

Antitrust Merger Policy and Innovation Competition

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ANTITRUST MERGER POLICY AND INNOVATION COMPETITION†

ALDEN F. ABBOTT* & DANIEL F. SPULBER**

ABSTRACT

Antitrust policymakers in the United States and the European Union have announced that certain mergers should be blocked because of the presumed harm to innovation. Companies increasingly engage in innovation as a primary means of competing with rivals. This article considers the implications of innovation competition for antitrust merger policy. We argue that the presumption of innovative harm risks diminishing competition and reducing innovation. We propose an approach to evaluating whether mergers may lead to innovative efficiencies or harm. Furthermore, we suggest that the application of advances in the economics of technology and innovation can help determine the effects of mergers on welfare. We find that horizontal mergers can promote innovation competition by increasing innovative investment and expanding the benefits of innovation. We also find that vertical mergers can promote innovation competition by increasing innovative investment and improving commercialization. We further find that acquisition of entrants can increase entrepreneurship and innovation. We recommend that the Department of Justice and Federal Trade Commission Merger Guidelines should apply economic analysis to evaluate the effects of mergers on innovation competition.

Key words: Antitrust, Competition Policy, Mergers, Innovation, Enforcement

JEL Codes: K21, L4, L1, O3

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INTRODUCTION

Innovation competition has become a leading form of rivalry in many industries.¹ Competition through new products, production processes, and transaction methods may substitute or complement price competition. The key difference between innovation competition and more traditional forms of price competition is technological change. Innovation competition has generated a debate over how antitrust policy evaluates market structure, competitive conduct, and economic efficiency. In this article, we propose a general approach to evaluating whether mergers may lead to harm or to innovative efficiencies.

Increases in innovation competition have influenced the new merger guidelines. We caution that antitrust merger policy should not simply presume that mergers either diminish or augment innovation competition. Just as merger policy can consider an “innovation theory of harm,” it also may consider an “innovation theory of efficiency.”² Economic analysis can obtain results that can either raise concerns about a merger or provide a defense. We argue that antitrust policy should evaluate how specific mergers might affect innovation competition. We provide a framework for evaluating the effects of mergers on innovation competition and economic efficiency.

The U.S. Department of Justice (DOJ) Antitrust Division and the U.S. Federal Trade Commission (FTC) released for public comment a draft revision of their joint Merger Guidelines in July 2023, followed by a final set of guidelines issued in December 2023.³ The 2023 Merger Guidelines consolidate policy toward horizontal and vertical mergers and acquisition of entrants. The 2023 Merger Guidelines emphasize market concentration in evaluating mergers. Regrettably, the 2023 Merger Guidelines fail to address potential innovation-related benefits of mergers and essentially reject consideration of virtually *all* efficiencies (innovation-related or otherwise) in agency merger evaluations. The 2023 Merger Guidelines recognize innovation as a form of competition, including adding varied and innovative products and features, reducing costs, and adopting new

1. Daniel F. Spulber, *Antitrust and Innovation Competition*, 11 J. ANTITRUST ENF'T 5, 5 (2023) [hereinafter Spulber, *Antitrust and Innovation Competition*].

2. Daniel F. Spulber, *Antitrust Policy Toward Innovation Competition: Measuring Dynamic Efficiency*, COMPETITION POL'Y INT'L (Sept. 28, 2023), https://www.pymnts.com/cpi_posts/antitrust-policy-toward-innovation-competition-measuring-dynamic-efficiency/ [hereinafter Spulber, *Antitrust Policy Toward Innovation Competition*].

3. U.S. DEP'T OF JUST. & FED. TRADE COMM'N, MERGER GUIDELINES (2023), https://www.ftc.gov/system/files/ftc_gov/pdf/2023_merger_guidelines_final_12.18.2023.pdf [hereinafter 2023 MERGER GUIDELINES].

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technologies for distribution.⁴ The 2023 Merger Guidelines also express concerns about mergers decreasing incentives for innovation.⁵

The 2023 Merger Guidelines reflect the agencies' trending neo-Brandeisian approach⁶ to antitrust merger enforcement. In these guidelines, a merger is presumed anticompetitive based on market concentration.⁷ This approach is reflected in the very first guideline: "[t]he Agencies therefore presume, unless sufficiently disproved or rebutted, that a merger between competitors that significantly increases concentration and creates or further consolidates a highly concentrated market may substantially lessen competition."⁸ The 2023 Merger Guidelines muddy the waters by combining policy positions with legal analysis. A letter from seventeen former FTC and DOJ Chief Economists commenting on a draft stated, "we observe that the current draft contains a large amount of legal analysis, argument, and interpretation. We strongly advise you to separate that material from the economic analysis."⁹

The neo-Brandeisian approach to antitrust stems from earlier concerns about market concentration and the size of firms.¹⁰ In effect, the view that "big is bad" likely will sacrifice economic efficiencies to attack concentration. Mergers inevitably increase the size of firms but can bring efficiency gains from realizing economies of scale and combining complementary

4. *Id.* at 39 ("Innovation may be directed at outcomes beyond product features; for example, innovation may be directed at reducing costs or adopting new technology for the distribution of products.").

5. *Id.* ("The merged firm may have a reduced incentive to continue or initiate development of new products that would have competed with the other merging party, but post-merger would 'cannibalize' what would be its own sales. A service provider may have a reduced incentive to continue valuable upgrades offered by the acquired firm. The merged firm may have a reduced incentive to engage in disruptive innovation that would threaten the business of one of the merging firms. Or it may have the incentive to change its product mix, such as by ceasing to offer one of the merging firms' products, leaving worse off the customers who previously chose the product that was eliminated.") (footnote omitted).

6. *See generally* Timothy J. Muris, Neo-Brandeisian Antitrust: Repeating History's Mistakes (June 2023) (on file with the Am. Enterprise Inst.).

7. 2023 MERGER GUIDELINES, *supra* note 3, at 2.

8. *Id.*

9. Jonathan B. Baker, et al., *Letter to the Editor: Former FTC and DOJ Chief Economists Urge Separation of Economic and Legal Analysis in Merger Guidelines*, PROMARKET (Nov. 27, 2023), <https://www.promarket.org/2023/11/27/letter-to-the-editor-former-ftc-and-doj-chief-economists-urge-separation-of-economic-and-legal-analysis-in-merger-guidelines/#:~:text=Seventeen%20former%20chief%20economists%20of,the%20latter%20in%20merger%20review> (commenting on the U.S. Department of Justice and the Federal Trade Commission's Draft Merger Guidelines).

10. Nolan McCarty & Sepehr Shahshahani, *The Problem with Political Antitrust*, PROMARKET (Aug. 7, 2023), <https://www.promarket.org/2023/08/07/the-problem-with-political-antitrust/>.

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activities. Focusing primarily on market concentration and the size of firms not only bypasses considerations of static efficiency but also imperils dynamic efficiency and innovation.

Dynamic efficiencies are consistent with the growth of firms. Successful innovation grows firms by increasing the market value of businesses, expanding sales, and raising consumer welfare. Introducing new products, new production processes, and new transaction methods increases returns to investment. Also, larger firms may have greater incentives to engage in innovation and may achieve increasing returns to scale in invention, innovation, and commercialization of Intellectual Property (“IP”). These efficiencies in Research and Development (“R&D”) can provide benefits to consumers.

Innovation thus increases the need for merger policy to stick with the efficiency standard: consumer welfare supplemented by economic efficiency.¹¹ It is well understood that blocking mergers based on the size of firms decreases static efficiencies by ignoring economies of scale and returns to product variety. Merger policy, however, should not be restricted to static efficiency, specifically, lower costs and lower prices. Blocking mergers simply based on the size of firms also diminishes dynamic efficiency. Dynamic economic efficiency requires efficient capital investment and employee retention and training.

We argue that merger policy must address technological change, including new products, production processes, and transaction methods. These innovations increase consumer welfare and promote economic efficiency. Blocking mergers based on the presumption of harm to innovation will block mergers that promote innovation and economic efficiency. Dynamic economic efficiency involves investment in the invention, innovation, and commercialization of new technologies.

We introduce a framework for antitrust merger policy that addresses innovation competition. The framework extends the analysis of the “innovative delta.”¹² This framework applies the rule of reason approach to include innovation competition in merger policy. The innovative delta analysis requires the application of economics, including empirical analysis, to estimate the effects of mergers on economic welfare. This approach begins with an estimation of welfare in the absence of the merger. In addition, the innovative delta is an estimate of the effects of the merger on welfare due to changes in innovation competition. Thus, if W represents

11. Douglas H. Ginsburg, Sr. Judge, U.S. D.C. Cir., *Wither the Consumer Welfare Standard?*, Address Before the Capitol Hill Chapter of the Federalist Society (Mar. 2, 2022), *in* 46 *HARV. J.L. & PUB. POL’Y* 69, 70, 76 (2023).

12. Spulber, *Antitrust Policy Toward Innovation Competition*, *supra* note 2, at 9.

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welfare in the absence of the merger, and Δ represents the effects of the merger on innovation competition, welfare with the merger is $W + \Delta$.

The main point of the innovative delta analysis is that mergers can increase or decrease welfare. There should be no presumption that mergers necessarily improve or harm innovation competition. Just as with static efficiencies, the economic analysis of innovation competition should draw upon theoretical and empirical analysis of economic efficiencies. The innovative delta analysis applies to horizontal, conglomerate, and vertical mergers and acquisition of entrants. The welfare measure can be consumer welfare, or consumer welfare supplemented by economic efficiencies. Mergers that affect innovation competition can in turn impact innovation in products, production processes, and transaction methods.

Competition policy enforcers in the United States and the European Union have invoked innovation in merger analysis.¹³ It is important that antitrust policymakers avoid both type 1 and type 2 errors in merger analysis, including evaluating the effects of the merger on innovation.¹⁴ In evaluating dynamic efficiencies, the researcher should try to avoid rejecting the null hypothesis that the merger benefits innovation, if the merger is in fact beneficial. Conversely, the researcher should try to avoid accepting the hypothesis that the merger benefits innovation if it does not. These type 1 and type 2 errors in merger analysis risk harming innovation competition and social welfare.

We examine the basis for antitrust policies that seek to block mergers based on potential harm to innovation. There are two versions of the innovative theory of harm.¹⁵ One version is based on assumptions about the effects of market structure on innovation.¹⁶ The market structure theory of harm argues that mergers increase market concentration causing the merged firm, and possibly other firms in the market, to invest less in innovation.¹⁷ We observe that this economic analysis does not indicate that mergers necessarily decrease innovation.

13. See, e.g., Almudena Arcelus, Aaron Fix & Kevin Feeney, *Innovation Competition Assessment by Competition Authorities*, ANALYSIS GRP., INC. (Aug. 6, 2020), <https://www.analysisgroup.com/globalassets/insights/publishing/2020-innovation-competition-assessment-by-competition-authorities.pdf>.

14. For a discussion on type 1 and type 2 errors in merger analysis involving static efficiency, see JOHN KWOKA, *MERGERS, MERGER CONTROL, AND REMEDIES* (2014) and Michael Vita & F. David Osinski, *John Kwoka's Mergers, Merger Control, and Remedies: A Critical Review*, 82 ANTITRUST L.J. 361 (2018).

15. Nicolas Petit, *Innovation Competition, Unilateral Effects, and Merger Policy*, 82 ANTITRUST L.J. 873, 912–14 (2019).

16. *Id.* at 873-75.

17. *Id.* at 873-74.

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The other version of the innovative theory of harm assumes that the merged firm operates the initial companies as separate divisions that cannibalize each other's businesses.¹⁸ The cannibalization theory of harm argues that one division will innovate less to reduce the possibility of cannibalizing the business of the other division.¹⁹ We point out that policymakers should avoid the presumption of cannibalization because many businesses seek to offer product variety and continue product innovation after mergers.

Antitrust enforcers in various highly publicized cases have challenged some mergers based on concerns regarding harm to innovation. Some of these cases involve a presumption of harm, even though publicly available information suggested that the mergers would tend to enhance innovation. These cases include all types of mergers – horizontal, conglomerate, and vertical – as well as acquisitions of startups and entrants. We review some of these merger cases and suggest that presuming harm to innovation can decrease economic efficiency and harm welfare. We emphasize the need for empirical evaluation of the relationship between mergers and innovation competition.

Our discussion reviews some important antitrust cases that highlight the role of innovation in merger enforcement. We begin by examining how several horizontal merger cases address innovation: *Novartis/GlaxoSmithKline*,²⁰ *Amgen/Horizon Therapeutics*,²¹ and *Nielsen/Arbitron*.²² Then, we consider several cases involving vertical mergers and foreclosure cases that involve innovation: *Microsoft/Activision Blizzard*,²³ *Illumina/Grail*,²⁴ and *Nvidia/Arm*.²⁵ Finally, we examine antitrust policy

18. *Id.* at 875.

19. *Id.*

20. Commission Regulation 139/2004, Art. 6(1)(b) & 6(2), 2004 O.J. (L 24) (EC) [hereinafter Commission Regulation 139/2004].

21. Complaint, FTC v. Amgen Inc., No. 23-CV-3053 (N.D. Ill., May 16, 2023) [hereinafter *Amgen/Horizon Therapeutics* Complaint].

22. Decision and Order, Nielsen Holdings N.V., No. C-4439 (F.T.C. Feb. 24, 2014) [hereinafter *Nielsen/Arbitron* Decision & Order].

23. Complaint, Microsoft Corp., No. 9412 (F.T.C. Dec. 8, 2022) [hereinafter *Microsoft/Activision Blizzard* Complaint].

24. Complaint, Illumina, Inc., No. 9401 (F.T.C. Mar. 30, 2021) [hereinafter *Illumina/Grail* Complaint].

25. Complaint, Nvidia Corp., No. 9404 (F.T.C. Dec. 2, 2021) [hereinafter *Nvidia/Arm* Complaint].

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toward acquisitions of potential competitors that invokes innovation in *Meta/Within*.²⁶

The article is organized as follows. Section I discusses our basic framework for antitrust merger policy and the critical role of innovation competition.²⁷ Section II examines how innovation competition affects antitrust policy toward horizontal and conglomerate mergers.²⁸ Section III considers innovation competition and antitrust policy toward vertical mergers.²⁹ Section IV turns to the role of innovation competition in antitrust policy toward the acquisition of start-ups and entrants.³⁰ Throughout each section, we explore key cases that illustrate how antitrust merger policy addresses innovation and then conclude the discussion.³¹

I. ANTITRUST MERGER POLICY AND INNOVATION COMPETITION

With the shift toward innovation competition, antitrust policymakers are giving greater consideration to the effects of mergers on innovation. Traditional merger policy emphasizes the effects of mergers on costs and prices to evaluate the potential welfare consequences of mergers for consumer welfare.³² This requires economic analysis of market characteristics and competitive conduct with static technology. With innovation competition, antitrust policymakers need to examine the effects of introducing new products, production processes, and transaction methods. In addition, policymakers need to understand how technological change can result in the creation of new markets and the development of new competitive strategies. In this section, we examine how antitrust policy toward mergers can analyze mergers without presuming the effects of mergers on innovation competition.

A. Evaluating the Effects of Mergers on Innovation

The 2023 Merger Guidelines recognize that technological change and innovation competition can change market definitions in comparison to

26. Amended Complaint, F.T.C. v. Meta Platforms, Inc., No. 3:22-cv-04325, (N.D. Cal. July 27, 2022) [hereinafter *Meta/Within* Amended Complaint].

27. See *infra* Section I.

28. See *infra* Section II.

29. See *infra* Section III.

30. See *infra* Section IV.

31. See *infra* Conclusion.

32. Christine S. Wilson, Thomas J. Klotz & Jeremy A. Sandford, *Recalibrating the Dialogue on Welfare Standards: Reinserting the Total Welfare Standard into the Debate*, 26 GEO. MASON L. REV. 1435, 1438 (2019).

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traditional approaches. The 2023 Merger Guidelines thus state: “[i]n some cases, the Agencies may analyze different relevant markets when considering innovation than when considering other dimensions of competition.”³³ The 2023 Merger Guidelines also observe that economic analysis can be used to understand innovation competition, just as with other forms of competition: “[w]hen considering harm to competition in innovation, market definition may follow the same approaches that are used to analyze other dimensions of competition.”³⁴

Despite recognizing the benefits of innovation competition, some proposed antitrust policies condemn mergers due to a presumption of harm to innovation.³⁵ Policymakers partly justify the presumption of harm by uncertainties inherent in innovation. The 2023 Merger Guidelines express concerns about the prediction of dynamic effects: “[i]mportant dynamic competitive effects can arise through the entry, investment, innovation, and terms offered by the merged firm and other industry participants, even when the Agencies cannot predict specific reactions and responses with precision.”³⁶ The 2023 Merger Guidelines also allow market definition based on conjectures about innovation: “[i]n the case where a merger may substantially lessen competition by decreasing incentives to innovate, the Agencies may define relevant antitrust markets around the products that would result from that innovation if successful, even if those products do not yet exist.”³⁷

Antitrust policy toward innovation, however, does not require a Rawlsian “veil of ignorance.”³⁸ Economic analysis helps remove the veil of ignorance, allowing merger policy to estimate the effects of mergers on innovation. Measurement of the innovative delta is feasible rather than speculative.³⁹ Measurement of the innovative delta through empirical estimation can provide either a defense of a merger or raise policy concerns.

Rather than speculating about the potential benefits or harm from mergers, the economics of technology and innovation provides tools for

33. 2023 MERGER GUIDELINES, *supra* note 3, at 48.

34. *Id.*

35. *Id.* at 19, 48.

36. *Id.* at 19.

37. *Id.* at 48.

38. Adrian Vermeule, *Veil of Ignorance Rules in Constitutional Law*, 111 YALE L.J. 399, 399 (2001) (“‘A veil of ignorance rule (more briefly a ‘veil rule’) is a rule that suppresses self-interested behavior on the part of decisionmakers; it does so by subjecting the decisionmakers to uncertainty about the distribution of benefits and burdens that will result from a decision.’”) (footnote omitted); see generally JOHN RAWLS, A THEORY OF JUSTICE (1971); and Ronald Dworkin, *What Is Equality? Part 2: Equality of Resources*, in THE NOTION OF EQUALITY 154 (Mane Hajdin ed., 2001).

39. See Spulber, *Antitrust Policy Toward Innovation Competition*, *supra* note 2, at 3.

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identifying specific technological changes and quantifying their economic effects. This analysis begins by observing the introduction of innovations to the marketplace and examining the adoption of those technologies by consumers and firms. This provides a basis for estimating the benefits and costs of mergers that result from technological change.

For example, an economic study by Mitsuru Igami examines creative destruction in the hard disk drive industry.⁴⁰ Igami isolates a particular technological change: the replacement of the 5.25-inch hard disk drive by the 3.5-inch hard disk drive.⁴¹ Igami's study generates estimates of operating costs and innovative investment and characterizes competition and entry.⁴² Igami, along with Kosuke Uetake, build on this analysis to empirically examine the effects of mergers on innovation, competition, and economic efficiency in the hard disk drive industry.⁴³ There is a need for additional research to better understand how mergers affect incentives for innovation.

