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NEW EVIDENCE, PROOFS, AND LEGAL THEORIES ON HORIZONTAL SHAREHOLDING

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NEW EVIDENCE, PROOFS, AND LEGAL THEORIES ON HORIZONTAL SHAREHOLDING

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Abstract. *This Article shows that 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 based less on firm performance and more on industry performance. The new empirical evidence consists of cross-industry studies which confirm that, just as the proofs predict, increased horizontal shareholding increases the distortion of executive compensation and the gap between corporate profits and investment. I also provide new analysis demonstrating that critiques of earlier empirical studies showing adverse price effects for airlines and banking are generally invalid and that addressing the valid subset of those critiques actually increases the estimated price effects. I further demonstrate that the various excuses for delaying enforcement action are meritless. 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.*

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[1] I have investments in Vanguard and Fidelity index funds that have horizontal shareholdings, so my financial interests run contrary both to my economic conclusion that horizontal shareholding can and has had anticompetitive effects in some markets and to my legal conclusion that horizontal shareholding can and should be remedied by competition law when such anticompetitive effects are proven. A prior version of this paper was presented and discussed at the OECD Competition Committee. See http://www.oecd.org/daf/competition/common-ownership-and-its-impact-on-competition.htm. I am grateful for helpful comments from José Azar, Doug Melamed, Martin Schmalz, and Anna Tzanaki, as well as from oral participants at the OECD conference.

When the leading shareholders of horizontal competitors overlap, horizontal shareholding exists. 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]

My claims have all been hotly contested. However, as I show in Part II, new proofs and empirical evidence strongly confirm my economic claims. One new economic 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 increasing the extent to which executive compensation is based on industry performance, rather than individual firm performance. Neither new proof requires any communication or coordination between different shareholders, between different managers, or between shareholders and managers.

These new economic proofs have been confirmed by two new cross-industry empirical studies. One of them shows that increased horizontal shareholding does make executive compensation inefficiently based more on industry performance and

[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.

less on firm 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 driven by horizontal shareholding levels in concentrated markets, but also that within any industry, the investment-profit gap is driven by those firms with high horizontal shareholding levels.

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 the valid critiques actually ***increases*** the estimated price effects. The lions' share of these critiques are invalid. 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 rely on erroneous shareholding data, ignore actual market shares, exclude the transactions most likely to have price effects, and wrongly set many horizontal shareholding rights to zero.

I close Part II by showing that there is no merit to various arguments for delaying any enforcement action. The economic proofs are powerful, the cross-industry studies generalize the empirical findings beyond the two industry studies, the critiques of those two industry studies have proven invalid, fiduciary duties cannot constrain the anticompetitive effects of horizontal shareholding, and the principle of "first do no harm" counsels for intervening to prevent the enormous harm that is now occurring. Further, I rebut the claim that horizontal shareholding cannot have anticompetitive effects because index funds lack incentives to exert effort. I show that the premise of this claim conflicts with the reality that horizontal shareholdings are generally held by actively-managed funds or by fund families that combine different types of index funds with actively-managed funds. I also show that this claim conflicts with economic theory and empirical evidence on the incentives, effort levels, and effects of horizontal shareholders.

In Part III, 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 trusts that were in fact 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. As I show, although EU merger control law is narrower than Clayton Act §7, 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.

Before detailing all these new economic proofs, empirical evidence, and legal theories, Part I provides some background. It clarifies just what horizontal shareholding is and how it differs from common shareholding or cross shareholding. It also sketches out the state of current debate on whether it can be tackled under Clayton Act §7.

I. BACKGROUND

A. Horizontal Shareholding v. Common or Cross Shareholding

Horizontal shareholding exists when the leading shareholders of horizontal competitors overlap, even though those shareholders may individually have minority stakes. Although horizontal shareholding is often imprecisely called "common ownership," in fact common ownership can also exist when shareholders own stock in two *non*competing corporations, so horizontal shareholding is actually a subset of common ownership. Common ownership in noncompeting corporations might induce those firms not to enter into each other's markets, thus having the anticompetitive effect of eliminating potential competition.[6] Common ownership between vertically-related firms might also induce one of those firms not to deal with rivals of the other or to charge higher prices, thus raising anticompetitive concerns

[6] 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).

similar to vertical mergers.[7] These are interesting possibilities, but it is good to be precise about what one is analyzing. After all, when we analyze mergers, we carefully distinguish horizontal mergers from vertical mergers and from conglomerate mergers that might eliminate potential competition.[8] We do not simply ask whether mergers in general have anticompetitive effects. My economic and legal analysis, and the rigorous economic proofs and empirical evidence on which I rely,[9] has all been limited to horizontal shareholding, and thus does not address the possible economic effects or legal implications of common ownership that might be vertical or conglomerate.

Horizontal shareholding also differs from cross shareholding, which describes situations when firms have minority shareholdings in each other. Like common shareholding, cross shareholding need not be between competitors. Vertical cross shareholdings have in fact sometimes been condemned out of foreclosure concerns.[10] Conglomerate cross shareholdings might also have anticompetitive effects if they discourage potential horizontal competition.[11] But horizontal cross shareholding (i.e., when a firm owns shares in a horizontal competitor) is effectively a special case of horizontal shareholding. Horizontal shareholding addresses the general phenomenon when a leading investor has an X% interest in firm A and Y% interest in competing firm B. Horizontal cross-shareholding is just the special case when the investor *is* firm A (and thus has 100% interest in firm A) as well as a Y% interest in competing firm B. The ΔMHHI and MHHI measures used to calculate the level of horizontal shareholding and market concentration can be generalized into ΔGHHI and GHHI measures when there is a mix of horizontal shareholding and horizontal cross-shareholding.[12] In such cases, my recommendation would accordingly be to investigate markets in which the ΔGHHI exceeded 200 and the GHHI exceeded

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[7] For example, at the December 6, 2017, OECD conference on common shareholding, the Portugal competition authorities reported that in assessing a recent merger they found that the anticompetitive effects of vertical common shareholding would exacerbate the anticompetitive effects of horizontal shareholding. *Cf.* United States v. E.I. du Pont de Nemours & Co., 353 U.S. 586 (1957) (condemning one firm's minority shareholding in another firm because of foreclosure concerns).
[8] *See* ELHAUGE & GERADIN, GLOBAL ANTITRUST LAW & ECONOMICS Chapter 7 (2d ed. Foundation Press 2011) (showing how legal and economic analysis of horizontal mergers differs from analysis of vertical and conglomerate mergers under U.S. and EU competition laws).
[9] *See infra* Part II.
[10] *See* United States v. E.I. du Pont de Nemours & Co., 353 U.S. 586 (1957).
[11] Areeda & Hovenkamp, Antitrust Law ¶¶ 1203c (Sept. 2017).
[12] Elhauge, *supra* note 2, at 1277 n.48.

