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Vertical Mergers and Entrepreneurial Exit

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VERTICAL MERGERS AND ENTREPRENEURIAL EXIT

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Abstract

The idea that tech companies should be permitted to acquire nascent start-ups is under attack from antitrust populists. Yet, this debate on vertical mergers has overlooked important empirical contributions regarding innovation-related mergers in the strategy literature. This Article explores the extant empirical strategy literature, which generally identifies a procompetitive basis that supports vertical mergers as efficiency enhancing. This literature solidifies the current general vertical merger presumption that favors a procompetitive vertical merger policy for purposes of government merger enforcement. However, the procompetitive benefit for a presumption of merger approval for most vertical mergers does not end with the synthesis of an under-explored literature. Rather, the broader implications of vertical mergers and presumptions of legality have another overlooked implication—a change of policy may dampen entrepreneurial investment and innovation. Entrepreneurial exit is critical to a well-functioning entrepreneurial ecosystem, as the possibility of entrepreneurial exit via vertical merger is now the most usual form of liquidity event/exit for founders and venture capitalists. Vertical merger policy that would unduly restrict large tech firms from undertaking acquisitions in industries as diverse as finance, pharmaceuticals, medical devices, technology hardware, and internet platforms would hurt incentives for innovation in the economy by chilling business formation in start-ups. Increased difficulty in the exit for founders and venture capitalists makes investment in such ventures less likely, since the purpose of such investment is to reap the rewards of scaling a venture to exit. Thus, a general inference that makes vertical acquisitions, particularly in tech, more difficult to undertake leads to direct contravention of antitrust's role in promoting competition and innovation. This Article explores how entrepreneurial exit for founders and venture capitalists is best served by promoting a robust vertical merger policy, though one that intervenes in cases of specific anticompetitive harm.

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INTRODUCTION

A fundamental business question for growth firms has to do with understanding scale and scope, irrespectively of whether they are achieved through organic growth or acquisition. Antitrust policy in the form of vertical merger policy helps provide parameters for both scale and scope both for incumbent firms and for start-ups that may be acquired by incumbent firms. However, antitrust's understanding of vertical merger policy has been limited by only focusing in the antitrust law and economics silo. A broader understanding of entrepreneurship policy, firm market and non-market strategies better informs antitrust to provide for a closer to optimal policy framework, particularly in the current politically turbulent populist infused environment.

I. POLICY OVERVIEW

Antitrust populism is on the rise.[1] This populism has taken on a "big is bad" emphasis, particularly against tech companies. Under such an

1. *See, e.g.*, Daniel A. Crane, *Antitrust's Unconventional Politics*, 104 VA L. REV. ONLINE 118, 118 (2018) (detailing recent shifts on left and right towards populism); Thomas J. Horton, *Restoring American Antitrust's Moral Arc*, 62 S.D. L. REV. 11, 47–48 (2017) ("We can start to reincorporate morality and ethics into antitrust by ending the use of normative neoclassical economic clichés that are inconsistent with our evolutionary history and heritage."); Marina Lao, *Ideology Matters in the Antitrust Debate*, 79 ANTITRUST L.J. 649, 685 (2014) ("What is needed is an honest conversation on what values should matter and why they should matter in [antitrust] enforcement, and whose interests are important and how those interests should be reconciled if they conflict.").

approach, large firms are to be feared[2] and vertical mergers by such firms (acquisitions of smaller tech companies) are to be treated with particular suspicion, both in the United States and Europe.[3] In the United States, even the traditionally mainstream press, with its own business model threatened, has at times shown bias against vertical mergers[4] and has even asked for antitrust immunity in its own vertical relations with online platforms.[5] This backlash against tech—and the use of antitrust as a tool against large tech companies—has attracted support from left and right wing populist forces.[6]

The changing political landscape, with a populist backlash against an antitrust policy consensus of the past generation,[7] threatens to bring non-

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2. FRANKLIN FOER, WORLD WITHOUT MIND: THE EXISTENTIAL THREAT OF BIG TECH (2017) 11–12, 29–31; SCOTT GALLOWAY, THE FOUR: THE HIDDEN DNA OF AMAZON, APPLE, FACEBOOK, AND GOOGLE 2, 8–9 (2017); Greg Ip, *The Antitrust Case Against Facebook, Google and Amazon: A Few Technology Giants Dominate Their Worlds Just as Standard Oil and AT&T Once Did. Should They be Broken Up?*, WALL STREET J. (Jan. 16, 2018, 11:52 A.M.), https://www.wsj.com/articles/the-antitrust-case-against-facebook-google-amazon-and-apple-1516121561 [https://perma.cc/67TM-LXB6].

3. Peter A. Angelov et al., *Competitive Effects of Merger Remedies in Europe's High-Tech Industry*, 1, 3, 23–24 (Utrecht Sch. of Econ., Working Paper No. 12–16, 2012), https://ideas.repec.org/p/use/tkiwps/1216.html [http://perma.cc/VT3L-PYT3]; Caroline Holland, *Taking on Big Tech Through Merger Enforcement*, MEDIUM (Jan. 26, 2018), https://medium.com/read-write-participate/taking-on-big-tech-through-merger-enforcement-f15b7973e37 [http://perma.cc/F569-XFT4]; U.S. House Democrats, *A Better Deal: Cracking Down on Corporate Monopolies & the Abuse of Economic and Political Power*, BETTER DEAL, https://abetterdeal.democraticleader.gov/the-proposals/crack-down-on-abuse-of-power/ [http://perma.cc/ZQU6-MZMR].

4. Schumpeter, *America's Antitrust Apparatus Prepares to Act Against Big Tech*, ECONOMIST (Apr. 26, 2018), https://www.economist.com/news/business/21741173-university-chicago-conclave-experts-debates-how-far-go-americas-antitrust-apparatus [http://perma.cc/M5E2-QU3C].

5. Journalism Competition and Preservation Act, H.R. 5190, 115th Cong. (2018), https://www.govtrack.us/congress/bills/115/hr5190 [http://perma.cc/AX6V-MYGH].

6. Crane, *supra* note 1.

7. *See, e.g.*, Roger D. Blair & D. Daniel Sokol, *Welfare Standards in U.S. and E.U. Antitrust Enforcement*, 81 FORDHAM L. REV. 2497, 2506–07 (2013); Herbert Hovenkamp, *The Harvard and Chicago Schools and the Dominant Firm*, *in* HOW THE CHICAGO SCHOOL OVERSHOT THE MARK: THE EFFECT OF CONSERVATIVE ECONOMIC ANALYSIS ON U.S. ANTITRUST 109, 111–10 (Robert Pitofsky ed., 2008); William E. Kovacic, *The Intellectual DNA of Modern U.S. Competition Law for Dominant Firm Conduct: The Chicago/Harvard Double Helix*, 2007 COLUM. BUS. L. REV. 1, 2–6 (analyzing the fusion of Chicago and Harvard traditions); William E. Kovacic & Carl Shapiro, *Antitrust Policy: A Century of Economic and Legal Thinking*, 14 J. ECON. PERSP. 43, 58 (2000) ("Today, the links between economics and law have been institutionalized with increasing presence of an economic perspective in law schools, extensive and explicit judicial reliance on economic theory, and with substantial presence of economists in the government antitrust agencies."); Andrew Finch, Acting Assistant Attorney Gen., Remarks at Global Antitrust Enforcement Symposium (Sept. 12, 2017), https://www.justice.gov/opa/speech/acting-assistant-attorney-general-andrew-finch-delivers-remarks-global-antitrust

economic aspects into antitrust law and policy.[8] Even if there is not a fundamental change to antitrust law as a result of these pressures, policy may reflect changing political winds on the margins in both the agencies and the courts.[9] The problem with changes to vertical merger law[10] and policy[11] is that because many deals are approved without much of a record (and even consents do not often offer much guidance beyond a short press release), there is often not good, publicly available data—or natural experiments to undertake—to guide policy. Thus, evidence on which to base policy is more limited in the area of vertical mergers than in other areas of antitrust, including horizontal mergers.

