VERTICAL SHAREHOLDING

INTRODUCTION

A vigorous debate about the effects and legality of "horizontal shareholding" — when a common set of investors owns significant shares in corporations that are horizontal competitors[1] — has gone mainstream.[2] This is due, in part, to the growing extent of common ownership by institutional investors. Recent filings indicate that institutional investors hold seventy percent of the U.S. stock market.[3] Taken together, BlackRock, Vanguard, and State Street, known as the "Big Three" institutional investors, constitute the largest shareholder in nearly ninety percent of major American corporations.[4]

The economic theory of harm from horizontal shareholding is simple: common investor ownership of horizontal competitors reduces incentives to compete.[5] This theory is backed by empirical evidence of anticompetitive effects of common ownership in the airline, pharmaceutical, banking, and seed industries.[6] The leading legal theory for action

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[1] Einer Elhauge, Essay, *Horizontal Shareholding*, 129 HARV. L. REV. 1267 (2016). Horizontal shareholding is sometimes called "common ownership," José Azar, Martin C. Schmalz & Isabel Tecu, *Anticompetitive Effects of Common Ownership*, 73 J. FIN. 1513, 1514 (2018); "common concentrated ownership," C. Scott Hemphill & Marcel Kahan, *The Strategies of Anticompetitive Common Ownership*, 129 YALE L.J. (forthcoming 2020) (manuscript at 3), https://ssrn.com/abstract=3210373 [https://perma.cc/TDK2-4S6F]); or "overlapping financial investor ownership," Jonathan B. Baker, *Overlapping Financial Investor Ownership, Market Power, and Antitrust Enforcement: My Qualified Agreement with Professor Elhauge*, 129 HARV. L. REV. F. 212, 213 n.11 (2016).

[2] *Compare* Eric Posner, Fiona Scott Morton & Glen Weyl, Opinion, *A Monopoly Donald Trump Can Pop*, N.Y. TIMES (Dec. 7, 2016), https://nyti.ms/2gRQKhH [https://perma.cc/8N79-G9P6] (describing horizontal shareholding as "[t]he great, but mostly unknown, antitrust story of our time"), *with* Barbara Novick, Opinion, *How Index Funds Democratize Investing*, WALL ST. J. (Jan. 8, 2017, 5:32 PM), https://www.wsj.com/articles/how-index-funds-democratize-investing-1483914571 [https://perma.cc/329J-M837] (claiming that new papers challenging horizontal shareholding "lack economic logic and factual support").

[3] *See* Jonathan Lewellen & Katharina Lewellen, *Institutional Investors and Corporate Governance: The Incentive to Be Engaged* 1 (Tuck Sch. of Bus., Working Paper No. 3265761, 2018), https://ssrn.com/abstract=3265761 [https://perma.cc/KD27-5Q37]; Marshall E. Blume & Donald B. Keim, The Changing Nature of Institutional Stock Investing 5 (Nov. 12, 2014) (unpublished manuscript), https://faculty.wharton.upenn.edu/wp-content/uploads/2015/06/ChangingInstitutionPreferences_12Nov2014_CFR.pdf [https://perma.cc/6KNQ-2NTF].

[4] *See* Jan Fichtner, Eelke M. Heemskerk & Javier Garcia-Bernardo, *Hidden Power of the Big Three? Passive Index Funds, Re-concentration of Corporate Ownership, and New Financial Risk*, 19 BUS. & POL. 298, 313 (2017).

[5] Azar, Schmalz & Tecu, *supra* note 1, at 1514.

[6] *Id.* at 1528–51; Joseph Gerakos & Jin Xie, *Institutional Horizontal Shareholdings and Generic Entry in the Pharmaceutical Industry* 17–37 (Tuck Sch. of Bus., Working Paper No. 3285161, 2019), https://ssrn.com/abstract=3285161 [https://perma.cc/9HCE-P9NX]; José Azar, Sahil Raina & Martin Schmalz, Ultimate Ownership and Bank Competition 19–34 (May 4, 2019) (unpublished manuscript), https://ssrn.com/abstract=2710252 [https://perma.cc/B9AW-47LH]; Mohammad Torshizi &

against horizontal shareholding is also simple: shareholding that has actual or likely anticompetitive effects violates section 7 of the Clayton Act,[7] which bans stock acquisitions that may substantially lessen competition.[8] However, the case against horizontal shareholding has come under attack as theoretically implausible,[9] empirically uncertain,[10] and legally unsound.[11] The leading proponent of antitrust enforcement against horizontal shareholding has fired back.[12]

To date, scholars have largely ignored common investor ownership of vertically related corporations.[13] This Note aims to begin to fill that gap. "Vertical shareholding," or when a common set of investors owns significant shares in vertically related corporations, may have anticompetitive effects similar to some vertical mergers. When stock acquisitions create vertical shareholdings that have actual or likely anticompetitive effects, they are illegal under section 7 of the Clayton Act. Part I defines vertical shareholding and provides examples. Part II explores possible effects of vertical shareholding. The primary anticompetitive concern with vertical shareholding is foreclosure, or when one firm exclusively deals, refuses to deal, or deals on different terms with buyers or suppliers. Foreclosure may be more likely under conditions of partial ownership than complete ownership, meaning vertical shareholdings may raise greater anticompetitive concerns than vertical mergers. This Note extends earlier work on partial vertical integration to vertical

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Jennifer Clapp, Price Effects of Common Ownership in the Seed Sector 32–42, 45 (Apr. 22, 2019) (unpublished manuscript), https://ssrn.com/abstract=3338485 [https://perma.cc/XEY3-LDTR].

[7] 15 U.S.C. § 18 (2012).

[8] *Id.*; *see* Elhauge, *supra* note 1, at 1302–04.

[9] *See, e.g.*, Lucian A. Bebchuk, Alma Cohen & Scott Hirst, *The Agency Problems of Institutional Investors*, 31 J. ECON. PERSP. 89, 108–09 (2017); Hemphill & Kahan, *supra* note 1.