2500, in order to determine whether the combination of horizontal and cross shareholding likely raised prices.

B. U.S Law on Stock Acquisitions.

My argument that Clayton Act §7 bans any horizontal shareholding that has anticompetitive effects was straightforward.[13] 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.[14] 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.[15] Because my 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.

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[13] *Id.* at 1302-04.

[14] *Id.* at 1305-1307.

[15] *Id.* at 1305, 1307-09. The OECD background note seems 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% 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.

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."[16] To be sure, the treatise's reasoning is somewhat different, 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.[17] 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.[18] 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.

Posner, Morton, and Weyl have raised the administrability concern that my approach means the legality of one horizontal stock acquisition can turn on the existence of other, often later, horizontal stock acquisitions.[19] 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.[20] The underlying economic reality

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[16] Areeda & Hovenkamp, *supra* note 11, ¶¶ 1203c, 1204b.
[17] *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); Morton & Hovenkamp, *Horizontal Shareholding and Antitrust Policy* at 16 (November 15, 2017), forthcoming YALE L.J., https://ssrn.com/abstract=3046203.
[18] Areeda & Hovenkamp, *supra* note 11, ¶ 1204e.
[19] Posner, Scott Morton, & Weyl, *A Proposal to Limit the Anti-Competitive Power of Institutional Investors* at 9, 20-21 (March 22, 2017), forthcoming ANTITRUST L.J., https://ssrn.com/abstract=2872754.
[20] Areeda & Hovenkamp, *supra* note 11, ¶¶ 1203e, 1204; Elhauge, *The Growing Problem of Horizontal Shareholding*, 3 ANTITRUST CHRONICLE 1, 13 (June 2017), https://ssrn.com/abstract=2988281.

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-Morton-Weyl proposal itself ultimately makes the legality of individual horizontal stock acquisitions turn on the existence of others.[21] At least one of the authors of Posner-Morton-Weyl also now agrees that (1) when the cumulation 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.[22]

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 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.[23]

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[21] Elhauge, *supra note* 20, at 13.
[22] Morton & Hovenkamp, *supra* note 17, at 12, 18-21.
[23] United States v. ITT Continental Baking Co., 420 U.S. 223, 240-242 (1975)

Indeed, in *du Pont,* the U.S. Supreme Court condemned minority stock acquisitions that were initially viewed as benign based on anticompetitive effects that arose nearly 40 years after the stock was acquired.[24]

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 wouldn't. 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.[25] 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."[26] Likewise, market power had always been understood to require some showing that the power to raise prices is durable rather than temporary.[27] 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 statistically measure their price effects.[28] Thus, it is not like 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 horizontal shareholdings that 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.

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

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

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

[27] 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 11, ¶ 501 ("Market power need not trouble the antitrust authorities unless it is both substantial in magnitude and durable.")

[28] Indeed, an empirical study of the effects of horizontal shareholding on airline prices indicates that the adverse price effects come only from long-holding horizontal shareholders, with short-holding horizontal shareholders having no significant effect on prices. Azar, Schmalz & Tecu, *Anti-Competitive Effects of Common Ownership* at 26 & Table 7 (May 16, 2017), forthcoming JOURNAL OF FINANCE, https://ssrn.com/abstract=2427345.

Professors 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.[29] 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 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."[30] 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.[31]

After I pointed out that both their claims were clearly incorrect,[32] Rock and Rubinfeld acknowledged that 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."[33] They further acknowledged 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.[34] 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. I turn to that claim next, showing that it is strongly refuted by new economic proofs and new empirical studies and analysis.

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[29] Rock & Rubinfeld, *Defusing the Antitrust Threat to Institutional Investor Involvement in Corporate Governance* at 18-24 (March 1, 2017), https://ssrn.com/abstract=2925855 .

[30] 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 11, ¶ 1203.

[31] 15 U.S.C. § 18 (2012).

[32] Elhauge, *supra* note 20, at 10-12.

[33] Rock & Rubinfeld, *Antitrust for Institutional Investors* at 35 (July 2017), https://ssrn.com/abstract=2998296.

[34] *Id.*

II. 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 divided by the market demand elasticity.[35] 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.[36] O'Brien and Salop later extended the proof to consider not only joint ventures but also cross shareholdings between firms, and to extend the analysis from markets where firms compete by setting output to differentiated markets where they compete by setting prices.[37] 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.

Bresnahan, Salop, and O'Brien did not consider the possibility that horizontal shareholders might have profit and influence interests in competing firms. But Azar, Schmalz, and Tecu pointed out that the Bresnahan, Salop, and O'Brien proofs logically extended to such horizontal shareholdings and that one could calculate MHHIs that considered such shareholdings on the common sense assumption that the extent to which firms consider the interests of each shareholder turns on its share of stock relative to other shareholders.[38] Azar, Schmalz, and Tecu also confirmed this economic proof empirically by showing with a 99% level of statistical confidence that in the airline industry higher levels of horizontal shareholding (ΔMHHI) raised prices in markets with HHI levels over 2500.[39] Azar, Raina, and Schmalz provided further confirmation, showing that in the banking industry, where there is both significant horizontal and cross shareholding, a GHHI measure that

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[35] *See* CARLTON & PERLOF, MODERN INDUSTRIAL ORGANIZATION 268 (3rd ed. 2000).
[36] Timothy F. Bresnahan & Steven C. Salop, *Quantifying the Competitive Effects of Production Joint Ventures*, 4 INT'L J. INDUS. ORG. 155 (1986).
[37] Daniel P. O'Brien & Steven C. Salop, *Competitive Effects of Partial Ownership: Financial Interest and Corporate Control*, 67 ANTITRUST L.J. 559 (2000).
[38] Azar, Schmalz & Tecu, *supra* note 28, at 8.
[39] *Id.*

took into account both horizontal shareholding and cross shareholding had a statistically significant adverse effect on bank fees and rates.[40]

Although it does make intuitive sense to assume that shareholders' influence turns on their shares of stock relative to other shareholders, this assumption has been critiqued as not resting on any firm economic proof. Further, although the airline and banking studies did provide powerful empirical confirmation, they have been critiqued on various grounds, including that they might not generalize to other industries.