Optimal policy requires a set of rules that courts and agencies can use to evaluate a merger to the extent that the antitrust agencies go to court to block a vertical deal, to threaten to block such a deal, to allow a deal with a consent, or to allow a deal without any conditions. This is why vertical merger policy is a question of inference.[12] That is, by inference, as a matter of optimal policy, should we believe that vertical mergers are more (or less) likely to lead to potential anticompetitive effects? Next, how do we create a set of legal rules that support this inference? For policy, the question should be what sort of inference should we use—one that presumptively favors or disfavors vertical mergers? The inference helps

[https://perma.cc/4MAD-3DFA] ("Economics has played, and will continue to play, a fundamental role in antitrust enforcement.").

8. D. Daniel Sokol, *Troubled Waters Between U.S. and European Antitrust*, 115 MICH. L. REV. 955, 957–58 (2017) (discussing that antitrust is based on economic effects rather than the protection of inefficient competitors and industrial policy). Calls to reinvigorate antitrust based on cases from the nadir of antitrust in the 1950s and 1960s that were based on non-economic goals hurt consumers. *See, e.g.*, George L. Priest, *Bork's Strategy and the Influence of the Chicago School on Modern Antitrust Law*, 57 J.L. ECON. 1, 3–4 (2014) (describing the cases and critiques therein).

9. For some recent examples of pushing antitrust to a more expansionist economics-based stance based on existing case law, see generally Herbert Hovenkamp & Carl Shapiro, *Horizontal Mergers, Market Structure, and Burdens of Proof*, 127 YALE L.J. 1996 (2018) and C. Scott Hemphill & Nancy L. Rose, *Mergers That Harm Sellers*, 127 YALE L.J. 2078 (2018).

10. IVA PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION ¶ 1000a, at 137 (3d ed. 2009) (describing a "vertical merger" as a merger "between a firm selling a particular product or service and a firm that buys that product or service").

11. *See generally* Michael Salinger, *Vertical Mergers*, *in* 1 THE OXFORD HANDBOOK OF INTERNATIONAL ANTITRUST ECONOMICS 551 (Roger D. Blair & D. Daniel Sokol eds., 2015) (providing a literature review).

12. *See generally* James C. Cooper et al., *Vertical Antitrust Policy as a Problem of Inference*, 23 INT'L J. INDUS. ORG. 639 (2005) (discussing the factors considered in determining vertical merger policy).

to set a general policy framework that can be adapted on a case-by-case basis.[13]

Based on a synthesis of the empirical scholarship and the broader concerns of creating regulatory/antitrust barriers to exit by founders and venture capitalists, an inference of a more lenient vertical merger policy relative to that of horizontal mergers should be favored. To be sure, there will be some vertical mergers that are potentially anticompetitive,[14] including those in the area of technology. However, this Article advocates that the best way to address such mergers is on a case-by-case basis that is fact-specific, consistent with current law and policy.[15] Courts and antitrust agencies are better off creating more explicit guidance to signal the factors for those vertical mergers that are higher risk than creating a system that would de facto overwhelm antitrust agencies' resources with challenges that discourage innovation and reduce consumer welfare.[16]

The current set of policy presumptions on vertical mergers, for both opponents and proponents of the current system, is often based on the

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13. Section seven of the Clayton Act contains an incipiency standard requiring prediction of events that (in general) have yet to occur. *See* 15 U.S.C. § 18 (2012). Incipiency has not been used vigorously. *But see* Peter C. Carstensen & Robert H. Lande, *The Merger Incipiency Doctrine and the Importance of 'Redundant' Competitors*, 2018 WISC. L. REV. (forthcoming) (manuscript at 4), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3134480 (arguing for a revitalized incipiency standard).

14. *See, e.g.*, William P. Rogerson, *Economic Theories of Harm Raised by the Proposed* Comcast/TWC *Transaction (2015)*, *in* THE ANTITRUST REVOLUTION: ECONOMICS, COMPETITION, AND POLICY (John E. Kwoka, Jr. and Lawrence J. White eds., 7th ed. 2018). For a review of successful vertical merger consents see FED. TRADE COMM'N, THE FTC'S MERGER REMEDIES 2006-2012: A REPORT OF THE BUREAUS OF COMPETITION AND ECONOMICS 7 (2017), https://www.ftc.gov/reports/ftcs-merger-remedies-2006-2012-report-bureaus-competition-economics [https://perma.cc/K9LR-9GNP].

15. United States v. AT&T Inc., 310 F. Supp. 3d 161, 194 (D.D.C. 2018) ("To sum up, the Court accepts that vertical mergers 'are not invariably innocuous,' but instead can generate competitive harm '[i]n certain circumstances.' The case at hand therefore turns on whether, notwithstanding the proposed merger's conceded procompetitive effects, the Government has met its burden of proof of establishing, through 'case-specific evidence,' that the merger of AT&T and Time Warner, at this time and in this remarkably dynamic industry, is likely to substantially lessen competition in the manner it predicts." (citations omitted) (alteration in original)); AREEDA & HOVENKAMP, *supra* note 10 ("[T]he basic economic reason for limiting horizontal mergers is well-founded and rather generally accepted: horizontal mergers increase market concentration, and high market concentration can substantially lessen competition among rivals, particularly with respect to price. Unfortunately, there is no comparable theoretical basis for dealing with vertical mergers.").

16. Support for a merger presumption that favors clearing vertical mergers that does not cause specific cases of foreclosure holds across scholarship both in the United States and Europe. *See, e.g.*, MASSIMO MOTTA, COMPETITION POLICY: THEORY AND PRACTICE 378 (2004); Michael H. Riordan & Steven C. Salop, *Evaluating Vertical Mergers: A Post-Chicago Approach*, 63 ANTITRUST L.J. 513, 517 (1995); Steven C. Salop, *Invigorating Vertical Merger Enforcement*, 127 YALE L.J. 1962, 1963–64 (2018).

same handful of empirical industrial organization studies.[17] Yet, the debate has overlooked important empirical contributions regarding innovation-related mergers in the strategy literature. This strategy literature identifies a procompetitive basis that supports vertical mergers as efficiency enhancing.[18] Such a literature solidifies the current vertical merger presumption that agencies undertake in their analysis, which favors a procompetitive vertical merger policy for purposes of enforcement.[19]

The procompetitive benefit of a presumption of merger approval for vertical mergers does not end with the synthesis of an under-explored literature. Rather, the broader implications of vertical mergers and presumptions of legality have another overlooked implication—a change of policy may dampen entrepreneurial investment and innovation.

Entrepreneurial exit is critical to a well-functioning entrepreneurial ecosystem, as the possibility of entrepreneurial exit via vertical merger is now the most usual form of liquidity event/exit for founders and venture capitalists. Vertical merger policy that would unduly restrict large tech firms from undertaking acquisitions in industries as diverse as finance, pharmaceuticals, medical devices, hardware, and internet platforms would hurt incentives for innovation in the economy by chilling business formation in start-ups. Increased difficulty in the exit for founders and ventures capitalists makes investment in such ventures less likely, since the purpose of such investment is to reap the rewards of scaling a venture to exit.[20] Thus, a general inference that makes vertical acquisitions,

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17. Riordan & Salop, *supra* note 16, at 515 n.15 (providing the traditional papers in favor of an inference, though a number are not vertical merger papers); Salop, *supra* note 16, at 1987 n.103 (offering additional studies although some of the studies listed are not vertical merger papers and other procompetitive studies are missed). *See generally* Salinger, *supra* note 11 (summarizing these studies).