[10] *See, e.g.*, Hemphill & Kahan, *supra* note 1; Daniel P. O'Brien & Keith Waehrer, *The Competitive Effects of Common Ownership: We Know Less than We Think*, 81 ANTITRUST L.J. 729, 748–68 (2017); Thomas A. Lambert & Michael E. Sykuta, *The Case for Doing Nothing About Institutional Investors' Common Ownership of Small Stakes in Competing Firms* 29–34 (Univ. of Mo. Sch. of Law, Legal Studies Research Paper No. 2018-21, 2018), https://ssrn.com/abstract=3173787 [https://perma.cc/EF3B-3JNK].

[11] *See, e.g.*, Douglas H. Ginsburg & Keith Klovers, *Common Sense About Common Ownership*, CONCURRENCES REV., May 2018; Edward B. Rock & Daniel L. Rubinfeld, *Antitrust for Institutional Investors*, 82 ANTITRUST L.J. 221, 251–62 (2018).

[12] *See* Einer Elhauge, How Horizontal Shareholding Harms Our Economy — And Why Antitrust Law Can Fix It (Aug. 2, 2019) (unpublished manuscript), https://ssrn.com/abstract=3293822 [https://perma.cc/S2UZ-RL4A] [hereinafter Elhauge, How Horizontal Shareholding Harms]; Einer Elhauge, The Causal Mechanisms of Horizontal Shareholding (Aug. 2, 2019) (unpublished manuscript), https://ssrn.com/abstract=3370675 [https://perma.cc/5BNU-X2HZ] [hereinafter Elhauge, Causal Mechanisms].

[13] To the extent vertical shareholding has been discussed at all, it has been mostly as a counterbalance to horizontal shareholding. *See* Hemphill & Kahan, *supra* note 1 (manuscript at 49–50); Rock & Rubinfeld, *supra* note 11, at 236; Lambert & Sykuta, *supra* note 10, at 20. *But see* Elhauge, Causal Mechanisms, *supra* note 12, at 37–38 (noting that vertical shareholding may have anticompetitive effects).

shareholding, deriving conditions for when foreclosure is profitable. Vertical shareholding may also bring about competitive benefits, but these benefits are less likely to result from vertical shareholding than from vertical merger. Part III explains why vertical shareholding that has actual or likely anticompetitive effects is illegal under section 7 of the Clayton Act and the Supreme Court's decision in *United States v. E.I. du Pont de Nemours & Co.*[14]

I. VERTICAL SHAREHOLDING: A DEFINITION

Vertical shareholding occurs when a common set of investors owns significant shares in vertically related corporations. Vertical shareholders may be institutional investors, such as for-profit asset managers, "mutual" and nonprofit management companies, public-employee pension funds, or activist hedge funds.[15] For example, Vanguard, a mutual company, is the largest shareholder of Boeing,[16] an aircraft manufacturer, and the second-largest shareholder of Delta,[17] an airline. That many institutional investors are vertical shareholders is not surprising, given the extent of common ownership today.[18] For example, Berkshire Hathaway, a for-profit asset manager, owns significant shares in General Motors,[19] a car company, and is the largest shareholder of Axalta,[20] a coatings manufacturer named General Motors' "Supplier of the Year" for three years running.[21] TCI, an activist hedge fund, owns significant shares in Charter,[22] a telecommunications provider, and Fox,[23] an entertainment company.

Figure 1 displays a basic example of vertical shareholding. In the figure, there are two horizontal competitors, Firm *A* and Firm *B*. Firm *C* is vertically related to *A* and *B*. In particular, *C* is a downstream

[14] 353 U.S. 586 (1957).

[15] Dorothy S. Lund, *The Case Against Passive Shareholder Voting*, 43 J. CORP. L. 493, 498 n.16 (2018).

[16] *Boeing Company Profile*, MARKETS INSIDER, https://markets.busnessinsider.com/stocks/ba/company-profile [https://perma.cc/T8X6-N34V].

[17] *Delta Air Lines Company Profile*, MARKETS INSIDER, https://markets.businessinsider.com/stocks/dal/company-profile [https://perma.cc/EUH4-H78Z].

[18] *See supra* notes 3–4 and accompanying text.

[19] *General Motors Company Profile*, MARKETS INSIDER, https://markets.businessinsider.com/stocks/gm/company-profile [https://perma.cc/QJN8-YT9D].

[20] *Axalta Coating Systems Company Profile*, MARKETS INSIDER, https://markets.busnessinsider.com/stocks/axta/company-profile [https://perma.cc/4V84-Z96J].

[21] *Axalta Coating Systems Recognized by General Motors as a 2016 Supplier of the Year Winner*, BUS. WIRE (Apr. 3, 2017, 2:32 PM), https://www.businesswire.com/news/home/20170403006369/en/Axalta-Coating-Systems-Recognized-General-Motors-2016 [https://perma.cc/Q758-RXL3].

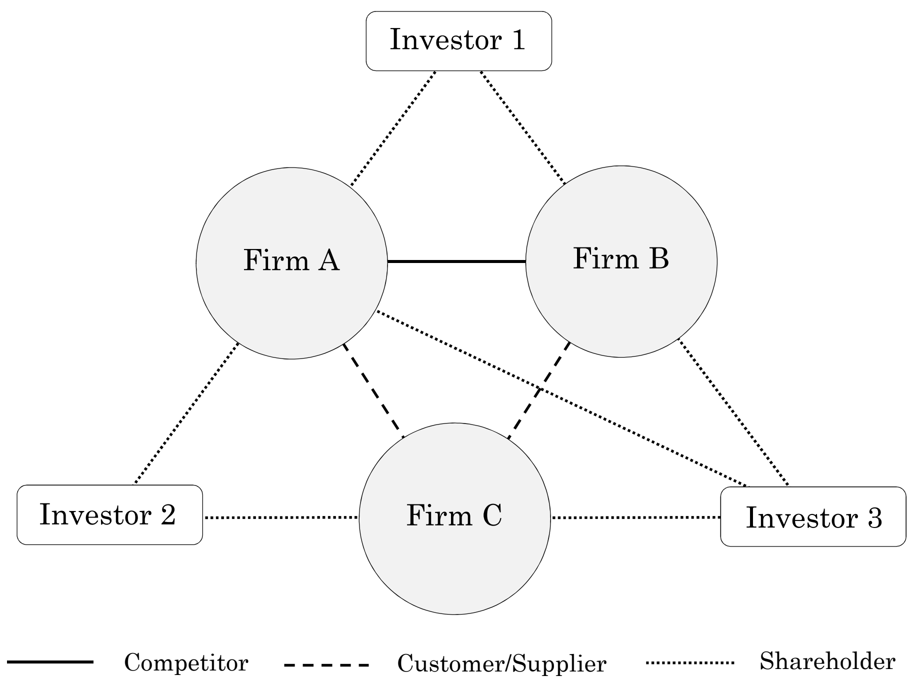
[22] *Charter Company Profile*, MARKETS INSIDER, https://markets.businessinsider.com/stocks/chtr/company-profile [https://perma.cc/EZ9D-84UX].