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 weigh industry performance more heavily the greater the horizontal shareholding levels. 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. Further, I provide new analysis establishing that the critiques of the airline and banking studies are mainly invalid and that addressing the subset of 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 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.[41] For example, if all shareholders have equivalent horizontal holdings across all firms (such as with indexing),

[40] Azar, Raina & Schmalz, Ultimate Ownership and Bank Competition (July 24, 2016), http://ssrn.com/abstract=2710252.
[41] José Azar, *Portfolio Diversification, Market Power, and the Theory of the Firm* at 2 & Figure 1 (Jan. 30, 2017), https://ssrn.com/abstract=2811221.

managers seeking to maximize either vote share or re-election odds will have each corporation price at monopoly levels despite nominal competition.[42]

Some assert that similar results would not hold if shareholders have varying levels of horizontal shareholding in different corporations.[43] 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, so increased horizontal shareholding will proportionally increase prices.[44] 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.[45]

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 find that shareholder-manager communication can exacerbate the problem by giving more weight to the shareholders who communicate.[46] 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

[42] *Id.* at 14-16.
[43] Rock & Rubinfeld, *supra* note 33, at 11-17.
[44] Azar, *supra* note 41, at 12-13.
[45] *Id.* at 13-14.
[46] *Id.* at 14.

be efficient for incentive-based compensation to be based only on the performance of the executive's firm relative to other firms, and that firms would do so if each firm just maximized its own profits.[47] 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 increases the weight put on fixed pay and industry performance relative to own-firm performance.[48] Importantly, this proof holds even though it assumes uncoordinated competition among the firms.

Some assert that horizontal shareholding cannot explain executive compensation methods unless that compensation is based ***solely*** on industry performance.[49] But in fact the new economic proof establishes that, even if ***all*** shareholders have parallel horizontal holdings in all firms, shareholder profits will be maximized by compensating executives ***just as much*** for their own firm's performance as for rival performance, and that such compensation will lead to monopoly pricing.[50] Because actual horizontal shareholding levels are not perfectly parallel, firms will predictably put somewhat higher weight on firm performance than rival performance, but will still in part inefficiently reward industry performance.

Relatedly, some erroneously assume that stock options will give managers incentives to consider only individual firm performance.[51] But in fact stock options are part of the problem, because stock options increase in value not only if the individual firm does well relative to other firms, but also if industry-wide profits rise. What Holmström showed was that efficient incentive-based compensation would re-design stock options to filter out the industry-wide performance, such as by indexing the option's exercise price to move with marketwide changes. Ordinary stock options do not do this, and thus inefficiently reward managers for a mix of both firm and industrywide performance. An updated version of the new economic proof establishes that firms with horizontal shareholders will also maximize the

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[47] Bengt Holmström, *Moral Hazard in Teams*, 13(2) BELL JOURNAL OF ECONOMICS 324-40 (1982).
[48] Anton et al., *Common Ownership, Competition, and Top Management Incentives* at 4, 14-17 (August 15, 2016), http://ssrn.com/abstract=2802332.
[49] O'Brien & Waehrer, *The Competitive Effects of Common Ownership: We Know Less than We Think* at 5-6 (Feb. 22, 2017), https://ssrn.com/abstract=2922677.
[50] Anton et al., *supra* note 48, at 14. Further, the compensation package that is optimal for horizontal shareholders also includes some fixed pay because it reduces executive risk while providing no incentive to favor own-firm profits over rival profits. *Id.* at 1, 4, 16-17.
[51] O'Brien & Waehrer, *supra* note 49, at 5-6.

interests of their shareholders by providing fewer financial incentives for managers to expend effort and reduce costs.[52]

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, firms compensate executives "less for their own firm's performance and more for their rival's performance."[53] The statistical confidence level of this finding is over 99%.[54] Also consistent with this proof, higher horizontal shareholding is associated with increased fixed pay and 25% higher total pay.[55] Further, higher horizontal shareholding levels lead corporations to adopt compensation methods that make managerial wealth (including stock and options) less sensitive to their own firm's performance.[56] Likewise, another new empirical study found that having a common horizontal shareholder with at least a 5% stake sharply increases the degree to which executive compensation is based on rival stock returns rather than own-firm stock returns.[57]

In short, new economic proofs and new cross-industry empirical studies establish that higher horizontal shareholding levels lead to compensation methods that give corporate managers direct incentives to lessen competition. Those compensation incentives will predictably lessen competition without requiring any shareholder communications on competitive strategy.

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.[58] This new literature shows that we had a sharp rise in horizontal shareholding from 1999 to

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[52] Anton et al., *Common Ownership, Competition, and Top Management Incentives* at 3, 9-14 (Oct. 19, 2017), http://ssrn.com/abstract=2802332.
[53] Anton et al., supra note 48, at 1, 5-6, 26-28, Table 4.
[54] *Id.* at Table 4.
[55] *Id.* at 5, 28-29.
[56] Anton et al., *supra* note 52, at 3-4, 20-22.
[57] Lantian (Max) Liang, *Common Ownership and Executive Compensation* (October 2016). A study by Heung Jin Kwon found the contrary, but that result appears to reflect erroneous MHHI calculations and a failure to account for wealth-based compensation like grants of stock or options. *See* Elhauge, *supra* note 20, at 3-4.
[58] Elhauge, *supra* note 2, at 1281-1301.