Antitrust merger policy that considers innovation also contemplates non-price aspects of innovation competition. Economic reasoning and empirical analysis of innovation are feasible when studying specific technological changes. As a result, economic analysis of the effects of mergers on innovation competition can serve as a useful guide for antitrust policymakers.

Developments in the economics of technology and innovation provide a more complex picture of how mergers might affect innovation. The effects on innovation from changes in market structure can depend on many factors. It is necessary to evaluate whether the merger is horizontal, conglomerate, vertical, or an acquisition of a new entrant. It is necessary to consider whether innovation takes the form of new products, new production processes, and new transaction methods. Complex innovations such as smartphones can involve combinations of hundreds of inventions, including advances in microprocessors, memory, modems, software, cameras, and batteries.

IP is critical for understanding innovation competition. Prior to the 2023 Merger Guidelines, the DOJ and FTC asked several questions on

40. See generally Mitsuru Igami, *Estimating the Innovator's Dilemma: Structural Analysis of Creative Destruction in the Hard Disk Drive Industry, 1981-1998*, 125 J. POL. ECON. 798 (2017).

41. See generally *id.*

42. See generally *id.*

43. See generally Mitsuru Igami & Kosuke Uetake, *Mergers, Innovation, and Entry-Exit Dynamics: Consolidation of the Hard Disk Drive Industry, 1996-2016*, 87 REV. ECON. STUD. 2672 (2020).

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the interaction between innovation and IP.⁴⁴ These questions included: “[s]hould the guidelines use a different approach to market definition when considering innovation as compared to price effects?”; “[w]hat approaches can the guidelines use to determine whether technologies subject to a license or acquisition either compete with or complement the licensee’s or acquirer’s own technologies?”; “[h]ow do those approaches perform in circumstances where parties own or license many patents related to the same categories of products?”; “[s]hould market definition play a secondary role to analysis of how the merger directly affects the incentive to innovate?”; “[t]o what extent does a focus on product market overlaps fail to identify broader concerns about incentives to innovate, particularly given that innovation may involve the creation of new product or service categories?”⁴⁵

United States antitrust agencies and European Commission competition enforcers have emphasized the possibility of harm to innovation competition as a key justification for blocking horizontal and vertical mergers and acquisition of entrants.⁴⁶ In contrast, mergers can increase efficiency in innovation and intensify innovation competition, which can serve as a defense of mergers.

Applying economic analysis to mergers can measure their effects on innovative efficiencies and innovation competition. Just as with price competition, economic analysis of innovation competition can generate estimates of harm or benefits to welfare resulting from mergers. Measuring the effects of the merger on welfare yields an innovative delta. When the innovative delta is negative the merger can be harmful to welfare, but when the innovative delta is positive, the merger can increase welfare. The innovative benefits of mergers should serve as a defense of a merger.

The presumption that mergers can harm innovation is an integral part of EU antitrust policy. Ioannis Kokkoris and Tommaso Valletti observe

44. DEPT OF JUST. & FED. TRADE COMM’N, REQUEST FOR INFORMATION ON MERGER ENFORCEMENT 2, 7 (2022), <https://www.regulations.gov/document/FTC-2022-0003-0001>.

45. *Id.* at 7.

46. In discussing reasons for challenging mergers that eliminate reasonably probable future entry, note that, among other benefits, “[n]ew entry can yield. . . . greater invention. . . .”^{2023 MERGER GUIDELINES, *supra* note 3, at 11. The Guidelines also stress that, “the best mix of [innovative] products and features is an important dimension of competition that may be harmed as a result of the elimination of competition between the merging parties.” *Id.* at 39. And more dramatically, it is argued that in recent enforcement actions, the European Commission has adopted a novel “general assessment of harm to innovation, unrelated to a specific product market and without considering potential anticompetitive effects on this basis.” See Mario Todino, Geoffroy van de Walle & Lucia Stoican, *EU Merger Control and Harm to Innovation—A Long Walk to Freedom (from the Chains of Causation)*, 64 ANTITRUST BULL. 11, 11 (2018).}

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that “[b]etween 2015 and 2017 the Commission intervened in 73 cases out of 1070 merger notifications with innovation concerns being identified in 10 cases, usually in addition to static price concerns. In this limited, albeit influential caselaw, we can identify an innovation theory of harm.”⁴⁷

In the 2017 *Dow/DuPont* decision, the European Commission began to treat reduced innovation as a unilateral effect similar to the incentive of a merged firm to raise prices.⁴⁸ The *Dow/DuPont* decision mentions innovation over 1,760 times and states that, “the Commission considers that the Transaction would be likely to significantly impede effective competition as regards innovation both in innovation spaces where the Parties lines of research and early pipeline products overlap and overall in innovation in the crop protection industry.”⁴⁹ Accordingly, as a condition to clearing the transaction, the Commission required the two companies to divest significant innovation-rich product portfolios.⁵⁰

According to Carles Esteve Mosso, the European Commission’s Deputy Director General for Mergers, “[i]n many industries innovation is a key parameter of competition and thus an important criterion in the Commission’s merger appraisals. Our Horizontal Merger Guidelines make clear that increased market power resulting from a merger may manifest itself in various ways, including through diminished innovation.”⁵¹ Mosso observes that “[t]he Horizontal Merger Guidelines expressly mention innovation as one of the criteria against which to assess the likely effects of a merger, and in particular whether the merger eliminates an important competitive force.”⁵² Mosso states that “[t]o enable a proper assessment of innovation effects, our standard merger notification forms require the parties to provide information on the R&D, IP rights and pipeline

47. Ioannis Kokkoris & Tommaso Valletti, *Innovation Considerations in Horizontal Merger Control*, 16 J. COMPETITION L. & ECON. 220, 2 (2020) (footnote omitted).

48. Commission Decision (EC) No. 139/2004 of 27 Mar. 2017.

49. *Id.* at 507.

50. Press Release, DuPont, Dow and DuPont Receive Conditional Approval from European Commission for Proposed Merger of Equals (Mar. 27, 2017), <https://www.dupont.com/news/dow-and-dupont-receive-conditional-approval-european-commission-for-proposed-merger-of-equals.html>. DuPont was required to divest its Cereal Broadleaf Herbicides and Chewing Insecticides portfolios, and part of its Crop Protection research and development pipeline and organization. Dow was required to divest its global Ethylene Acrylic Acid (EAA) copolymers and ionomers business.

51. See Carles Esteve Mosso, Deputy Dir. Gen. for Mergers, Eur. Comm’n Directorate-Gen. for Competition, Remarks prepared for the 66th ABA Section of Antitrust Law Spring Meeting: Innovation in EU Merger Control, 2 (Apr. 12, 2018).

52. *Id.*; see also DEP’T OF JUST. & FED. TRADE COMM’N, HORIZONTAL MERGER GUIDELINES (2004).

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products relevant for the notified transaction.”⁵³ Finally, Mosso points out that the Horizontal Merger Guidelines recognize that mergers can increase innovation, noting that “such effects are typically assessed by the Commission in the context of efficiency submissions by the parties.”⁵⁴

The European Commission took innovation into account in blocking the merger between Deutsche Börse and NYSE Euronext.⁵⁵ The EU General Court in *Deutsche Börse AG v European Commission* upheld the rejection of the merger by denying the appeal of Deutsche Börse.⁵⁶ The European Commission argued that the merger would reduce innovation by reducing the number of competitors.⁵⁷ According to the decision, “the Commission took the view that the parties to the concentration were each other’s only constraint in terms of product innovation or that the competition between the parties to the concentration was the only driver of new product development.”⁵⁸

B. The 2023 Merger Guidelines Strengthen Structural Presumptions of Illegality

The 2023 Merger Guidelines make it much more difficult, if not impossible, for merging parties to present well-documented innovation efficiencies to enforcers. Indeed, the pervasive tone of the new Guidelines is that mergers should be viewed with suspicion, that increased market concentration has no redeeming virtues and that efficiency justifications for mergers will be given short shrift. The 2023 Merger Guidelines appear to endorse the view that mergers harm innovation: “[t]he merged firm may have a reduced incentive to continue or initiate development of new products that would have competed with the other merging party, but post-merger would ‘cannibalize’ what would be its own sales.”⁵⁹

The 2023 Guidelines address all types of mergers, including horizontal, vertical, and conglomerate acquisitions. The new Guidelines update prior guidance on market definition and rebuttal evidence. The heart of the 2023 Guidelines, however, comprises eleven new individual “guidelines”

53. Mosso, *supra* note 51, at 3.

54. *Id.*

55. Case T-175/12, *Deutsche Börse v. Commission*, ECLI:EU:T:2015:148 (Mar. 9, 2015).

56. *Id.*

57. The decision states, “[t]he Commission noted that, following the proposed concentration, derivatives users trading European interest rate derivatives would see their choice of platforms significantly reduced, which would be likely to lead to higher exchange fees and less innovation.”*Id.* at ¶ 138.

58. *See id.* ¶ 163.

59. 2023 MERGER GUIDELINES, *supra* note 3, at 39.

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that will be the principal source for enforcers' evaluations of proposed mergers.

The eleven new individual guidelines largely ignore any potential benefits of mergers. Rather, the individual guidelines put forth a variety of alternative analytic standards that the agencies may rely upon to challenge mergers.⁶⁰ In particular, they proceed from a simplistic structuralist presumption that essentially ignores developments in industrial organization economics over the last four decades that have informed antitrust litigation. The guidelines also selectively cite antitrust case law, much of which was developed prior to the Supreme Court's enhanced focus on economics that began in the mid-1970s with *General Dynamics*⁶¹ and *GTE-Sylvania*.⁶² The individual guidelines also have little to say about how mergers may affect consumer welfare promotion, which the Supreme Court, since 1979, has stressed is the overarching goal of antitrust enforcement.⁶³ Furthermore, the Guidelines do not emphasize the fundamental economic differences between horizontal integration and vertical integration (which is far less likely to harm competition).⁶⁴

Notably, and without serious policy justification, guideline one creates a *much stronger* presumption of illegality for horizontal mergers based upon a *lower* HHI threshold. As Brian Albrecht explained, in commenting on the July 2023 draft version of guideline 1 (which was cosmetically but not substantively changed in the final 2023 Guidelines), this portends a sea change in the agencies' enforcement approach that would inevitably lead to a far higher proportion of mergers being deemed illegal.⁶⁵ Brian Albrecht observes "under the new guidelines, an HHI over the threshold creates 'structural presumption' against the merger. Underscoring the

60. For critiques of individual guidelines in the July 2023 Draft Merger Guidelines, see Gregory J. Werden, *Comments on Draft Merger Guidelines*, GEO. MASON UNIV.-MERCATUS CTR. (Aug. 16, 2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4540166.

61. *United States v. Gen. Dynamics Corp.*, 415 U.S. 486 (1974).

62. *Cont'l T. V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36 (1977).

63. *Reiter v. Sonotone Corp.*, 442 U.S. 330, 343 (1979) ("Congress designed the Sherman Act as a 'consumer welfare prescription.'"). Although *Sonotone* was not a Clayton Act merger decision, the focus on consumer welfare has pervaded modern antitrust analysis and case law to such an extent that it would not be credible to assert that courts would not consider a consumer welfare standard to be central to antitrust merger enforcement.

64. See, e.g., Francine Lafontaine & Margaret Slade, *Vertical Integration and Firm Boundaries: The Evidence*, 45 J. ECON. LITERATURE 629, 662 (2007).

65. Brian Albrecht, *What Economists Should Know About the New Merger Guidelines*, ECON. FORCES (July 20, 2023), <https://www.economicforces.xyz/p/what-economics-should-know-about>.

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significance of this change, the permissible consumer welfare defenses in the face of a structural presumption basically don't exist."⁶⁶

Finally, the 2023 Merger Guidelines make it virtually impossible for merging parties to present an efficiencies defense, including innovation-related efficiencies. The opening paragraph of Section 3.3 of the 2023 Guidelines, entitled "procompetitive efficiencies," stresses that "[t]he Supreme Court has held that 'possible economies [from a merger] cannot be used as a defense to illegality.'"⁶⁷ According to the 2023 Guidelines, "[c]ompetition usually spurs firms to achieve efficiencies internally, and firms also often work together using contracts short of a merger to combine complementary assets without the full anticompetitive consequences of a merger."⁶⁸

The 2023 Merger Guidelines consider some aspects of evidence in an efficiencies defense: merger specificity, verifiability, if it prevents a reduction in competition, and the absence of anticompetitive effects.⁶⁹ The 2023 Merger Guidelines, however, discuss this evidence in a negative manner.⁷⁰ For example, they state that evidence for efficiencies will be weighed against alternative arrangements that "could include organic growth of one of the merging firms, contracts between them, mergers with others, or a partial merger involving only those assets that give rise to the procompetitive efficiencies."⁷¹ This approach tends to ignore the transaction costs of contracts for combining complementary assets. The 2023 Merger Guidelines further observe "[t]o the extent efficiencies merely benefit the merging firms, they are not cognizable. The merging parties must demonstrate through credible evidence that, within a short period of time, the benefits will prevent the risk of a substantial lessening

66. *Id.*

67. 2023 MERGER GUIDELINES, *supra* note 3, at 32 (citing *United States v. Philadelphia Nat'l Bank*, 374 U.S. 321, 371 (1963)).

68. *Id.*

69. *Id.* at 32-33.

70. Alden Abbott, *The New Merger Guideline Commandments: Thirteen is an Unlucky Number*, TRUTH ON THE MKT. (July 19, 2023), <https://truthonthemarket.com/2023/07/19/the-new-merger-guideline-commandments-thirteen-is-an-unlucky-number/>. The agencies' opposition to seriously consider efficiencies flies in the face of a recent literature review highlighting existing academic studies that have observed real-world mergers resulting in improved performance for the combined entity. See Maureen K. Ohlhausen & Taylor M. Owings, *The Case for M&A: Evidence of Efficiencies in Consummated Mergers*, COMPETITION POL'Y INT'L ANTITRUST CHRON. (Aug. 2023), <https://www.pymnts.com/wp-content/uploads/2023/08/8-THE-CASE-FOR-M-A-EVIDENCE-OF-EFFICIENCIES-IN-CONSUMMATED-MERGERS-Maureen-K-Ohlhausen-Taylor-M-Owings-1.pdf>.

71. 2023 MERGER GUIDELINES, *supra* note 3, at 32.

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of competition in the relevant market.”⁷² Yet, efficiencies at the individual firm level enhance competition and innovation. Thus, the 2023 Merger Guidelines may disregard potential efficiencies at the level of the merged firm that provide consumer benefits and increase economic efficiency.

II. HORIZONTAL AND CONGLOMERATE MERGERS AND INNOVATION COMPETITION

Antitrust policy toward horizontal and conglomerate mergers considers whether possible reductions in competition will occur, leading to reduced competitive investment in innovation. Similar considerations would apply to any other type of capital investment, including plant and equipment, human capital, brand equity, and knowledge capital. There is little evidence that industry consolidation will reduce these types of investments. Policymakers have suggested that market consolidation has increased and discouraged innovation. However, Dan Andrews and Alain de Serres find that the “importance of intangible capital – i.e. assets that have no physical or financial embodiment – has been rising in OECD and emerging economies.”⁷³

A. Antitrust Policy Toward Horizontal and Conglomerate Mergers

The FTC and DOJ view mergers as harmful to innovation. The 2023 Merger Guidelines combine horizontal, vertical, and entrant merger policies into one set of guidelines. The FTC and DOJ are concerned that the U.S. economy is increasingly concentrated. Prior to the 2023 Guidelines, the FTC stated that “[t]his concentration may reflect decreased competition, which can result in higher prices for consumers, decreased innovation, reduction in output, and lower wages for workers.”⁷⁴

A Notice of Proposed Rulemaking to amend Pre-Merger Notification Rules asserts that a “pattern of serial acquisitions may also affect competition among innovative firms by consolidating innovation efforts into the hands of market leaders or other firms attempting to control the pace or direction of innovation.”⁷⁵ The agencies seek to identify “a potential

72. *Id.* at 33.

73. Dan Andrews and Alain de Serres, *Intangible Assets, Resource Allocation and Growth: A Framework for Analysis*, 38 (OECD Econ. Dept. Working Paper, No. 989, 2012) (emphasis omitted), <https://www.oecd-ilibrary.org/docserver/5k92s63w14wb-en.pdf?expires=1712010826&id=id&accname=guest&checksum=7E8D32B0D7FE0FE641F07425613DE3E8>.

74. FTC Premerger Notification; Reporting and Waiting Period Requirements, 88 Fed. Reg. 42178 (proposed June 29, 2023) (to be codified at 16 CFR pts. 801 and 803).

75. *Id.*

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pattern of acquisitions in a particular industry that has contributed to a trend toward concentration or vertical integration that affects the competitive dynamics for the parties to the transaction, as well as the commercial realities of post-merger competition.”⁷⁶

The FTC and DOJ requested public comment on antitrust merger policy before issuing the 2023 Merger Guidelines (hereafter Request).⁷⁷ The Request asked: “[s]hould the guidelines use a different approach to market definition when considering innovation as compared to price effects?”;⁷⁸ “[s]hould market definition play a secondary role to analysis of how the merger directly affects the incentive to innovate?”;⁷⁹ and “[t]o what extent does a focus on product market overlaps fail to identify broader concerns about incentives to innovate, particularly given that innovation may involve the creation of new product or service categories?”⁸⁰

These requests for public comment underscore the fact that the FTC and DOJ’s approach to antitrust merger policy views market structure as a determinant of the effects of mergers on innovation. The market structure version of the innovation theory of harm posits that horizontal mergers decrease competition, leading to less innovation.

The FTC and DOJ merger policy recalls the obsolete structure-conduct-performance (SCP) approach to antitrust.⁸¹ This approach maintained that a concentrated market structure causes monopolistic conduct, leading to inefficient economic performance in the form of high prices. Economic analysis in the field of industrial organization led to a rejection of this approach because price competition tended to mitigate or eliminate simple causal relationships between market structure and competitive conduct.⁸² In addition, entry and the threat of entry tended to limit the assumed effects of market structure on anticompetitive conduct and industry performance.

The market structure version of the innovation theory of harm seeks to apply a SCP approach to innovation competition. The story goes as follows. A concentrated market structure leads to monopolistic conduct in innovation competition. In turn, monopolistic conduct in innovation

76. *Id.*

77. U.S. DEPT OF JUST. & FED. TRADE COMM’N, REQUEST FOR INFORMATION ON MERGER ENFORCEMENT (2022) [hereinafter DOJ/FTC Request].

78. *Id.*

79. *Id.*

80. *Id.*

81. For an overview of the SCP approach, see Matthew T. Panhans, *The Rise, Fall, and Legacy of the Structure-Conduct-Performance Paradigm*, J. HIST. ECON. THOUGHT (forthcoming 2024).

82. See, e.g., Spulber, *Antitrust and Innovation Competition*, *supra* note 1, at 7, 8.

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competition decreases the amount of innovation. This leads to fewer new products, new production processes, or new transaction methods. Because such conduct decreases innovation, the conclusion is that a concentrated industry will fail to be dynamically efficient. Applying this approach suggests that mergers should be rejected on the grounds that market concentration decreases innovation and leads to dynamic inefficiencies.

