

ADAPTING MERGER GUIDELINES TO A DIGITAL ENVIRONMENT



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Contemporary merger guidelines are heavily dependent on empirical observations of past and present markets. This feature makes the guidelines inadequate for addressing market power in the dynamic high-tech industries. Competition regulators should redirect merger policies towards focusing on industry features that do or that will create market power – i.e. protect firms from competitive pressure – and then adopt policies that challenge mergers that would extend the reach of such monopoly-inducing features. Antitrust strategies for diminishing the presence of such features to the extent practicable would also be in order.

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I. INTRODUCTION

Companies engage in mergers for many reasons, including to respond to deregulation or to technology change, or because of a desire to achieve scale or acquire resources.² Another reason is to eliminate existing or potential competition in specific markets.³ Because of this potential of lessening competition, antitrust regulators scrutinize and potentially stop mergers that, in their opinions, have a high likelihood of decreasing competition to the harm of consumers.⁴

Merger analysis is generally a two-step process where, first, the competition authority defines the markets where the merger might increase power – i.e. the ability to avoid competitive pressure – and second, whether the merger does indeed result in greater market power to the harm of consumers.⁵ The first step is data intensive and requires that analysts study which products produced by the merging firms and by other firms are viewed as substitutes by customers.⁶ The second step is to then combine the market shares of the merging firms and, if the change in market concentration is sufficiently great, conduct an investigation into the possible impacts on consumers.⁷

This approach is reminiscent of how medical professionals sometimes diagnose illnesses, namely by observing symptoms and conjecturing that there is an underlying illness. This symptom-driven approach is problematic for industries dominated by digital technologies because the rapid technology change gives off many signals or symptoms, such as attractive profits and large market shares, that often have nothing to do with market power.⁸ Also evolving market boundaries make the exercise of identifying the boundaries based on historical data nearly irrelevant because of the intertemporal mismatch between the data and the markets that would actually be affected by the merger.⁹

Focusing on horizontal mergers, this paper addresses this difficulty by proposing merger guidelines that emphasize identifying causes of market power rather than potentially problematic symptoms. Such a change in merger guidelines would require agencies and scholars to conduct additional research as the root causes of enduring market power, a topic that is not given much attention in the literature.¹⁰ The next section provides a summary of the operation of today's merger guidelines. Section III describes the dynamics of information technology markets and why they make contemporary merger analysis unworkable. Section IV describes the proposed alternative and the needed research agenda. Section V is the conclusion.

II. CONTEMPORARY MERGER ANALYSIS

Merger analysis is largely based on analysis of current situations using historical data.¹¹ It typically begins with determining which markets would be affected by the merger, which in turn begins with defining the boundaries of relevant markets.¹² The U.S. approach for defining relevant markets examines markets in two dimensions – product aspects and geographic aspects – and has remained essentially the same for several years.¹³ Two or more products are considered to be in the same market if customers view them as effective substitutes. Two or more geographic areas are considered

2 Mark Jamison & Janice Hauge 2015, *Lessons from the evolution of merger guidelines in the United States*, 4 J. CONTEMP. MGMT. 59 (2015).

3 C. Scott Hemphill & Tim Wu, *Nascent Competitors*, 168 U. PA. L. REV. 1879 (2020).

4 Jonathan B. Baker, *Market Definition: An Analytical Overview*, 74 ANTITRUST L. J. 129-173 (2007).

5 Jamison & Hauge, *supra* note 2.

6 Baker, *supra* note 4.

7 U.S. Department of Justice and Federal Trade Commission Horizontal Merger Guidelines (2010). Available at <http://www.ftc.gov/os/2010/08/100819hmg.pdf>.

8 David J. Teece & M. Coleman, *The Meaning of Monopoly: Antitrust Analysis in High-Technology Industries* 43 ANTITRUST BULL. 801, 804 (1998).

9 Janice Hauge & Mark Jamison, *Identifying Market Power in Times of Constant Change*, (Univ. of Florida, Warrington Coll. of Bus., PURC Working Paper, 2016), available at https://bear.warrington.ufl.edu/centers/purc/docs/papers/1607_Jamison_Identifying%20Market%20Power%20in%20Times%20of%20Constant%20Change.pdf.

