competition Art. 6.

[440] China Anti-Monopoly Law Art. 17(1) (banning a firm in dominant market position from "selling at unfairly high prices or buying at unfairly low prices"); Russia Competition Law Art. 6(1) (prohibiting a "monopolistically high price"); OECD, Predatory Foreclosure 247 (2005) (Taiwan); Belko Decision, No. 01–17/150–39 (Turkey Competition Commission 2001) (banning excessive pricing by a dominant firm).

under traditional merger analysis; and (2) mean that what now look like non-horizontal mergers should often be treated as horizontal. Indeed, those implications for traditional analysis become ***more*** important the more that antitrust law fails to directly tackle horizontal shareholding.

A. Allowing Horizontal Shareholding Lowers Tolerable Concentration Levels

High horizontal shareholding levels increase the anticompetitive effects that one would predict from the market concentration levels produced by ordinary mergers or cross-shareholdings. Now that this higher level of predicted anticompetitive effects is known, agencies and courts should take it into account when assessing whether ordinary mergers or cross-shareholdings are likely to substantially lessen competition. For example, had horizontal shareholding levels been considered, the agencies might not have approved airline mergers that apparently appeared benign to the agencies on their assumption that each firm considered only its own profits, but that actually raised prices when one considers the combined impact of increased market concentration and horizontal shareholding levels. More generally, the failure to consider horizontal shareholding levels in past merger analysis may help explain why merger retrospectives have repeatedly found that agencies and courts, despite their best efforts, have approved many mergers that (contrary to agency or court predictions) actually raised prices.[441]

Further, agencies and courts should take into account whether horizontal shareholding means that mergers between institutional investors should, even if they create no likely anticompetitive effects on investment markets, be blocked because they increase horizontal shareholdings that create anticompetitive effects in an affected product market. For example, had horizontal shareholding levels been considered, perhaps the Blackrock-BGI merger discussed in Part I.D should have been blocked, whether or not it created anticompetitive effects in any investment market, on the grounds that it increased horizontal shareholdings that created anticompetitive effects in the airline market.

Considering horizontal shareholding levels when assessing mergers or cross-shareholding raises none of the legal or administrability issues discussed above. It raises no legal issues because no one denies that mergers or cross-shareholdings are illegal if they have likely anticompetitive effects. The horizontal shareholding levels

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[441] *See, e.g.*, Orley Ashenfelter, Daniel Hosken & Matthew Weinberg, *Did Robert Bork Understate the Competitive Impact of Mergers? Evidence from Consummated Mergers*, 57 J.L. & ECON. S67, S76–S78 (2014); John Kwoka, *The Structural Presumption And The Safe Harbor In Merger Review*, 81 ANTITRUST L.J. 837 (2017).

just change the prediction of whether anticompetitive effects are likely, which not only can, but legally must, be taken into account. Nor does considering horizontal shareholding levels in traditional merger analysis raise any new administrability problem, because it just triggers the same remedy we already use—deciding whether to disapprove the merger or cross-shareholding. Considering horizontal shareholding levels would just result in more accurate applications of that existing remedy.

Even if one concluded that we should not directly tackle horizontal shareholding for reasons of policy, such as if one mistakenly concluded that allowing horizontal shareholding was necessary to produce investment benefits (such as diversification) that outweigh any anticompetitive harm,[442] horizontal shareholding levels still have strong implications for traditional merger analysis. The fact that we would then have decided to allow unrestricted horizontal shareholding for reasons of policy would not alter the fact that, given such horizontal shareholding, a greater fraction of mergers and cross-shareholdings are likely to have anticompetitive effects that are illegal.

In short, there is an unavoidable tradeoff: the less we directly address horizontal shareholding, the lower the market concentration we can allow in traditional merger analysis. Indeed, allowing large institutional investors to grow and increase horizontal shareholding levels unimpeded would not necessarily create any anticompetitive effects ***if*** all product markets were unconcentrated. The reason is that so far the empirical evidence establishes anticompetitive effects from horizontal shareholding only in markets with an HHI level above 2500.[443] Thus, a laissez faire attitude toward horizontal shareholding might be compatible with antitrust law and the prevention of anticompetitive effects if it were coupled with rigorous merger enforcement that prevented any market concentrations with HHIs above 2500. Doing so would require more rigorous merger enforcement than we currently have in the U.S., which often allows mergers with HHIs of 3000-4000, [444] and perhaps in other nations. But that is the tradeoff: if we are going to continue to allow unimpeded horizontal shareholding, we can avoid anticompetitive effects only by allowing less market concentration.

Indeed, if our legal regime allows unimpeded horizontal shareholding, then allowing mergers that create high concentration levels could create likely anticompetitive effects even when ***current*** horizontal shareholding levels in the relevant product market are low, given that such a regime by definition would do nothing to prevent

[442] *But see supra* Part IV.A.
[443] Elhauge, *supra* note 2, at 1276, 1301-02.
[444] ELHAUGE, US ANTITRUST, *supra* note , at 740.

post-merger stock acquisitions that would worsen horizontal shareholding levels. Thus, if a regime allows unimpeded horizontal shareholding, mergers that create high concentration levels with no immediate anticompetitive effects would fail prophylactic merger analysis whenever it seemed likely that ***post***-merger horizontal stock acquisitions would combine with that concentration level to create anticompetitive effects.