The SCP approach fails when applied to innovation competition, just as it fails when applied to price competition. First, there is little or no evidence to suggest that market structure has a simple negative effect on innovative conduct. Depending on firm strategies, industries with only a few firms can be intensely competitive in terms of R&D investment and the extent of innovation. Also, entry and the threat of entry can generate intense innovation competition. The entry of creative entrepreneurs and the process of creative destruction can generate dynamic efficiency and rapid technological change.⁸³

Antitrust policy toward mergers should not rely on a SCP approach to innovation. Antitrust policymakers in the U.S., however, have advanced the view that concentrated market structure decreases incentives for invention and innovation. For example, then-FTC Bureau of Competition Director Holly Vedova stated that “[r]ampant consolidation in the pharmaceutical industry has given powerful companies a pass to exorbitantly hike prescription drug prices, deny patients access to more affordable generics, and hamstring innovation in life-saving markets.”⁸⁴

The misleading SCP approach to innovation is gaining popularity in the EU. Nicolas Petit notes that “[t]he [European] Commission has traditionally examined the impact of mergers on innovation competition. Many cases in the pharmaceutical, chemical, industrial and financial sectors have been remedied on the grounds of a post-merger risk of decreased incentives to innovate.”⁸⁵

The market structure version of the innovation theory of harm makes a dubious prediction of the effects of market structure on innovation. There is little, if any, empirical evidence that industry consolidation determines the extent of innovation. In an analysis of economics literature,

83. DANIEL F. SPULBER, *THE INNOVATIVE ENTREPRENEUR* (Cambridge Univ. Press 2014).

84. Press Release, Fed. Trade Comm’n, *FTC Sues to Block Biopharmaceutical Giant Amgen from Acquisition That Would Entrench Monopoly Drugs Used to Treat Two Serious Illnesses* (May 16, 2023), <https://www.ftc.gov/news-events/news/press-releases/2023/05/ftc-sues-block-biopharmaceutical-giant-amgen-acquisition-would-entrench-monopoly-drugs-used-treat> [hereinafter *FTC Amgen Press Release*].

85. Nicholas Petit, “*Innovation competition and merger policy: New? Not sure. Robust? Not quite!*,” *CONCURRENCES: REVUE DES DROITS DE LA CONCURRENCE* 2, 2018.

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John Sutton observes that “there appears to be no consensus as to the form of relationship, if any, between R&D intensity and concentration.”⁸⁶ Similarly, in surveying 50 years of economics literature on this topic, Wesley Cohen does not find evidence that market consolidation discourages innovation.⁸⁷

To illustrate an economic analysis of this problem, consider a relatively standard theoretical approach to studying how market structure affects innovation.⁸⁸ Assume that firms only engage in in-house R&D so that R&D and production are vertically integrated. With only in-house R&D, it is assumed that there is no market for technology. Assume further that the sole purpose of R&D is to improve the firm’s production process by lowering its production cost. Assume further that firms engage in monopolistic price competition with differentiated products. Then, it can be demonstrated theoretically that industry consolidation *increases* R&D, which is the opposite of what is predicted by the innovation theory of harm. Xavier Vives derives this important theoretical result and shows that it holds for many standard settings in the field of industrial organization.⁸⁹

The reasoning for the theoretical result that industry consolidation increases R&D is as follows: with fewer firms, monopolistic competition becomes less intense, leading to higher prices, and greater output for each firm. If each firm produces a greater output, the returns to cost-reducing R&D are greater, thus inducing each firm to invest more in cost-reducing R&D. Thus, because mergers decrease the number of firms, the result will be greater output per firm and more innovation.

In other words, suppose that a process innovation decreases unit cost by an amount X . If a firm produces Q units of output, the return to R&D investment is the cost reduction, which is calculated by multiplying the reduction in unit cost by output, XQ . Suppose that there are N firms in the industry. Also, suppose that output per firm $Q(N)$ is decreasing in the number of firms in the industry. With consolidation due to a merger, output per firm increases to $Q(N - 1)$. This means that incentives to innovate

86. J. Gregory Sidak & David Teece, *Favouring Dynamic Competition over Static Competition in Antitrust Law*, in INTELLECTUAL PROPERTY, COMPETITION LAW AND ECONOMICS IN ASIA 53, 66 (R. Ian McEwin ed., 2011) (citation omitted).

87. Wesley M. Cohen, *Fifty Years of Empirical Studies of Innovative Activity and Performance*, in HANDBOOK OF THE ECONOMICS OF INNOVATION 129 (North Holland, 2010).

88. For a theoretical analysis and an overview of the relevant literature, see Xavier Vives, *Innovation and Competitive Pressure*, 56 J. INDUS. ECON. 419 (2008).

89. Xavier Vives, *Innovation and Competitive Pressure*, 56 J. INDUS. ECON. 419, 419 (2008) (“It is found that increasing the number of firms tends to decrease cost reduction expenditure per firm”).

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for each firm increase from $XQ(N)$ to $XQ(N - 1)$. It bears emphasis that if the standard monopolization competition model is used to predict that fewer firms lead to price increases, the same model predicts that fewer firms increase incentives to innovate.

Merged firms increase incentives for innovation because incentives to invent depend on the extent of the market.⁹⁰ The merged firm accesses greater demand, which can increase its output relative to the separate firms. This increases the returns to product, process, and transaction innovations, leading to increases in incentives to innovate.

Another problem with applying the SCP approach to innovation is that it disregards the benefits of innovation ecosystems. Firms are incentivized to invent and innovate because they can license or transfer technology to other firms.

The major antitrust enforcement agencies have taken a blinkered approach to pharmaceutical mergers and innovation, focusing excessively on presumed post-merger effects on internal R&D and ignoring the drug development “ecosystem” featuring small and large firms that underlie new drug development in the modern pharmaceutical industry.

In her study of consolidation and innovation in the pharmaceutical industry, Joanna Shepherd described a pattern of increasing innovation alongside growing industry consolidation.⁹¹ Shepherd noted that this finding was consistent with the evolution of the pharma innovation ecosystem.⁹² Because mergers can increase demand for licensing and other external sources of innovation, Shepherd stressed that merger analyses should not be limited to internal sources of innovation.⁹³

Consolidation can promote innovation within the merged firm and its partners.⁹⁴ Post-merger, heightened innovation and faster drug

90. See generally Daniel F. Spulber, *The Quality of Innovation and the Extent of the Market*, 80 J. INT'L. ECON. 260 (2010); Daniel F. Spulber, *Innovation and International Trade in Technology*, 138 J. ECON. THEORY 1 (2008); JACOB SCHMOOKLER, *INVENTION AND ECON. GROWTH* (Harvard Univ. Press, 1966); Alfred Kleinknecht & Bart Verspagen, *Demand and Innovation: Schmookler Re-Examined*, 19 RSCH. POL'Y 387 (1990).

91. Joanna Shepherd, *Consolidation and Innovation in the Pharmaceutical Industry: The Role of Mergers and Acquisitions in the Current Innovation Ecosystem*, 21 J. HEALTH CARE L. & POL'Y 1, 28 (2018) (“As a result, merger analyses that focus on the impact of pharmaceutical consolidation on internal innovation are incomplete because they fail to recognize that consolidation can increase demand for externally-sourced innovation and, ultimately, strengthen aggregate drug innovation.”).

92. *Id.*

93. *Id.*

94. See Alden F. Abbott & Andrew Mercado, *Pharmaceutical Merger Enforcement Should Be Supported by Evidence and Sound Economic Theory*, MERCATUS CTR. (June 24, 2021),

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development may stem from joining complementary R&D programs and combining diverse and specialized expertise.⁹⁵ The merged firm may bring together IP portfolios and research data. Access to this IP and research data may enhance the efficiency of innovation both within the merged firm and in partnerships between merged firms and smaller research firms.⁹⁶

Furthermore, antitrust divestitures aimed at dealing with perceived competitive problems instead may stymie timely and cost-effective realization of the fruits of pharmaceutical innovation: new and valuable drugs. Unnecessary divestitures may do this by precluding the realization of scale economies in R&D.⁹⁷ Alden Abbott and Andrew Mercado point out that “[i]f merging parties lose valuable labor or data, they will have to hire and train more individuals and recreate the data for use in their other projects, which will take time and resources away from [drug] development, regulatory approval, and other necessary functions of a pharmaceutical business.”⁹⁸

B. Three Cases That Reject Innovation Efficiencies in Horizontal and Conglomerate Mergers

We now turn to three cases that raise innovation issues: a horizontal merger challenged by the European Commission; a conglomerate merger opposed by the FTC; and a merger involving a “future market” also challenged by the FTC. All three cases were brought prior to the issuance of the 2023 Merger Guidelines. In these matters the agencies relied on highly theoretical theories of potential harms, while failing to credit robust innovation-based efficiencies justifications.

A common feature of these cases is that the enforcers have focused on a presumption of harm, due to hypothesized future procompetitive innovation-related efficiencies that a merger might preclude. In so doing, they gave short shrift to more likely and substantial near-term innovation-related efficiencies.

Our assessment is not designed to reach conclusions on the ultimate merits of particular cases (although based on public information, we

<https://www.mercatus.org/research/public-interest-comments/pharmaceutical-merger-enforcement-should-be-supported-evidence>.

95. See Alden Abbott, *Dynamic Merger Efficiencies: The Case of Pharmaceutical Markets*, TRUTH ON THE MKT. (June 25, 2021), <https://truthonthemarket.com/2021/06/25/dynamic-merger-efficiencies-the-case-of-pharmaceutical-markets/>.

96. See *id.*

97. Abbott and Mercado, *supra* note 94, at 9.

98. *Id.*

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believe that these transactions likely were erroneously challenged). Rather, it is meant to illustrate key flaws in the enforcers' discussion of innovation, that, if repeated, would tend to increase the rate of erroneous challenges to innovation-enhancing transactions. Such challenges would, of course, deny society the welfare benefits of mergers that are eventually struck down or dropped in the wake of enforcement actions. Additional welfare-enhancing innovation would also be sacrificed, embodied in beneficial mergers foregone due to litigation risk stemming from enforcers' flawed innovation analysis.

1. Novartis/GlaxoSmithKline

Novartis/GlaxoSmithKline illustrates how antitrust policy addresses the potential effects of horizontal mergers on innovation competition.⁹⁹ The decision posits an innovation theory of harm based on uncertainties in future technological change to object to a contemporary merger. *Novartis/GlaxoSmithKline* examines the potential effects of product innovation on market definition.¹⁰⁰ The key aspect of this 2015 decision by the European Commission is future market overlaps of the merging companies. According to the decision, the Commission "considers that when research and development ('R&D') activities are assessed in terms of importance for future markets, the product market definition can be left open, reflecting the intrinsic uncertainty in analyzing products that do not exist as yet."¹⁰¹ Nicolas Petit notes that *Novartis/GlaxoSmithKline* introduces the cannibalization version of the innovation theory of harm.¹⁰²

Novartis/GlaxoSmithKline distinguishes between innovation incentives before and after the merger. The decision finds that "[p]re-transaction each party had an incentive to invest in this type of differentiation strategy to the extent that it was expected to provide some competitive

99. Case M.7275 – NOVARTIS/ GLAXOSMITHKLINE ONCOLOGY BUSINESS, Commission decision pursuant to Article 6(1)(b) in conjunction with Article 6(2) of Council Regulation No 139/2004 (Jan. 28, 2015), https://ec.europa.eu/competition/mergers/cases/decisions/m7275_20150128_20212_4158734_EN.pdf.

100. *Id.* at 5-7.

101. *Id.* at 6 (alteration in original).

102. Petit, *supra* note 15, at 873-75; Petit, *supra* note 85. In settling this case, the FTC (in coordination with competition agencies in the European Commission, Canada, and Australia) agreed to divest all assets related to its BRAF and MEK inhibitor drugs (used to treat melanoma), currently in development, to Boulder, Colorado-based Array BioPharma; *see also* Press Release, Fed. Trade Comm'n, FTC Puts Conditions on Novartis AG's Proposed Acquisition of GlaxoSmithKline's Oncology Drugs (Feb. 23, 2015), <https://www.ftc.gov/news-events/news/press-releases/2015/02/ftc-puts-conditions-novartis-ags-proposed-acquisition-glaxosmithklines-oncology-drugs>.

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advantage over its competitors, either regarding the entire potential patient population or regarding a specific segment of patients.”¹⁰³ The decision continues, “[p]ost-transaction, the Notifying Party could still have some incentive to develop two competing clinical research programs in parallel, provided that through differentiation it could expect to attain additional overall sales to compensate and reward the incremental cost of running the second clinical research program.”¹⁰⁴ The decision concludes that “such incentives will be undermined compared to the pre-transaction situation by the internalization of the expected sales-cannibalization effect between the two competing clinical research programs.”¹⁰⁵

The Commission’s cannibalization theory “considers that the product market definition for pipeline pharmaceuticals can be guided primarily by the characteristics of future products as well as by the indications to which they are to be applied.”¹⁰⁶ The decision concludes that without the merger, the products of Novartis and Glaxo Smith Kline (GSK) “would likely have constrained each other in the market for targeted therapies for advanced melanoma.”¹⁰⁷

The Commission presumes that the merger will harm innovation. The Commission is concerned about the loss of potential competition from the Novartis R&D pipeline. The Commission reached this conclusion for treatments for melanoma, even acknowledging that Roche was another competitor in this market. In treatments for ovarian cancer, the Commission again “considers that the potential for pipeline pharmaceuticals to enter into competition with other products which are either on the market or at the development stage should be assessed by reference to their characteristics and intended therapeutic use.”¹⁰⁸

According to *Novartis/GlaxoSmithKline*, “the Commission considers that the relevant competing clinical research programs in this case should be identified by reference to the mechanism of action of the pipeline products concerned, the cancer type for which the pipeline products are being trialed in clinical studies and the Phase of these clinical trials.”¹⁰⁹

103. Case M.7275, *supra* note 99, at 19.

104. *Id.* at 19-20

105. Commission Regulation 139/2004, *supra* note 20, at 20 (alteration in original).

106. *Id.* at 6.

107. *Id.* at 11-12.

108. *Id.* at 13.

109. *Id.* at 17.

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Novartis/GlaxoSmithKline is optimistic about the success of R&D pre-merger and pessimistic about the continuation of R&D efforts post-merger.¹¹⁰ According to the decision:

*[w]hatever the level of uncertainty might be, a reduction in the efforts invested to bring forward a clinical research program can reasonably be expected to reduce its probability of success. Ultimately, the abandonment of an entire clinical research program for a certain product or products would have as a necessary consequence the failure in bringing such products to the market.*¹¹¹

Novartis/GlaxoSmithKline reflects concerns that mergers will reduce competition in innovation and that this “is likely to reduce the number of new products that will be developed for the same product market.”¹¹² In turn, reduced product variety will increase prices and reduce choices for physicians and their patients.

The cannibalization approach introduced by *Novartis/GlaxoSmithKline* does not account for efficiencies stemming from related R&D programs. The decision presumes that maintaining separate programs will generate more products than combined R&D programs.¹¹³ This approach is hypothetical and not based on economic reasoning or evidence. With R&D complementarities, the merged firm could just as well increase the number of innovative products. The decision makes predictions regarding the success of pre-merger R&D programs and the abandonment of R&D programs post-merger.¹¹⁴ The decision also overvalues the potential success of the merging firms and undervalues competition from existing competitors as well as future entrants.¹¹⁵ *Novartis/GlaxoSmithKline* views industry consolidation as a means of reducing innovation rather than a source of efficiencies in R&D that will increase innovation.¹¹⁶

110. *Id.* at 18-20.

111. *Id.* at 20.

112. *Id.* at 21.

113. *Id.* at 19-22.

114. *Id. passim.*

115. *Id., passim.*

116. *Id., passim.*

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2. Amgen/Horizon Therapeutics

In *Amgen/Horizon Therapeutics*,¹¹⁷ the FTC challenged a conglomerate merger that addressed the companies' product portfolios.¹¹⁸ The FTC's May 2023 Federal District Court suit seeking to enjoin the proposed acquisition of Horizon Therapeutics by Amgen was based on a "portfolio-leveraging" entrenchment theory that has not found any favor (for good reason) in recent American antitrust jurisprudence.¹¹⁹

The FTC emphasized Amgen's product variety in describing its competitive conduct.¹²⁰ In announcing its complaint challenging Amgen's acquisition, the FTC noted that Amgen's products included "27 approved drugs, including [three] blockbuster drugs" and Horizon "markets and distributes 11 drug products in the United States, including Tepezza and Krystexxa."¹²¹

According to the FTC:

*Amgen has a history of leveraging its broad portfolio of blockbuster drugs to gain advantages over potential rivals. In particular, the company has engaged in cross-market bundling, which involves conditioning rebates (or offering incremental rebates) on products such as Enbrel in exchange for giving Amgen drugs preferred placement on the insurers' and PBMs' lists of covered medications in different product markets.*¹²²

The FTC alleged that cross-market bundling gave Amgen a competitive advantage:

117. Amgen, Inc. & Horizon Therapeutics PLC, No. 9414 (F.T.C. Dec. 14, 2023), <https://www.ftc.gov/legal-library/browse/cases-proceedings/231-0037-amgen-inc-horizon-therapeutics-plc-matter>.

118. FTC Amgen Press Release, *supra* note 84.

119. As the Justice Department explained in an October 2021 submission to the OECD, scholarly criticisms of entrenchment theories, and a number of empirical studies of conglomerate mergers, found that experience did not bear out the types of concerns that underlay the entrenchment theory. See U.S. DEP'T OF JUSTICE, RANGE EFFECTS: THE UNITED STATES PERSPECTIVE, OECD ROUNDTABLE ON PORTFOLIO EFFECTS IN CONGLOMERATE MERGERS (Oct. 2001), <https://www.justice.gov/atr/department-justice-11>.

120. Complaint at 4-8, Amgen, Inc. & Horizon Therapeutics PLC, No. 9414 (F.T.C. June 22, 2023), https://www.ftc.gov/system/files/ftc_gov/pdf/Amgen-Horizon-Part-III-Complaint-PUBLIC.pdf.

121. FTC Amgen Press Release, *supra* note 84.

122. *Id.*

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*The value of the rebates that Amgen can offer on its high-volume drugs as part of its cross-market bundles may make it difficult, if not impossible, for smaller rivals who are developing drugs to compete against Tepezza and Krystexxa to match the level of rebates that Amgen would be able to offer.*¹²³

The FTC stated that “[b]y substituting Amgen, with its portfolio of blockbuster drugs and significant contracting leverage, for Horizon . . . the deal could give the merged firm the ability and incentive to entrench Tepezza’s and Krystexxa’s monopolies through its multi-product contracting strategies.”¹²⁴ At the same time, the FTC expressed concerns that these strategies “could effectively deprive patients, doctors, and health plans from the benefits of competition and access to critical new options for treatment of thyroid eye disease and chronic refractory gout.”¹²⁵

The FTC’s press release was rife with speculation about future leveraging but did not offer a theory of harm to competition. The merger was not horizontal; it did not bring together competing products, so it is impossible to assert that direct competition would be reduced.¹²⁶ The merger also did not involve the purchase of a key input that might be required by Amgen’s competitors.¹²⁷ Rather, the notion is that at some hypothesized future time, Amgen would be enabled to “tie” access to certain Amgen drugs to an agreement to eschew considering drugs competing with “entrenched” (for how long?) specialized Horizon Therapeutics monopoly drugs.¹²⁸ Significantly, the FTC did not allege that the merger had market power over its “blockbuster” drugs, and it conceded that the two key “tied” Horizon Therapeutics drugs will be subject to increasing competition from entrants in the next few years.¹²⁹

As a tying theory, this failed, given that the FTC did not allege market power in any market. Indeed, far from plausibly alleging potential harm to competition, the FTC identified a welfare-enhancing efficiency. William MacLeod and David Evans point out that “[u]ltimately, the commission’s argument is there will be more demand for Amgen’s products after the transaction because Amgen will have a better line of products to sell.”