10 Mark A. Jamison, *Towards a Theory of Market Power*, 1 ARIZ. ST. U. CORP. & BUS. L. J. 1-22, 2020 <http://cablj.org/wp-content/uploads/2020/06/Ready-Jamison.pdf>.

11 Ronald A. Cass, *Antitrust for High-Tech and Low: Regulation, Innovation, and Risk* 9 J. L., ECON. & POL'Y 169, 193-95 (2013); Michael L. Katz and Howard A. Shelanski, *Mergers and Innovation* 74 ANTITRUST L. J. 1 (2007).

12 Baker, *supra* note 4.

13 Baker, *supra* note 4; Dennis W. Carlton, *Market Definition: Use and Abuse*, 3 COMPETITION POL'Y INT'L 3-27 (2007); Gregory J. Werden, *The History of Antitrust Market Delineation*, 76 MARQ. L. REV. 123-215 (1992).

to be in the same market if customers do not believe that the geographic difference limits their product choices.¹⁴ The analyses are done using a hypothetical monopolist test, which considers whether a hypothetical monopolist within the product or geographic boundaries being considered would be able to profitably raise and maintain prices above competitive levels. If the price increase is unprofitable, then the market boundaries in question are deemed too narrow because substitutes exist elsewhere. The boundaries are then expanded, and the process is repeated until such a price increase is profitable.¹⁵ Once markets are defined, then the analysis shifts to determining whether there is market power in the defined markets.¹⁶

The most recent merger guidelines -- adopted in 2010 -- provide tools for estimating competitive effects that are not reliant on market definition,¹⁷ for example, the Upward Pricing Pressure Analysis.¹⁸ However, the methods are just as reliant on history as the traditional market definition approach, and rely upon analyses of existing products. For example, the Upward Pricing Pressure Analysis is “based on the price/cost margins of the merging firms’ products and the extent of direct substitution between them.”¹⁹

III. DYNAMICS OF HIGH-TECH MARKETS

Digitization has changed markets by enabling rapid evolution, rivalries between firms that seem to be in different markets, and competition for future markets rather than within current markets. Digitization has also enabled the emergence of Big Tech, i.e. Alphabet, Amazon, Apple, Meta, and Microsoft. The sizes and perceived influence of these companies has shocked some people, prompting populist calls for governments to attack their size and scope,²⁰ reflecting the anti-bigness sentiments triggered a little over one hundred years ago when industrialists such as Andrew Carnegie and John D. Rockefeller were growing companies to unprecedented size.²¹

Rapid Evolution. — With digitization, disruptions happen quickly and episodically,²² with major disruptions occurring when a new computer class forms, which is roughly each decade.²³ New and existing firms and startups compete intensely for these breakthrough innovations.²⁴ Rapid change defies the notion of enduring market power, which underlies antitrust and market power as defined by Lerner.²⁵

Profits. — To some observers, tech leader profits appear substantial, are indicators of market power, and are causes for concern.²⁶ But such shallow reasoning should be rejected. Profits are hard to measure.²⁷ Even when they can be accurately measured, apparent high profits might result from sources other than market power, including: (1) Shumpetarian profits from superior efficiency²⁸ or from unimitated product

14 Baker, *supra* note 4.

15 Jamison & Hauge, *supra* note 2.

16 *Ibid.*

17 U.S. DOJ and FTC *supra* note 7.

18 Joseph Farrell & Carl Shapiro, *Antitrust Evaluation of Horizontal Mergers: An Economic Alternative to Market Definition*, 10 B.E. J. THEORETICAL ECON. Article 9 (2009), available at: <https://www.degruyter.com/document/doi/10.2202/1935-1704.1563/html>.

19 *Ibid.*

20 Elizabeth Warren, *Here's How We Can Break Up Big Tech: It's Time to Break Up Amazon, Google, and Facebook*, MEDIUM (Mar. 8, 2019), available at <https://medium.com/@teamwarren/heres-how-we-can-break-up-big-tech-9ad9e0da324c>.