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.[59] This sharp rise in horizontal shareholding coincides with the fact that the recent large divergence between corporate profits and investment began in 2000.[60] 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.[61]

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 driven by the level of horizontal shareholder ownership in concentrated markets.[62] Further, the new study found that, within any industry, the investment-profit gap is driven by those firms with high horizontal shareholding levels.[63] 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 driving 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 cause, they should result in a profit-investment gap across the economy. Such general trends cannot explain why the gap is instead driven by concentrated markets with high horizontal shareholdings. Even less can such general trends explain why, within any industry, the investment-profit gap is driven by firms with high horizontal shareholding levels. If automation, technological factors, or government policies were driving low investment, that should apply to all firms in an industry, not just to those firms with high levels of horizontal shareholding.

Although this new cross-industry study does not directly examine economic inequality, its proof of an empirical connection between horizontal shareholding in concentrated markets and a gap between high corporate profits and low corporate

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[59] Azar, *supra* note 40, at 2 & Figure 1.
[60] Germán Gutiérrez & Thomas Philippon, *Investment-Less Growth: An Empirical Investigation* a 2, 5-11 (December 2016), http://www.nber.org/papers/w22897.
[61] Azar, *supra* note 40, at 2 & Figure 2.
[62] Gutiérrez & Philippon, *supra* note 60, at 3-4, 29-35.
[63] *Id.* at 4, 32-35.

investment logically indicates a connection to economic inequality. 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 also disproportionately harms the non-wealthy.[64]

D. The Airline and Banking Studies Have Proven Robust to All Valid Critiques

1. The Initial Critiques. The Investment Company Institute, an association of institutional investors that for the preceding three years was headed by the CEO of Vanguard, has funded a couple of papers to critique the empirical study showing an adverse link between horizontal shareholding and airline prices.[65] The airline study has also been critiqued by Professors Rock and Rubinfeld, who both have significant experience in the airline industry because they consulted either for the airlines or the DOJ on airline mergers that were approved notwithstanding high levels of horizontal shareholding.[66] This is all to the good, because it means that the results of the airline study have now been pressured tested by well-funded, highly-motivated, and extremely skilled experts, whom we can be confident would have discovered any flaws in that study. Instead, the airline study has survived with flying colors. As I show below, the critiques have all turned out to either be misguided or cut in the opposite direction, and the study has now been accepted by the leading peer-reviewed journal in the field, the *Journal of Finance*.

The critiques offered two valid points. First, Rock and Rubinfeld critiqued the airline paper for defining route markets by airport pairs, rather than by city pairs.[67] This is a good point. Competition for flights between LaGuardia and San Francisco are likely affected by flights between any of LaGuardia, JFK, and Newark and San Francisco or Oakland. But modifying the airline study to use city pairs actually makes the harmful price effects ***larger***.[68] In response, Rock and Rubinfeld now say this issue is likely "minor".[69] But actually it is quite telling that increases in accuracy

[64] Elhauge, *supra* note 2, at 1292-97.
[65] O'Brien & Waehrer, *supra* note 49, at n.1; Kennedy, et al, *The Competitive Effects of Common Ownership: Economic Foundations and Empirical Evidence* at n.* (July 2017), https://ssrn.com/abstract=3008331; https://www.ici.org/about_ici/annuals.
[66] Rock & Rubinfeld, *supra* note 29, at n.*; Rock & Rubinfeld, *supra* note 33, at n.*.
[67] Rock & Rubinfeld, *supra* note 29, at 12.
[68] Azar, Schmalz & Tecu, *supra* note 28, at 17 & Table 4.
[69] Rock & Rubinfeld, *supra* note 33, at 22.

increase the measured effect, because that is just what one would predict if the effect were real.

Second, although another part of the airline study used BlackRock's merger with Barclay's Global Investors as an instrumental variable to control for any possible endogenous effect on MHHI, the first Investment Company Institute study pointed out that this approach neglected to control for endogenous effects on HHI as well.[70] Another good point. But when the revised airline study controlled for any endogenous effect on HHI by using pre-period measures of HHI, the result was again an even ***larger*** price effect, here of 10-12%.[71] Again, it is telling that increases in accuracy increase the measured effect.

Other critiques were misguided. The first Investment Company Institute study, echoed by Rock and Rubinfeld, argued that the correlation between ΔMHHI and prices might be endogenously driven by increased demand on certain routes increasing both ΔMHHI and prices.[72] But this endogeneity theory was flatly inconsistent with the evidence. First, the just mentioned BlackRock-Barclays study already used an instrumental variable that controlled for any endogenous effect on MHHI, and it found ***larger*** price effects (10-12%) than in the direct regression (3-7%). Second, the critics' theory conflicts with the fact that the airline study showed that increases in ΔMHHI not only increased prices, but also ***decreased*** output, the opposite of what would occur if the price increase were driven by a demand increase.[73] Third, if price increases were causing increases in ΔMHHI, rather than vice versa, then higher prices should be correlated with later increases in ΔMHHI. An additional test showed they are not, whereas increases in ΔMHHI are correlated with later increases in prices.[74] Fourth, if price changes were causing changes in market share that changed ΔMHHI, 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

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[70] O'Brien & Waehrer, *supra* note 49, at 25-26 & Table 7.
[71] Azar, Schmalz & Tecu, *supra* note 28, at 3-4, 38 & Table 6.
[72] O'Brien & Waehrer, *supra* note 49, at 15-18, 23-25; Rock & Rubinfeld, *supra* note 29, at 13. There are alternative theories for why a link between prices and MHHI levels might be endogenous, but they rely on the alternative premise that increased prices would ***reduce*** MHHI levels, which would mean that the airline study ***under***estimated the price effects. Elhauge, *supra* note 20, at 7-8. Consistent with this alternative premise, removing endogeneity by using the BlackRock-Barclays instrument did result in increased price effects.
[73] Azar, Schmalz & Tecu, *supra* note 28, at 3, 23-24 & Table C.4.
[74] *Id.* at 18 & Table 5.

between prices and ΔMHHI is driven almost entirely by the large long-term shareholders that are likely to exert influence over corporate decision making.[75]

Rock and Rubinfeld also offered a hodgepodge of other critiques. They argued that prices might be lower in routes with lower ΔMHHI because of the presence of low-cost carriers like Southwest.[76] But the airline study controlled for the presence of Southwest and other low-cost carriers.[77] Rock and Rubinfeld also argued that the Delta-Northwest merger might be a confounding event,[78] but the original airline study controlled for this merger, and the revised version added further controls for it.[79] Rock and Rubinfeld further argued that the results might be affected by changes in fuel costs or differences in route size,[80] but the airline study already used fixed effects that controlled for variations in fuel costs and route characteristics.[81] The revised airline study added controls for the possibility that fuel costs might have different effects in routes with longer distances, and that change also made the adverse price effects even ***larger***.[82] In response, Rock and Rubinfeld acknowledge that the above factors and controls reduce their concerns, but assert without explanation that they do not "fully resolve" those concerns.[83]

2. The Second Investment Company Institute Critique. The Investment Company Institute has responded by funding a second critique of the airline study. This second critique first reconstructs the data from scratch and replicates the results of the airline study.[84] This part of the critique thus affirmatively confirms that the results of the airline study are not an artifact of any data errors. The second critique next modifies the airline study in three ways.