123. *Id.*

124. *Id.*

125. *Id.*

126. *Id.*

127. *Id.*

128. *Id.*

129. *Id.*

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¹³⁰ As MacLeod and Evans emphasize, “[t]his is an efficiency. And it contradicts the FTC’s conclusory allegation that ‘[d]efendants cannot demonstrate merger-specific, verifiable, and cognizable efficiencies.’ The commission’s very allegations establish an efficiency.”¹³¹

Notably, the FTC’s complaint acknowledged “research, development, and marketing efficiencies, as well as the possibility of lower regulatory costs, courtesy of Amgen’s pockets, sophistication, and experience.”¹³² Based on the public record, these factors, which plainly would spur welfare-enhancing innovation, appeared far more plausible and weightier than poorly theorized and logically problematic concerns about future anticompetitive tying.

In short, the FTC’s claim that this merger was the sort of transaction that would “hamstring innovation in life-saving markets” had no logical basis.¹³³ On the contrary, the FTC, in its own description of the case, implied a strong potential for facilitating innovation. As such, the FTC appeared to be challenging an innovation-promoting transaction that lacked a credible theory of competitive harm. The FTC’s presumption of innovative harm was contradicted by its own analysis of innovation efficiencies.

On September 1, 2023, the FTC announced a proposed consent order with Amgen “to address the potential competitive harm” that the Commission asserted would otherwise result from the Horizon Therapeutics acquisition.¹³⁴ According to at least one commentator, the settlement “signal[ed] the FTC’s uncertainty that a court would support its novel theory

130. See William MacLeod & David Evans, *Looking for Plausibility in FTC’s Amgen Merger Challenge*, LAW360, (May 26, 2023, 5:49 PM), https://s3.us-east-1.amazonaws.com/cdn.kelleydrye.com/content/uploads/viewpoints/Looking-For-Plausibility-In-FTC-s-Amgen-Merger-Challenge_Law360_May-26-2023.pdf.

131. *Id.* (footnote omitted).

132. Daniel J. Gilman, *Antitrust at the Agencies: The Orphan’s Hypothetical Competitor Edition*, TRUTH ON THE MARKET, (May 19, 2023), <https://truthonthemarket.com/2023/05/19/antitrust-at-the-agencies-roundup-the-orphans-hypothetical-competitor-edition/>.

133. FTC Amgen Press Release, *supra* note 84. For a more fulsome critique of the flaws in the FTC’s theory of antitrust harm, and a more detailed discussion of the welfare benefits of this transaction and of conglomerate mergers in general see Brief for Amgen et al. as Amici Curiae Supporting Defendants, *Fed. Trade Comm’n v. Amgen*, No. 23-03053 (N.D. Ill. Aug. 24, 2023), <https://laweconcenter.org/wp-content/uploads/2023/09/ICLE-Amicus-Brief-FTC-v-Amgen.pdf>.

134. Press Release, Fed. Trade Comm’n, Biopharmaceutical Giant Amgen to Settle FTC and State Challenges to its Horizon Therapeutics Acquisition (Sept. 1, 2023), <https://www.ftc.gov/news-events/news/press-releases/2023/09/biopharmaceutical-giant-amgen-settle-ftc-state-challenges-its-horizon-therapeutics-acquisition> [hereinafter Amgen Settlement Press Release]. As part of the proposed settlement, attorneys general from six states – California, Illinois, Minnesota, New York, Washington, and Wisconsin – also agreed to dismiss their related federal court preliminary injunction action opposing the merger. *Id.*

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of future competition being disadvantaged by Amgen's 'bundling' of drugs in negotiations with insurers."¹³⁵ Under the order, Amgen "is prohibited from bundling an Amgen product with either Tepezza or Krystexxa", "may not condition any product rebate or contract terms related to an Amgen product on the sale or positioning either one of these drugs[.]" and "is barred from using any product rebate or contract term to exclude or disadvantage any product that would compete with Tepezza or Krystexxa."¹³⁶ In addition, the order prohibits Amgen from "entering into any agreement or understanding to acquire any products or interest in any business engaged in the manufacturing or sale of any products, biosimilars, or therapeutic equivalents that treat either TED or CRG, unless it receives prior approval from the Commission."¹³⁷

3. Nielsen/Arbitron

In *Nielsen/Arbitron*,¹³⁸ the FTC also challenged a conglomerate merger based on concerns that it would diminish product innovation.¹³⁹ In 2012, Arbitron, the market leader (with an 80 percent market share) in the provision of television audience measurement services, proposed to acquire Nielsen, the market leader (with a 90 percent market share) in the provision of radio audience services.¹⁴⁰ The FTC issued an administrative complaint alleging that the merger would substantially lessen competition in the future market for national syndicated cross-platform audience measurement services.¹⁴¹ The FTC asserted that both Nielsen and Arbitron were in the process of developing cross-platform products. The FTC was concerned that the merger would eliminate "future competition between Nielsen and Arbitron for the provision of national syndicated cross-platform audience measurement services."¹⁴²

135. Deena Beasley, *FTC Settlement Could Shelter Amgen from US Price Cuts, Taxes*, REUTERS (Sept. 5, 2023, 10:54 AM), <https://www.reuters.com/business/healthcare-pharmaceuticals/ftc-settlement-could-shelter-amgen-us-price-cuts-taxes-2023-09-05/>.

136. Amgen Settlement Press Release, *supra* note 134.

137. *Id.*

138. Nielsen Holdings N.V., No. C-4439 (F.T.C. Feb. 24, 2014), <https://www.ftc.gov/legal-library/browse/cases-proceedings/131-0058-nielsen-holdings-nv-arbitron-inc-matter>.

139. Complaint at 1, Nielsen Holdings N.V., No. C-4439 (F.T.C. Feb. 24, 2014), <https://www.ftc.gov/system/files/documents/cases/140228nielsenholdingscmpt.pdf>.

140. Scott Moritz & Edmund Lee, *Nielsen to Buy Arbitron for \$1.26 Billion*, BLOOMBERG (Dec. 18, 2012), <https://www.bloomberg.com/news/articles/2012-12-18/nielsen-to-buy-research-firm-arbitron-for-48-a-share>.

141. Complaint at 1, Nielsen Holdings N.V., No. C-4439 (F.T.C. Feb. 24, 2014), <https://www.ftc.gov/system/files/documents/cases/140228nielsenholdingscmpt.pdf>.

142. *Id.* at 3.

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The FTC complaint emphasized product innovation.¹⁴³ The FTC first alleged that the merged firms would have a competitive advantage in innovation based on data: “Nielsen and Arbitron are the best-positioned firms to develop (or partner with others to develop) a national syndicated cross-platform audience measurement service because only Nielsen and Arbitron maintain large, representative panels capable of measuring television with the required individual-level demographics, the data source preferred by advertisers and media companies.”¹⁴⁴ Second, the FTC alleged that the companies would have a competitive advantage in terms of complementary assets: “Nielsen and Arbitron have important existing audience measurement technology assets. This makes them better positioned to develop a national syndicated cross-platform audience measurement service than companies that lack large representative panels and existing audience measurement technology assets of the quality and character of Nielsen’s and Arbitron’s.”¹⁴⁵

The FTC’s 2014 consent decree allowed Nielsen Holdings N.V. to acquire Arbitron Inc.¹⁴⁶ Nielsen agreed to divest certain assets relating to Arbitron’s nascent cross-platform audience measurement services business.¹⁴⁷ The agreement also required that the combined firm provide the acquirer with any needed technical assistance and tools to step into Arbitron’s shoes and replace the future competition between Nielsen and Arbitron that would be lost as a result of the merger.¹⁴⁸ The FTC acknowledged that the merger could generate out-of-market efficiencies and that the future nationally syndicated cross-platform measurement services market was likely to have relatively modest sales for some time.¹⁴⁹

The FTC adopted the consent decree by a 2-1 vote, with Commissioner Joshua Wright dissenting.¹⁵⁰ He explained that “it is inherently more difficult in future market cases to define properly the relevant product market, to identify likely buyers and sellers, to estimate cross-elasticities of

143. *Id.*

144. *Id.*

145. *Id.*

146. Decision and Order, Nielsen Holdings N.V., No. C-4439 (F.T.C. Feb. 24, 2014), <https://www.ftc.gov/system/files/documents/cases/140228nielsenholdingsdo.pdf>.

147. *Id.* at 5-7

148. *Id.* at 5.

149. Statement of the Federal Trade Commission at 3, Nielsen Holdings N.V., No. 131-0058 (F.T.C. Sept. 20, 2013), <https://www.ftc.gov/system/files/documents/cases/140228nielsenholdingstatement.pdf>.

150. Dissenting Statement of Commissioner Joshua D. Wright, Nielsen Holdings N.V., No. 131-0058 (F.T.C. Sept. 20, 2013), <https://www.ftc.gov/sites/default/files/documents/cases/2013/09/130920nielsenarbitron-jdwstmt.pdf>.

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demand or understand on a more qualitative level potential product substitutability, and to ascertain the set of potential entrants and their likely incentives.”¹⁵¹ Wright warned that “[w]here the Commission has endorsed by way of consent a willingness to challenge transactions where it might not be able to meet its burden of proving harm to competition, and which therefore at best are competitively innocuous, the Commission’s actions may alter private parties’ behavior in a manner that does not enhance consumer welfare.”¹⁵²

The *Nielsen/Arbitron* consent vividly illustrates the FTC’s presumption that mergers harm innovation. The FTC was willing to sacrifice dynamic market welfare gains,¹⁵³ plus substantial tangible efficiencies in existing markets, to ward off theoretical and highly doubtful harm in a future market. The agency stayed its hand only because the parties, under duress, agreed to a consent agreement of dubious merit. The extraction of consents by the threat of litigation appears to be a common enough, but potentially problematic, practice of antitrust enforcers.¹⁵⁴ This practice is particularly insidious and harmful to innovation when it is applied in a situation where the case for competitive harm is vanishingly small – and the prospect for the dynamic creation of a new market is present.

The *Nielsen/Arbitron* consent agreement suggests that antitrust merger policy may not be well suited as an instrument of innovation policy. Structural remedies might address barriers to entry in a way that diminishes innovation and shows that more targeted regulations could be more effective. For example, Terrell McSweeney and Brian O’Dea observe that in digital markets, such as in *Nielsen/Arbitron*, “increasing consumers’ rights to and control over their data might foster competition to improve quality of services in order to retain customer data. Regulations permitting consumers to withdraw their data in a usable format when they want to use a different service may also lower barriers to entry for less data-rich innovators.”¹⁵⁵

151. *Id.* at 2.

152. *Id.* at 7.

153. The new cross-platform market, offering novel features for consumers, was most likely to emerge through the merger; its prospects were more questionable absent the merger, as Commissioner Wright explained in his dissenting statement. *Id.*

154. See Douglas H. Ginsburg & Joshua D. Wright, *Antitrust Settlements: The Culture of Consent*, in 1 WILLIAM E. KOVACIC: AN ANTITRUST TRIBUTE – LIBER AMICORUM 177, 179-80 (2012).

155. Terrell McSweeney & Brian O’Dea, *Data, Innovation, and Potential Competition in Digital Markets – Looking Beyond Short-Term Price Effects in Merger Analysis*, ANTITRUST CHRONICLE (Feb. 2018, 7-13), https://www.competitionpolicyinternational.com/wp-content/uploads/2018/02/AC_February.pdf.

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III. VERTICAL MERGERS AND INNOVATION COMPETITION

Reversing decades of precedent, the 2023 Merger Guidelines do not directly acknowledge that vertical mergers offer efficiencies.¹⁵⁶ The guidelines view vertical mergers as problematic on structuralist grounds, such as a mere trend toward vertical integration.¹⁵⁷ Antitrust policy based on the new Guidelines will likely harm innovation competition that requires vertical integration.

A. Vertical Mergers, Foreclosure, and Innovation Competition

The vertical structure of an industry affects innovation because market structure effects depend on whether: (1) R&D and manufacturing are vertically integrated; or (2) these activities are carried out by different stages of the industry. In practice, companies innovate by creating combinations of in-house R&D, outsourced R&D, and the procurement of technology. Empirical analysis in economics has explored the connections between in-house R&D and external procurement of technology, but has not generated any direct linkage between market structure and innovation.

Vertical mergers offer efficiencies when upstream and downstream production can be combined to lower costs. These efficiencies are closely related to economies of scale and scope. Upstream and downstream production can share management, facilities, and other inputs such as Information and Communications Technology (ITC). Improved in-house coordination between upstream and downstream activities can lower transaction costs in comparison to market contracts. This is related to Ronald Coase's insight that the boundaries of the firm expand when governance costs are less than transaction costs.¹⁵⁸

These vertical cost efficiencies carry over to innovation competition. The merged firm can benefit from coordinating upstream R&D with downstream innovation. Investments in upstream invention and downstream innovation can be more efficient if there is a need for better coordination between inventors and innovators. Upstream invention and downstream commercialization may also benefit from greater

156. Francine Lafontaine & Margaret E. Slade, *Presumptions in Vertical Mergers: The Role of Evidence*, 59 REV. OF INDUS. ORG. 255, 256 (2021) (“[I]n the late 1970s and through the 1980s, U.S. courts moved towards more of a consumer welfare focus and began to consider the potential efficiencies associated with vertical arrangements and mergers.”).

157. 2023 MERGER GUIDELINES, *supra* note 3, at 16.

158. Francine Lafontaine & Margaret Slade, *Vertical Integration and Firm Boundaries: The Evidence*, 45 J. OF ECON. LITERATURE 629 (2007).

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coordination and communication, allowing an exchange of technological and market information within the firm.

When IP protections are sufficiently strong, patent licensing and other market contracts can implement technology sharing between upstream inventors and downstream innovators. However, when IP protections are weak, internal sharing of IP may be desirable at least in the early stages of R&D and even later as patented inventions are developed further.¹⁵⁹

Complex innovation requires combining complementary inventions and other business assets to produce innovations. Companies can assemble inventions through a combination of in-house R&D and access to markets for technology. In some situations, companies may need to acquire technology through M&A.

As innovations become more complex, firms increasingly rely on open innovation. Companies provide and obtain inventions in the market for technology because no one firm has all the required expertise and IP to realize innovations. Firms will be less vertically integrated to obtain the benefits from both specialization of function and division of labor in innovation. Acemoglu et al. argue that there will be less vertical integration as firms approach the technology frontier because of the need to focus internally on innovation and correspondingly to outsource other activities.¹⁶⁰

Firms' increased reliance on markets for technology suggests that proposed vertical mergers are driven by efficiency considerations. Vertical mergers may be needed when markets for technology cannot fully address interactions between invention and innovation. Vertical mergers may improve the effectiveness of both invention and innovation by allowing greater coordination.

Antitrust policy should consider competition among inventors when evaluating vertical mergers.¹⁶¹ Firms may have incentives to vertically integrate R&D and production to increase appropriability when IP protections are not sufficiently strong. Antitrust policy should favor strengthening IP protections, which support competition in the market for inventions and thus increase incentives to invent and innovate.¹⁶²

159. Daniel F. Spulber, *How Do Competitive Pressures Affect Incentives to Innovate When There is a Market for Inventions?*, 121 J. OF POL. ECON. 1007, 1008 (2013).

160. Daron Acemoglu, Fabrizio Zilibotti, & Philippe Aghion, *Vertical Integration and Distance to Frontier*, 1 J. OF THE EUR. ECON. ASS'N 630, 637 (2003).

161. Daniel F. Spulber, *Competing Inventors and the Incentive to Invent*, 22 INDUS. AND CORP. CHANGE 33, 33-72 (2013).

162. *Id.*

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Blocking vertical mergers because of the presumption of foreclosure uses a structural policy instrument to deter conduct that has not occurred. There is limited evidence to support a general presumption of foreclosure.¹⁶³ Enforcement of antitrust law is sufficient to deter anticompetitive vertical foreclosure and to remedy foreclosure if it occurs. Blocking a wide range of vertical mergers guarantees that efficiencies will be lost in return for reducing risks of foreclosure that are already limited by antitrust enforcement. This seems like a losing proposition for antitrust policymakers.

B. Three Vertical Merger Cases That Emphasize the Innovation Theory of Harm

Vertical merger enforcement has not provided sufficient empirical support for the anticompetitive presumption of harm to innovation. The FTC and European Commission recently challenged three vertical transactions, emphasizing theories of vertical competitive harm at odds with market realities and paying little heed to the transactions' significant efficiencies.

1. Microsoft/Activision Blizzard

Microsoft's proposed acquisition of Activision Blizzard (Activision) reveals a potential tension between promoting near-term competition in an established market (video gaming through game consoles) and possibly degrading future innovation competition in developing markets (multi-game content library subscription services and cloud video gaming not involving game consoles). The FTC, the United Kingdom Competitive Markets Authority (CMA), and the European Commission (EC) all reviewed this transaction. The EC and the CMA eventually cleared this transaction subject to conditions, but the FTC opposed it.¹⁶⁴

The FTC's December 2022 complaint in Microsoft/Activision made multiple references to the merger's effects on innovation competition.¹⁶⁵ According to the complaint, "[t]he Proposed Acquisition will result in a combined firm with the ability and increased incentive to withhold or

163. Lafontaine & Slade, *supra* note 64, at 55.

164. See Bertrand Louveaux et al., *Competition & Regulatory Newsletter: CMA Clears Microsoft's Acquisition of Activision Blizzard*, SLAUGHTER & MAY (Oct. 25, 2023) (discussing evaluation of the acquisition by the CMA and the EC), <https://my.slaughterandmay.com/insights/newsletters/competition-regulatory-newsletter-cma-clears-microsofts-acquisition-of-activision-blizzard>. An analysis of the FTC's opposition to the acquisition is discussed below. See *infra* 165-184 and accompanying text.

165. Microsoft/Activision Complaint, *supra* note 23.

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degrade Activision's valuable gaming content to undermine its competitors in multiple Relevant Markets. This anti-competitive behavior is reasonably likely to lead to reduced consumer choice, higher prices and/or lower quality products, and less innovation."¹⁶⁶ The FTC added that "[t]he Proposed Acquisition is likely to harm innovation, for instance, by decreasing the combined firm's incentive to optimize Activision's content for gameplay on rival hardware, thereby reducing the quality of consumer gaming experiences on competing products."¹⁶⁷

The FTC argued that the merger would create entry barriers that discouraged innovation: "[t]he Proposed Acquisition is likely to increase entry barriers, thereby dampening beneficial rivalry and innovation. If permitted to make Activision a captive supplier, Microsoft would have a substantially increased incentive to engage in strategies that would likely lead to reduced consumer choice, higher prices or lower quality products, and less innovation."¹⁶⁸

The FTC's December 2022 press release announcing its complaint pointed out that Activision Blizzard "produces some of the most iconic and popular video game titles, including Call of Duty, World of Warcraft, Diablo, and Overwatch, and has millions of monthly active users around the world, according to the FTC's complaint. Activision currently has a strategy of offering its games on many devices regardless of producer."¹⁶⁹ The FTC alleged that "Microsoft would have both the means and motive to harm competition by manipulating Activision's pricing, degrading Activision's game quality or player experience on rival consoles and gaming services, changing the terms and timing of access to Activision's content, or withholding content from competitors entirely, resulting in harm to consumers."¹⁷⁰

The US District Court for the Northern District of California denied the FTC's request for a preliminary injunction.¹⁷¹ Citing *Illumina*, the court stated that "the FTC contends it need only show the transaction is likely to increase the ability and/or incentive of the merged firm to foreclose rivals."¹⁷² The decision stated that "to establish a likelihood of

166. *Id.* at 11.