[23] *Fox Company Profile*, MARKETS INSIDER, https://markets.businessinsider.com/stocks/foxa/company-profile [https://perma.cc/NNH9-SEML].

customer of *A* and *B*, which are upstream suppliers. For example, imagine *C* is a retailer, and *A* and *B* are manufacturers that sell finished goods to *C*. (The roles could be reversed, with *C* upstream and *A* and *B* downstream.) Note that if *C* can feasibly expand upstream, *C* is potential competition for *A* and *B*. Similarly, if *A* or *B* can expand downstream, they are potential competition for *C*.

In Figure 1, an investor (Investor 1) owns stock in competitors *A* and *B*, making the investor a horizontal shareholder. Another investor (Investor 2) owns stock in *A*, a supplier, and *C*, a customer, making the investor a vertical shareholder. Yet another investor (Investor 3) owns stock in *A*, *B*, and *C*, making the investor both a horizontal and vertical shareholder. As explained below, anticompetitive vertical shareholding requires concentration or profits above competitive levels in at least one market.[24] However, vertical shareholders need not hold majority stakes,[25] and the held corporations need not be potential competitors.

Figure 1: Horizontal and Vertical Shareholding



[24] *See infra* p. 671.
[25] *See infra* pp. 672–73.

Finally, vertical shareholding should be distinguished from vertical *cross*-shareholding, which occurs when vertically related corporations own minority stakes in one another. In Figure 1, this would be the case if *A* or *B* owned shares in *C*, or vice versa. Vertical cross-shareholding was at issue in *du Pont*, in which du Pont acquired a minority stock interest in General Motors.[26]

To summarize, if BlackRock, an institutional investor, owned significant shares in AT&T and Comcast, two telecommunications providers, that would constitute horizontal shareholding. If BlackRock owned significant shares in Comcast and Disney, two vertically related corporations, that would constitute vertical shareholding.[27] If Comcast and Disney owned shares in one another, that would constitute vertical cross-shareholding.

II. The Effects of Vertical Shareholding

A. Anticompetitive Concerns

The primary anticompetitive concern with vertical shareholding is foreclosure. Foreclosure occurs when one firm exclusively deals, refuses to deal, or deals on different terms with buyers or suppliers. For example, input foreclosure occurs when the upstream division of a merged firm refuses to sell its output or raises its price to other downstream firms. The effect of input foreclosure may be to impair rival competitiveness by raising costs or lowering input quality.[28] Customer foreclosure occurs when the downstream division of a merged firm refuses to buy inputs from other upstream firms. This may have the effect of increasing the relative upstream power of the merged firm.[29] So, for example, if an online search engine acquires a travel pricing software developer, there may be a concern that the search engine will refuse to license the developer's software to competitors (input foreclosure).[30] Or, if a cable distributor acquires a television network, there may be a

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[26] *See* United States v. E.I. du Pont de Nemours & Co., 353 U.S. 586, 588–90 (1957).

[27] BlackRock is indeed a horizontal and vertical shareholder in these markets. *See AT&T Company Profile*, MARKETS INSIDER, https://markets.businessinsider.com/stocks/t/company-profile [https://perma.cc/WQK8-KUE9]; *Comcast Company Profile*, MARKETS INSIDER, https://markets.businessinsider.com/stocks/cmcsa/company-profile [https://perma.cc/ADH3-XKSA]; *Walt Disney Company Profile*, MARKETS INSIDER, https://markets.businessinsider.com/stocks/dis/company-profile [https://perma.cc/PF78-W7BH].

[28] Input foreclosure may also facilitate oligopolistic coordination downstream by, for example, weakening a maverick.

[29] It may also be that the downstream division threatens to refuse to deal with an upstream firm in order to persuade the upstream firm to foreclose downstream rivals.

[30] *See* Competitive Impact Statement, United States v. Google Inc., 76 Fed. Reg. 21,020, 21,021 (Apr. 14, 2011).

concern that the distributor will refuse to carry the network's competitors (customer foreclosure).[31]

In *Brown Shoe Co. v. United States*,[32] a case involving a shoe manufacturer's acquisition of a retailer, the Supreme Court described foreclosure as "[t]he primary vice of a vertical merger or other arrangement tying a customer to a supplier."[33] As the Court explained:

> [B]y foreclosing the competitors of either party from a segment of the market otherwise open to them, the arrangement may act as a "clog on competition," which "deprive[s] . . . rivals of a fair opportunity to compete." Every extended vertical arrangement by its very nature, for at least a time, denies to competitors of the supplier the opportunity to compete for part or all of the trade of the customer-party to the vertical arrangement.[34]

The *Brown Shoe* decision has encountered extensive criticism, and it does not reflect current antitrust practice.[35] To begin, Brown Shoe Company's purchase of G.R. Kinney Company was more likely to "simply realign sales patterns"[36] than to cause harmful foreclosure, given that both firms were relatively small players in unconcentrated markets.[37] More generally, if a restrictive vertical arrangement is not profitable prior to merger, then, under certain conditions, it is not profitable after merger, either.[38] The arrangement either creates efficiencies, leading to cost advantages over unintegrated rivals, or it does not, making foreclosure a bad business strategy.[39] On this view, there is a single monopoly profit to be made, and it is unaffected by a vertical merger.[40] That is, a monopolist at one level of production cannot gain additional monopoly profit by acquiring a second level.