21 TIM WU, *THE CURSE OF BIGNESS: ANTITRUST IN THE NEW GILDED AGE* (2018).

22 David J. Teece & M. Coleman, *The Meaning of Monopoly: Antitrust Analysis in High-Technology Industries* 43 ANTITRUST BULL. 801, 804 (1998).

23 Gordon Bell, *Bell's Law for the Birth and Death of Computer Classes: A Theory of the Computer's Evolution*, TECH. REP. MSR-TR-2007-146 <https://www.microsoft.com/en-us/research/wp-content/uploads/2007/11/tr-2007-146.pdf> (2019).

24 Cass *supra* note 11, at 194-96.

25 See Abba P. Lerner, *The Concept of Monopoly and the Measurement of Monopoly Power*, 1 REV. ECON. STUD. 157, 157-165 (1934).

26 SCOTT GALLOWAY, *HIDDEN DNA OF AMAZON, APPLE, FACEBOOK, AND GOOGLE*, at 1 (2017).

27 See Carl Shapiro, *Antitrust in a time of populism* 61 INT'L J. IND. ORG. 714 (2018).

28 See Harold Demsetz, *Two Systems of Belief About Monopoly*, in *INDUSTRIAL CONCENTRATION: THE NEW LEARNING* (Harvey J. Goldschmid, H. Michael Mann, & J. Fred Weston eds., 1974); Teece & Coleman, *supra* note 22.

innovations;²⁹ (2) resource scarcities;³⁰ and (3) exogenous shocks, such as economic or regulatory changes. High-tech industries exhibit Shumpetarian rents more than do other industries because of the rapid technology evolution and episodic disruptions. Only Porterian or Smithian profits should be considered as problematic. Porterian profits result from firms constructing barriers to competition, i.e. creating situations for no economic purpose other than to curb pressure from rivals.³¹ Smithian profits result from government-created barriers to competition.³²

Network Effects. — Network effects are present in many industries historically but are particularly pronounced in digital markets when accompanied by relatively high fixed costs.³³ They sometimes enable firms to become relatively large, such as Meta or TikTok. The sizes might trigger some to conclude that there is market power. But the potential for network effects to create actual market power appear overstated. Customers are generally able to preserve choices by multihoming,³⁴ such as people using both Facebook and TikTok. According to Backlinko, the average American has more than seven social media accounts. And people are finding more and more social media options: On a global basis, the number of accounts per person nearly doubled between 2014 and 2020.³⁵ Also, studies of intertemporal network effects – i.e. the situation where a firm creates network effects over time – and that were influential in the *WorldCom-MCI* merger and the U.S. government’s antitrust case against *Microsoft*³⁶ – ignore the Shumpetarian competition for the initial market.

Dynamics. — The dynamic patterns in digital markets derive in part from their network effects and constant change, technology paths, development of competencies, and competition for the next innovation. Sidak and Teece explain:

“New technologies can enhance or destroy a firm’s competency. The essence of the dynamic competition approach is that technological change itself shapes industry structure. Also, path dependencies and dynamic increasing returns may exist. Put differently, the rate and direction of innovation at the level of the firm do not depend on market structure but on the firm’s competencies, the internal and external knowledge upon which the firm can draw, the intellectual property regime, and the firm’s complementary assets. Entry conditions are a function of appropriability and ‘cumulativeness.’ Learning and innovation will also shape the firm’s boundaries.”³⁷

Business Ecosystem. — Firms in digital markets are generally part of a business ecosystem that defines firms’ competitive pressures.³⁸ For example, apps in the Google Play Store compete with similar apps, but there is also rivalry between the Android and Apple iOS operating systems. This complicates defining market power as a service such as Google search may appear to have market power within an internet browser ecosystem, but its success depends upon the success of the browser ecosystem.

IV. ADDRESSING THE HIGH-TECH CHALLENGE

Various persons have suggested ways to address the high-tech challenge. Katz and Shelanski suggest basing analyses on predicted technological changes,³⁹ but it is unlikely that governments can reliably predict technologies and their effects.⁴⁰ Indeed making such predictions reliably

29 Teece & Coleman, *supra* note 22.

30 *Ibid.*

31 *Ibid.*

32 See ADAM SMITH, *THE WEALTH OF NATIONS*, (Modern Library Edition 1937) (1776).

33 HAL R. VARIAN, JOSEPH FARRELL, & CARL SHAPIRO, *THE ECONOMICS OF INFORMATION TECHNOLOGY: AN INTRODUCTION* (2004).

34 Sami Hyrynsalmi, Arho Suominen, & Matti Mäntymäki, *The influence of developer multi-homing on competition between software ecosystems*, 111 *J. Sys. & SOFTWARE* 119-127 (2016).