167. *Id.*

168. *Id.* at 17.

169. Press Release, Fed. Trade Comm'n, FTC Seeks to Block Microsoft Corp.'s Acquisition of Activision Blizzard, Inc. (Dec. 8, 2022), <https://www.ftc.gov/news-events/news/press-releases/2022/12/ftc-seeks-block-microsoft-corps-acquisition-activision-blizzard-inc>.

170. *Id.*

171. Fed. Trade Comm'n v. Microsoft Corp. et al., 681 F. Supp. 3d 1069 (N.D. Cal. Jul. 10, 2023) (preliminary injunction opinion).

172. *Id.* at 1089.

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success on its ability and incentive foreclosure theory, the FTC must show the combined firm (1) has the ability to withhold *Call of Duty*, (2) has the incentive to withhold *Call of Duty* from its rivals, and (3) competition would probably be substantially lessened as a result of the withholding.”¹⁷³

The district court’s decision further observed that:

*[t]he FTC also insists the merger will decrease innovation because game developers and publishers will not want to work with Microsoft. But the only evidence the FTC identifies is Sony’s reluctance to share its IP with Microsoft and provide development kits for its consoles. But this is not merger-specific; it fails to account for all the other developers who might now be incentivized to collaborate with Xbox or one of its studios like Activision or Bethesda.*¹⁷⁴

The Court concluded that “the FTC has not shown a likelihood it will prevail on its claim this particular vertical merger in this specific industry may substantially lessen competition. To the contrary, the record evidence points to more consumer access to *Call of Duty* and other Activision content.”¹⁷⁵ The Ninth Circuit summarily rejected the FTC’s appeal of the district court’s decision denying a preliminary injunction.¹⁷⁶

Is there any basis for the FTC’s theory of harm to innovation competition in *Microsoft/Activision Blizzard*? Innovation competition in video games has several aspects. Firms engage in product innovation by creating new video games and new versions of existing video games. Firms also engage in complementary product innovations by offering games on new platforms, including improved video consoles and cloud gaming without consoles. Firms engage in transaction innovation by providing access to games in new ways such as digital online subscriptions to content.

The FTC’s prediction that the merger would harm incentives for innovation has little support from either economic analysis or observation of market institutions. Microsoft continues to offer new games and new

173. *Id.* at 1090.

174. *Id.* at 1096.

175. *Id.* at 1101.

176. Fed. Trade Comm’n v. Microsoft Corp. et al, No. 23-15992 (9th Cir. July 14, 2023) (order denying appeal of preliminary injunction). Despite this holding, as of May 2024, the FTC continued to pursue internal administrative litigation against Microsoft’s acquisition of Activision Blizzard. See Fed. Trade Comm’n, In the Matter of Microsoft/Activision Blizzard (last updated Feb. 20, 2024), <https://www.ftc.gov/legal-library/browse/cases-proceedings/2210077-microsoftactivision-blizzard-matter> (last accessed May 8, 2024).

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versions of existing games, such as Halo, despite its market share. Activision Blizzard also offers new games and new versions of existing games. There is no basis for the allegation that the combined company would have fewer incentives for these product innovations.

The FTC's prediction that the merger would result in the foreclosure of competitors does not reflect market realities. Microsoft did not foreclose access to its highly popular Minecraft game, suggesting that the company derives greater returns from making key games available to much larger console platforms (such as Sony's PlayStation) than by foreclosing access.¹⁷⁷ Moreover, the benefits of not foreclosing are rising with the growing popularity of multigame subscriber services offered by Sony, Microsoft, and other platforms.¹⁷⁸ These factors would militate strongly against Microsoft's pursuit of a foreclosure (or related degradation) strategy vis-à-vis Activision's blockbuster offerings. Guarantees by Microsoft to license Call of Duty to Sony and Nintendo further bely the foreclosure story.¹⁷⁹ What's more, the FTC ignored the role the merger could play in enhancing competition by making Microsoft a stronger, more effective rival to gaming console market leader Sony.¹⁸⁰

Technological change in the market for video games calls into question the FTC's theory of competitive harm from foreclosure. Cloud computing is replacing consoles such as Microsoft's Xbox and Sony's PlayStation. These changes are analogous to the replacement of obsolete consoles by improved consoles in the past. As Aurelien Portuese observes "[u]biquitous broadband and enterprise-scale cloud computing have made it anachronistic to store games on discs or cartridges that require purpose-built devices to play. The future of gaming hinges on streaming and real-time interaction among players."¹⁸¹

177. See Julie Carlson, *What's Past Is Prologue: Microsoft's Acquisition of Activision Blizzard Does Not Raise Foreclosure Concerns*, ITIF INNOVATION FILES, (Oct. 24, 2022) <https://itif.org/publications/2022/10/24/microsofts-acquisition-of-activision-blizzard-does-not-raise-foreclosure-concerns/>.

178. See *id.*

179. See Paul Tassi, *Microsoft Signs 'Call Of Duty' Contract With Nintendo, Pressuring Sony And Regulators*, FORBES (Feb. 21, 2023, 9:41 AM) <https://www.forbes.com/sites/paultassi/2023/02/21/microsoft-signs-call-of-duty-contract-with-nintendo-pressuring-sony-and-regulators/?sh=14881969693d>.

180. Dirk Auer, *If the UK Wants to Remain a Tech Leader, It Needs Less Regulation, Not More*, TRUTH ON THE MARKET (May 19, 2023), <https://truthonthemarket.com/2023/05/19/if-the-uk-wants-to-remain-a-tech-leader-it-needs-less-regulation-not-more/> (“‘Sony’s PlayStation 5 is by far the market leader, currently outselling the Xbox four to one. Closing the content gap between these consoles will make the industry more competitive.’”).

181. Aurelien Portuese, *Will Antitrust Undermine the Future of Gaming?*, DC JOURNAL – INSIDE SOURCES (Jan. 2, 2023), <https://dcjournal.com/will-antitrust-undermine-the-future-of-gaming/>.

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Microsoft has an incentive to make its video games available on the most popular platforms with the most effective technologies. Microsoft obtains greater returns from increasing the demand for its content, not by foreclosing platforms and their customers from access to its games.

Improvements in platforms increase incentives for product innovation because they increase the demand for content, leading Microsoft and other firms to obtain or develop more content. Improvements in transaction methods, such as subscription services like Game Pass, further increase the demand for content.

Antitrust policy that blocks mergers such as *Microsoft/Activision* could well discourage innovation competition.¹⁸² Creating a larger portfolio of content by combining Microsoft's content with that of Activision Blizzard creates economies of scale in commercialization and distribution. These cost efficiencies further increase incentives to acquire and develop content. Such efficiencies are necessary to remain competitive, given the many large competitors in this industry, including Microsoft, Sony, Nintendo, Epic Games, and Tencent, as well as distribution by Apple, Amazon, Google, and Meta. The merger would have little effect on market structure, with Microsoft only achieving a ten percent market share.¹⁸³

In sum, the FTC's complaint alleged competitive harms based on flawed logic regarding foreclosure and a failure to adequately assess the Microsoft-Sony rivalry.¹⁸⁴ The FTC's complaint also failed to consider how Microsoft's acquisition could promote innovation by enhancing dynamic competition in the rapidly changing gaming industry. This myopic view of market dynamics would effectively punish innovation.

The European Commission elected not to challenge this merger, finding that the only competitive threat posed by the transaction involved harm to competition in the market due to the the distribution of PC and console games via cloud game streaming services.¹⁸⁵ The EC held that concessions offered by Microsoft (involving free licenses for European

182. *Id.* (“So, the future of gaming won’t be determined by the Microsoft-Activision merger. But it could very well be undermined if the FTC succeeds in blocking the merger. Such regulatory action will stifle the process of creative destruction in the gaming industry by preventing Microsoft from challenging Sony and other incumbents with innovative new capabilities that would benefit consumers”).

183. Alden F. Abbott & Andrew Mercado, *Developments in Competition Policy during the Second Year of the Biden Administration*, MERCATUS CTR., at 4 (Jan. 2023), <https://www.mercatus.org/media/161041/download?attachment>.

184. Microsoft/Activision Complaint, *supra* note 23.

185. European Commission Press Release IP/23/2705, Mergers: Commission Clears Acquisition of Activision Blizzard by Microsoft, Subject to Conditions (May 15, 2023).

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citizens and for cloud game streaming providers to allow the streaming of Activision games) cured that threat.

In late April 2023, however, the CMA decided to block the merger,¹⁸⁶ based on concerns about the cloud gaming market (currently accounting for only £2 billion worldwide, compared to £40 billion for console gaming).¹⁸⁷ The CMA took this action despite Microsoft having signed licensing deals with the owners of streaming platforms including Valve Corp, Nvidia (NVDA.O) and Boosteroid.¹⁸⁸ The CMA, however, soon reversed course, and granted its consent to the consummation of this merger on October 13, 2023, in light of Microsoft's agreement to divest Activision's streaming rights outside the European Economic Area to Ubisoft Entertainment SA.¹⁸⁹

Despite the consummation of the merger, however, the FTC decided to continue its efforts to have the transaction declared illegal, returning it to internal administrative adjudication on September 26, 2023.¹⁹⁰ The FTC argued before the Ninth Circuit Court of Appeals "that the FTC had only to show that Microsoft had the ability and incentive to withhold Activision's games from rival game platforms to prove the agency's case."¹⁹¹

2. Illumina/Grail

Illumina/Grail is a vertical acquisition that raised antitrust concerns about innovation.¹⁹² In March 2021, the FTC "filed an administrative

186. Paul Sandle, *UK blocks Microsoft's \$69 billion Activision deal over cloud gaming concerns*, REUTERS (April 26, 2023, 11:40 PM), <https://www.reuters.com/markets/deals/uk-blocks-microsoft-69-bln-activision-deal-over-cloud-gaming-concerns-2023-04-26/>.

187. Auer, *supra* note 180, at 2.

188. Foo Yun Chee, *Microsoft inks licensing deal with cloud gaming provider Boosteroid*, NASDAQ.COM (March 14, 2023), <https://www.nasdaq.com/articles/microsoft-inks-licensing-deal-with-cloud-gaming-provider-boosteroid>.

189. *Anticipated acquisition by Microsoft Corporation of Activision Blizzard*, COMPETITIONS AND MKT. AUTH. (Oct. 13, 2023), https://assets.publishing.service.gov.uk/media/652864062548ca000ddf22d/Full_text_decision_final_order_.pdf.

190. Order Returning Matter to Adjudication, *Microsoft Corp.*, 2023 WL 6476809 (F.T.C. Sep. 26, 2023).

191. Diane Bartz, *US FTC Tries Again to Stop Microsoft's Already-Closed Deal for Activision*, REUTERS (Dec. 6, 2023, 3:49 PM), <https://www.reuters.com/markets/deals/us-ftc-tries-again-stop-microsofts-already-closed-deal-activision-2023-12-06/>.

192. Former FTC Chairman Timothy Muris and former FTC Bureau of Economics Director Bruce Kobayashi (among others) severely critiqued the FTC's action, explaining how it sacrificed substantial tangible benefits based on merely speculative possible future competitive harm. These authors stressed that "it would be tragic if the FTC's misapplication of the appropriate standards for evaluating a vertical merger were to delay the American people access to such an important lifesaving breakthrough in cancer treatment for the benefit of a hypothetical future competition.

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complaint and authorized a federal court lawsuit to block Illumina's \$7.1 billion proposed acquisition of Grail—a maker of a non-invasive, early detection liquid biopsy test that can screen for multiple types of cancer in asymptomatic patients at very early stages using DNA sequencing.”¹⁹³

The FTC asserted that “Illumina is the only provider of DNA sequencing that is a viable option for these multi-cancer early detection, or MCED, tests in the United States.”¹⁹⁴ According to the FTC, “MCED tests could be used to detect up to 50 types of cancer, most of which are not screened for at all today, saving millions of lives around the world.”¹⁹⁵ The FTC acknowledged that competing innovators were in the marketplace: “Grail is one of several competitors racing to develop these liquid biopsy tests, which analyze a sample of a patient's blood or other fluid through DNA sequencing.”¹⁹⁶

The FTC complaint alleged that the acquisition would “diminish innovation in the U.S. market for MCED tests.”¹⁹⁷ The FTC expressed concerns about possible anticompetitive conduct after the merger.¹⁹⁸ The FTC charged “developers have no choice but to use Illumina NGS instruments and consumables” to apply MCED tests.¹⁹⁹ The FTC alleged that “[a]s the only viable supplier of a critical input, Illumina can raise prices charged to Grail competitors for NGS instruments and consumables; impede Grail competitors' research and development efforts; or refuse or delay executing license agreements that all MCED test developers need to distribute their tests to third-party laboratories.”²⁰⁰ The FTC complaint further alleged that “even if a viable substitute to Illumina's NGS platform entered the market, it would take years for MCED test developers to switch to a platform other than Illumina's because they would have to

See Press Release, Competitive Enterprise Institute, Former FTC Policymakers Find FTC Complaint Against Illumina-GRAIL Merger Lacking in New CEI Paper (Aug. 26, 2021), https://cei.org/news_releases/former-ftc-policymakers-find-ftc-complaint-against-illumina-grail-merger-lacking-in-new-cei-paper/.

193. Press Release, Fed. Trade Comm'n, FTC Challenges Illumina's Proposed Acquisition of Cancer Detection Test Maker Grail (Mar. 30, 2021), <https://www.ftc.gov/news-events/press-releases/2021/03/ftc-challenges-illuminas-proposed-acquisition-cancer-detection>.

194. *Id.*

195. *Id.*

196. *Id.*

197. *Id.*

198. *Id.*

199. *Id.*

200. *Id.*

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reconfigure their tests to work with the new NGS platform, and in some situations, conduct new clinical trials.”²⁰¹

The FTC’s complaint addressed decisions about the organizational structure of a business in relation to innovation.²⁰² Illumina itself established Grail as a separate business.²⁰³ Thom Lambert observes that this facilitated raising capital and because of its independence, “Grail managers could concentrate exclusively on developing a viable cancer-screening test, while Illumina’s management continued focusing on that company’s core business. It made it easier for Grail to attract talented managers, who would rather come in as corporate officers than as division heads.”²⁰⁴

Having succeeded in developing its cancer-screening test, Grail’s objectives changed. Grail would need to move from invention to innovation. The new objectives required organizational changes, which included merging with Illumina. As Lambert notes, Grail needed to manufacture and commercialize its products and obtain FDA approvals.²⁰⁵ Among its tasks, Grail would “[c]reate and implement measures to ensure compliance with FDA’s Quality System Regulation (QSR), which governs virtually all aspects of medical device production (design, testing, production, process controls, quality assurance, labeling, packaging, handling, storage, distribution, installation, servicing, and shipping).”²⁰⁶ This suggests that the vertical merger between Illumina and Grail would foster product innovation rather than harming innovation.

The FTC’s complaint established a four-part approach for assessing competitive harm in *Illumina/Grail*.²⁰⁷ First, the complaint posited that the upstream NGS platform was an “essential input” for developing and commercializing downstream MCED tests.²⁰⁸ Second, the complaint claimed that the vertical merger would create “an incentive for Illumina to maximize its profits by foreclosing or disadvantaging Grail’s rivals.”²⁰⁹ Third, the complaint asserted that the merger would diminish innovation

201. *Id.*

202. Illumina/GRAIL complaint, *supra* note 24.

203. *Id.*

204. Thom Lambert, *Bad Blood at the FTC*, TRUTH ON THE MKT. (June 9, 2021), <https://truthonthemarket.com/2021/06/09/bad-blood-at-the-ftc/>.

205. *Id.*

206. *Id.*

207. Illumina/GRAIL complaint, *supra* note 24. For a summary and refutation of this four-part approach, see Daniel F. Spulber, *How Do Vertical Mergers Affect Innovation? Learning from Illumina*, NETWORK L. REV. (Nov. 3, 2022), <https://www.networklawreview.org/spulber-mergers/>.

208. Illumina/GRAIL complaint, *supra* note 24, at 4.

209. *Id.* at 23.

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by impeding the race between Grail and its competitors.²¹⁰ Fourth, the complaint alleged that the merger would “substantially lessen competition” in the market for MCED tests.²¹¹

All four points are highly problematic. First, there was no showing that Illumina’s NGS platform was unique. Second, foreclosure was unlikely because Illumina would lose revenues by not licensing its platform technology to new MCED test suppliers. Furthermore, Illumina’s contractual assurances that it would continue to license to third parties on neutral firms for at least 12 years post-merger,²¹² validated any claims of foreclosure. Third, the claim of reduced innovation would require a showing that upstream and downstream competitors would reduce their R&D efforts post-merger. This unsupported and dubious assumption is belied by Illumina’s post-merger licensing assurances, which indicate that innovation would be likely to *increase, not decrease*, post-merger.²¹³ Fourth, the claim of lessened competition is at odds with the fact that the merger would remove neither upstream nor downstream competitors, and post-merger vertical cost efficiencies would be expected.²¹⁴

Not only did the FTC’s theory of competitive harm fail, but it conspicuously did not address the unquestionable consumer benefits resulting from Illumina’s ability to facilitate regulatory test approval processes and achieve distribution economies. These benefits would bring Grail’s potentially life-saving tests to the market far more quickly and effectively.²¹⁵

210. *Id.* at 2.

211. *Id.*

212. Conor Hale, *Illumina faces months-long EU antitrust probe over Grail acquisition: report*, FIERCE BIOTECH (July 2021, 11:23 AM), <https://www.fiercebiotech.com/medtech/illumina-faces-months-long-eu-antitrust-probe-over-grail-acquisition-report>. In 2001, Illumina “pledge[d] to sign new standard contracts with oncology customers that would guarantee access to DNA sequencing hardware and consumables for at least 12 years with no price increases and a promise to not discontinue any product as long as it’s being purchased by a cancer test developer. Illumina also made a commitment to lower prices by at least 40% over the next four years.” *Id.*

213. Spulber, *supra* note 207 (“[If] the merged firm continued to license to competitors, its incentives for invention and innovation would continue undiminished after the merger. Competing upstream inventors or downstream innovators would have the incentive to develop technologies that replace and improve on that of the vertically integrated firm. This would result in greater innovative efforts overall.”).

214. *Id.* (“When vertical mergers create cost efficiencies, downstream innovation will increase and the costs of distributing innovative products will decrease. This will increase competition in downstream product markets.”).