18. *See infra* Part II. There is also smaller finance literature that shows efficiencies in vertical acquisitions. *See, e.g.*, Jan Bena & Kai Li, *Corporate Innovations and Mergers and Acquisitions*, 69 J. FIN. 1923, 1955 (2014); Gerard Hoberg & Gordon Phillips, *Product Market Synergies and Competition in Mergers and Acquisitions: A Text-Based Analysis*, 23 REV. FIN. STUD. 3773, 3808 (2010); Simi Kedia et al., *When Do Vertical Mergers Create Value?*, 40 FIN. MGMT. 845, 872 (2011); Gordon M. Phillips & Alexei Zhdanov, *R&D and the Incentives from Merger and Acquisition Activity*, 26 REV. FIN. STUD. 34, 71–72 (2012); Matthew J. Higgins & Daniel Rodriguez, *The Outsourcing of R&D Through Acquisition in the Pharmaceutical Industry*, 80 J. FIN. ECON. 351 (2006); Laurent Frésard et al., Vertical Acquisitions, Integration and the Boundaries of the Firm 37 (Dec. 20, 2017) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2242425 [https://perma.cc/7Z88-B3WS].

19. In no way does this mean that in particular cases where vertical mergers present competition problems should enforcement be diminished. In such particular cases, intervention is warranted.

20. Harry J. Sapienza et al., *The Self-Determination Motive and Entrepreneurs' Choice of Financing*, *in* COGNITIVE APPROACHES TO ENTREPRENEURSHIP RESEARCH 105, 106 (Jerome A.

particularly in tech, more difficult to approve leads to direct contravention of antitrust's role in promoting competition and innovation.[21] This Article explores how entrepreneurial exit for founders and venture capitalists is best served by promoting a robust vertical merger policy, though one that intervenes in cases of specific anticompetitive harm.

II. ANTITRUST AND VERTICAL MERGERS

This Part provides an overview of vertical merger law and economics. It synthesizes these literatures into a workable set of legal rules.

A. *Vertical Merger Law*

Antitrust law and policy presumes vertical integration via merger to be typically procompetitive.[22] This has been the case for a generation.[23] Typically, there is little cause for antitrust concern when both the upstream and downstream markets are not concentrated.[24] Similarly, when the market is competitive, a vertical merger that leads to foreclosure may not have an anticompetitive effect.[25]

Broadly, vertical mergers can be contrasted with horizontal mergers. In horizontal mergers, antitrust policy has been guided by the horizontal

Katz & Dean A. Shepherd eds., 2003) ("[W]ealth maximization and self-determination are the two primary motives driving entrepreneurial financing choices."); D. Gordon Smith, *The Exit Structure of Venture Capital*, 53 UCLA L. REV. 315, 316 (2005) ("Before venture capitalists invest, they plan for exit. That is, they plan to withdraw their investment, adjusted for any return, from the entrepreneur's company. The ability to control exit is crucial to the venture capitalist's business model of short-term funding of nascent business opportunities.").

21. FED. TRADE COMM'N, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY 1 (2003) ("Innovation benefits consumers through the development of new and improved goods, services, and processes. An economy's capacity for invention and innovation helps drive its economic growth and the degree to which standards of living increase. Technological breakthroughs such as automobiles, airplanes, the personal computer, the Internet, television, telephones, and modern pharmaceuticals illustrate the power of innovation to increase prosperity and improve the quality of our lives." (footnote omitted)).

22. AREEDA & HOVENKAMP, *supra* note 10, ¶ 1000b, at 139.

23. ROBERT H. BORK, THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF 219 (1978). *But see* U.S. DEP'T OF JUSTICE, 1968 MERGER GUIDELINES 9–10 (1968), www.justice.gov/atr/hmerger/11247.pdf [https://perma.cc/C9TS-QU7W] ("[I]ntegration accomplished by a large vertical merger will usually raise entry barriers or disadvantage competitors to an extent not accounted for by, and wholly disproportionate to, such economies as may result from the merger.").

24. *See* AREEDA & HOVENKAMP, *supra* note 10, ¶ 1032a, at 234. Unless "both markets are highly concentrated," "a vertical merger cannot cause significant foreclosure of existing firms." *Id.*

25. *See id.* at 159 ("[F]oreclosure has no anticompetitive effect whatsoever in competitive markets and often little effect in oligopolistic markets.").

merger guidelines[26] and case law[27] that has embraced these guidelines. Unlike the more frequent and up-to-date horizontal merger case law, vertical merger antitrust law lacks both significant case law and up-to-date guidelines.[28] Given significantly outdated vertical merger guidelines,[29] what we understand about antitrust vertical merger practice primarily comes from deals allowed, as well as consents and deals abandoned.[30] In most cases, vertical mergers have been cleared because anticompetitive effects are outweighed by potential efficiencies or because there are no anticompetitive effects.[31]

One complexity that leads to some uncertainty in U.S. vertical merger antitrust law is the paucity of case law. Indeed, the last time that the Supreme Court decided a vertical merger case was in 1972.[32] Privately litigated vertical merger cases that result in a decision are also rare. The last time a Circuit Court decided a private vertical merger case was in 1987.[33] Similarly, the last time a district court decided a private vertical merger case was in 1997.[34]

The recent *United States v. AT&T Inc.*[35] vertical merger case promised the possibility of some additional clarity on vertical merger case law. However, while the decision lays out a number of arguments in favor of and against vertical merger enforcement, the case broke no new legal

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26. U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES 29 (2010), https://www.ftc.gov/sites/default/files/attachments/merger-review/100819hmg.pdf [https://perma.cc/7QV2-D6BF].

27. Hillary Greene & D. Daniel Sokol, *Judicial Treatment of the Antitrust Treatise*, 100 IOWA L. REV. 2039, 2055–57 (2015).

28. It is lamentable that Judge Leon cited to the ossified vertical merger guidelines in his *AT&T* decision.

29. *See generally* U.S. DEP'T OF JUSTICE, 1984 MERGER GUIDELINES (1984), http://www.justice.gov/sites/default/files/atr/legacy/2007/07/11/11249.pdf [https://perma.cc/PMM8-TMEP] (showing that the guidelines for vertical mergers have not been updated since 1984).

30. Steven C. Salop & Daniel P. Culley, *Revising the U.S. Vertical Merger Guidelines: Policy Issues and an Interim Guide for Practitioners*, 4 J. ANTITRUST ENFORCEMENT 1, 4–5 (2016).

31. *See* James A. Keyte & Kenneth B. Schwartz, *Getting Vertical Deals Through the Agencies: "Let's Make a Deal,"* 29 ANTITRUST 10, 11–12 (2015); Riordan & Salop, *supra* note 16, at 519 ("[M]any vertical mergers create vertical integration efficiencies between purchasers and sellers . . . ."); David T. Scheffman & Richard S. Higgins, *Vertical Mergers: Theory and Policy*, 12 GEO. MASON L. REV. 967, 976 (2004); Paul Yde, *Non-Horizontal Merger Challenges: A Solution in Search of a Problem*, 22 ANTITRUST 74, 81 (2007).

32. Ford Motor Co. v. United States, 405 U.S. 562, 562 (1972).

33. Alberta Gas Chems. Ltd. v. E.I. Du Pont de Nemours & Co., 826 F.2d 1235, 1236 (3d Cir. 1987).

34. HTI Health Servs., Inc. v. Quorum Health Grp., Inc., 960 F. Supp. 1104, 1107 (S.D. Miss. 1997).

35. 310 F. Supp. 3d 161 (D.D.C. 2018).

ground and Judge Richard J. Leon went out of his way, multiple times, to note that the decision was based on a highly specific factual setting.[36]

The Department of Justice (DOJ) offered three theories of how the merger between AT&T Inc. and Time Warner Inc. would be anticompetitive.[37] The first alleged that post-merger, Turner (part of Time Warner) would be able to leverage its position in the combined firm (via video distributors, U-verse, and DirecTV) to demand higher prices from its rival multichannel video programming distributors (MVPDs).[38] The basis for this claim was that the combined firm would be able to offset, at least partially, any loss of advertising and fees from potential licensing blackouts by consumers that would switch to DirecTV (already owned by AT&T), which would have Turner content.[39] The court rejected this claim.[40]

The second alleged harm was that the combined company would be able to harm virtual (internet) MVPDs through its ownership of Time Warner content.[41] The DOJ alleged both unilateral effects and coordinated effects theories of harm.[42] The court rejected the DOJ's claims of both unilateral[43] and coordinated effects[44] that would foreclose "must have" Turner content.