First, the new Investment Company Institute critique re-runs the airline study's main regression of prices on horizontal shareholding levels, but replaces actual MHHI and ΔMHHI with the new critique's own "construction" of horizontal shareholder incentive terms.[85] Even using their own constructed measure of horizontal

[75] *Id.* at 4, 24-25 & Tables C.5-C.6.
[76] Rock & Rubinfeld, *supra* note 29, at 13-14.
[77] Azar, Schmalz & Tecu, *supra* note 28, at 14-15, Tables 3-7, Table C1-C3.
[78] Rock & Rubinfeld, *supra* note 29, at 13.
[79] Azar, Schmalz & Tecu, *supra* note 28, at 21-22.
[80] Rock & Rubinfeld, *supra* note 29, at 13.
[81] Azar, Schmalz & Tecu, *supra* note 28, at 3.
[82] *Id.* at 14-15 & Tables 3-7.
[83] Rock & Rubinfeld, *supra* note 33, at 20 n.53, 21, 23.
[84] Kennedy, et al, *supra* note 65, at 10-14.
[85] *Id.* at 14-15.

shareholding, they find that horizontal shareholding increases prices in a statistically significant way.[86] Their analysis thus actually confirms that the results of the original airline study were not driven by the particular measure of horizontal shareholding that it used.

Second, the new Investment Company Institute critique re-runs the BlackRock-Barclays instrumental variable regression, but the critique changes the instruments to (a) a dummy variable if the market was affected by the BlackRock-Barclays merger at all and (b) the number of airlines in each market that are included in the Russell 1000 index.[87] 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 critique 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 study uses as a purported proxy for horizontal shareholding, because the new critique's first stage results indicate that the BlackRock-Barclays merger somehow had a significant ***negative*** effect on horizontal shareholding levels, which is impossible given that the merger clearly combined horizontal shareholders.[88] In short, although the new critique 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 was negatively related to actual horizontal shareholding levels.

Third, the new Investment Company Institute critique creates its own model of market demand and supply and estimates results using its own measure of horizontal shareholding.[89] 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

[86] *Id.* at 16.
[87] *Id.* at 15.
[88] *Id.* at Table 6; Azar, Schmalz, and Tecu, *The Competitive Effects of Common Ownership: Economic Foundations and Empirical Evidence: Reply* at 4 (September 28, 2017), https://ssrn.com/abstract=3044908.
[89] Kennedy, et al, *supra* note 65, at 5, 16-22.

distances.[90] Also, this modification only uses one tenth of the actual data, which makes it far less likely to find an effect.[91]

3. The Dennis, et al. Critique. A new article by Dennis, et al., purports to find that horizontal shareholding has no anticompetitive effects on airline pricing. However, this article has a number of flaws. To begin with, Dennis, et al., use uncorrected Thomson-Reuters 13F data to measure horizontal shareholding levels, which means that they erroneously exclude all individual investors, neglect to combine funds voted by the same fund family, and fail to cross-check that data to correct for well-known errors.[92] Given their use of erroneous data, their effort to replicate the airline study finds adverse price effects on only the 5% largest routes, whereas the corrected data shows adverse price effects on the 85% largest routes.[93] Dennis, et al., claim the difference is instead driven by their decision not to weight routes by the number of passengers. But that claim is not well founded, given that they never run their unweighted analysis using corrected data. Moreover, their decision not to weight routes by passengers necessarily has the effect of overweighing price observations on routes with fewer passengers.

Dennis, et al., also modify the data in various ways that distort measurement of the effect of horizontal shareholding and market concentration levels on prices. First, they exclude all airline tickets other than nonstop coach itineraries.[94] That distorts the analysis because it excludes the higher-priced itineraries most likely to evidence price effects.

Second, for airlines in chapter 11, Dennis, et al., set shareholders' profit and control rights equal to zero.[95] This is wrong because, as they themselves acknowledge, shareholders generally retain shares after a chapter 11 reorganization. Thus, while reorganizations might reduce shareholders' expected profit and control rights, setting them equal to zero clearly understates shareholder influence. A neutral method would instead test whether the results are changed if one excludes those time

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[90] *Id.* at 22; Azar, Schmalz, and Tecu, *supra* note 88, at 3, 5.
[91] Kennedy, et al, *supra* note 65, at 20-21; Azar, Schmalz, and Tecu, *supra* note 88, at 3-5.
[92] Dennis, et al., *Common Ownership Does Not Have Anti-Competitive Effects in the Airline Industry* at Table 8 (November 28, 2017), https://ssrn.com/abstract=3063465; Azar, Schmalz & Tecu, *supra* note 28, at 10 n.7 (stressing the need to correct the well-known inaccuracies in this data by cross-checking against other sources).
[93] Dennis, et al., *supra* note 92, at 2, 12 (reporting results with their uncorrected data); Azar, Schmalz & Tecu, *supra* note 28, at Figure C.6 (reporting results with corrected data).
[94] *Id.* at 2-3, 13-14.
[95] *Id.* at 3, 16.

periods when some airlines were in chapter 11, and when that neutral method is used, it ***increases*** the estimated price effects.[96]

Third, when shareholders report "shared" voting rights, Dennis, et al., set their voting rights equal to zero.[97] This 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.[98] Setting shareholding voting rights equal to zero in such cases clearly understates the voting influence of such entities.