215. See Alden Abbott, *When Bad Antitrust Costs Lives: The Illumina/GRAIL Tragedy*, TRUTH ON THE MARKET (Apr. 4, 2023), <https://truthonthemarket.com/2023/04/04/when-bad-antitrust-costs-lives-the-illumina-grail-tragedy/>. Former FTC Chairman Timothy Muris and former FTC Bureau of Economics Director Bruce Kobayashi (among others) severely critiqued the FTC’s action, explaining how it sacrificed substantial tangible benefits based on merely speculative

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As Thom Lambert explained, without the merger, Grail would find it far more difficult to “[e]ngage in widespread testing of its cancer-detection products on up to 50 different cancers; Process and present the information from its extensive testing in formats that will be acceptable to regulators; Navigate the pre-market regulatory approval process in different countries across the globe; Secure commitments from third-party payors (governments and private insurers) to provide coverage for its tests; Develop means of manufacturing its products at scale.”²¹⁶

On September 1, 2022, an FTC administrative law judge (“ALJ”) dismissed the antitrust charges in the complaint.²¹⁷ The ALJ opined that the FTC “failed to prove its asserted prima facie case—that Illumina’s post-acquisition ability and incentive to advantage GRAIL to the disadvantage of GRAIL’s alleged rivals is likely to result in a substantial lessening of competition in the relevant market for the research, development, and commercialization of MCED tests.”²¹⁸ The FTC, however, rejected the ALJ’s decision in April 2023 and ordered Illumina to divest Grail, finding that Illumina’s acquisition was likely to substantially reduce competition in the U.S. market for research, development, and commercialization of cancer tests.²¹⁹

Illumina appealed,²²⁰ and on December 18, 2023, the Fifth Circuit Court of Appeals held that there was substantial evidence supporting the Commission’s ruling of anticompetitive foreclosure, and rejecting on the

possible future competitive harm. These authors stressed that ““it would be tragic if the FTC’s misapplication of the appropriate standards for evaluating a vertical merger were to delay the American people access to such an important lifesaving breakthrough in cancer treatment for the benefit of a hypothetical future competition.”” Press Release, Competitive Enterprise Institute, Former FTC Policymakers Find FTC Complaint Against Illumina-Grail Merger Lacking in New CEI Paper (Aug. 26, 2021), https://cei.org/news_releases/former-ftc-policymakers-find-ftc-complaint-against-illumina-grail-merger-lacking-in-new-cei-paper/.

216. See Lambert, *supra* note 204.

217. Press Release, Fed. Trade Comm’n, Administrative Law Judge Dismisses FTC’s Challenge of Illumina’s Proposed Acquisition of Cancer Detection Test Maker Grail (Sept. 12, 2022), <https://www.ftc.gov/news-events/news/press-releases/2022/09/administrative-law-judge-dismisses-ftcs-challenge-illumina-proposed-acquisition-cancer-detection>.

218. *Id.*

219. Press Release, Fed. Trade Comm’n, FTC Orders Illumina to Divest Cancer Detection Test Maker Grail to Protect Competition in Life-Saving Technology Market (Apr. 3, 2023), <https://www.ftc.gov/news-events/news/press-releases/2023/04/ftc-orders-illumina-divest-cancer-detection-test-maker-grail-protect-competition-life-saving>.

220. Susan Kelly, *Illumina appeals FTC’s order to divest Grail with plea for cancer screening test*, MEDTECHDIVE (June 6, 2023), <https://www.medtechdive.com/news/ILMN-FTC-Grail-Illumina-appeal-divest-ment/652191/#:~:text=DNA%20sequencer%20Illumina%20on%20Monday,technology%20and%20save%20countless%20lives>.

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facts Illumina's efficiency justifications.²²¹ The Fifth Circuit nevertheless vacated the Commission's order and remanded it for further proceedings based on the Commission's improper assessment of Illumina's "open offer" licensing assurances.²²² On December 17, 2023, Illumina then announced it would divest Grail, effectively putting an end to the case.²²³

Illumina's termination of its merger shortly after the Fifth Circuit ruling coincided roughly with the agencies' issuance of the 2023 Merger Guidelines.²²⁴ According to some industry observers, the *Illumina* ruling provided support for the guidelines, although others suggested that the presumption of harm from mergers would be balanced by a rule of reason.²²⁵

On a separate track, in September 2022 the European Commission held that the Illumina-Grail merger violated European Competition law, in that Illumina possessed both the incentive and ability to foreclose rivals should the merger be allowed to stand.²²⁶ Illumina is appealing this decision to the European General Court.²²⁷ In July 2023, the EC fined Illumina 432 million euros for acquiring Grail without prior Commission

221. *Illumina, Inc. v. Fed. Trade Comm'n*, 88 F.4th 1036, 1061-62 (5th Cir. 2023).

222. *Id.* at 1061-62. The court opined that the FTC erred in not recognizing that "Illumina was only required to show that the Open Offer sufficiently *mitigated* the merger's effect such that it was no longer likely to *substantially* lessen competition. Illumina was not required to show that the Open Offer would negate the anticompetitive effects of the merger entirely." *Id.* at 1059.

223. *Illumina Announces Decision to Divest Grail*, ILLUMINA (Dec. 17, 2023), <https://investor.illumina.com/news/press-release-details/2023/Illumina-Announces-Decision-to-Divest-GRAIL/default.aspx>.

224. Bryan Koenig, *FTC's Illumina Win Is a Boost for Merger Guidelines*, LAW360 (January 9, 2024, 3:40PM) <https://www.law360.com/articles/1783666/ftc-s-illumina-win-is-a-boost-for-merger-guidelines>.

225. *Id.* ("While the Illumina ruling provides important backing for some of enforcers' vertical merger theories, which have become particularly aggressive in recent years, observers say it also comes with limits on those views, insisting not on the presumptions of illegality preferred by the agencies but on an intensive analysis more in line with the rule of reason standard that balances anticompetitive implications against potential benefits.").

226. European Commission Press Release IP/22/5364, *Mergers: Commission Prohibits Acquisition of GRAIL by Illumina* (Sept. 6, 2022).

227. Press Release, Illumina, *Illumina Intends to Appeal European Commission's Decision in GRAIL Deal* (Sept. 6, 2022), <https://www.illumina.com/company/news-center/press-releases/2022/1ef95365-0ca9-4726-a683-37124b1116b5.html>.

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approval.²²⁸ Illumina is appealing this decision as well.²²⁹ On October 12, 2023, the Commission ordered Illumina to unwind its completed acquisition by GRAIL,²³⁰ which Illumina opposed. Despite its subsequent December 17 decision to divest Grail, Illumina nevertheless continued to seek a decision by the European Court of Justice on its claim that the EC lacked jurisdiction to review the Grail acquisition.²³¹

3. Nvidia/Arm

The FTC sought to block the *Nvidia/Arm* vertical merger in part because of its presumed harm to innovation.²³² In December 2021, the FTC filed an administrative complaint to block the vertical merger between Nvidia Corp., a graphics chip supplier, and Arm Ltd., a computing-processor designer that licenses its technology to Nvidia and its competitors.²³³ An FTC press release alleged that “the combined firm would have the means and incentive to stifle innovative next-generation technologies, including those used to run datacenters and driver-assistance systems in cars.”²³⁴

The FTC argued that “Arm’s technology is a critical input that enables competition between Nvidia and its competitors in several markets.”²³⁵ On that basis, the FTC’s complaint alleged “that the proposed merger would give Nvidia the ability and incentive to use its control of this technology to undermine its competitors, reducing competition and ultimately resulting in reduced product quality, reduced innovation, higher prices, and less choice, harming the millions of Americans who benefit from Arm-based products”²³⁶

228. European Commission Press Release IP/23/3773, *Mergers: Commission Fines Illumina and Grail for Implementing Their Acquisition Without Prior Merger Control Approval* (July 12, 2023).

229. *Illumina Vows Appeal of \$479M Fine for Acquiring Grail before EC Approval*, GENETIC ENG’G & BIOTECH. NEWS (July 12, 2023), <https://www.genengnews.com/topics/omics/illumina-vows-appeal-of-479m-fine-for-acquiring-grail-before-ec-approval/>.

230. European Commission Press Release IP/23/4872, *Commission Orders Illumina to Unwind its Completed Acquisition of GRAIL* (Oct. 12, 2023).

231. Leon B. Greenfield et al., *Unprecedented European Commission Order to Unwind an Acquisition*, WILMERHALE: INSIGHTS & NEWS (Oct. 16, 2023), <https://www.wilmerhale.com/insights/client-alerts/20231016-unprecedented-european-commission-order-to-unwind-an-acquisition>.

232. *Nvidia/Arm* Complaint, *supra* note 25, at 9-11.

233. *Nvidia/Arm* Complaint, *supra* note 25, at 1-2.

234. Press Release, Fed. Trade Comm’n, *FTC Sues to Block \$40 Billion Semiconductor Chip Merger* (Dec. 2, 2021), <https://www.ftc.gov/news-events/news/press-releases/2021/12/ftc-sues-block-40-billion-semiconductor-chip-merger> [hereinafter *Nvidia/Arm* FTC Press Release].

235. *Id.*

236. *Id.*

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The FTC complaint stated that the merger “will substantially lessen competition in multiple markets because it will create a combined firm that has both the ability and the incentive to use its control of Arm to diminish competition by undermining Nvidia’s rivals.”²³⁷ The FTC alleged that “Nvidia will have the ability to disadvantage its rivals through its control of Arm . . . by manipulating levers such as Arm’s pricing, the terms and timing of access to Arm’s Processor Technology (including withholding or delaying access), Arm’s technological developments and features, and Arm’s provision of service and support, among other mechanisms.”²³⁸ Further, the FTC further charged that “[i]n markets in which Nvidia competes using Arm Processor Technology, the profits on additional sales that Nvidia would earn as a chip supplier are generally higher than the profits that Arm would earn from licensing its Processor Technology to Nvidia’s rivals.”²³⁹ According to the FTC, this “gives Nvidia a strong economic incentive to preference winning business for its own downstream products over licensing Arm Processor Technology or providing the same level of support, access, and investment to its own rivals”²⁴⁰

The FTC further argued that “aligning Arm with Nvidia will likely result in further harms due to a critical loss of trust in Arm by its own licensees, and overall investment and innovation in the Arm ecosystem will likely be reduced.”²⁴¹ Finally, the FTC noted that the merger “will likely further harm innovation because . . . Arm regularly receives innovative ideas from its licensees across the semiconductor industry and pursues new technological developments that it believes will yield the most benefit to its business. But Nvidia would be less likely to dedicate Arm’s resources toward otherwise beneficial innovative developments of Arm Processor Technology that would harm Nvidia.”²⁴²

The FTC’s arguments depend on the presumption that the merger would fundamentally alter Arm’s licensing strategy. The FTC’s complaint observes that Arm’s IP licensing uses an “industry-described neutral, open licensing approach” and that “Arm is often dubbed the ‘Switzerland’ of the semiconductor industry for this approach.”²⁴³ The FTC was concerned that combining Arm’s upstream IP licensing with Nvidia’s

237. *Nvidia/Arm* Complaint, *supra* note 25, at 3.

238. *Id.*

239. *Id.*

240. *Id.*

241. *Id.*

242. *Id.*

243. *Nvidia/Arm* FTC Press Release, *supra* note 234.

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downstream manufacturing and sales would foreclose competitors and harm innovation.²⁴⁴

Faced with an FTC lawsuit, Nvidia terminated its proposed acquisition of Arm in February 2022.²⁴⁵ The unfortunate blocking of this transaction prevented the realization of substantial innovation-generating efficiencies from the merger; specifically, enhanced innovation competition in processor and mobile computing markets. The FTC's merger-related foreclosure concerns appeared implausible, and the FTC did not acknowledge the merger's innovation benefits.

The substantial returns from Arm's neutral licensing approach suggest that the merged firm would have considerable incentives to continue and expand its innovative design and IP licensing business. A couple of years prior to the proposed merger, Arm "altered its licensing model in a bid to attract more customers to its chip designs, improve its position in the Internet of Things market and fought off smaller rivals using RISC-V and other open-source chip architectures."²⁴⁶

Arm's approach gave its "customers access to broad swathes of its IP for an annual fee and only charging licensing and royalty fees for IP used in production."²⁴⁷ Because Arm received such high returns to licensing, the vertical merger would not have abandoned the licensing business. According to an industry report, "[l]icensing revenue accounted for 48% of the company's total sales in the quarter while royalties made up the other 52%. Royalties enable Arm to get a payment per chip sold. Licensing involves giving customers access to its portfolio of intellectual property for developing Arm-based processors."²⁴⁸

To the contrary, the merged firm would have incentives to further expand Arm's licensing and royalty business. The merged firm would build on Arm's success as "Arm's customers include every major semiconductor designer on the planet. They include Apple (AAPL), AMD (AMD), Nvidia (NVIDIA), Qualcomm (QCOM) and many more. Arm provides basic

244. *Id.*

245. Press Release, Fed. Trade Comm'n, Statement Regarding Termination of Nvidia Corp.'s Attempted Acquisition of Arm Ltd. (Feb. 14, 2022), <https://www.ftc.gov/news-events/news/press-releases/2022/02/statement-regarding-termination-nvidia-corps-attempted-acquisition-arm-ltd>.

246. James Morra, *Arm Eases Upfront Licensing Fees to Head Off RISC-V*, ELEC. DESIGN (July 18, 2019), <https://www.electronicdesign.com/technologies/embedded/article/21808309/arm-eases-upfront-licensing-fees-to-head-off-riscv>.

247. *Id.*

248. Patrick Seitz, *Arm Gives Chipmakers a Leg Up in Semiconductor Design*, INV.'S BUS. DAILY (Dec.14, 2023, 11:56 AM), <https://www.investors.com/research/the-new-america/arm-stock-chip-designer-expands-beyond-mobile-devices/>.

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designs for the semiconductors used by its customers, but those chipmakers customize and build on those blueprints.”²⁴⁹

An examination of the separate business strategies of the two firms illustrates Adam Smith’s concept of the specialization and division of labor, a fundamental source of both economies of scale and gains from trade.²⁵⁰ The specialization of effort and division of labor boosts productivity within a firm as employees develop their knowledge and skills. In the same way, specialization of effort and division of labor boosts industry productivity in global markets as firms specialize and trade through the marketplace. The differences between Nvidia and Arm exemplify specialization and division of labor, with Arm specializing in microprocessor design and Nvidia manufacturing graphics chips. These differences show why it is highly likely this transaction would have generated robust industry efficiencies, gains from trade, and new markets.²⁵¹

Arm followed an IP licensing strategy for its chip architecture designs.²⁵² Scott Fulton points out “[a]n Arm-based device may be designed to incorporate the processor, perhaps even making adaptations to its architecture and functionality. For that reason, rather than a ‘central processing unit’ (CPU), an Arm processor is instead called a *system-on-a-chip* (SoC)”²⁵³ As a specialized chip designer Arm avoided the costs and risks associated with manufacturing, whereas its customers benefited from Arm’s chip design capabilities.

In contrast, Nvidia was a pioneer in the design and manufacturing of the graphics processing unit (GPU).²⁵⁴ The GPU handles the graphics display in personal computers, notebooks, and game devices, while complementing CPUs.²⁵⁵ Nvidia’s GPUs also handle artificial intelligence (AI)

249. *Id.*

250. ADAM SMITH, AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS 82 (Salvio Soares ed., Metalibri Digit. Ed. 2007) (1776).

251. See Alden F. Abbott & Andrew Mercado, *FTC Challenge to Nvidia-Arm Vertical Merger: Potential Efficiency Justifications*, TRUTH ON THE MKT. (Dec. 8, 2021), <https://truthonthemarket.com/2021/12/08/ftc-challenge-to-nvidia-arm-vertical-merger-potential-efficiency-justifications/>.

252. Scott Fulton III, *Arm Processors: Everything You Need to Know Now*, ZDNET (Mar. 30, 2021, 2:35 PM), <https://www.zdnet.com/article/arm-processors-everything-you-need-to-know-now/>.

253. *Id.*

254. Jon Peddie, *Famous Graphics Chips: Nvidia’s GeForce 256*, IEEE COMPUT. SOC’Y (Feb. 25, 2021), <https://www.computer.org/publications/tech-news/chasing-pixels/nvidias-geforce-256>.

255. *Nvidia Revenues: How Does Nvidia Make Money?*, TREFIS, <https://www.trefis.com/no-login-required/enOXFAXz/Nvidia-Revenues-How-Does-Nvidia-Make-Money> (last visited Feb. 28, 2024) (“[A] dedicated GPU and CPU work in tandem to increase the overall speed and performance of a system.”).

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applications where they can substitute for some CPU functions. According to Nvidia “GPUs perform technical calculations faster and with greater energy efficiency than CPUs. That means they deliver leading performance for AI training and inference as well as gains across a wide array of applications that use accelerated computing.”²⁵⁶

According to Nvidia, the vertical merger offered several benefits for innovation. First, Nvidia stated that the merger “[u]nites NVIDIA’s leadership in artificial intelligence with Arm’s vast computing ecosystem to drive innovation for all customers.”²⁵⁷ Second, the company noted that “NVIDIA will expand Arm’s R&D presence in Cambridge, UK, by establishing a world-class AI research and education center, and building an Arm/NVIDIA-powered AI supercomputer for groundbreaking research.”²⁵⁸ Finally, the company pointed out that “NVIDIA will continue Arm’s open-licensing model and customer neutrality and expand Arm’s IP licensing portfolio with NVIDIA technology.”²⁵⁹

Nvidia/Arm illustrates how antitrust policy can block mergers based on the presumption of harm to innovation. The FTC’s concerns that the merged company would have “the means and incentive to stifle innovative next-generation technologies” involves speculation about future conduct and hypothetical technological change.²⁶⁰ There is considerable evidence, however, that the vertical merger would have generated innovative efficiencies and competition in processor markets. The vertical merger would have reduced transaction costs and improved the commercialization of IP. The vertical merger would not have changed Arm’s highly successful IP licensing strategy. This suggests that the merger would have generated a positive innovative delta that could have served as an antitrust defense.

IV. ACQUISITION OF START-UPS AND ENTRANTS AND INNOVATION COMPETITION

Antitrust merger policy proposals also target the acquisition of startups and entrants based on alleged harm to innovation. In contrast to proposals targeting horizontal and vertical mergers, these antitrust policies

256. Rick Merritt, *Why GPUs Are Great for AI*, NVIDIA BLOG (Dec. 4, 2023), <https://blogs.nvidia.com/blog/why-gpus-are-great-for-ai/>.

257. Press Release, Nvidia, NVIDIA to Acquire Arm for \$40 Billion, Creating World’s Premier Computing Company for the Age of AI (Sept. 13, 2020), <https://nvidia-news.nvidia.com/news/nvidia-to-acquire-arm-for-40-billion-creating-worlds-premier-computing-company-for-the-age-of-ai>.

258. *Id.*

259. *Id.*

260. *Nvidia/Arm* FTC Press Release, *supra* note 234.

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are not aimed at limiting market concentration because the start-ups and entrants have relatively low market shares. This section shows that antitrust policies toward acquisitions of start-ups and entrants have little empirical foundation and depend on flawed economic reasoning. “Killer Acquisitions” and the “Kill Zone” are yet more alarmist rhetorical devices with little substance.²⁶¹ These antitrust policies will harm innovation competition in two ways: by decreasing incentives for innovative entry and by constraining mechanisms for technology transfer.