Continuing to allow unimpeded horizontal shareholding would thus provide strong support for those who currently argue that antitrust law should be far more aggressive about preventing market concentration. Horizontal shareholding also has important implications for those who believe that current concentration levels reflect efficiencies, because it means we would have to sacrifice some of those efficiencies for the supposed benefits of allowing unimpeded horizontal shareholding. After all, past mergers were presumably approved on the grounds that the agencies predicted their effects would be procompetitive (without considering the implications of horizontal shareholding). Allowing unimpeded horizontal shareholding will often change those predictions and require blocking those mergers, thus losing the procompetitive benefits that could have been produced by the mergers if horizontal shareholding levels were constrained. The policy tradeoff is thus not just whether we are better off allowing horizontal shareholding rather than preventing it when it is anticompetitive. The tradeoff is whether we are better off allowing unimpeded horizontal shareholding, even though that requires prohibiting more mergers.

To be sure, considering horizontal shareholding only when assessing mergers or cross-shareholdings is clearly just a second-best solution. Such an approach would do nothing to undo all the anticompetitive horizontal shareholding we already have. Nor would it prevent new horizontal stock acquisitions that create anticompetitive effects in already concentrated markets. And in at least some markets, such an approach would result in a combination of high horizontal shareholding with low market concentration even when it would be more efficient to avoid anticompetitive effects with the opposite combination of lower horizontal shareholding and higher market concentration. Thus, it would be far more preferable to directly tackle horizontal shareholding, given that the law clearly does directly ban horizontal stock acquisitions when they have anticompetitive effects and that in such cases any anticompetitive horizontal shareholdings can be undone under current law without losing any meaningful diversification benefits.[445] But horizontal shareholding does lower the concentration levels that traditional merger analysis should tolerate, and

[445] *See supra* Parts III & IV.

the less the law does to directly tackle horizontal shareholding, the more it lowers those tolerable concentration levels.

B. Horizontal Shareholding Often Changes Whether Mergers Should Be Deemed Horizontal and Which Concentration Measures to Worry About

Horizontal shareholding will also often mean that what otherwise seem like non-horizontal mergers should be treated as horizontal. The reason is that even if the merging firms compete in different markets (making the merger non-horizontal under traditional merger analysis), the merger can increase shareholder overlap between the merged firm and its competitors in a way that increases horizontal shareholding levels and predictably lessens horizontal competition.

For example, suppose market *A* has four firms, each of which has a market share of 25% (resulting in an HHI of 2500), and one of those firms is acquired by a firm that is currently only in market *B*. Under traditional merger analysis, this would be treated as a conglomerate merger rather than a horizontal merger, and thus would not be deemed to raise market concentration in market *A* at all, other than perhaps in the U.S. in the rare case where the acquiring firm was already committed to enter market *A* or would likely enter rapidly in response to a small price increase without incurring significant sunk costs.[446] But suppose the leading shareholders of the other three firms in market *A* overlap with the leading shareholders of the acquiring firm but had little overlap with the leading shareholders of the acquired firm. In that case, such a merger raises horizontal shareholding levels in market *A* in a way that would significantly raise MHHI in market *A* and could immediately reduce horizontal competition in market *A*, even if the acquiring firm was never likely to be a potential entrant into market *A*. Thus, a merger that significantly increases MHHI in a concentrated market should be treated as a horizontal merger even if the merging firms are not actual competitors nor likely potential competitors.

For related reasons, horizontal shareholding also changes the *type* of market concentration relevant to general concerns about concentration in our economy. For example, consider the current debate about rising national concentration levels in many industries.[447] Some argue that that these rising national concentration levels

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[446] If the acquiring firm met those standards, then under the U.S. merger guidelines, the agencies would project a market share in market *A* for the acquiring firm and treat the merger as horizontal. *See* ELHAUGE & GERADIN, supra note , at 1187-88. But so far we do not have any U.S. Supreme Court authority treating mergers between such potential competitors as horizontal, *id.* at 1190-97, nor any authority doing so in the EU or in other nations, *id.* at 1197-98, 1235-36.

[447] *See generally supra* note __ (collecting literature on rising concentration).

raise significant anticompetitive concerns that require increased antitrust enforcement.[448] But others reject this claim on the grounds that defining these industries as national does not correspond to the relevant antitrust markets because those markets are local, stressing that out of the three industries for which we do have evidence on local market HHIs over time, there has been no increase in average local market HHIs for two of those industries: namely, airlines and banking.[449] Their claim that airline and banking markets have had no increase in HHI is a bit overstated: in more recent 13 year periods, average local market HHIs increased about 10% for both airlines and banking, with the airline HHIs going from 5000 to 5500 from 2001-2014,[450] and the banking HHIS going from 2000 to 2200 from 2002-2013.[451] Still, critics of the focus on national concentration trends are right that in these industries the increase in local HHI levels has been far less dramatic.