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[31] *See* Time Warner Inc., 123 F.T.C. 171, 180 (1997).

[32] 370 U.S. 294 (1962).

[33] *Id.* at 323.

[34] *Id.* at 324 (omission and second alteration in original) (citations omitted) (first quoting Standard Oil Co. of Cal. v. United States, 337 U.S. 293, 314 (1949); and then quoting H.R. REP. NO. 81-1191, at 8 (1949)).

[35] EINER ELHAUGE, UNITED STATES ANTITRUST LAW AND ECONOMICS 795 (3d ed. 2018); *see also* Steven C. Salop, *Invigorating Vertical Merger Enforcement*, 127 YALE L.J. 1962, 1964–65 (2018).

[36] Fruehauf Corp. v. FTC, 603 F.2d 345, 352 n.9 (2d Cir. 1979) (citing 2 PHILLIP E. AREEDA & DONALD F. TURNER, ANTITRUST LAW § 527a (1978)).

[37] *See* ROBERT H. BORK, THE ANTITRUST PARADOX 232–33 (1978). Although this criticism applies to *Brown Shoe*, it does not apply to concentrated markets or markets with entry barriers. *See* Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price*, 96 YALE L.J. 209 (1986).

[38] *See* BORK, *supra* note 37, at 228–31; Bruce T. Allen, *Vertical Integration and Market Foreclosure: The Case of Cement and Concrete*, 14 J.L. & ECON. 251 (1971).

[39] In particular, if foreclosure is inefficient, it should encourage entry by competitors. *See* BORK, *supra* note 37, at 234. Of course, a vertical merger may deter or delay entry if it requires entrants to enter two markets. *See* RICHARD A. POSNER, ANTITRUST LAW 225 (2d ed. 2001).

[40] *See* BORK, *supra* note 37, at 229.

The conditions under which the single monopoly profit theory is valid are narrow.[41] However, even under those conditions, an economic motive for foreclosure exists when there is *partial* vertical integration. Suppose that a downstream monopolist purchases inputs in competitive markets. Further suppose that one of the upstream firms owns a fraction of the downstream monopolist. That is, the upstream firm is partially integrated. This situation resembles the *du Pont* case, in which du Pont acquired a twenty-three percent stock interest in General Motors.[42] Although General Motors was not a monopolist, it accounted for almost half of all automobile sales in the United States when the Supreme Court decided the case.[43] In what follows, downstream monopoly is a sufficient but not necessary condition. All that is required is that the downstream firm earn profits above competitive levels.

The downstream firm will choose a quantity of output and a mixture of inputs, taking input prices as given, that maximize downstream profits. The partially integrated upstream firm will set a price for its output that maximizes upstream profits plus downstream profits discounted by the upstream firm's ownership share of the downstream firm. In equilibrium, this price will exceed marginal cost in proportion to one minus the ownership share.[44] If the ownership share is less than one — that is, if ownership is partial — foreclosure results.

The intuition behind this result is that the upstream firm raises its price to extract monopoly rents earned downstream.[45] The downstream firm's costs are higher, its choice of inputs is distorted, and its output is reduced. However, because the upstream firm's ownership of the downstream firm is incomplete, the upstream firm does not incur the full cost of the inefficiency. More to the point, the firm does not incur enough of the cost to make the strategy unprofitable. In contrast, if ownership is complete, the price of the upstream firm's output (which is the downstream firm's input) will equal its marginal cost.[46] In that case, the usual criticism of the foreclosure theory applies: it is not profitable for the upstream firm to force sales on the downstream firm.

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[41] Jonathan B. Baker, *Taking the Error out of "Error Cost" Analysis: What's Wrong with Antitrust's Right*, 80 ANTITRUST L.J. 1, 15–17 (2015); Einer Elhauge, *Tying, Bundled Discounts, and the Death of the Single Monopoly Profit Theory*, 123 HARV. L. REV. 397, 400–01 (2009). Some have called the conditions "extreme." Baker, *supra*, at 16; Salop, *supra* note 35, at 1968.

[42] United States v. E.I. du Pont de Nemours & Co., 353 U.S. 586, 588 (1957).

[43] *Id.* at 595 n.16.

[44] For a mathematical proof of this result, see Roger D. Blair, James M. Fesmire & Richard E. Romano, *A Note on Vertical Market Foreclosure*, 5 REV. INDUS. ORG. 31, 34–35 (1990). Using the notation from Blair, Fesmire & Romano, *id.*, the difference between the final input price and marginal cost equals $-(1-\theta)z/z'$, where θ is the downstream ownership share, z is derived demand for the upstream firm's output, and z' is its derivative.

[45] This is known as "tunneling." *See generally* Simon Johnson, Rafael La Porta, Florencio Lopez-de-Silanes & Andrei Schleifer, *Tunneling*, 90 AM. ECON. ASS'N PAPERS & PROC. 22 (2000).

[46] *See* Blair, Fesmire & Romano, *supra* note 44, at 35.