A. Acquisition of Entrants and Meta/Within

In July 2022, the FTC authorized an administrative complaint against the proposed merger between Meta Platforms, Inc. (formerly Facebook, Inc.) and the entrant Within Unlimited,²⁶² the virtual reality (VR) studio that markets Supernatural, a leading VR fitness app. Meta sells the most widely used VR headset, operates a widely used VR app store, and already owns many popular VR apps. The FTC simultaneously filed a complaint in federal court requesting a preliminary injunction to pause the deal.²⁶³

Meta/Within provides a prime example of a merger case based on flawed economic reasoning. The FTC asserted that Meta’s proposed acquisition of Within Unlimited would harm competition and dampen innovation in the U.S. markets for fitness and dedicated-fitness VR apps. The FTC’s complaint noted that “network effects on a digital platform can cause the platform to become more powerful—and its rivals weaker and less able to seriously compete— as it gains more users, content, and developers.”²⁶⁴

The FTC’s unsuccessful 2022 challenge to Meta Platforms’ acquisition of Within Unlimited illustrates the pitfalls that should be avoided by an antitrust enforcer in bringing “potential entrant” cases in rapidly evolving markets featuring new technologies.²⁶⁵ In particular, the case illustrates the problems with basing a theory of merger-related innovation harm on the highly speculative theoretical possibility of future entry into a particular market, especially when the industry sector being examined is dynamic and fast-growing.

261. *Id.*

262. Press Release, Fed. Trade Comm’n, FTC Seeks to Block Virtual Reality Giant Meta’s Acquisition of Popular App Creator Within (July 27, 2022), <https://www.ftc.gov/news-events/news/press-releases/2022/07/ftc-seeks-block-virtual-reality-giant-metas-acquisition-popular-app-creator-within>.

263. *Meta/Within* Amended Complaint, *supra* note 26, at 2.

264. *Id.* at 4.

265. *Id.* at 14.

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The complaint noted that “Mr. Zuckerberg instructed key Facebook executives that his vision for ‘the next wave of computing’ was control of apps and the platform on which those apps were distributed.”²⁶⁶ The complaint predicted that “[i]f Meta is able to proceed with this proposed acquisition of Within, the merger poses a reasonable likelihood of substantially lessening competition in the market for VR dedicated fitness apps.”²⁶⁷

According to the FTC, even the possibility of entry can discourage competitors: “a company poised on the edge of a market may exert competitive pressure on existing participants. Regardless of whether such a company actually intends to enter, the possibility that it may do so can spur other companies already in the market to proactively ramp up their own competitive efforts.”²⁶⁸ The FTC maintained that as an incumbent, Meta could discourage competitors whether or not it intended to enter an adjacent market: “Meta, poised on the edge of the VR dedicated fitness app market with its popular Beat Saber app, and with all its vast resources and unique strategic advantages, exerts such an influence.”²⁶⁹ As a result, the FTC concluded “[t]he Acquisition would eliminate that incentive for market participants to compete, again in contravention of the antitrust laws.”²⁷⁰

The extent of competition in the market did not affect the FTC’s analysis of anticompetitive conduct. According to the FTC, “[w]hen viewed against the backdrop of the broader VR fitness app market, which includes both dedicated or deliberate fitness apps (‘dedicated fitness apps’) and apps, such as rhythm and active sports games, that provide an incidental fitness benefit (‘incidental fitness apps’), the merger is no less anticompetitive.”²⁷¹

The FTC pointed out that the acquisition of the entrant would be anticompetitive because the incumbent and entrant would no longer compete. The FTC’s complaint stated that “[l]etting Meta acquire Supernatural would combine the makers of two of the most significant VR fitness apps, thereby eliminating beneficial rivalry between Meta’s Beat Saber app and Within’s Supernatural app.”²⁷²

266. *Id.*

267. *Id.* at 5.

268. *Id.*

269. *Id.*

270. *Id.*

271. *Id.* at 6.

272. *Id.*

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This would suggest that the FTC's opposition to the merger was based on standard horizontal competition concerns. However, the complaint went further by asserting that potential competitors would engage in less innovation: “[a]ccordingly, this Acquisition poses a reasonable probability of eliminating both present and future competition. That lessening of competition may result in reduced innovation, quality, and choice, less pressure to compete for the most talented app developers, and potentially higher prices for VR fitness apps. And Meta would be one step closer to its ultimate goal of owning the entire ‘Metaverse.’”²⁷³

The FTC presumed that the mere possibility that Meta might enter narrowly defined “fitness apps” markets would “dampen innovation” presenting logical difficulties.²⁷⁴ As one antitrust scholar explained, the FTC's position would undermine rather than promote innovation, as it failed to recognize that “barriers to exit are barriers to entry.”²⁷⁵

As in *Amgen/Horizon*, the FTC focused on the mere theoretical possibility of a future event, in this instance entry into two small markets, as the basis for positing a theory of merger-specific innovation harm that was at odds with antitrust logic. The FTC decided not to pursue the case after being denied a preliminary injunction by the reviewing federal judge.²⁷⁶ Notably, the judge found “that the objective evidence does not support a reasonable probability that firms in the relevant market perceived Meta as a potential entrant. Even if it did, the Court finds that there is no direct or circumstantial evidence to suggest that Meta's presence did in fact temper oligopolistic behavior or result in any other pro-competitive benefits.”²⁷⁷

B. *Cannibalization and the Innovation Theory of Harm from Mergers*

The 2023 Merger Guidelines adopt the cannibalization view of mergers: “[t]he merged firm may have a reduced incentive to continue or initiate development of new products that would have competed with the other merging party, but post-merger would ‘cannibalize’ what would be its own

273. *Id.*

274. *Id.* at 5.

275. Gus Hurwitz, *FTC UMC Roundup – Can't a Man Eat in Peace Edition*, TRUTH ON THE MKT. (July 29, 2022), <https://truthonthemarket.com/2022/07/29/ftc-umc-roundup-cant-a-man-eat-in-peace-edition/>.

276. Order Denying Plaintiff's Motion for Preliminary Injunction, Fed. Trade Comm'n v. Meta Platforms Inc., No. 22-cv-04325, slip op. (N.D. Cal. Jan. 31, 2023), <https://storage.courtlistener.com/recap/gov.uscourts.cand.398508/gov.uscourts.cand.398508.549.0.pdf>.

277. *Id.* at 64.

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sales.”²⁷⁸ In so doing, the Guidelines miss the mark and threaten to disincentivize welfare-enhancing mergers.

A key problem with the cannibalization idea is that it presumes that mergers diminish product innovation and product variety. There is no empirical basis for such a broad prediction of cannibalization. On the contrary, incumbent firms such as P&G, Unilever, Nestle, and Mondelez offer a wide variety of products and continually engage in product innovation.²⁷⁹ Merged companies such as Kraft/Heinz and Anheuser-Busch InBev provide a wide variety of products and engage in product innovation.²⁸⁰ In electronics, Cisco Systems acquired over 240 companies that were integrated into its organization.²⁸¹ An industry report observed that Cisco System’s “ability to successfully acquire and integrate a continuing string of companies, including StrataCom, the largest acquisition in Silicon Valley history, is becoming part of the industry’s new folklore.”²⁸²

Automobile companies such as Stellantis have grown through M&A, without seeking to diminish innovation and product variety.²⁸³ Stellantis observes that it is “we aim to develop, engineer, manufacture, and scale the best breakthroughs in all facets of sustainable mobility from

278. 2023 Merger Guidelines, *supra* note 3, at 39.

279. See Larry Huston & Nabil Sakkab, *Connect and Develop: Inside Procter & Gamble’s New Model for Innovation* HARV. BUS. REV. (March 2006), <https://hbr.org/2006/03/connect-and-develop-inside-procter-gambles-new-model-for-innovation>; Akiko Fujita, *P&G using innovation to drive brand choice amongst consumers*, YAHOO FIN. (Oct. 18, 2023), <https://finance.yahoo.com/video/p-g-using-innovation-drive-172827911.html>; Marcus Law, *How Unilever Uses AI & Digital Solutions in its Operations*, TECH. MAG. (Jan. 22, 2024), <https://technologymagazine.com/articles/how-unilever-is-using-ai-and-digital-solutions>; Dale Buss, *A New Playbook for Innovation at Nestlé*, FOOD TECH. MAG. (June 20, 2023), <https://www.ift.org/news-and-publications/digital-exclusives/a-new-playbook-for-innovation-at-nestle>; Liz Dominguez, *Mondelez Invests \$50 Million in Global R&D Innovation Center*, CONSUMER GOODS (May 2, 2023), <https://consumergoods.com/mondelez-invests-50-million-global-rd-innovation-center>.

280. Kraft/Heinz, *Kraft Heinz Named to Fast Company’s Annual List of the World’s Most Innovative Companies* (March 19, 2024), <https://news.kraftheinzcompany.com/press-releases-details/2024/Kraft-Heinz-Named-to-Fast-Companys-Annual-List-of-the-Worlds-Most-Innovative-Companies/default.aspx#:~:text=Among%20recent%20innovations%2C%20Kraft%20Heinz,traditionally%20get%20from%20the%20stove>; and Dave Knox, *How Anheuser-Busch Is Using Consumer Centricity To Drive Their Innovation Pipeline*, FORBES (Nov. 9, 2021), <https://www.forbes.com/sites/daveknox/2021/11/09/how-anheuser-busch-is-using-consumer-centricity-to-drive-their-innovation-pipeline/?sh=480d6ba9e0f1>.

281. *List of Cisco’s 245 Acquisitions, including Splunk and Working Group Two*, CRUNCHBASE, https://www.crunchbase.com/search/acquisitions/field/organizations/num_acquisitions/cisco (last visited Mar. 1, 2024).

282. Glenn Rifkin, *Growth by Acquisition: The Case of Cisco Systems*, STRATEGY + BUSINESS (Apr. 1, 1997), <https://www.strategy-business.com/article/15617>.

283. *Powered by Our Diversity, We Lead the Way the World Moves*, STELLANTIS, <https://www.stellantis.com/en/company/about-us> (last visited Feb. 18, 2024).

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autonomous, connected, electrified, shared and pre-owned vehicles to micro-mobility, commercial vehicles, and even electric aircraft.”²⁸⁴ A study of a merger in the Korean automobile industry suggests that “efficiency gains from the merger are likely to increase export volumes for models that were already exported prior to the merger, and to offset domestic market power for those that were not exported even after the merger.”²⁸⁵

There may be situations in which withdrawing products or closing divisions follows M&A. These situations would support the cannibalization theory if it can be shown that the M&A activities’ purpose was reduction of innovation. In these situations, it is also necessary to distinguish cannibalization strategies from unsuccessful diversification strategies. A variety of M&A deals have failed but many were intended to increase diversification and innovation.²⁸⁶ There are multiple factors that affect the economic performance of M&A. A study points out that there are trillions of dollars in M&A deals per year and finds that “post-takeover deal performance is affected by key determinants including serial acquisitions, CEO overconfidence, acquirer-target relatedness and complementarity, and shareholder intervention in the form of voting or activism.”²⁸⁷

Discussions of the effects of acquisitions on innovation have focused attention on the tech sector. Empirical analysis does not suggest, however, that tech sector acquisitions are necessarily anticompetitive. Five of the leading tech platforms – Alphabet (Google), Apple, Facebook, Amazon, and Microsoft (GAFAM) – have acquired more than 600 other companies.²⁸⁸ Ginger Zhe Jin, Mario Leccese, and Liad Wagman, who study acquisitions by the GAFAM companies, “identify three groups of companies that have been or have the potential to be top acquirers of technology

284. *Id.*

285. Hiroshi Ohashi & Yuta Toyama, *The Effects of Domestic Merger on Exports: A Case Study of the 1998 Korean Automobile Industry*, 107 J. INT’L ECON. 147, 147 (2017).

286. *Fools Rush In: 37 of the Worst Corporate M&A Flops*, CBINSIGHTS (Oct. 30, 2018), <https://www.cbinsights.com/research/merger-acquisition-corporate-fails/>.

287. Luc Renneboog & Cara Vansteenkiste, *Failure and Success in Mergers and Acquisitions*, 58 J. CORP. FIN. 650, 650 (2019).

288. See FED. TRADE COMM’N, NON-HSR REPORTED ACQUISITIONS BY SELECT TECHNOLOGY PLATFORMS, 2010-2019: AN FTC STUDY (2021), <https://www.ftc.gov/reports/non-hsr-reported-acquisitions-select-technology-platforms-2010-2019-ftc-study>; H.R. SUBCOMM. ON ANTITRUST, COM. AND ADMIN. LAW OF THE COMM. ON THE JUDICIARY, 117TH CONG., INVESTIGATION OF COMPETITION IN DIGITAL MARKETS: MAJORITY STAFF REPORT AND RECOMMENDATIONS (Comm. Print 2022), <https://www.govinfo.gov/content/pkg/CPRT-117HPRT47832/pdf/CPRT-117HPRT47832.pdf>; Ginger Zhe Jin, Mario Leccese & Liad Wagman, *How Do Top Acquirers Compare in Technology Mergers? New Evidence from an S&P Taxonomy*, 89 INT’L J. INDUS. ORG. 1 (2022) [hereinafter Jin et al., IJIO].

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companies.”²⁸⁹ Jin et al. “do not find evidence suggesting that GAFAM entry via acquisitions in categories, in comparison to similar categories in which GAFAM has not yet acquired, are correlated with any slowdown in the number of new acquirers acquiring in the same categories after the initial acquisitions by GAFAM.”²⁹⁰ Additionally, Jin et al. state that their “findings confirm that, over time, more members of GAFAM acquire in the same categories, and other top acquirers also acquire in the same categories as GAFAM.”²⁹¹ Jin et al. conclude that, empirically, “technology acquisition does not shield GAFAM from potential competition that may arise from other GAFAM members or other firms acquiring in the same industry categories.”²⁹²

Another study shows that tech M&A can involve unrelated acquisitions that should not raise concerns about cannibalization. Ginger Zhe Jin, Mario Leccese, and Liad Wagman examine a broad sample of tech M&A between 2010 and 2020 using data “from a database managed by Standard and Poor’s (S&P) Global Market Intelligence.”²⁹³ They find that “[i]n the majority of tech M&As, the acquirer and the target do not operate in the same S&P-defined tech category; that is, the acquired company appears to fall outside the area of the acquirer’s core business.”²⁹⁴ Their analysis also finds that “such ‘unrelated’ acquisitions are partly correlated with acquirers facing more intense competition in their core businesses.”²⁹⁵ Jin et al. observe that “[t]his implies that M&A may help facilitate an on-ramp for incumbent firms to expand into new technological categories, as a way of addressing competitive pressure.”²⁹⁶ In particular, “M&A can intensify competition in some technology markets, although at the same time M&A may help the acquirers differentiate their offerings in an attempt to escape competition in their core business areas.”²⁹⁷

Zhuoxin Li and Ashish Agarwal focus on Facebook’s acquisition of Instagram, which has generated antitrust concerns.²⁹⁸ Their results suggest that Facebook’s acquisitions of other companies including startups

289. Jin et al., *IJIO*, *supra* note 288, at 3.

290. *Id.* at 3.

291. *Id.*

292. *Id.*

293. Ginger Zhe Jin, Mario Leccese, & Liad Wagman, *M&A and Technological Expansion*, 32 *J. ECON. & MGMT. STRATEGY (SPECIAL ISSUE)* 1, 2 (2023).

294. *Id.*

295. *Id.*

296. *Id.*

297. *Id.* at 3.

298. Zhuoxin Li & Ashish Agarwal, *Platform Integration and Demand Spillovers in Complementary Markets: Evidence from Facebook’s Integration of Instagram*, 63 *MGMT. SCI.* 3438 (2016).

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involve innovations that are complementary to Facebook's platform.²⁹⁹ Li and Agarwal observe that social media platforms "often seek complementary innovations from third-party providers to meet the needs of heterogeneous users."³⁰⁰ Their study shows that Facebook has been "providing a set of programming interfaces and tools for third-party software developers to create applications that interact with Facebook's core features (e.g., user profile and friendship network)."³⁰¹ As of February 2012, the Facebook platform supported more than nine million applications in a variety of categories such as games, photo sharing, music sharing, news, entertainment, sports, travel, and lifestyle."³⁰² Far from terminating Instagram, Facebook has integrated the app into its platform. As Li and Agarwal show, "consumers obtain additional value from Instagram after its tighter integration with Facebook, leading to dramatic growth in demand for Instagram."³⁰³ The complementarities achieved by Facebook in its Instagram acquisition as well as its WhatsApp acquisition generated substantial welfare benefits.³⁰⁴

The cannibalization version of the innovation theory of harm is based on flawed economic analysis. This theory of harm makes the key assumption that when two companies engage in innovation competition, each company's innovation investment raises its own profit and lowers the profit of its rival by cannibalizing its customers. Firms engaged in innovation competition consider the benefits of their own R&D but ignore the negative effects of their innovation on competitors. Based entirely on this assumption, the theory of harm predicts that the merged companies will continue to operate separately as divisions of the merged firm and then "collude" internally by each reducing their innovation.³⁰⁵ This

299. *Id.*

300. *Id.* at 3438.

301. *Id.*

302. *Id.*; see also Brittany Darwell, *Facebook Platform Supports More than 42 Million Pages and 9 Million Apps*, ADWEEK (Apr. 27, 2012), <http://www.adweek.com/socialtimes/facebook-platform-supports-more-than-42-million-pages-and-9-million-apps/278492>.

303. Li & Agarwal, *supra* note 298, at 3440.

304. See Erik Brynjolfsson & Avinash Collis, *How Should We Measure the Digital Economy?* 4-5 (Hutchins Ctr. on Fiscal & Monetary Pol. at Brookings, Working Paper #57, Jan. 2020), https://www.brookings.edu/wp-content/uploads/2020/01/WP57-Collis_Brynjolfsson_updated.pdf, for an evaluation of the enormous magnitude of the net consumer welfare benefits conferred by Facebook and other major digital platforms.

305. See Carles Esteve Mosso, Deputy Dir. Gen. for Mergers, Directorate Gen. for Competition, European Comm'n, *Innovation in EU Merger Control: Remarks Prepared for the 66th ABA Section of Antitrust Law Spring Meeting*, (Apr. 12, 2018) (transcript available at https://competition-policy.ec.europa.eu/about/news/competition-speeches-archive-1995-2020-2020-01-01_en); see also

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hypothetical approach extends the notion of collusion in prices or outputs to innovation after a merger, concluding that mergers reduce innovation.

Mosso summarizes the cannibalization theory as follows:

By innovating, a firm can capture profitable sales from its rivals and can also mitigate the risk that its current sales will be displaced by better products offered by its competitors. A horizontal merger, by suppressing competition between two rivals, can therefore reduce their incentive to innovate, and more generally diminish the intensity of dynamic competition, to the detriment of current and future consumer welfare.³⁰⁶

One flaw in this approach is the assumption that firms maintain separate divisions after horizontal mergers. Companies engaged in horizontal mergers generally seek to combine their divisions. Although this can take some time and effort, the companies have incentives to integrate the merged companies to achieve economies of scale and other cost savings from the merger. The notion that firms in a horizontal merger maintain separate businesses presumes that there are few, if any, efficiencies from the merger. It is not surprising, therefore, that the merger is alleged to be collusive. Even if the divisions might appear to operate separately, such as automobile companies maintaining separate makes, the merged firm typically seeks cost efficiencies by combining management, information technology (IT), procurement, manufacturing, and distribution. The divisions of the merged firm share costs to achieve efficiencies.