The third theory of harm was based on the combined firm withholding HBO promotions, that is, "that the combined entity will have the 'incentive and ability' to prevent rival distributors from using HBO as a promotional tool to attract and retain customers."[45] Under this theory, the court's response was to conclude, "At the risk of stating the obvious, this is a gossamer thin claim."[46] Instead, the court found that the DOJ failed to provide an explanation as to why the merged firm would have any

36. *Id.* at 194 ("The case at hand therefore turns on whether, notwithstanding the proposed merger's conceded procompetitive effects, the Government has met its burden of proof of establishing, through 'case-specific evidence,' that the merger of AT&T and Time Warner, at this time and in this remarkably dynamic industry, is likely to substantially lessen competition in the manner it predicts.").

37. *Id.* at 204.

38. *Id.*

39. *Id.* at 205.

40. *Id.* at 241 (concluding that the Government's case did not provide an "adequate basis to conclude that the challenged merger will lead to *any* raised costs on the part of distributors *or* consumers—much less consumer harms that outweigh the conceded $350 million in annual cost savings to AT&T's customers").

41. *Id.* at 242.

42. *Id.* at 243, 246.

43. *Id.* at 244–45.

44. *Id.* at 248–49.

45. *Id.* at 249–50.

46. *Id.* at 250.

incentive to withhold HBO promotions or as to why the HBO promotions were that valuable at all.[47]

The overall conclusion from this case is that it did not break any new legal ground. It acknowledged existing theories of harm as well as procompetitive justifications for mergers. Its flowery—perhaps even occasionally snarky—language aside, the case offers very little that is new in the development of vertical merger case law. It is an important case because vertical merger cases are so rare, and because the players and the industry are particularly prominent ones that received significant national attention. Its broader significance is limited, possibly to this particular industry, which may, as a result, accelerate further mergers as firms may view the DOJ as having become weakened in its ability to bring a major case.[48] Perhaps the *AT&T* decision on appeal will shed more light onto the proper set of presumptions and legal doctrine for vertical merger case law analysis.

B. *Vertical Merger Economics*

The benefits and potential anticompetitive effects of vertical mergers as a theoretical matter are well known.[49] Vertical mergers may improve innovation, lead to lower transaction costs, or reduce costs in the supply chain, such as the costs of production or distribution.[50]

One of the values of vertical integration via merger is the concept of asset specificity.[51] The more specific the asset is, the better the result from vertical integration.[52] The reason for this result is that in situations where a firm needs to invest in a specialized asset (and where market exchange is difficult), vertical integration leads to an efficient outcome.[53] The seminal work by Pablo Spiller examines the market power versus asset

47. *Id.* at 251 n.60 ("Put simply, HBO is in the fight of its life [from Netflix]!").

48. *See, e.g.*, United States v. Oracle Corp., 331 F. Supp. 2d 1098, 1101 (N.D. Cal. 2004) (showing the impact of the DOJ loss in the Oracle/Peoplesoft merger); *see also* D. Daniel Sokol, *Antitrust, Institutions, and Merger Control*, 17 GEO. MASON L. REV. 1055, 1085 (2010) (noting how judicial decisions may have chilled DOJ merger challenges in court).

49. *See, e.g.*, Salinger, *supra* note 11 (providing a literature review).

50. Herbert Hovenkamp, *Appraising Merger Efficiencies*, 24 GEO. MASON L. REV. 703, 720 (2017); Joseph Spengler, *Vertical Integration and Antitrust Policy*, 58 J. POL. ECON. 347, 347 (1950).

51. Martin K. Perry, *Vertical Integration: Determinants and Effects*, *in* HANDBOOK OF INDUSTRIAL ORGANIZATION 188, 213–14 (Richard Schmallensee & Robert Willig eds., 1989); Oliver Williamson, *Credible Commitments Using Hostages to Support Exchange*, 73 AM. ECON. REV. 519, 523–24 (1983).

52. Perry, *supra* note 51.

53. Barak D. Richman & Jeffrey T. Macher, *Transaction Cost Economics: An Assessment of Empirical Research in the Social Sciences*, 10 BUS. & POL. 1, 38 (2008); Howard A. Shelanski & Peter G. Klein, *Empirical Research in Transaction Cost Economics: A Review and Assessment*, 11 J.L. ECON. & ORG. 335, 336 (1995).

specificity possibilities that drive vertical mergers.[54] Spiller studied changes in stock prices after a merger announcement and found that the lower the site specificity, the lower the gains from the merger, and that concentration had no effect.[55] His cross industry findings support the case for asset specificity in vertical mergers.

Similarly, vertical mergers may solve problems of double marginalization between upstream and downstream companies.[56] Vertical mergers create efficiencies by eliminating the double marginalization that simply does not exist for horizontal mergers. Indeed, the greater the market power of each party to the vertical merger, the greater the potential efficiencies.[57] Finally, vertical and conglomerate mergers may create positive externalities for consumers due to increased innovation.[58]

However, vertical mergers also may potentially create anticompetitive effects. Vertical mergers may lead to input foreclosure. This includes situations in which the merging firm raises its prices or refuses to sell competing downstream firms a critical input, raises rivals' costs, or helps to facilitate downstream collusion.[59] Similarly, the foreclosure may involve downstream firms (customer foreclosure) in which a downstream firm makes exclusive purchases or reduced purchases of an input from the upstream unit of the merged firm.[60] Both can be thought of as different forms of a raising rival's cost (RRC) strategy—input foreclosure is the traditional RRC strategy, while customer foreclosure results in a potential RRC strategy regarding distribution.[61] Potential entry[62] and information

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54. Pablo Spiller, *On Vertical Mergers*, 1 J.L. ECON. & ORG. 285, 286–87 (1985); *see also* Avi Weiss, *The Role of Firm-Specific Capital in Vertical Mergers*, 35 J.L. & ECON. 71, 74 (1992) (discussing Spiller's work).

55. *See* Spiller, *supra* note 54, at 304.

56. MOTTA, *supra* note 16, at 307–08.

57. Roger D. Blair et al., *Hospital Mergers and Economic Efficiency*, 91 WASH. L. REV. 1, 24–25 (2016) (explaining the benefits of vertical integration).

58. Double marginalization in multi-sided markets presents somewhat complex challenges, where consumers already pay zero on one side of a platform pre-merger and continue to pay zero post-merger. However, an efficiency gain could still arise. To be sure, it seems necessary to examine why the price is zero on one side of the market (and whether it continues to be zero after the merger) and what the prices are both pre- and post-merger on the other side of the market.

59. Salop, *supra* note 16, at 1975.

60. *Id.*

61. Jonathan B. Baker, *Exclusion as a Core Competition Concern*, 78 ANTITRUST L.J. 527, 538 n.54 (2013).

62. Bruce Hoffman, Acting Dir. of Bureau of Competition, Remarks at Credit Suisse 2018 Washington Perspectives Conference: Vertical Merger Enforcement at the FTC 4–5 (Jan. 10, 2018), https://www.ftc.gov/system/files/documents/public_statements/1304213/hoffman_vertical_merger_speech_final.pdf [https://perma.cc/3WM9-QYU8] ("Today, we are still concerned about how entry could occur post-merger, but now we are interested in cases in which

exchange[63] can also become issues in vertical mergers.

As a practical matter, there is inherent ambiguity in many vertical mergers.[64] Recent academic literature in industrial organization economics suggests that there are often both anticompetitive effects[65] and efficiency enhancing effects in vertical mergers.[66] In terms of the effects in any given case, one type of effect can outweigh the other.