Fourth, when measuring market concentration, Dennis, et al., do not use the airlines' actual market shares on the relevant routes, but instead use the airlines' share of all passengers going to or from each end point.[99] The result is that the "market" shares that they use for any given route could 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 had a 5% share of all flights going either to or from Boston or to or from Martha's Vineyard. Dennis, et al. would wrongly treat the airlines as having only a 5% share of the Boston to Martha's Vineyard route, thus vastly understating market concentration.

In short, the Dennis, et al. study not only uses erroneous data, but also modifies that data in ways that are both incorrect and likely to attenuate any measured effect. Their study thus does not provide accurate empirical results on whether horizontal shareholding increases prices.

4. The Gamlich-Grundl Critique. Another recent critique modifies the banking study in ways that lead to findings of smaller and more mixed effects. However,

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[96] Azar, Schmalz & Tecu, *supra* note 28, at 16.
[97] Dennis, et al., *supra* note 92, at 3-4, 17.
[98] 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.
[99] *Id.* at 4, 22.

like Dennis, et al., this critique uses uncorrected Thomson-Reuters 13F data.[100] It thus neglects to combine funds voted by the same fund family and fails to correct that data for well-known errors.

Further, this critique of the banking study modifies the data to exclude the market share components of MHHI.[101] This makes the critique's measure far less relevant to anticompetitive effects, which depend not only on the level of horizontal shareholding, but also on firm market shares.[102]

In short, the critique of the banking study uses both less reliable data and a substantively incorrect measure of MHHI. Those flaws likely explains why the critique finds smaller and more mixed effects.

E. Excuses for Inaction

In the face of all the above proofs and evidence, a number of excuses for inaction have been offered. One excuse is that it is unclear whether effects exist because while some empirical studies find adverse price effects in airline and banking markets, other studies find effects in those markets unclear. But it is ***always*** be possible to create statistically insignificant results if one modifies the data and analysis in ways that distort the results. When (as here) a major industry is affected, one can be sure that such modified studies will be conducted. To say that effects are unclear whenever some studies find unclear effects is to say that any industry that wants to deny the existence of effects in order to avoid regulation wins the debate by simply paying someone to run a study modified to find unclear effects. This "Merchants of Doubt" strategy has been highly successful for many industries seeking to avoid or delay regulation of harmful conduct, but that does not make it valid as a basis for policy.[103] Even to the extent that such studies are not directly

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[100] Gramlich & Grundl, *Testing for Competitive Effects of Common Ownership* at 9 (April 21, 2017), https://www.federalreserve.gov/econres/feds/files/2017029pap.pdf.
[101] *Id.* at 7-8.
[102] Elhauge, *supra* note 20, at 8-9.
[103] NAOMI ORESKES & ERIK M. CONWAY, MERCHANTS OF DOUBT: HOW A HANDFUL OF SCIENTISTS OBSCURED THE TRUTH ON ISSUES FROM TOBACCO SMOKE TO GLOBAL WARMING (2010); Ong & Glantz, *Constructing "Sound Science" and "Good Epidemiology": Tobacco, Lawyers, and Public Relations Firms*, 91 AM. J. PUBLIC HEALTH 1748 (2001); Christie Aschwanden, *There's No Such Thing as 'Sound Science* (collecting examples of industries using tendentious definitions of "sound science" to generate doubt and delayed acceptance of valid scientific findings),

funded by industry, when an industry has been viewed as benign for a long time, confirmation bias is a powerful force that will incline many to interpret any data to find no adverse effects.

This is not at all to say that such contrary studies should be ignored, even when they are funded by the affected industries. It is rather to say that agencies and courts cannot 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.[104] Here, the airline study and banking studies have proven robust to all valid critiques. Addressing valid critiques only increases the estimated effects. The proof of effects can be disrupted only with invalid modifications to the data or analysis.

A second excuse is that it is too early to take any action because we have studies validating adverse horizontal shareholding effects only in two industries: airlines and banking. But the premise of this excuse is now untrue given the new proofs and cross-industry studies detailed above. This points to another flaw with the critiques of the airline and banking studies: none of those critiques respond in any way to the new economic proof that horizontal shareholding increases prices if one thinks either that larger shareholders have more influence or that managers maximize either their vote share or their odds of re-election. Given this new economic proof, it would take powerful empirical evidence to establish that such price effects did ***not*** exist. Certainly none of the claimed critiques of the airline and banking studies provide any such powerful showing.

Nor do any of these critiques of the airline and banking studies rebut in any way either (a) the new economic proof that corporations maximize the interests of their shareholders with executive compensation that puts increased weight put on rival-firm performance the greater the horizontal shareholding level or (b) the new ***cross***-industry empirical evidence that this is precisely what corporations do, which

https://fivethirtyeight.com/features/the-easiest-way-to-dismiss-good-science-demand-sound-science/.

[104] 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 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.

naturally incentivizes executives to compete less when horizontal shareholding levels are higher. These critiques of the airline study also offer no rebuttal to the new ***cross***-industry empirical study showing that the investment-profit gap is driven by horizontal shareholding in concentrated markets and by the firms in those markets that have high levels of horizontal shareholding. These new cross-industry studies not only conflict with any conclusion that horizontal shareholding in concentrated markets is not adversely affecting competition, but also mean it is no longer true that we have empirical evidence for only two industries. Further, these new cross-industry studies demonstrate empirical effects even when using measures of horizontal shareholding other than MHHI, thus rebutting the critics' main claim that the airline and banking study results were driven by the alleged endogeneity of MHHI.

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.[105] 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 voters would have diverging interests and not be voting on specific Presidential decisions. And in political situations, the only source of accountability is voting by individuals on who to elect to office. For corporations, the sources of accountability include not only voting by large institutional investors (which each have a much higher share of the vote than political voters) on elections and many specific corporate decisions, but also executive compensation incentives, takeovers, control contests, labor markets, and direct communications.[106] It would be remarkable if those methods of

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[105] Or they are claiming that the interests of horizontal shareholders in anticompetitively increasing industry profits are totally negated by their interests in avoiding anticompetitive harm to suppliers or customers of that industry in which the horizontal shareholders might also be invested. Rock & Rubinfeld, *supra* note 33, at 15. But that hypothesis is implausible not only because such vertical common shareholding can exacerbate the harm from horizontal shareholding, *see supra* note 7, but also because a large share of anticompetitive effects will necessarily be visited on noncorporate suppliers and purchasers, and even if corporate purchasers pay more they are likely to pass most of the overcharge on to downstream consumers. Elhauge, *supra* note 20, at 12-13. Further, that hypothesis conflicts not only with the results of the airline and banking studies, but also with the cross-industry empirical studies showing that horizontal shareholding leads to less efficient executive compensation and a greater investment-profit gap.