In this scenario, the incentive for vertical market foreclosure decreases as the upstream firm's ownership share of the downstream firm increases. As long as the ownership share is sufficient to force sales, the smaller the share, the better (from the upstream firm's point of view). In a more complicated scenario involving two downstream firms and an *ex ante* decision whether to acquire a stake in an upstream firm (backward integration) or a decision by an upstream firm whether to acquire a stake in one of the downstream firms (forward integration), the same basic result holds: foreclosure is more likely under conditions of partial ownership.[47] In particular, relative to full integration, partial backward integration facilitates input foreclosure,[48] and partial forward integration facilitates customer foreclosure.[49] The reason is that other shareholders of the foreclosing firm effectively subsidize such foreclosure.[50] Under partial backward integration, those shareholders absorb a fraction of the upstream loss from input foreclosure,[51] and under partial forward integration, they absorb a fraction of the downstream loss from customer foreclosure.[52] Again, the implication is that the likelihood of foreclosure is increasing in the fraction of passive shareholders.[53]

Consider the following extension. Suppose, again, that a downstream monopolist purchases inputs in competitive markets. Further suppose that a controlling shareholder or group of shareholders in an upstream supplier owns a fraction of the downstream firm sufficient to force sales. Neither of these shareholdings need to constitute majority stakes.[54] Then, the upstream firm will set a price for its output that maximizes the sum of upstream and downstream profits each discounted by the shareholder's ownership stakes. The resulting difference between the price and marginal cost is a function of the difference between the shareholder's ownership stakes in the upstream and downstream firms.[55] If the

[47] *See* Nadav Levy, Yossi Spiegel & David Gilo, *Partial Vertical Integration, Ownership Structure, and Foreclosure*, 10 AM. ECON. J.: MICROECONOMICS 132 (2018).

[48] *Id.* at 141–48.

[49] *Id.* at 159–61.

[50] *Id.* at 134.

[51] *Id.* at 144.

[52] *Id.* at 161.

[53] *Id.* at 134. Because the incentive to foreclose depends on the ownership share of passive investors, corporate governance affects the probability of foreclosure. For example, greater protection of passive investors lowers the probability of foreclosure. *Id.*

[54] Because noncontrolling shareholders often do not vote, stakes below fifty percent can be sufficient to ensure effective control.

[55] In particular, and again using the notation from Blair, Fesmire & Romano, *supra* note 44, the difference between price and marginal cost equals $-(\mu-\theta)z/\mu z'$, where μ is the upstream ownership share, θ is the downstream ownership share, z is derived demand for the upstream firm's output, and z' is its derivative.

upstream stakes are greater than the downstream stakes, foreclosure results.[56]

Note that control may not be required for foreclosure. To the extent that corporate managers maximize their expected vote shares, election odds, or compensation, they may respond to the overall profit incentives of shareholders.[57] In that case, the motive to foreclose will depend on the extent of common shareholdings in vertically related firms and their rivals.

The foregoing illuminates two important points about vertical shareholding. First, foreclosure is more likely under conditions of partial ownership. That is, in this context, partial vertical integration raises greater anticompetitive concerns than full vertical integration. Thus, vertical shareholding might be viewed with at least as much suspicion as vertical merger. Second, the incentive to foreclose depends on the nature and degree of vertical shareholding.[58] For example, in the scenario above, customer foreclosure due to partial forward integration was decreasing in the downstream ownership share, increasing in the upstream ownership share, and profitable only when the latter exceeded the former. Therefore, any antitrust enforcement against vertical shareholding must be case specific, taking into account the particular incentives of shareholders and directors.

B. Competitive Benefits

Although vertical shareholding may raise anticompetitive concerns, it may also bring about competitive benefits. These benefits can be grouped into two categories: benefits owing to shareholding in general and benefits owing to vertical shareholding in particular. However, neither set of benefits is threatened by a prohibition on anticompetitive vertical shareholding. In addition, an examination of the benefits particular to vertical shareholding reveals an asymmetry between vertical shareholding and vertical merger: due to partial ownership, vertical shareholding may be more likely than vertical merger to have anticompetitive effects yet less likely to have competitive benefits.

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[56] In fact, it can be shown that while this difference is decreasing in the downstream ownership share, θ, it is increasing in the upstream ownership share, μ. This makes intuitive sense, given that the vertical shareholder wants to minimize the downstream loss incurred, yet maximize the monopoly profits tunneled. The former is increasing in the downstream ownership share, and the latter is increasing in the upstream ownership share.

[57] *Cf.* Elhauge, Causal Mechanisms, *supra* note 12, at 7–13 (first citing José Azar, Portfolio Diversification, Market Power, and the Theory of the Firm (Aug. 23, 2017) (unpublished manuscript), https://ssrn.com/abstract=2811221 [https://perma.cc/NDZ9-5H77]; and then citing Miguel Antón, Florian Ederer, Mireia Giné & Martin Schmalz, *Common Ownership, Competition, and Top Management Incentives* (European Corp. Governance Inst., Finance Working Paper No. 511/2017, 2018), https://ssrn.com/abstract=2802332 [https://perma.cc/VF5H-7HNK]).

[58] *See generally* Levy, Spiegel & Gilo, *supra* note 47. For example, input foreclosure due to partial backward integration is more likely when initial ownership of the upstream firm is more diluted. *Id.* at 146.

First, shareholding, in general, provides investment capital to businesses.[59] Therefore, rules limiting vertical shareholding may deprive businesses of capital to develop new products or production methods, raising costs to consumers and harming innovation. In addition, vertical shareholding may provide diversification benefits to shareholders, more so than horizontal shareholding, as vertical shareholding tends to involve diversification *across* rather than *within* markets.[60] Diversification (and economies of scale, in the case of large institutional investors) makes saving and investment less costly to individuals, which raises investment and lowers the cost of capital for businesses. And, finally, shareholding by large institutional investors can have desirable effects on corporate governance.[61]

Second, vertical shareholding, in particular, may produce competitive benefits similar to the benefits of vertical mergers or vertical restraints of trade. These benefits include a reduction in input price and supply uncertainty;[62] the elimination of double monopoly markups;[63] and greater investment incentives due to an internalization of investment spillovers[64] or reduction in risk of hold-up.[65] Such benefits, if realized, may offset any anticompetitive effects of vertical shareholding, thereby lowering prices or raising quality to consumers.

A few caveats are in order. First, the benefits owing to shareholding in general are likely unaffected by a prohibition on anticompetitive vertical shareholding in particular. To begin, vertical shareholding that has actual or likely anticompetitive effects is probably small relative to all shareholding. For example, in the scenario described in section II.A, there had to be profits above competitive levels in at least one market and a particular inequality between upstream and downstream ownership stakes. That scenario is not implausible — indeed, it covers a range of circumstances — but it excludes most businesses and most markets.