However, consider what it means to say that mergers in these industries have sharply increased national concentration without sharply increasing local concentration. It means that, roughly speaking, we have gone from having 2-5 different firms in each local market to having the same 2-5 large national firms in each local market. Contrary to those who focus only on local market HHIs, this change does raise anticompetitive concerns, because those large national firms are more likely to have leading shareholders who overlap, given that large national firms have large capitalizations that make it more likely that their leading shareholders are institutional investors and that those firms will be in index funds like the S&P 500.[452] In short, the combination of increasing national concentration with relatively stable local market concentration generally implies higher horizontal shareholding levels. Consistent with this, from 2011-2004, average *MHHI* levels on local airline routes increased from around 6700 to 8000.[453] Likewise, from 2002 to 2013, average GHHI in local banking markets increased from 3200 to 4800.[454] And for both airlines and

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[448] *See, e.g,* https://concentrationcrisis.openmarketsinstitute.org/industry/e-commerce/.

[449] *See* Werden & Froeb, *Don't Panic: A Guide to Claims of Increasing Concentration* 9-10 (Oct. 22, 2018), https://ssrn.com/abstract=3156912.

[450] Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1526-27.

[451] Azar, Raina & Schmalz, *supra* note, at Figure VI.

[452] There are also other possible antitrust concerns raised by the shift from having local markets dominated by different firms to having them dominated by the same set of national firms. Namely, the latter market structure may be more likely to either discourage potential entry by those national firms into local markets (since they are already in them) or encourage coordination by those national firms across those local markets (since they are now in more of them).

[453] Azar, Schmalz & Tecu, *Airline Study, supra* note , at 1527.

[454] Azar, Raina & Schmalz, *supra* noter, at Figure VI.

banking we have empirical evidence that this increase in MHHI and GHHI levels has had anticompetitive effects on prices.[455]

Of course, one obvious lesson is that we should focus on MHHI levels rather than HHI levels, given that HHIs wrongly assume without any theoretical or empirical basis that horizontal shareholding has zero effect. But we already knew that from Part I. The less obvious lesson concerns the implications for public debate about national industry concentration levels when one considers the fact that, for most industries, data is not publicly available to calculate either HHIs or MHHIs for properly defined antitrust markets. The lesson is that, until such data is made publicly available, public policy should rightly be concerned about widespread increases in national industry concentration levels, even if they do not correspond to properly defined antitrust markets, because such increases in national concentration likely indicate rising horizontal shareholding levels in whatever the properly defined markets might be. Public policy thus has good reason to be concerned about increases in national concentration levels, and those concerns only get greater if we continue to do nothing to directly tackle horizontal shareholding itself.

VI. CONCLUSION

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.

As I showed above, new economic proofs and empirical evidence now firmly establish that high levels of horizontal shareholding in concentrated markets often has anticompetitive effects. These new proofs and evidence also powerfully show that such horizontal shareholding explains not only inefficient methods of executive compensation, but also much of the historic increase in the investment-profit gap and the recent rise in economic inequality. Indeed, the new empirical studies indicate that horizontal shareholding is the main explanation for the gap between corporate investments and profits that is restraining economic growth. Empirical critiques of the two initial industry studies have proven to be unfounded, and the results of those initial studies have been extended not only to a third industry but in cross-industry studies. The causal mechanisms are clear, and both theory and empirical evidence debunks the claims that anticompetitive effects are implausible because of shareholder heterogeneity, vertical shareholdings, or index fund incentives.

[455] *See supra* Part I.

In the U.S., anticompetitive horizontal shareholding can be tackled under Clayton Act § 7. But I provide new legal theories that extend the analysis. I show that anticompetitive horizontal shareholding can also be tackled under Sherman Act § 1, which moots claims about whether Clayton Act might be limited by the solely-for-investment provision or by a purported inability to tackle old stock acquisitions. I further show that although EU merger regulation can only tackle some anticompetitive horizontal shareholding, it can be fully addressed under TFEU Article 101 as an anticompetitive agreement or concerted practice or under Article 102 as collective dominance that leads to excessive pricing. The same holds in other nations that have parallel provisions to either the U.S. or EU.

Under any of these legal theories, administrability concerns with legal enforcement rest on the straw man claim that horizontal shareholdings would leap in and out of illegality, depending on whether changing levels met certain mechanical thresholds. In reality, regardless of the legal theory, enforcement would be based on evidence of durable adverse price effects, which ameliorates any concerns about administrability.

In any event, administrability concerns can raise no obstacle to considering, when deciding whether to approve mergers or cross-shareholdings, that they are more likely to have anticompetitive effects when horizontal shareholding levels either are high or are likely to become high post-merger. To the contrary, the more we allow unimpeded horizontal shareholding, the lower the concentration levels we can tolerate under traditional analysis of mergers and cross-shareholdings. Further, the implications of horizontal shareholding can also change which mergers should be deemed horizontal and which concentration levels are most relevant.