Structuring an efficient rule in the context of cases that may have potentially procompetitive and anticompetitive effects is challenging. Moreover, merger control is about *ex ante* prediction. In such contexts, prediction is more difficult in vertical mergers than in horizontal mergers.[67] Thus, when analyzing a vertical merger *ex ante*, it is more difficult to predict the net effect. This ambiguity of effect is different than in the horizontal arena, where the effects are often easier to legally presume based on case law[68] and guidelines.[69]

Economic analysis and legal presumptions based on such analysis play an important role in antitrust and its administrability. This is explicit

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the firms are most likely to enter each other's market—something akin to a special case of potential competition. We look at whether there is something about the markets at issue—something like assets, know-how, or reputation—that indicates that having a presence in another vertically-related market or in another part of the distribution chain makes it inherently more likely or easier for the merging firms to enter each other's markets, as compared to de novo entry by another firm. We also look at entry facilitation; that is, whether prior to the merger, one firm had an incentive to sponsor entry, and absent the merger, that the firm would have partnered with another company to enter into the markets of the acquiring firm.").

63. *See* Salop, *supra* note 16, at 1978.

64. *See* Richard J. Gilbert & Hillary Greene, *Merging Innovation into Antitrust Agency Enforcement of the Clayton Act*, 83 GEO. WASH. L. REV. 1919, 1938 (2015).

65. *See, e.g.*, Justine S. Hastings & Richard J. Gilbert, *Market Power, Vertical Integration and the Wholesale Price of Gasoline*, 53 J. IND. ECON. 469, 482 (2005) (providing that vertical mergers may lead to higher wholesale prices charged to competitors).

66. *See, e.g.*, Jaideep Shenoy, *An Examination of the Efficiency, Foreclosure, and Collusion Rationales for Vertical Takeovers*, 58 MGMT. SCI. 1482, 1482 (2012) (finding vertical mergers are efficiency enhancing); Christopher T. Taylor et al., *Vertical Relationships and Competition in Retail Gasoline Markets: Empirical Evidence from Contract Changes in Southern California: Comment*, 100 AM. ECON. REV. 1269, 1269 (2010) (finding that the results of Hastings and Gilbert cannot be reproduced and that there is no anticompetitive effect).

67. Hoffman, *supra* note 62, at 3 ("Unfortunately, compared to horizontal mergers, there are also fewer quantitative theoretical models that we can use to attempt to predict outcomes in vertical scenarios, and the models that exist have a far shorter track record than those used in assessing horizontal mergers.").

68. *See* United States v. Baker Hughes, Inc., 908 F.2d 981, 991 (D.C. Cir. 1990) ("The more compelling the prima facie case, the more evidence the defendant must present to rebut it successfully."); *see also* Sean P. Sullivan, *What Structural Presumption?: Reuniting Evidence and Economics on the Role of Market Concentration in Horizontal Merger Analysis*, 42 J. CORP. L. 403, 410–23 (2016) (discussing an analysis of the burden shift framework and structural presumptions).

69. U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, *supra* note 26, at 1.

in Supreme Court cases. As the Court stated most recently in 2015 in *Kimble v. Marvel*,[70] "We have therefore felt relatively free to revise our legal analysis as economic understanding evolves and . . . to reverse antitrust precedents that misperceived a practice's competitive consequences."[71] Thus, unlike other areas of law, stare decisis plays a more limited role in antitrust.[72] Rather, antitrust common law develops via changes in economic analysis.[73]

In the context of a more limited role for stare decisis, a review of vertical merger law is in order. In *Brown Shoe Co. v. United States*,[74] the Supreme Court explained "[t]he primary vice of a vertical merger" as "foreclosing the competitors of either party from a segment of the market."[75] However, the basis of *Brown Shoe* was a belief that the purpose of antitrust was "to promote competition through the protection of viable, small, locally owned businesses" even though the result would be "higher costs and prices [that] might result from the maintenance of fragmented industries and markets."[76] Since *Brown Shoe*, vertical merger case law has been sparse, though vertical restraints law more generally has been narrowed based on an understanding that efficiencies outweighed anticompetitive harm.[77] Until the courts narrow vertical merger law to reflect the current economic learning, Supreme Court cases based on a rationale that today would be dismissed remain good case law.[78]

Few cases are decided by courts in the vertical merger area. As a result, most of the precedent that exists is through agency practice. Some of these practices create external signals through consents or press

70. 135 S. Ct. 2401 (2015).

71. *Id.* at 2412–13.

72. Barak Orbach, *Antitrust Stare Decisis*, 15 ANTITRUST SOURCE 1, 1 (2015).

73. *See* Herbert Hovenkamp, *Antitrust Policy After Chicago*, 84 MICH. L. REV. 213, 214 n.7 (1985).

74. 370 U.S. 294 (1962).

75. *Id.* at 323–24.

76. *Id.* at 344.

77. *See* Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877, 881–82 (2007) (minimum resale price maintenance); Volvo Trucks N. Am., Inc. v. Reeder-Simco GMC, Inc., 546 U.S. 164, 169–70 (2006) (secondary line Robinson-Patman); State Oil Co. v. Khan, 522 U.S. 3, 7 (1997) (maximum resale price maintenance); Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 216–17, 219 (1993) (primary line Robinson-Patman); Cont'l Television, Inc. v. GTE Sylvania, Inc., 433 U.S. 36, 57–59 (1977) (non-price vertical restraints).

78. *See* Christina Bohannan & Herbert Hovenkamp, *IP and Antitrust: Reformation and Harm*, 51 B.C. L. REV. 905, 912 (2010) ("Today, the antitrust landscape differs so much from the view of *Brown Shoe* that one could barely recognize it from that vantage point."). *See generally* D. Daniel Sokol, *The Transformation of Vertical Restraints: Per Se Illegality, the Rule of Reason, and Per Se Legality*, 79 ANTITRUST L.J. 1003 (2013) (providing an evolution of doctrine in a number of vertical restraints in antitrust law).

releases by the agencies. Overall, what drives vertical merger policy is the "law in action" of antitrust legal practice of potential merging parties before the antitrust agencies, most of which never results in litigation. This is the so-called "shadow of the law" of merger practice.[79] Professor Michael Salinger, when he headed the Bureau of Economics at the FTC, explained the reality of the complexities and ambiguities of vertical mergers from a practical perspective as opposed to the theoretical perspective:

> In evaluating vertical mergers, we must never forget that the economics of vertical relationships is fundamentally different from the economics of horizontal relationships. Two rivals generally have a mutual incentive to increase their prices. A company and either its supplier or distributor generally have a mutual incentive to lower their prices. We should never lose sight of that basic distinction. . . . If we focus too much on theoretical exceptions to the general rule—and there is a real risk of doing so simply because they are intellectually more interesting—then we will get the emphasis wrong. The basic dilemma in vertical merger policy is how to identify the presumably small number of vertical mergers that might be harmful to competition.[80]

Salinger's insights suggest that vertical merger policy should not react to political currents. Rather, vertical merger policy should be guided by a careful understanding of economics in identifying the right sort of cases to bring that match theories of legal harm. Antitrust is best served when the agencies offer clearer guidance as to high, medium, and low risk for vertical merger based on these economic presumptions of harm, depending on different levels of risk for potential anticompetitive practices. Ideally, agency guidance would be based on a presumption that most vertical merger deals do not raise antitrust concerns, which the robust empirical literature and framing of how and why tech firms acquire smaller firms support.[81] This is a message often lost in the current policy debates.

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79. D. Daniel Sokol & James A. Fishkin, *Antitrust Merger Efficiencies in the Shadow of the Law*, 64 VAND. L. REV. EN BANC 45, 47 (2011) ("Indeed, most 'action' in mergers generally and in merger efficiencies specifically occurs in dynamics between the agencies and outside counsel (including economists employed by outside counsel) in various stages of the merger notification process.").