[106] Elhauge, *supra* note 20, at 2-6; Easterbrook, *Managers' Discretion and Investors' Welfare: Theories and Evidence,* 9 DEL. J. CORP. L. 540, 543 (1984).

accountability did not make firm managers pay attention to the profit interests of their leading shareholders, which clearly change when those leading shareholders are also leading shareholders in the firm's competitors.

A third excuse for inaction is that we do not have to worry about horizontal shareholding because fiduciary duties will prevent managers from favoring the interests of horizontal shareholders.[107] This argument fails for multiple reasons. To begin with, it conflicts with the empirical data showing that horizontal shareholding does have adverse effects. Moreover, this claim misunderstands fiduciary duty claims. When horizontal shareholding has anticompetitive effects, it increases profits at all the horizontal competitors by restraining their incentives to compete. Those increased corporate profits also benefit non-horizontal shareholders, who thus could not show any injury from any alleged breach of fiduciary duty. Moreover, managerial judgments about competitive actions would be protected from any fiduciary duty claim by the business judgment rule. Another flaw is that this claim conflicts with standard antitrust law. If this claim were right, then antitrust law would also not worry when one firm acquires a majority shareholding in a competitor, because fiduciary duties to the minority non-horizontal shareholders of the competitor would prevent the acquirer from using their control to lessen competition. The fact that antitrust law takes the opposite position shows that it has correctly rejected the claim that fiduciary duties to non-horizontal shareholders suffice to prevent anticompetitive effects, and it would be inconsistent to take a contrary position on horizontal shareholding.

A final excuse is that inaction is appropriate under the principle that we must "first, do no harm". But that principle cuts in opposite direction because the evidence above indicates that, today, we are already suffering harm from horizontal shareholding. This evidence indicates that horizontal shareholding is not only increasing prices in some industries, but across the economy is responsible for inefficient methods of executive compensation and a huge gap between corporate profits and investments that is restraining growth and causing enormous macroeconomic harm. To continue being inactive is to allow harm to be inflicted every day on consumers and our economy. It would be like a doctor incorrectly citing the Hippocratic principle of "first, do not harm" as a reason ***not*** to treat an infection. Inaction is what does harm here, not action.

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[107] O'Brien & Waehrer, *supra* note 65, at 6, 33-34.

F. The Problem Is With Horizontal Shareholdings, Not Necessarily with Index Funds

Some argue that we should not worry about horizontal shareholding based on a claim that index funds lack incentives to exert any effort to influence corporations to behave anticompetitively, given that any increased profits accrue across the index whether or not an investor makes any effort.[108] This argument fails on multiple grounds.

First, this argument conflicts with all the above-detailed empirical evidence showing that horizontal shareholding does lead to anticompetitive effects. Given that evidence, we know there must be something wrong with this argument. In fact, there are multiple flaws in the argument, as the following details.

Second, this argument wrongly equates horizontal shareholders with index funds. In fact, most horizontal shareholdings are likely in actively-managed funds.[109] Further, index funds generally do not vote their own shares: instead, their shares are voted at the fund family level (e.g., by BlackRock and Vanguard), rather than separately by fund.[110] Those fund families also have hundreds of billions of dollars in actively managed funds.[111] The horizontal shareholdings of fund families do not reflect one index fund, but rather the combination of different index funds (e.g., value, growth, and high-dividend or large, mid, and small-cap) with actively managed funds. Each fund family thus has strong incentives to increase the value of its array of funds, each of which varies (in type and relative amount of assets) from that of other fund families.

Third, the evidence in fact shows that the fund families that own index funds do in fact exert large and increasing efforts to influence corporations.[112] Empirical

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[108] *See* O'Brien & Waehrer, *supra* note 65, at 32-33; Rock & Rubinfeld, *supra* note 33, at 14; Bebchuk et al., *The Agency Problems of Institutional Investors*, 31 JOURNAL OF ECONOMIC PERSPECTIVES 89, 108-09 (2017).
[109] Elhauge, *supra* note 2, at 1315-16.
[110] Elhauge, *supra* note 20, at 5.
[111] 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, 304 Table 1 (2017).
[112] *See* Bioy, *Passive Fund Providers and Investment Stewardship*, https://corpgov.law.harvard.edu/2017/12/21/passive-fund-providers-and-investment-stewardship/; Wilcox & Sodali, *Getting Along with BlackRock*,

evidence also shows that index funds in fact do have a significant impact on corporate governance.[113] This evidence conflicts with the argument's premise that horizontal shareholdings in index funds are unlikely to have any influence.

Fourth, the theoretical claim that index funds lack incentives to exert effort ignores several countervailing facts that indicate index funds may, if anything, have ***more*** incentives to exert influence.[114] (a) Index funds cannot exit firms, so have more incentive to exercise voice. (b) Index funds have large shareholdings, which means that any effort they exert is more likely to be effective at influencing corporate activity. (c) Index funds have fiduciary duties to vote their shares knowledgeably. (d) Index funds often incur less effort cost per stockholding because they can apply any decision on common governance issues (like executive compensation methods) across many corporations. (e) Index funds do benefit if anticompetitive profits increase the overall value of their portfolios.

Fifth, even if index funds were not voted by their fund families and did have lower incentives to exert effort than active funds, index funds can rely on the investigative efforts of active horizontal shareholders. This is especially true when the active funds are in 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.

Finally, the argument relies on a mistaken premise that horizontal shareholder would have to exercise large and increased efforts to have anticompetitive effects. But it takes little effort to, for example, decide to approve executive compensation methods like stock options that partly reward managers for industry performance and then apply that decision to shareholder voting across all owned corporations. Indeed, whether making decisions on executive compensation, board elections, control contests, stock sales, or hiring, it takes no more effort to favor than oppose decisions that lessen competition.[115] Moreover, even to the extent that horizontal shareholding

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https://corpgov.law.harvard.edu/2017/11/06/getting-along-with-blackrock; Elhauge, *supra* note 20, at 5.