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[59] In fact, shareholding across multiple businesses may lead to greater investment than an equivalent dollar amount of shareholding in a single business, to the extent that shareholding across multiple businesses increases liquidity in capital markets. *See* Baker, *supra* note 1, at 230.

[60] *See id.* at 228–29; Fiona Scott Morton & Herbert Hovenkamp, *Horizontal Shareholding and Antitrust Policy*, 127 YALE L.J. 2026, 2039 (2018) (citing Stefano Cavaglia, Christopher Brightman & Michael Aked, *The Increasing Importance of Industry Factors*, 56 FIN. ANALYSTS J. 41, 49 (2000)).

[61] *See, e.g.*, Lucian A. Bebchuk & Scott Hirst, *Index Funds and the Future of Corporate Governance: Theory, Evidence, and Policy*, 119 COLUM. L. REV. (forthcoming Dec. 2019).

[62] *See* Tampa Elec. Co. v. Nashville Coal Co., 365 U.S. 320, 334–35 (1961).

[63] *See* State Oil Co. v. Khan, 522 U.S. 3, 15–16, 18 (1997); Joseph J. Spengler, *Vertical Integration and Antitrust Policy*, 58 J. POL. ECON. 347 (1950). A double monopoly markup, also known as double marginalization, occurs when two firms sell vertically related or complementary goods at prices above marginal cost. Integration may cause lower prices by eliminating double marginalization. *Id.*

[64] *See* Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877, 890–91 (2007).

[65] *See Tampa Elec.*, 365 U.S. at 334–35.

Thus, a prohibition on anticompetitive vertical shareholding may require a (limited) reshuffling of investments, with nonzero cost. But, with efficient capital markets, businesses are not likely to lose access to investment capital, at least not for long.

Moreover, diversification benefits (and economies of scale, in the case of large institutional investors) are possible without anticompetitive vertical shareholding. After all, individual savers can always diversify across institutional investors,[66] or across funds within the same fund family, if fund managers vote separately.[67] Or, at least, those diversification methods constitute less restrictive alternatives to anticompetitive vertical shareholding.[68] And, if institutional investors have desirable effects on corporate governance, such effects may be greater if a prohibition on vertical (or horizontal) shareholding leads institutional investors to make more concentrated investments.[69]

Finally, the potential benefits owing to vertical shareholding in particular are less likely to result from vertical shareholding than from vertical merger.[70] For instance, vertical shareholding seems unlikely to eliminate double monopoly markups. Alignment of investment incentives is more likely, but such alignment is increasing in the degree of vertical integration. In contrast, the likelihood of foreclosure due to vertical shareholding is increasing in the *difference* between upstream and downstream ownership shares, as shown in section II.A. This produces an asymmetry between vertical shareholding and vertical merger: Due to partial ownership, vertical shareholding may be more likely than vertical merger to have anticompetitive effects. For the same reason, vertical shareholding may be less likely than vertical merger to have competitive benefits.

C. Interaction with Horizontal Shareholding

Keeping in mind the anticompetitive concerns and competitive benefits of vertical shareholding, what about the interaction between vertical shareholding and horizontal shareholding? Some have suggested that vertical shareholding is an antidote to horizontal shareholding, as the anticompetitive harm from horizontal shareholding is borne entirely by customers and suppliers owned by vertical shareholders. But this is incorrect. (Or, at least, it is oversimplified.) The reverse is also

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66 Eric A. Posner, Fiona M. Scott Morton & E. Glen Weyl, *A Proposal to Limit the Anticompetitive Power of Institutional Investors*, 81 ANTITRUST L.J. 669, 711 (2017).

67 Elhauge, Causal Mechanisms, *supra* note 12, at 58.

68 Elhauge, How Horizontal Shareholding Harms, *supra* note 12, at 55.

69 Elhauge, Causal Mechanisms, *supra* note 12, at 58.

70 *Cf.* Elhauge, *supra* note 1, at 1303 (arguing that horizontal shareholding is less likely than horizontal merger to create integrative efficiencies); Scott Morton & Hovenkamp, *supra* note 60, at 2038 (same).

incorrect. Horizontal shareholding does not cure anticompetitive vertical shareholding.

In response to new evidence of the anticompetitive effects of horizontal shareholding, a few scholars have claimed that the incentives of horizontal shareholders are offset by their vertical shareholdings, that is, their investments in customers and suppliers.[71] After all, why would a horizontal shareholder want to raise prices to a customer it also owns? For example, in Figure 1, Investor 3 is a shareholder of *A*, *B*, and *C*. If *A* and *B* charge higher prices, *C* pays. And, by extension, Investor 3 pays, too.

This argument founders, for two reasons. First, if ownership shares vary across market levels, anticompetitive incentives remain. This is a corollary to the argument made in section II.A about partial ownership and vertical market foreclosure. To be sure, such incentives may be reduced, depending on the extent of vertical shareholding. But common shareholding is unlikely to be equal across markets, including for index funds.[72] This is especially true given that many customers and suppliers are unincorporated firms or individual consumers or workers.[73] Second, vertical shareholding may, in fact, worsen the effects of horizontal shareholding, to the extent that investors are horizontal shareholders in vertically related markets, causing double monopoly markups.[74]

What about the reverse? Does horizontal shareholding offset anticompetitive vertical shareholding? In general, no. But the strength of this conclusion depends on the specific anticompetitive harm, if there is one. Suppose, for example, that vertical shareholding results in customer foreclosure, and that the only harms are inefficient input combinations downstream and upstream pricing above marginal cost to extract monopoly rents earned downstream.[75] In that case, the anticompetitive harm from vertical shareholding is completely unaffected by horizontal shareholding.[76] If instead the main harm is impaired rival competitiveness, horizontal shareholding may lessen the anticompetitive incentives of vertical shareholding. However, once again, this requires a particular relationship between horizontal and vertical shareholding. If a vertical shareholder is less invested in upstream or downstream rivals, or if foreclosed parties are mainly unincorporated or individual customers or suppliers, foreclosure may still be in vertical shareholders' best interests. (And, of course, the horizontal shareholding may have

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[71] *See* Hemphill & Kahan, *supra* note 1 (manuscript at 49–50); Rock & Rubinfeld, *supra* note 11, at 236; Lambert & Sykuta, *supra* note 10, at 20.