35 Backlinko, *Social Network Usage & Growth Statistics: How Many People Use Social Media in 2022?* available at <https://backlinko.com/social-media-users>.

36 See Jacques Crémer, Patrick Rey, & Jean Tirole, *Connectivity in the Commercial Internet* 48 *J. INDUS. ECON.* 433 (2000); Dennis W. Carlton & Michael Waldman, *The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries*, 33 *RAND J. ECON.* 194 (2002).

37 Gregory Sidak & David Teece, *Dynamic Competition in Antitrust Law*, 5 *J. COMPETITION L. ECON.* 581, 612 (2009).

38 David J. Teece, *Next-Generation Competition: New Concepts for Understanding How Innovation Shapes Competition and Policy in the Digital Economy*, 9 *J. OF L., ECON. & POL’Y* 97, 102 (2012); Jeffrey Eisenach, *Broadband Competition in the Internet Ecosystem*, AMERICAN ENTERPRISE INSTITUTE, (Oct. 18, 2012); Jeffrey A. Eisenach, *US Merger Enforcement in the Information Technology Sector*, in *THE CAMBRIDGE HANDBOOK OF ANTITRUST, INTELLECTUAL PROPERTY, AND HIGH TECH* 445 (Roger Blair and Daniel Sokol eds., 2017).

39 Michael L. Katz and Howard A. Shelanski, *Mergers and Innovation* 74 *ANTITRUST L. J.* 1, 12-13 (2007).

40 Cass *supra* note 11, at 193-95.

conflicts with the understanding that innovation is a surprise to almost everyone, including the innovator to a certain extent. Khan argues for common carrier-like regulations for Amazon.⁴¹ This remedy fails because it assumes that: (1) Users of the Amazon platform would prefer that Amazon be a blander version of eBay, which these customers have already rejected in their choice of using Amazon; (2) There are no vertical synergies that affect Amazon's investment in platform quality;⁴² and (3) Government regulators have the expertise to significantly redesign a business in which they have no experience. The alternative to these three assumptions is that the proposal is intended, in the name of competition, to lower the value customers receive from Amazon and its rivals. Rivals' quality choices would be affected if they strategically respond to Amazon's government-induced lower quality.

Others argue that regulators should focus on firm sizes or market shares.⁴³ This idea fails for several reasons. One is that the proponents have been unable to justify the inevitable outcome of limiting business size, namely denying customers their legitimate choices of products and suppliers. For example, if the thought is that Google search is too big, what is the justification for capping the number of searches that Google could perform and forcing users to search with an engine that they believe is inferior? The idea also assumes that firms and markets are reasonably stable, which is demonstrably false. For example, various state attorneys general and the Federal Trade Commission ("FTC") have filed multiple cases against Meta in the past two years, calling it or its Facebook platform a "monopoly," "the world's dominant online social network," a "behemoth," and an "empire."⁴⁴ Yet within two weeks of the FTC's last complaint, Pew Research released a report showing that "TikTok has established itself as one of the top online platforms for U.S. teens [a critical market segment], while the share of teens who use Facebook has fallen sharply."⁴⁵ Facebook's popularity among US teens (measured by numbers of teens who say they use the social media service) had dropped from 71 percent in 2015 to just 32 percent in 2022, finishing 5th behind Meta's Instagram product (62 percent) and Snapchat (59 percent).⁴⁶ That is hardly the performance of "monopoly" or of an "empire," and it begs the question: If Facebook is "the world's dominant online social network," exactly what is meant by "dominant"? Also, anti-bigness as a quickening force for antitrust was used in the early days of competition policy in the United States⁴⁷ and research has found that it was ineffective.⁴⁸