[113] *See* Appel, et al., *Passive Investors*, *Not Passive Owners*, 121 J. FIN. ECON. 111, 114, 123-130 (2016).

[114] *Id.* at 113.

[115] Elhauge, *supra* note 20, at 6.

just diminishes shareholder efforts to pressure corporations to compete, that reduction in pressure itself will likely have anticompetitive effects.[116]

III. 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 I, 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 I 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 Sherman Act as an ongoing contract or combination that restrains competition.[117] 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.[118] The "contract" element is clearly met because horizontal shareholding involves formal contracts between corporations and common investor. 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

[116] *Id.* at 5-6.
[117] In my earlier article, I briefly noted this possibility, without elaborating the basis for this legal theory. Elhauge, *supra* note 2, at 1304.
[118] 15 U.S.C. § 1; Einer R. Elhauge, United States Antitrust Law And Economics 49-50 (2d ed. 2011).

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 cumulative foreclosure or vertical price-fixing contracts based on whether they are sufficiently widespread to facilitate oligopolistic coordination.[119]

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.[120] 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.

The statute also applies to any "combination in the form of trust or otherwise." 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

[119] 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, *supra* note 118, at 343-46.

[120] *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.

investor, namely the trust. Accordingly, when a common set of institutional investors are leading shareholders at competing firms, their horizontal shareholdings also create a combination between those firms that makes the Act applicable. Indeed, many ETFs with horizontal shareholdings are literally trusts.

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.[121]

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 my 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.[122] This effect will restrain the incentives of both firms to compete, even if their managers never discuss specific prices or conduct with each other.

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[121] ELHAUGE, *supra* note 118, at 535, 562-84.
[122] Elhauge, *supra* note 2, at 1269-70.

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, they requires that anticompetitive effects be established for illegality and that 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. 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. Moreover, 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.[123] Nor, under antitrust law, can such benefits to investors legally offset any anticompetitive harm to consumers in the relevant product market.

In short, even if one thought, wrongly,[124] 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

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[123] Elhauge, *supra* note 2, at 1303-04; Morton & Hovenkamp, *supra* note 17, at 13-14; Posner, Scott Morton, & Weyl, *supra* note 19, at II.B & II.E.
[124] *See supra* Part I.B.

violate Sherman Act § 1 whenever they are proven to create anticompetitive effects that are not offset by procompetitive effects 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 activities,[125] which makes it narrower than Clayton Act § 7, which bans any stock acquisition likely to substantially lessen competition.[126] 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.[127] 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.[128] If (under such an interpretation) horizontal stock

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[125] 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.
[126] *See supra* Part I.B.
[127] 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").
[128] 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

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.[129] 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.[130] The 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.[131]

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."[132] 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."[133] But "normally" is not always, and again anticompetitive horizontal

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COMPETING UNDERTAKINGS UNDER EU COMPETITION LAW: A LAW & ECONOMICS ANALYSIS 47-48 (2017)(collecting cases).

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

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

[131] 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.

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

[133] *Id.* ¶ 80.

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,[134] 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 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.[135] 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.[136] 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 extent 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

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[134] *See supra* Part II.
[135] *See* ELHAUGE & GERADIN, supra note 8, at 918-919, 960.
[136] *Id.* at 960-62.

decisive influence.[137] 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."[138] As detailed in Part III.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.

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."[139] 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.[140] But that reasoning at a minimum indicated that if voting of 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."[141] 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

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[137] *See supra* Part II.
[138] *See* ELHAUGE & GERADIN, supra note 8, 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).
[139] British American Tobacco v Commission (Philip Morris), [1987] E.C.R. 4487, at ¶ 45.
[140] *Id.* ¶¶ 46-64.
[141] *Id.* ¶ 45.

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".[142] 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".[143] 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, the object or effect whereof is … to influence the conduct on the market of an actual or potential competitor…."[144]

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.[145]

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.[146] It has even held that sufficient influence can exist despite a lack of voting rights and the existence of a covenant not

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[142] ELHAUGE & GERADIN, supra note 8, at 842.
[143] ICI v. Commission, [1972] E.C.R. 619, at ¶ 64.
[144] Suiker Unie [1975] ECR 1663, at ¶¶ 173-174.
[145] China Anti–Monopoly Law Art. 13; Taiwan Fair Trade Act Art. 7.
[146] *Philip Morris*, [1987] E.C.R. 4487, at ¶65; Warner-Lambert/Gilette, [1993] OJ L 116/21, at ¶24.

to exert any influence on the corporate board, as long as the firm would naturally take the interests of its shareholder into account.[147] 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[148] and bans abusing that dominance through excessive pricing.[149] 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 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.[150] 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.[151]

None of those substantive reasons provides any obstacle to applying TFEU Article 102 to condemn horizontal shareholding when it creates a collective dominance that

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[147] Warner-Lambert/Gilette, [1993] OJ L 116/21, at ¶ 25.
[148] TFEU Article 102 (banning "Any abuse by one *or more* undertakings of a dominant position"); ELHAUGE & GERADIN, supra note 8, at 272-73.
[149] TFEU Article 102(a) (banning the abuse of imposing "unfair … prices"); United Brands v. Commission, [1978] E.C.R. 207.
[150] ELHAUGE & GERADIN, supra note 8, at 271, 407-08; 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).
[151] ELHAUGE & GERADIN, supra note 8, at 273, 842-843.

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.[152] 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.[153] 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.[154] 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 prices, those links create a collective dominant position.[155] 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

[152] *See supra* Part II.
[153] *See supra* Parts II & III.A.
[154] Gencor Limited v. Commission, [1999] E.C.R. II–753; Airtours v. Commission, [2002] E.C.R. II–2585, at ¶ 61.
[155] France v. Commission (Kali & Salz), [1998] E.C.R. I–1375, at ¶¶ 171, 221.

shareholding that 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[156] and treat excessive pricing as an abuse of dominance.[157]

IV. 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 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 dominant explanation for the gap between corporate investments and profits that is restraining economic growth.

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

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[156] 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.

[157] 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).

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.