80. Michael A. Salinger, Dir. of Bureau of Econ., Remarks at the Association of Competition Economics Seminar on Non-Horizontal Mergers: Is it live or is it Memorex? Models of Vertical Mergers and Antitrust Enforcement 1–2 (Sept. 7, 2005), http://www.ftc.gov/speeches/salinger/050927isitlive.pdf [https://perma.cc/P6PS-46TE].

81. Will Drover et al., *A Review and Road Map of Entrepreneurial Equity Financing Research: Venture Capital, Corporate Venture Capital, Angel Investment, Crowdfunding, and*

III. VERTICAL MERGERS AND ENTREPRENEURSHIP POLICY

There has not been much antitrust literature devoted to the wealth transfer effects of mergers, and what discussion does exist has been at a general level. The insight on the importance of well-functioning merger and acquisitions markets was first noted in the second edition of the Areeda antitrust treatise. Areeda wrote, "To facilitate exit when it is desired may indeed facilitate entry. The likelihood of exit with minimum loss or maximum gain increases the attractiveness and reduces the risk of entering a market."[82] This idea was first explicitly recognized by the antitrust agencies in the 1979 *Pillsbury* decision in the context of the sale of family owned businesses.[83] While implicit in agency decision-making, the next explicit mention of this idea, to the author's knowledge, was not until 2008, by then FTC General Counsel William Blumenthal in an ICN merger workshop speech.[84]

Other than these three express statements, the entrepreneurial exit rationale for mergers has not come up in antitrust literature. Further, there have been no explicit comments by the two antitrust agencies or the courts about wealth transfer in the high tech entrepreneurial setting. Such relative silence is perhaps surprising. Antitrust is focused on how competition typically reduces prices, increases quality, and/or supports innovation. High tech entrepreneurship is about the process of bringing an idea to market in terms of commercialization and exit.[85] This Article extends this discussion specifically to the case of vertical tech mergers and exit to discuss entrepreneurial exits.

A. *Business Models of Companies are Built Around Vertical Mergers*

For the past thirty years, antitrust literature has largely ignored the significant literature within strategy related to vertical integration in the technology setting. Overall, this literature shows the important

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Accelerators, 43 J. MGMT 1820 (providing a literature review).

82. PHILIP AREEDA, ANTITRUST ANALYSIS ¶ 617(h), at 690 (2d ed. 1974).

83. Pillsbury Co., 93 F.T.C. 966, 1041 (1979).

84. William Blumenthal, Gen. Counsel, Fed. Trade Comm'n, Remarks before the ICN Merger Notification & Procedures Workshop: Implementing the Recommended Practices, The ICN Recommended Practices for Merger Process: Why They Matter 2 (Mar. 18, 2008), https://www.ftc.gov/sites/default/files/documents/public_statements/icn-recommended-practices-merger-process-why-they-matter/20080318icnbrnospeechremergerrpsfinal.pdf [https://perma.cc/W497-MFN5].

85. D. Daniel Sokol, *Do We Need a New Synthesis of Law and STEM? Law and STEM Collaboration in Entrepreneurship, Bridges II: The Law—STEM Alliance & Next Generation Innovation*, 112 NW. U. L. REV. ONLINE 163, 163 ("Generally speaking, entrepreneurship involves new products or services or new ways of organizing businesses. A key feature of these entrepreneurial opportunities is their *novelty*. In the STEM context, entrepreneurial opportunities focus on high growth business opportunities that are technologically driven.").

efficiency-enhancing effects of vertical mergers. These mergers are largely complementary, combining the strengths of the acquiring firm in process innovation with the product innovation of the target firms.[86] This literature helps to push for a presumption for vertical merger law and policy to generally tolerate vertical mergers.[87]

Acquisition may be the way in which the parties to vertical contracting may reduce transaction costs through vertical integration via merger. Many large firms acquire smaller firms in vertical mergers with the belief that the acquisition will allow the acquirer to create efficiencies that are not possible merely by licensing, strategic alliance, or joint venture.[88]

Large firms need acquisitions to help with innovation.[89] Innovation is critical for firms because greater innovation leads to improved financial

86. Gautam Ahuja & Riitta Katila, *Technological Acquisitions and the Innovation Performance of Acquiring Firms: A Longitudinal Study*, 22 STRAT. MGMT. J. 197, 199 (2001); Jaideep Anand & Harbir Singh, *Asset Redeployment, Acquisitions and Corporate Strategy in Declining Industries*, 18 STRAT. MGMT. J. 99, 100 (1997); Bruno Cassiman & Reinhilde Veugelers, *In Search of Complementarity in Innovation Strategy: Internal R&D and External Knowledge Acquisition*, 52 MGMT. SCI. 68, 68 (2006); Seungho Choi & Gerry McNamara, *Repeating a Familiar Pattern in a New Way: The Effect of Exploitation and Exploration on Knowledge Leverage Behaviors in Technology Acquisitions*, 39 STRAT. MGMT. J. 356, 358 (2018); Melissa E. Grabner et al., *Success and Failure in Technology Acquisitions: Lessons for Buyers and Sellers*, 24 ACAD. MGMT. PESP. 73, 77 (2010); Rebecca Henderson & Ian Cockburn, *Scale, Scope, and Spillovers, the Determinants of Research Productivity in Drug Discovery*, 27 RAND J. ECON. 32, 33 (1996); Phanish Puranam & Kannan Srikanth, *What They Know Versus What They Do: How Acquirers Leverage Technology Acquisitions*, 28 STRAT. MGMT. J. 805, 806 (2007); Zhuoxin Li & Ashish Agarwal, *Platform Integration and Demand Spillovers in Complementary Markets: Evidence from Facebook's Integration of Instagram*, 63 MGMT SCI. 3147, 3438 (2017).

87. *See, e.g.*, Matthew J. Higgins & Daniel Rodriguez, *The Outsourcing of R&D Through Acquisition in the Pharmaceutical Industry*, 80 J. FIN. ECON. 351, 352 (2006); Michael G. Jacobides & Stephan Billinger, *Designing the Boundaries of the Firm: From "Make, Buy, or Ally" to the Dynamic Benefits of Vertical Architecture*, 17 ORG. SCI. 249, 249 (2006); Gordon Walker & David Weber, *Supplier Competition, Uncertainty, and Make-or-Buy Decisions*, 30 ACAD. MGMT. J. 589, 595 (1987); Claudio Wolter & Francisco M. Veloso, *The Effects of Innovation on Vertical Structure: Perspectives on Transaction Costs and Competences*, 33 ACAD. MGMT. REV. 586, 602 (2008). *See generally* Glenn Hoetker, *How Much You Know Versus How Well I Know You: Selecting a Supplier for a Technically Innovative Component*, 26 STRAT. MGMT. J. 75 (2005) (discussing how firms select a supplier for a new component of a product).

88. *See, e.g.*, Enghin Atalay et al., *Vertical Integration and Input Flows*, 104 AM. ECON. REV. 1120, 1121 (2014); Joseph C. Mullin & Wallace P. Mullin, *United States Steel's Acquisition of the Great Northern Ore Properties: Vertical Foreclosure or Efficient Contractual Governance?*, 13 J.L. ECON. & ORG. 74, 96 (1997); Jaideep Shenoy, *An Examination of the Efficiency, Foreclosure, and Collusion Rationales for Vertical Takeovers*, 58 MGMT. SCI. 1482, 1482 (2012).