[72] Elhauge, Causal Mechanisms, *supra* note 12, at 36–37.

[73] *Id.*

[74] *Id.* at 37.

[75] *See supra* notes 44–46 and accompanying text.

[76] In fact, holding downstream shareholding constant, if foreclosure is profitable, downstream horizontal shareholders may be better off, as downstream rivals now have less efficient competition.

anticompetitive effects.) Thus, horizontal shareholding should not be seen as a cure for anticompetitive vertical shareholding.

III. ANTITRUST LIABILITY FOR VERTICAL SHAREHOLDING

Vertical shareholding that has actual or likely anticompetitive effects is illegal under section 7 of the Clayton Act. Section 7 bans stock acquisitions that may substantially lessen competition, and it follows from the text and structure of section 7, as well as the Supreme Court's decision in *United States v. E.I. du Pont de Nemours & Co.*, that this prohibition extends to vertical shareholding. The Clayton Act's "solely for investment" exception[77] does not apply to most vertical shareholding. And, even when the exception does apply, it merely changes the standard of proof to require actual anticompetitive effects.[78] Consistent with the law on mergers,[79] vertical shareholding should be held illegal if it has actual or likely anticompetitive effects at the time of trial, even if those effects were not present at the time of initial acquisition.

Section 7 of the Clayton Act bans stock acquisitions that may substantially lessen competition. The statute provides:

> No person shall acquire, directly or indirectly, the whole or any part of the stock or other share capital . . . of one or more persons engaged in commerce or in any activity affecting commerce, where in any line of commerce or in any activity affecting commerce in any section of the country, the effect of such acquisition, of such stocks or assets, or of the use of such stock by the voting or granting of proxies or otherwise, may be substantially to lessen competition . . . .[80]

A straightforward reading of this statutory text is that vertical shareholding — the acquisition of stock in vertically related companies — is illegal under section 7 when it has anticompetitive effects.

Although section 7 of the Clayton Act is more commonly applied to mergers that create anticompetitive structures,[81] the Supreme Court, in *du Pont*, interpreted the provision to apply to minority stock acquisitions.[82] The Court held illegal du Pont's minority stock interest in General Motors, a buyer of du Pont's finishes and fabrics.[83] At the

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[77] 15 U.S.C. § 18 (2012).

[78] *See* Elhauge, *supra* note 1, at 1307–08.

[79] *See* 5 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 1204e (4th ed. 2016).

[80] 15 U.S.C. § 18.

[81] Elhauge, *supra* note 1, at 1302 (citing EINER R. ELHAUGE, UNITED STATES ANTITRUST LAW AND ECONOMICS 585–90 (2d ed. 2011)).

[82] United States v. E.I. du Pont de Nemours & Co., 353 U.S. 586, 589 (1957) ("Section 7 is designed . . . to arrest in their incipiency restraints or monopolies . . . which, as a reasonable probability, appear at the time of suit likely to result from the acquisition by one corporation of all *or any part* of the stock of any other corporation." (emphasis added)).

[83] *Id.* at 606–07.

time of decision, du Pont's stake in General Motors was just twenty-three percent.[84] However, there was a concern du Pont used its stock ownership to pressure General Motors into buying its products.[85] Writing for the Court, Justice Brennan explained that "[t]he statutory policy of fostering free competition is obviously furthered when no supplier has an advantage over his competitors from an acquisition of his customer's stock likely to have the effects condemned by [section 7]."[86]

Any attempt to extend *du Pont* to create antitrust liability in the context of vertical shareholding will face the problem of how broadly to construe the decision. The case dealt with vertical cross-shareholding,[87] not vertical shareholding, as du Pont owned minority stakes in its customer, General Motors. But the opinion suggests that the Clayton Act's ban on anticompetitive stock acquisitions should apply to vertical shareholding. First, the Court held that section 7 applies to vertical as well as horizontal acquisitions.[88] Second, the Court recognized that the second paragraph of section 7, although not at issue in the case, "deal[s] with a holding company's acquisition of stock in two or more corporations."[89] Therefore, at a minimum, section 7 is not limited to cross-shareholding. Institutional investors may not be "holding companies" per se, but in some circumstances their ownership of multiple corporations may have the same effect, namely, "to substantially lessen competition."[90]

Beyond *du Pont*'s interpretation of section 7 of the Clayton Act, the structure of section 7 implies that the ban on anticompetitive stock acquisitions includes acquisitions by investors other than cross-shareholders. The first paragraph of section 7 bans anticompetitive stock acquisitions by any "person engaged in commerce . . . of another person engaged also in commerce."[91] The second paragraph bans such acquisitions by any "person . . . of one or more persons engaged in commerce."[92] This language is broad. And the inclusion of the second paragraph must mean that it covers stock acquisitions by persons other than those "engaged in commerce."[93] Otherwise, the second paragraph

[84] *Id.* at 607 n.36.
[85] *Id.* at 588–89, 601–06.
[86] *Id.* at 607.
[87] *See supra* pp. 668–69.
[88] *Du Pont*, 353 U.S. at 592 ("We hold that any acquisition by one corporation of all or any part of the stock of another corporation, competitor or not, is within the reach of the section whenever the reasonable likelihood appears that the acquisition will result in a restraint of commerce or in the creation of a monopoly of any line of commerce.").
[89] *Id.* at 591.
[90] 15 U.S.C. § 18 (2012).
[91] *Id.*
[92] *Id.*
[93] Of course, most institutional investors are "engaged in commerce." However, one could imagine vertical shareholding by noncommercial investors.

would be superfluous.[94] This, together with *du Pont*'s holding that section 7 covers vertical as well as horizontal acquisitions, means the statute must apply to vertical shareholding.