A more promising change to the merger guidelines would be to look for Porterian or Smithian advantages and challenge mergers that extend these advantages' reach.⁴⁹ A Porterian advantage is one created by a firm and has no economic purpose other than to limit pressure from rivals.⁵⁰ A Smithian advantage is government-created.⁵¹

Porterian advantages are based on Michael Porter's work on competitive advantage.⁵² Porter identifies competitive forces and strategies for firms to avoid these forces. Most of the strategies he describes improve economic efficiency in that they add product value, lower costs, or

41 Lina M. Khan, *Amazon's Antitrust Paradox*, 126(3) *YALE L.J.* 710 (2017).

42 Interestingly, this assumption contradicts the conclusion of Crémer, Rey, & Tirole *supra* note 35, which was instrumental in the European Union's case against the merger of Worldcom and MCI.

43 See John M. Newman, *Antitrust in Digital Markets*, 72 *VAND. L. REV.* 1497, 1503-04 (2019); Wu *supra* note 21.

44 Plaintiff States v. Facebook, Inc. in the United States District Court for the District of Columbia (December 9, 2020) available at https://ag.ny.gov/sites/default/files/facebook_complaint_12.9.2020.pdf; Federal Trade Commission v. Facebook, Inc., Case No.: 1:20-cv-03590, *COMPLAINT FOR INJUNCTIVE AND OTHER EQUITABLE RELIEF* in the United States District Court for the District of Columbia (December 9, 2020) available at https://www.ftc.gov/system/files/documents/cases/051_2021.01.21_revised_partially_redacted_complaint.pdf; Federal Trade Commission v. Facebook, Inc., Case No.: 1:20-cv-03590-JEB, *FIRST AMENDED COMPLAINT FOR INJUNCTIVE AND OTHER EQUITABLE RELIEF* in the United States District Court for the District of Columbia (August 19, 2021) available at https://www.ftc.gov/system/files/documents/cases/ecf_75-1_ftc_v_facebook_public_redacted_fac.pdf; Federal Trade Commission v. Meta Platforms, Inc., Mark Zuckerberg, and Within Limited, Inc., Case 3:22-cv-04325, *COMPLAINT FOR A TEMPORARY RESTRAINING ORDER AND PRELIMINARY INJUNCTION PURSUANT TO SECTION 13(B) OF THE FEDERAL TRADE COMMISSION ACT* in the United States District Court Northern District of California San Francisco Division (July 27, 2022) available at https://www.ftc.gov/system/files/ftc_gov/pdf/221%200040%20Meta%20Within%20TRO%20Complaint.pdf.

45 Pew Research, *Teens, Social Media and Technology 2022*, (August 10, 2022) available at <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

46 *Ibid.*

47 Wu *supra* note 21.

48 Robert W. Crandall, *The Dubious Antitrust Argument for Breaking Up the Internet Giants*, 54(4) *REV. OF INDUS. ORG.* 627 (2019); George Stigler, *The Economic Effects of the Antitrust Laws*, 9 *THE J. OF L. & ECON.* 225 (1966).

49 Antitrust authorities might also address the advantages outside of the context of a merger, but that is beyond the scope of this paper.

50 Teece & Coleman, *supra* note 22.

51 Smith *supra* note 32.

52 Michael E. Porter, *How competitive forces shape strategy*, 57(2) *HARV. BUS. REV.* 137-145 (Mar/Apr 1979).

produce innovations.⁵³ Even if such strategies diminish competitive pressure, they should be of little concern to competition regulators because they are the types of things companies should be doing to add value to the economy. Strategies that could be of particular interest for antitrust would include developing superior access to essential resources, controlling all or nearly all favorable locations, controlling distribution channels, developing proprietary access to suppliers or buyers, and creating switching costs.

Many of these strategies include actions that have legitimate business purposes, so the key for antitrust regulators is to separate those actions from the ones whose primary effects are to hinder competition. For example, superior access to essential resources could include Alphabet's cost advantage from locating its servers near hydroelectric plants, which provide low-cost electricity.⁵⁴ Achieving this cost advantage is a legitimate business strategy as it improves efficiency even though it might prevent rivals from achieving similar cost efficiencies if Alphabet exhausts that generating capacity. An antitrust regulator might be tempted to conclude that Alphabet must share this advantage with rivals, but such a requirement diminishes firms' incentives to achieve such efficiencies.