89. *See* Jaideep C. Prabhu et al., *The Impact of Acquisitions on Innovation: Poison Pill, Placebo, or Tonic?*, 69 J. MARKETING 114, 114 (2005); Sam Ransbotham & Sabyasachi Mitra, *Target Age and the Acquisition of Innovation in High-Technology Industries*, 56 MGMT. SCI. 2076, 2076 (2010).

returns.[90] The race to innovate is particularly important in technology related industries where there is rapid change in and for the market.[91]

When firms reach a certain size and level of complexity, they tend to be poor at product innovation.[92] Rather, the strength of larger firms lies in process innovation because of familiarity and repetition of routines and processes that reduce both search costs and information costs related to the transfer of knowledge.[93] In order to innovate, larger firms need to acquire smaller firms to utilize the technology that the target firm possess.[94] A number of reasons explain this strategy of acquisition vis-à-vis internal growth.[95] This includes lower entry barriers via acquisition,[96] acquisition of intellectual property and research and development (R&D) that can be used strategically,[97] knowledge,[98] economies of scale and scope,[99] and the ability to exert greater control rights through vertical integration via merger rather than via contract.[100]

An additional reason to acquire a smaller tech-related start-up is what we might think of as "out of market efficiencies," though viewed from a resource-based management perspective, in which a firm's competitive advantage is based on the bundle of its resources (assets and capabilities)

90. Frank T. Rothaermel et al., *Balancing Vertical Integration and Strategic Outsourcing: Effects on Product Portfolio, Product Success, and Firm Performance*, 27 STRAT. MGMT. J. 1033, 1033 (2006).

91. *See* Nandini Lahiri & Sriram Narayanan, *Vertical Integration, Innovation, and Alliance Portfolio Size: Implications for Firm Performance*, 34 STRAT. MGMT. J. 1042, 1045 (2013).

92. *See* Gary Dushnitsky & Michael J. Lenox, *When do Firms Undertake R&D by Investing in New Ventures?*, 26 STRAT. MGMT. J. 947, 948–49 (2005) ("[E]ntrepreneurial ventures are likely to be the source of highly valuable and innovative ideas.").

93. *See* Lahiri & Narayanan, *supra* note 91, at 1046–47.

94. *See* Michael B. Heeley et al., *Effects of Firm R&D Investment and Environment on Acquisition Likelihood*, 43 J. MGMT. STUD. 1513, 1513–16 (2006).

95. Jerayr Haleblian et al., *Taking Stock of What We Know About Mergers and Acquisitions: A Review and Research Agenda*, 35 J. MGMT. 469 (2009).

96. This is particularly true in the context of early acquirers. Kenneth Carow et al., *Do Early Birds Get Returns? An Empirical Investigation of Early Mover Advantages in Acquisitions*, 25 STRAT. MGMT. J. 563, 563–66, 580–81 (2004).

97. *See, e.g.*, David Teece, *Profiting From Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy*, 15 RES. POL'Y 285, 285–87, 290, 298, 301–02 (1986). *See generally* Henry Grabowski & John Vernon, *A New Look at the Returns and Risks to Pharmaceutical R&D*, 36 MGMT. SCI. 804 (1990) (discussing the positive effects of R&D investment).

98. *See* Ashish Arora & Alfonso Gambardella, *Complementarity and External Linkages: The Strategies of the Large Firms in Biotechnology*, 38 J. INDUS. ECON. 361, 365–66 (1990).

99. Gatum Ahuja & Riittaa Katila, *Technological Acquisitions and the Innovation Performance of Acquiring Firms: A Longitudinal Study*, 22 STRAT. MGMT. J. 197, 197–99 (2001).

100. *See* David R. King et al., *Complementary Resources and the Exploitation of Technological Innovations*, 29 J. MGMT. 589, 589–90 (2003).

to create value.[101] For example, larger firms may acquire small firms because by doing so, they can buy STEM professionals to grow their organization.[102] Some of these STEM professionals can be redeployed across a number of different units within a larger organization.

Similarly, the seminal work by Teece on dynamic capabilities suggests a number of different avenues, including the various internal processes and routines of a firm and a firm's internal organizational structure that allow it to utilize its intangible assets.[103] Firms are able to use dynamic capabilities to adapt to different business environments and to shape these environments through innovation and learning.[104]

One might imagine that the entrepreneurial firm may position itself so that it is rational to be vertically acquired. It, in fact, may base its business model on such an acquisition. The objective of the entrepreneurial firm is to create a bidding war for its specialized assets among potential acquirers.

Antitrust has not effectively integrated knowledge about the start-up ecosystem. Such knowledge is critical to understand vertical mergers and acquisitions that impact questions of competitive effects dealing with nascent acquisitions. Investment by incumbent firms to acquire nascent firms implicates issues of corporate venture capital;[105] non-financial investments in nascent firms via contract such as strategic alliances[106] and

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101. *See* Jay Barney, *Firm Resources and Sustained Competitive Advantage*, 17 J. MGMT. 99, 99–102 (1991); Jeroen Kraaijenbrink et al., *The Resource-Based View: A Review and Assessment of its Critiques*, 36 J. MGMT. 349, 350–51 (2010); Birger Wernerfelt, *The Resource-Based View of the Firm: Ten Years After*, 16 STRAT. MGMT. J. 171, 171–72 (1995).

102. *See* John F. Coyle & Gregg D. Polsky, *Acqui-hiring*, 63 DUKE L.J. 281, 283–84 (2013) ("[T]he buyer's primary motivation is to hire some or all of the startup's software engineers."); Kenneth A. Younge et al., *How Anticipated Employee Mobility Affects Acquisition Likelihood: Evidence From a Natural Experiment*, 36 STRAT. MGMT. J. 686, 686–87 (2015).

103. *See* David Teece et al., *Dynamic Capabilities and Strategic Management*, 18 STRAT. MGMT. J. 509, 509–10, 515–30 (1997). *See generally* DAVID J. TEECE, DYNAMIC CAPABILITIES AND STRATEGIC MANAGEMENT (2009) (discussing how firms maintain, among other things, competitive advantage and market position by focusing on their internal assets and organizational structure).

104. Joshua S. Gans, *Negotiating for the Market*, *in* 37 ADVANCES IN STRATEGIC MANAGEMENT: ENTREPRENEURSHIP, INNOVATION, AND PLATFORMS 3, 7 (Jeffrey Furman et al. eds., 2017).

105. Darian M. Ibrahim, *Intrapreneurship*, 73 WASH. & LEE L. REV. 1741 (2015); Vangelis Souitaris & Stefania Zerbinati, *How do Corporate Venture Capitalists do Deals? An Exploration of Corporate Investment Practices*, 8 STRAT. ENTREPRENEURSHIP J. 321 (2014); Sandip Basu et al., *Towards Understanding Who Makes Corporate Venture Capital Investments and Why*, 26 J. BUS. VENTURING 153 (2011); Gary Dushnitsky & Michael L. Lenox, *When Do Firms Undertake R&D by Investing in New Ventures*?, 26 STRAT. MGMT. J. 947 (2005).

106. Gary Dushnitsky & Dovev Lavie, *How Alliance Formation Shapes Corporate Venture Capital Investment in the Software Industry: A Resource-based Perspective*, 4 STRAT. ENTREPRENEURSHIP J. 22 (2010); Jeffrey R. Reuer & Africa Ariño, *Strategic Alliance Contracts:*

joint ventures;[107] and the entrepreneurial ecosystem,[108] that includes, among other components, venture capitalists,[109] and angel investors.[110] This study of ecosystems is critical as one strategy of established tech firms is to push R&D in new products or services down to startups as a way to decrease or shift risk. The more successful startups are then acquired by larger technology firms.[111]

B. *IPOs Have Been Dying Since the Passage of Sarbanes–Oxley*

One aspect that is missing in the antitrust discussion is the broader structural shift that a change of merger policy would mean to how the innovation ecosystem is structured, based on the ability for entrepreneurs and venture capitalists to exit their investments. This discussion is beyond antitrust doctrine. However, this implication of entrepreneurial exit (fewer initial public offerings (IPOs) and more vertical mergers) impacts competition policy, market structure, and innovation.

Traditionally, the goal of entrepreneurial exit was an IPO. Today, there are far fewer IPOs in the United States than in prior years.[112] Indeed, between few new listings and an increase in delistings, the number of publicly traded companies is much smaller than it has been historically.[113] As one recent article explains, "[f]rom 1975 to 1996 (the pre-peak period), the number of listed firms increases steadily from 4,775 to 8,025, a cumulative increase of 68%. Since the peak in 1996, listings fall each year from 1997 to 2012 (the post-peak period) and cumulatively decline

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Dimensions and Determinants of Contractual Complexity, 28 STRAT. MGMT. J. 313 (2007).