The Clayton Act's "solely for investment"[95] exception is no bar to enforcement against anticompetitive vertical shareholding. Section 7 provides that the ban on stock acquisitions does "not apply to persons purchasing such stock solely for investment and not using the same by voting or otherwise to bring about, or in attempting to bring about, the substantial lessening of competition."[96] Some have claimed that the clause exempts shareholding by institutional investors.[97] But that claim is hard to square with the statutory text and existing Supreme Court precedent. First, although many institutional investors pursue a "passive" investment strategy, they are not "passive" owners who do not vote their shares.[98] Second, as made clear in *du Pont*, but contrary to the assertions of some scholars,[99] lack of control does not trigger the exception.[100] Or, at a minimum, lack of control does not preclude a section 7 violation.[101] Rather, "[t]he key inquiry is the effect on competition, regardless of the cause."[102] Third, the "solely for investment" exception merely changes the standard of proof from "a reasonable probability" of reducing competition to actually reducing competition or trying to do so.[103] So, even when the so-called "exception" applies, vertical shareholding that has anticompetitive effects is illegal under section 7.

Finally, there is the issue of timing. Vertical shareholding should be held illegal if it has actual or likely anticompetitive effects at the time of trial, consistent with general merger law.[104] (Again, actual effects being required only when investors do not vote their shares or otherwise use their stock to lessen competition.) This is true regardless of whether current anticompetitive effects resulted from later-in-time stock acquisitions, including by other parties.[105] The Supreme Court in *United*

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[94] *Cf.* Elhauge, How Horizontal Shareholding Harms, *supra* note 12, at 43–44 (arguing the same with respect to horizontal shareholding).

[95] 15 U.S.C. § 18.

[96] *Id.*

[97] *See, e.g.*, Ginsburg & Klovers, *supra* note 11; Rock & Rubinfeld, *supra* note 11, at 251–62.

[98] Elhauge, *supra* note 1, at 1306–07.

[99] *See* Rock & Rubinfeld, *supra* note 11, at 262.

[100] *See* United States v. E.I. du Pont de Nemours & Co., 353 U.S. 586, 597–606 (1957); Elhauge, *supra* note 1, at 1305–06.

[101] United States v. Dairy Farmers of Am., Inc., 426 F.3d 850, 860 n.3 (6th Cir. 2005); Elhauge, How Horizontal Shareholding Harms, *supra* note 12, at 41.

[102] *Dairy Farmers*, 426 F.3d at 860.

[103] United States v. Tracinda Inv. Corp., 477 F. Supp. 1093, 1098 (C.D. Cal. 1979) (quoting Anaconda Co. v. Crane Co., 411 F. Supp. 1210, 1219 (S.D.N.Y. 1975)); *see also* Elhauge, *supra* note 1, at 1307–08.

[104] *See* 5 AREEDA & HOVENKAMP, *supra* note 79, ¶ 1204e.

[105] *Cf.* Scott Morton & Hovenkamp, *supra* note 60, at 2037, 2045–47; Elhauge, How Horizontal Shareholding Harms, *supra* note 12, at 38–40.

States v. ITT Continental Baking Co.[106] explained: "[T]here can be a [section 7] violation at some time later even if there was clearly no violation . . . at the time of the initial acts of acquisition. . . . '[A]cquisition' under § 7 is not a discrete transaction but a status which continues until the transaction is undone."[107] For example, in *du Pont*, the Court held illegal a minority stock acquisition forty years after initial purchase.[108]

Because vertical shareholding has potential benefits,[109] and because certain conditions must be met for vertical shareholding to have actual or likely anticompetitive effects,[110] antitrust enforcement against vertical shareholding should be case specific, taking into account the particular incentives of shareholders and corporate directors. Furthermore, enforcement must be limited to vertical shareholding that has actual or likely anticompetitive effects. An unexplored possibility is that anticompetitive vertical shareholding is illegal under section 1 of the Sherman Act,[111] which bans "[e]very contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade . . . ."[112] If a case were brought under section 1, the rule of reason, rather than a per se rule, should apply, as vertical shareholding has plausible competitive benefits.[113] In that case, a showing of actual net anticompetitive effects would be required.[114] Section 7 of the Clayton Act, which bans any stock acquisition the effect of which "may be substantially to lessen competition,"[115] requires a lesser showing.

CONCLUSION

Common investor ownership is an important antitrust challenge of our time. Horizontal shareholding has received significant attention, but vertical shareholding has been mostly overlooked. Skepticism toward vertical merger enforcement may lead some to ignore vertical shareholding. But, due to partial ownership, vertical shareholding may be more likely than vertical merger to have anticompetitive effects. For the same reason, vertical shareholding may be less likely than vertical merger to have competitive benefits. Vertical shareholding that has actual or likely anticompetitive effects is already illegal under existing antitrust law. However, whether vertical shareholding has such effects

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[106] 420 U.S. 223 (1975).

[107] *Id.* at 242.

[108] *See* United States v. E.I. du Pont de Nemours & Co., 353 U.S. 586, 596–99 (1957).

[109] *See supra* pp. 674–75.

[110] *See supra* pp. 671–73.

[111] 15 U.S.C. § 1 (2012).

[112] *Id.*; *cf.* Elhauge, How Horizontal Shareholding Harms, *supra* note 12, at 52–56 (arguing that horizontal shareholding violates section 1 of the Sherman Act when it is shown to have anticompetitive effects that outweigh any procompetitive benefits in the same market).

[113] *See, e.g.*, Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877, 881–82 (2007).

[114] *Cf.* Elhauge, How Horizontal Shareholding Harms, *supra* note 12, at 55.

[115] 15 U.S.C. § 18.

depends on the nature and degree of such shareholding, such that any antitrust enforcement against vertical shareholding must be case specific, taking into account the particular incentives of shareholders and directors.