Another flaw in the cannibalization approach is the view that the only way firms benefit from a merger is to decrease R&D. Instead, the merger can allow the merged firm to share technology, thereby expanding the benefits of innovation. Even if the divisions were to operate separately, they could share technologies just as firms in the marketplace license or transfer technology to each other. In practice, R&D by a company can benefit rivals through technology transfers, a phenomenon known as business creation. Much of this business creation occurs through voluntary technology transfers such as licensing and patent transfers. R&D by a company also can benefit its rivals through spillovers, which are involuntary technology transfers such as imitation and inspiration.

Mergers that integrate their divisions internalize technology transfers, generating additional benefits and providing incentives to increase

Joseph Farrell & Carl Shapiro, *Antitrust Evaluation of Horizontal Mergers: An Economic Alternative to Market Definition*, 10 B.E.J. THEORETICAL ECON. 1, 33 (2010).

306. See Esteva Mosso, *supra* note 305, at 4.

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investment in R&D. Internal transfers also protect IP and improve the quality of technology transfers, providing additional incentives that increase investment in R&D. Internal transfers also address the issue of “business stealing”, which can occur if a rival firm takes market share away from the innovative firm. Internal transfers of technology within the merged firm allow better coordination that mitigates “business stealing” and increases incentives for investment in innovation.

Mergers are likely to create incentives for innovation for several reasons. A merged firm will produce a greater level of output, which increases the returns to innovations that lower costs. A merged firm will also have greater sales, which increase the returns to innovations that increase consumer benefits. Additionally, a merged firm will have a greater volume of transactions, which increases the returns to innovations that reduce transaction costs.

Blocking mergers could just as well decrease the number of R&D programs. Without the merger, the companies may still choose to abandon some research in the pipeline given the high costs of R&D. Because merged firms can coordinate and combine their operations, they will realize efficiencies in R&D itself. There may be economies of scale in the firm’s R&D activities. The merged firms often combine complementary technologies and expertise so that the combined R&D investment may be more productive, generating incentives for greater R&D investment. Such mergers may realize some of the multiple-project synergies that are critical for operating large-scale R&D programs.³⁰⁷ These mergers also benefit from operating multiple R&D projects because of the returns from combining simultaneous and sequential R&D projects.³⁰⁸

C. Two Versions of the Cannibalization View: Killer Acquisitions and the Kill Zone

Antitrust policies aimed at limiting acquisitions of start-ups and entrants argue that the incumbent’s objective is to acquire and kill nascent competitors. These antitrust policies involve highly speculative concerns about future competition. Empirical and theoretical analysis of these proposed policies suggests that they would have the opposite effect, leading to fewer start-ups, decreased entry, less competition, and diminished

307. Christian Tidona, *Leveraging Synergies in Pre-Clinical Biomedical R&D – Pharmaceutical Companies Benefit from New Innovation Models*, WORLD PHARMA TODAY, (March 2020), <https://www.worldpharmatoday.com/articles/leveraging-synergies-in-pre-clinical-biomedical-rd-pharmaceutical-companies-benefit-from-new-innovation-models>.

308. Joaquin Poblete and Daniel F. Spulber, *Managing Innovation: Optimal Incentive Contracts for Delegated R&D with Double Moral Hazard*, 95 EUR. ECON. REV. 38, 48 (2017).

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innovation. There are two versions of the antitrust theory of harm: Killer Acquisitions and the Kill Zone.

Colleen Cunningham et al. developed the theory of Killer Acquisitions.³⁰⁹ They “argue that an incumbent firm may acquire an innovative target and terminate the development of the target’s innovations to preempt future competition.”³¹⁰ The model of Cunningham et al. “formalizes the seemingly counterintuitive phenomenon of incumbents acquiring innovative potential entrants to shut down the entrants’ innovative endeavors. It also highlights the conditions under which killer acquisitions are particularly prevalent.”³¹¹

The Killer Acquisition model critically depends on assuming that the return to R&D is greater for an entrant than for an incumbent acquiring the invention. Cunningham et al. justify this assumption as follows “the new product cannibalizes some of the profits of the acquirer’s existing killer acquisitions product. In contrast, an entrepreneur has no product to sell, and hence no profit, if she does not successfully develop the project.”³¹² Cunningham et al. implicitly assume that the industry is vertically integrated, with firms engaging in both R&D and production.³¹³

Cunningham et al. also consider the possibility that the incumbent firm can obtain synergies by combining its existing R&D project with the acquired R&D project.³¹⁴ These synergies may be sufficient to override the assumed effects of cannibalization. This means that the acquisition will stimulate rather than harm innovation.³¹⁵

In line with the previous discussion, the “cannibalization” assumption is itself problematic. This assumption incorrectly appeals to Kenneth Arrow’s “replacement effect.”³¹⁶ Arrow considers a monopoly inventor with a new technology that replaces an initial technology.³¹⁷ Arrow finds that a monopoly inventor earns less by providing the invention to a monopoly adopter than to competing adopters.³¹⁸ This is because the monopoly

309. Colleen Cunningham et al., *Killer Acquisitions*, 129 J. POL. ECON. 649 (2021).

310. *Id.* at 650. See also Michael L. Katz, *Big-Tech Mergers: Innovation, Competition for the Market, and the Acquisition of Emerging Competitors*, 54 INFO. ECON. & POLY 1 (2021).

311. Cunningham et al., *supra* note 309, at 651.

312. *Id.* at 659-60.

313. See generally, Cunningham et al., *supra* note 309.

314. *Id.*

315. *Id.*

316. See Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, in THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS 609, 619-622 (Nat'l Bureau of Econ. Analysis ed., Princeton Univ. Press 1962).

317. *Id.* at 619-22.

318. *Id.*

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adopter's decision to use the new technology is the difference between profit with the new technology and profit with the initial technology (the replacement effect).³¹⁹ Competing adopters do consider the initial technology, however, and only accept a royalty that makes switching worthwhile.³²⁰ The monopoly inventor earns more selling to competing adopters than to the monopoly adopter because the monopoly inventor captures all downstream rents with competing adopters.³²¹

Daniel Spulber introduces a model of R&D with both competing inventors and competing adopters.³²² Spulber compares incentives to invent for competing single-project inventors with a monopoly multi-project inventor.³²³ Competing single-project inventors may have greater incentives to invent than the multi-project monopoly because the average returns to invent are greater than the marginal returns of the multi-project monopoly inventor.³²⁴ The multi-project monopoly will have greater incentives to invent than single-project inventors if it has a greater ability to appropriate its IP.³²⁵ Vertical integration and cross-licensing can help address problems associated with IP appropriability. Spulber finds that stronger IP protection fosters a market for inventions leading to greater incentives to invent.³²⁶ In contrast, weaker IP protections can promote vertical integration and technology-sharing arrangements that diminish incentives to innovate.³²⁷ This means that with vertical integration and technology sharing, consolidation of the industry can increase incentives to innovate.³²⁸ Acquisitions in this setting benefit incentives to invent.

Sai Krishna Kamepalli et al. advance the theoretical "Kill Zone" characterization of M&A: "[t]here is a growing worry that digital platforms (multi-sided markets that offer digital services to customers, often for free) might gain market power, distort competition, and slow innovation."³²⁹ They raise the concern that "such platforms might acquire any potential competitors, dissuading others from entering, and thus preventing entry from serving as the competitive threat that keeps monopolistic

319. *Id.* at 620-22.

320. *Id.*

321. *Id.*

322. Spulber, *supra* note 159, at 1007.

323. *Id.*

324. *Id.* at 1026-27.

325. *Id.* at 1030-35.

326. *Id.* at 1032-35.

327. *Id.*

328. *Id.*; *see also* Spulber, *supra* note 161, at 33.

329. Sai Krishna Kamepalli et al., *Kill Zone 2* (Nat'l Bureau of Econ. Rsch., Working Paper No. 27146, 2022).

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incumbents on their toes.”³³⁰ They present a theoretical model that emphasizes “network effects” with customers preferring platforms with more apps and app designers preferring a platform with more customers.³³¹ The “kill zone” effect depends on the assumption that customers and app designers would encounter switching costs in moving from the incumbent firm to an entrant.³³² Their argument is that customers and app designers will not move to an entrant if they expect the entrant to be acquired.³³³

Marc Ivaldi et al. provide empirical results that contradict the theory of killer acquisitions.³³⁴ The authors study a sample of information and communications technology (ICT) merger transactions reviewed by the European Commission that, consistent with the theory, might have been killer acquisitions.³³⁵ They point out a flaw in the killer acquisition prediction: “[e]ven if we assume in all cases that the target’s products are discontinued in the buyer’s firm, it would be *non sequitur* to infer a weakening of competition. Demand for the discontinued product may switch to alternative products, leading to the growth of third-party competitors.”³³⁶ To address this issue, the authors instead focus on ex-post competition to understand the killer acquisitions hypothesis: “For the hypothesis to hold, we should expect to observe at least one of the three following changes after a merger: (1) a disappearance of the target’s products, (2) a weakening of competing firms, and (3) a post-merger lowering or absence of entry and innovation.”³³⁷ Using financial disclosure reports, they show “that one could not observe a disappearance of the target’s products, a weakening of competing firms, and/or a post-merger lowering or absence of entry and innovation. In other words, the paper f[ound] no factual evidence supporting the killer acquisition theory.”³³⁸

Ivaldi et al. conclude that their work “casts light on the possibility that current merger policy shifts in digital markets might be more based on

330. *Id.*

331. *Id.* at 7-8.

332. *Id.* at 9-12, 30-31.

333. *Id.* at 30-31.

334. Marc Ivaldi et al., *Killer Acquisitions: Evidence from EC Merger Cases in Digital Industries* 13 (Toulouse Sch. of Econ., Working Paper No. 13-1420, 2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4407333.

335. *Id.* at 7-8 (“Because the theory of killer acquisitions focuses on large technology firms, [the authors] restrict the [case selection] search to transactions involving Google, Amazon, Facebook, Apple, and Microsoft. All five firms have been deemed to hold dominant or gatekeeping positions.”).

336. *Id.* at 5.

337. *Id.* at 3.

338. *Id.* at 1.

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belief than evidence.”³³⁹ This conclusion cuts against a more aggressive enforcement approach toward possible killer acquisitions. As the authors stress, “all the cases in our sample would likely lead to more intervention if existing merger policy was adjusted to be made more aggressive (for example, by a reversal of the burden of proof or a presumption against certain transactions).”³⁴⁰ A more interventionist approach would, of course, tend to deter a variety of procompetitive innovation-enhancing mergers involving large technology firms.

The findings of Ivaldi et al. are consistent with a study by Prado and Bauer published in 2022,³⁴¹ “which evaluated 32,367 venture capital deals and 392 tech start-up acquisitions made worldwide between 2010 and 2020 by Google, Facebook, Amazon, Apple, and Microsoft . . .”³⁴² The study found “a positive, statistically significant increase in venture investment in the industry segments in which the acquired start-ups operate” and “no detectable, systemic negative effects on start-up funding.”³⁴³ They concluded that “in a given industry segment, venture capital resources available to startups for innovation purposes increase after big-tech acquisitions.”³⁴⁴

D. Antitrust Policy toward Acquisitions and Potential Competition

Antitrust merger policy toward the acquisition of startups and entrants also attempts to revive the SCP paradigm to create a presumption of harm to innovation. The traditional SCP approach was rejected by economists because firms make strategic entry decisions that affect market structure. Firms also make strategic choices about competitive strategies that affect prices. As a result, market structure and competitive conduct are endogenous. The same caveats apply to innovation. Firms make strategic choices about invention and innovation. Policymakers should not simply assume concentration decreases incentives to innovate. Monopolists need not have less incentives to innovate than startups or entrants. Both incumbent firms and entrants engage in innovation competition.³⁴⁵

Many factors affect R&D incentives including appropriability of IP, technological opportunities, and complementarities between R&D

339. *Id.* at 21.

340. *Id.* at 9.

341. Tiago S. Prado and Johannes M. Bauer, *Big Tech Platform Acquisitions of Start-ups and Venture Capital Funding for Innovation*, 59 INFO. ECON. & POL’Y 1 (2022).

342. *Id.* at 5.

343. *Id.* at 44.

344. *Id.*

345. DANIEL F. SPULBER, *THE INNOVATIVE ENTREPRENEUR* 78 (Cambridge Univ. Press 2014).

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projects. There is also extensive specialization of function and division of labor in firms' R&D activities. Policymakers should recognize that incentives differ for inventions and innovation. The extent of vertical integration also affects incentives to innovate, and the extent of vertical integration is itself dependent on the competitive strategies of firms.

Innovation depends on transactions in markets for technology because isolated firms generally cannot create all the necessary technologies. Rather, firms increasingly assemble technologies by drawing on markets for technology as well as internal R&D. Also, firms contribute to innovation by others by providing new technologies to the marketplace.

The market for technology thus requires a variety of economic and legal interactions. Technology transactions take many, forms including IP licensing, IP acquisitions through patent transfers, technology transfer contracts, R&D outsourcing, and cooperative R&D through consortia. Technology transactions also include M&A, where an incumbent firm acquires the IP, R&D assets, and capabilities of a start-up or entrant. Antitrust policy that discourages M&A constrains the market for technology, thus either decreasing technology transfers or diverting technology transfers to less efficient transactions.

Antitrust merger policy, and antitrust policy in general, should pursue neutrality toward technology transactions. Merger policies that favor one type of transaction over another will bias firm decisions and decrease efficiency in the market for technology. Antitrust policies based on the "Killer Acquisitions" or "Kill Zone" theories create just such biases. Antitrust policies that limit M&A involving entrants are likely to diminish incentives to enter, including incentives for innovative entry.³⁴⁶

Limiting M&A involving start-ups and entrants can impede innovation. Such an approach is misguided in part because it undervalues the innovative contributions of incumbent firms. Also, such an approach does not account for complementarities between the R&D of the acquirer and the entrant. An incumbent may acquire an entrant to obtain new technology that it will then commercialize or implement in the development of new products, production processes, and transaction techniques. The incumbent can combine the new technology with its own technology and produce innovations that would not have been possible without the acquisition. An incumbent acquires the entrant to further develop and improve the new technology.

Acquisitions of entrants are voluntary, which implies that both parties benefit from the acquisition. Such acquisitions provide financing,

³⁴⁶ Emilio Calvano and Michele Polo, *Market Power, Competition and Innovation in Digital Markets: A Survey*, 54 INFO. ECON. & POLY 1, 13 (2021).

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technical personnel, and IP of the acquiring firm. The possibility of acquisitions can increase innovation and provide incentives for entry.

Antitrust policies that limit M&A involving start-ups and entrants based on a presumption of harm fail to undertake the necessary economic analysis of the merger. Rather, merger policy toward acquisitions of start-ups and entrants should consider the innovative delta. It is necessary to evaluate the expected economic performance of the merger, including economies of scale in invention and innovation and efficiencies from integrating complementary assets. Then, these effects should be compared with the expected economic performance of the incumbent firm and the target of the acquisition in the absence of the merger. There is uncertainty about the performance of the incumbent in the absence of the merger. There also is considerable uncertainty regarding whether the start-up or entrant might succeed in the absence of the merger. This net comparison calculation controls for but-for economic conditions in evaluating mergers. These considerations alone should give enforcers great pause (requiring a strong showing of very likely huge competitive losses in the event of a merger) before challenging the acquisition of a complementary business based on presumptions of harm to innovation.

Another major concern enforcers should weigh more generally in reviews of alleged “killer acquisitions” is the effect of antitrust suits on incentives to innovate by firms that are “formed to be acquired,” with the assistance of venture capital support. If VCs believe that legal risk substantially reduces the likelihood that new innovative firms (which may attract investors through IP generation) can be acquired, they may, at least on the margin, reduce their flows of funding to nascent innovators. In turn, this could lower incentives to form innovative startups in the first place. The reduction in innovative activities due to a slowdown in new firm formation would slow the pace of innovation and its incorporation in new products and services, thereby reducing welfare and dynamic competition. This general consideration, which is not matter-specific, should establish a much higher bar to antitrust challenges against acquisitions of new high-tech firms, based on theoretical “nascent competition” grounds.

*Antitrust Merger Policy and Innovation Competition***CONCLUSION**

Innovation is vitally important to competition, which lies at the heart of antitrust. Innovation not only creates new products, production processes, and transaction methods, but opens new markets that bestow enormous welfare gains on society. Rapid technological change (for example, the fast global spread of smartphones and the growing application of artificial intelligence to technological development) has only increased the significance of innovation in transforming markets and society. Accordingly, a proper understanding of the effects of mergers on innovation is of paramount importance not only to antitrust analysis, but to sound policy development overall.

Regrettably, however, although agency merger guidelines have made multiple references to innovation, public antitrust enforcers have done a remarkably poor job of incorporating innovation into their assessments of proposed mergers. Indeed, current agency merger evaluations often strain to find hypothetical future competitive harm in narrow markets (sometimes markets that do not fully exist), while also ignoring or downplaying substantial nearer term innovation-related efficiencies, that are more readily observable and evaluated.

This creates a presumption that mergers harm innovation. Our discussion documents multiple recent examples of agency opposition to mergers in high-tech industries that likely have imposed enormous economic welfare losses on consumers (and, in one case, may lead to many lost lives due to spawning delays in the regulatory approval of life-saving cancer tests). We recommend that future antitrust agency guidance seek to “remove the innovation blinders” to avoid mistakes of this sort by carefully analyzing and fully weighing innovation efficiencies. Agencies should also avoid reliance on error-ridden highly theoretical future “harm possibility” stories that may even treat likely innovation as a cause for competitive concern. Such stories should not be used to justify consent agreements, which, though they may allow a merger to proceed, may create welfare-inimical perverse incentives for businesses.

In short, it is high time that agencies begin to take innovation efficiencies seriously when evaluating proposed mergers. This is not an easy task, but it is vitally important if antitrust is not to continue to be misused as a tool to slow economic welfare enhancements that depend on innovation. We urge the antitrust agencies to reform merger analyses by taking note of empirical case studies that examine innovation theory in action. The antitrust agencies should also be attentive to error costs when they are presented with cases of likely innovation benefit and uncertain

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future harm. Specialists in the economics of innovation should be brought in to assist these agencies as they reorient their analytic approaches.

Finally, the FTC and DOJ should rescind the 2023 Merger Guidelines and issue new substantially revised guidelines that recognize and discuss the importance of innovation benefits. The new guidelines should commit to incorporating innovation analysis and other efficiencies in the evaluation of proposed mergers. New guidelines could play an important role in helping assure the private sector that well-presented innovation-specific justifications for mergers will be accorded substantial weight.

What we propose is a difficult task, a true reform in antitrust agency analysis, but it is of vital importance. The potential welfare benefits of a new innovation-attentive merger enforcement policy perspective are enormous and well worth the investment.

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