The questions an antitrust regulator should ask about strategies should assess whether each strategy is profitable only because, or perhaps primarily because, of its keeping rivals at bay. Examples include:

- (1) If a firm obtains superior access to resources or favorable locations, has the firm extended that beyond its needs? For example, did Alphabet gain control of so much electricity generation from hydropower generators that rivals cannot gain a similar efficiency and, if it did, did the action also exceed the amount of power that it would reasonably need?
- (2) Is the strategy cost minimizing or value increasing, or do the actions result in the firm actually giving up some efficiencies while raising its rivals' costs even more?
- (3) Do the switching costs serve a legitimate business purpose, such as managing risk given the fixed costs of production, product development, or customer acquisition, or do the investments in creating switching costs place an unprofitable financial burden on the company?

To minimize the costs and delays caused by case-by-case analyses of these strategies, antitrust authorities should promote or conduct industry studies so that they know, in advance of cases being filed, where Porterian strategies are employed and their impacts on efficiency. Such studies would also inform businesses of the types of strategies that would likely trigger antitrust inquiries.

Smithian advantages are based on Adam Smith's inquiry where he identified governments as the primary enablers of monopoly. John Stuart Mill also identified government as a primary cause of monopoly and added that a monopoly might also form naturally if a firm had sole access to a resource that it did not create, and that any rival would have to use in order to compete.⁵⁵

There are several government-provided advantages that a firm could enjoy and that would give it market power. One is exclusive or nearly exclusive grants of market access. Telephone company service territories during the 20th century are an example of the government limiting competition.⁵⁶ Government subsidy programs exclusive to telephone companies is another example.⁵⁷ What these government efforts have in common is that the government provided a benefit that was unavailable to actual or potential rivals and that the beneficiary companies did not acquire in a competitive process, including the process of innovation but not including competition for political favors. Exclusive territories for electric utilities might not qualify as a Smithian advantage because while the utilities generally did not compete for these government barriers to entry, studies of the effects of the exclusivities on economic efficiency have given ambiguous results.⁵⁸

Like the research agenda for Porterian advantages, the program of study for identifying Smithian advantages would at least initially be dominated by industry studies that seek to find where governments favor some companies over others, including excessive regulations that by

53 There are four types of economic efficiency, namely allocative (does the mix of product quantities produced maximize consumer utility?), technical efficiency (do the production methods maximize production given the amount of resources used?), dynamic efficiency (are innovations occurring the pace that maximizes consumer welfare?), and structural efficiency (does the arrangement of production across firms maximize scope economies?).

54 Bobbie Johnson, *Google's power-hungry data centres*, THE GUARDIAN, May 3, 2009, available at <https://www.theguardian.com/technology/2009/may/03/google-data-centres>.

55 JOHN STUART MILL, *PRINCIPLES OF POLITICAL ECONOMY* (1848).

56 GERALD W. BROCK, *THE TELECOMMUNICATIONS INDUSTRY: THE DYNAMICS OF MARKET STRUCTURE* (1981).

57 Mark A. Jamison, *A Competitive Framework for Pricing Interconnection in Global Telecommunications Markets* 23(3) DENVER J. INT'L L. & POL'Y 513-33 (1995).

58 See Theodore J. Kury, *Price effects of independent transmission system operators in the United States electricity market*, 43 J. REG. ECON. 147-167 (2013); Theodore J. Kury, *The impact of coordination on wholesale market participation: The case of the U.S. electricity industry*, 32 UTIL. POL'Y. 38-44 (2015).

their costs favor large firms. These studies should also determine whether benefits, such as patent protection, are achieved through a competitive process, or are simply granted. Where Smithian advantages are found, the government is the primary culprit and should be the focus of the competition authorities' efforts to address market power.

V. CONCLUSION

Contemporary merger guidelines are heavily dependent on empirical observations of the past and present, which make these methods inadequate for addressing market power in the dynamic high-tech industries. Competition regulators should refocus by identifying features of the industries that do or will create market power, and then adopt policies that challenge mergers that would extend the reach of such monopoly-inducing features and adopt strategies for diminishing the presence of such features to the extent practicable.



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