107. Thomas Keil et al., *The Effect of Governance Modes and Relatedness of External Business Development Activities on Innovative Performance*, 29 STRAT. MGMT. J. 895 (2008).

108. Joseph Bankman & Ronald J. Gilson, *Why Start-Ups?*, 51 STAN. L. REV. 289, 289–90 (1999) (noting that "the prototypical start-up involves an employee leaving her job with an idea").

109. Drover et al., *supra* note 81; Noam Wasserman, *The Throne vs. The Kingdom: Founder Control and Value Creation in Startups*, 38 STRAT. MGMT. J. 255 (2017); Paolo Fulghieri & Merih Sevilir, *Size and Focus of a Venture Capitalist's Portfolio*, 29 REV. FIN. STUD. 4643 (2009); Jesse M. Fried & Mira Ganor, *Agency Costs of Venture Capitalist Control in Startups*, 81 N.Y.U. L. REV. 967 (2006); D. Gordon Smith, *The Exit Structure of Venture Capital*, 53 UCLA L. REV. 315 (2005).

110. William Kerr et al., *The Consequences of Entrepreneurial Finance: Evidence From Angel Financings*, 27 REV. FIN. STUD. 20 (2014); Andrew L. Maxwell et al., *Business Angel Early Stage Decision Making*, 26 J. BUS. VENTURING 212 (2011).

111. *See, e.g.*, Higgins & Rodriguez, *supra* note 87.

112. *See, e.g.*, Xiahoui Gao et al., *Where Have All the IPOs Gone?*, 48 J. FIN. & QUANTITATIVE ANALYSIS 1663, 1663 (2012).

113. Editorial Bd., *Where Have All the Public Companies Gone?*, BLOOMBERG (Apr. 9, 2018, 7:00 AM), https://www.bloomberg.com/view/articles/2018-04-09/where-have-all-the-u-s-public-companies-gone [https://perma.cc/7DCZ-UE2S].

by 3,923, or 49%, by 2012."[114] Listed company fees, yearly disclosures, and compliance, as well as the IPO process itself, may be costly.[115]

Other work confirms the changing nature of publicly traded firms since the 1990s.[116] Listed companies today are older and larger (in more concentrated markets) in the modern post-Sarbanes–Oxley regime.[117] In R&D-intensive industries, this is particularly true.[118] These factors together show the limits to traditional exit for entrepreneurial firms via IPO.

The lack of IPOs has implications for entrepreneurial exit. An IPO allows exit for the early investors in a firm through a public offering of securities. The nature of the securities regime shapes the opportunities for firms to exit through IPOs, but with IPOs now scarce, vertical mergers are the default for entrepreneurial exit. Given that many businesses are built for exit via vertical merger, to close off this form of entrepreneurial exit at a time when the IPO market is at a significant low would chill innovation.

OVERALL POLICY THOUGHTS AND CONCLUSION

Vertical merger analysis and antitrust policy have improved with better economic tools. Whereas non-economic goals of an earlier era led to outcomes that hurt consumers,[119] the first generation of economic effects-led analysis was perhaps too coarse. Indeed, many Chicago School thinkers believed that vertical restraints should be per se legal.[120] Advances in economics have marginalized the belief in per se legality for vertical mergers.[121] Thus, there are situations in which there should be more vertical challenges brought in particular cases within a defined set

114. Craig Doidge et al., *The U.S. Listing Gap*, 123 J. FIN. ECON. 464, 464, 467 (2017).

115. *See* Brian J. Bushee & Gregory S. Miller, *Investor Relations, Firm Visibility, and Investor Following*, 87 ACCT. REV. 867, 870–71 (2012).

116. *See, e.g.*, Kathleen M. Kahle & René M. Stulz, *Is the US Public Corporation in Trouble?*, 31 J. ECON. PERSP. 67, 70–71 (2017) (examining the "evolution of US public corporations over the last 40 years").

117. *See id.* at 70–71.

118. *See id.* at 84–85, 86.

119. *See* Robert H. Bork, *The Rule of Reason and the Per Se Concept: Price Fixing and Market Division II*, 75 YALE L.J. 373, 375–76 (1966); *see also* Maurice E. Stucke, *Reconsidering Antitrust's Goals*, 53 B.C. L. REV. 551, 559–62 (2012) (outlining different Antitrust goals the Court and Congress has considered).

120. Bork, *supra* note 119, at 397; Richard A. Posner, *The Next Step in the Antitrust Treatment of Restricted Distribution: Per Se Legality*, 48 U. CHI. L. REV. 6, 8, 22–26 (1981); *see also* Frank H. Easterbrook, *Vertical Arrangements and the Rule of Reason*, 53 ANTITRUST L.J. 135, 135, 158–59, 168 (1984) (suggesting that vertical arrangements should be per se legal if any of five conditions prove true).

121. *See* Herbert Hovenkamp, *Robert Bork and Vertical Integration: Leverage, Foreclosure, and Efficiency*, 79 ANTITRUST L.J. 983, 995–96 (2014); Salop, *supra* note 16, at 1971–72.

of parameters. However, this is not to suggest that the presumption of vertical mergers being typically procompetitive or competitively neutral (at least relative to horizontal mergers) should be abandoned. A large body of empirical literature suggests that tech-related vertical mergers may indeed be efficiency enhancing. As Jon Sallet, a former Obama administration senior appointee in both the Antitrust Division and FCC, once concluded about vertical mergers, "[w]e should say, it would be a mistake to conclude an inquiry based just on theory without a dedicated detective's desire for detail and data."[122] In this case, the evidence suggests that the presumption about when to intervene in antitrust vertical cases is typically a sound one and is based on economic evidence as a general way to frame limited agency resources in the merger review process.

As a matter of policy, there should be vertical merger enforcement when the facts justify such an intervention. However, from a policy perspective, vertical mergers—including tech mergers—present fewer problems than horizontal mergers and should be treated differently in terms of overall merger policy. When antitrust agencies, judges, and legislators limit the possibility of vertical mergers as an exit strategy for start-up firms, it creates risk for innovation and entrepreneurship. First, it complicates how firms think about the make or buy decision in terms of the alignment of firm boundaries via contract or ownership. Second, it threatens entrepreneurial exits, particularly for tech companies whose very business model is premised upon vertical mergers for purposes of a liquidity event. Vertical merger guidelines could help address some of the uncertainty of vertical merger policy more generally. *AT&T* was a missed opportunity, from a policy perspective, to provide lasting case law guidance, thereby making agency guidance that much more important. Further, lack of guidance, particularly in the area of nascent competition and vertical mergers, puts at risk the entrepreneurial ecosystem that drives much of new product and service innovation.

Overall, vertical merger guidance should be built around the following themes. Vertical mergers are more likely to produce efficiencies and less likely to raise competitive concerns than horizontal mergers, so there should be a different set of policy inferences. Unlike horizontal mergers, vertical mergers generally create the benefits of vertical integration and do not eliminate a competitor. A combination of presumptions, screening conditions, and burden-shifting should be used for vertical merger antitrust policy. Vertical mergers should be presumed, subject to rebuttal by evidence of likely competitive harm, to be competitively beneficial or

122. Jon Sallet, Deputy Assistant Attorney Gen. for Litig., U.S. Dep't of Justice, Remarks as Prepared for Delivery at the ABA Fall Forum: The Interesting Case of the Vertical Merger 11 (Nov. 17, 2016), http://www.justice.gov/opa/speech/file/938236/download [https://perma.cc/U9EE-H3SW].

neutral. In terms of the burden of proof, the merger plaintiff (often the government) should bear the burden of demonstrating a net harm to consumers.