

Antitrust Reform in the Digital Era: A Skeptical Perspective

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The rise of large digital platforms, accompanied by claims of increasing industrial concentration, has prompted calls for antitrust policy reform. Yet, the observed market trends are consistent with improvements in welfare, as economies of scale often decentralize effective choices and disintermediate previously dominant structures, unleashing entrepreneurship. Evidence of deleterious impacts from the rise of the leading platforms—via mergers, predation, vertical foreclosure, and tying practices—is scant. The difficulty in amassing such evidence is implied in the argument that antitrust enforcement should no longer be focused on estimating consumer welfare impacts using traditional price theory. Recommendations for the creation of an independent Digital Regulator ironically buttress this view. This approach invokes an unwarranted rejection of the advantages of the evidentiary standards imposed by antitrust courts and risks the rent-seeking outcomes experienced with industry-specific regulators.

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I. INTRODUCTION

The digital revolution that spawned mass market access to the internet has generated remarkable new services exhibiting strong network effects and garnering virtually universal appeal. The companies offering these services—Amazon, Apple, Facebook, Google, Twitter, and Netflix—did not exist in 1995, save Apple (then a relatively tiny presence, at 0.13 percent of its 2021 year-end valuation¹). Today, these firms have assumed dominant positions in e-shopping, search, social media, and digital advertising services, and their equities now account for approximately 14 percent of the entire U.S. stock market.² As these companies consolidated their positions, public advocacy for reining them in through enhanced regulatory restrictions began to grow³, and antitrust experts considered more aggressive enforcement strategies to counter allegedly increased levels of industrial concentration, particularly in the digital sector of the economy.⁴

¹ Apple closed at \$0.24 per share on December 29, 1995 (adjusted for splits and dividends). Apple Inc. (AAPL) Historical Data, YAHOO! FINANCE, <https://perma.cc/6ZSF-FQYF> (last visited Jan. 24, 2023). Apple closed at \$177.57 on December 31, 2021. Apple Inc. (AAPL) Historical Data, YAHOO! FINANCE, <https://perma.cc/B3V2-NC2W> (last visited Jan. 25, 2023).

² Data available on YAHOO! FINANCE, <https://perma.cc/QW9B-MUVF> (last visited Mar. 31, 2022) and *Total Market Value of the U.S. Stock Market*, SIBLIS RESEARCH, <https://perma.cc/5LYT-HE7L> (last visited Mar. 31, 2022). Alternatively, GAFAM (Google, Amazon, Facebook (now Meta), Apple and Microsoft) accounted for 23% of the S&P500 in mid-2021. Andrew Bary, *Big 5 Tech Stocks Now Account for 23% of the S&P 500*, BARRON'S (July 26, 2021), <https://perma.cc/5YYG-2E36>.

³ See Lina Khan, *Amazon's Antitrust Paradox*, 126 YALE L. J. 710 (2017); TIMOTHY WU, *THE CURSE OF BIGNESS: ANTITRUST IN THE NEW GILDED AGE* (2018).

⁴ See JONATHAN B. BAKER, *THE ANTITRUST PARADIGM: RESTORING A COMPETITIVE ECONOMY* (2019); Carl Shapiro, *Protecting Competition in the American Economy: Merger Control, Tech Titans, Labor Markets*, 33 J. ECON. PERSP. 69 (2019); JACQUES CRÉMER ET AL., EUR. COMM'N, DIRECTORATE-GENERAL FOR COMPETITION, *COMPETITION POLICY FOR THE DIGITAL ERA* (2019); STIGLER COMM. ON DIGITAL PLATFORMS, STIGLER CTR. FOR THE STUDY OF ECON. & STATE, *FINAL REPORT* (2019); DIGITAL COMPETITION EXPERT PANEL, *UNLOCKING DIGITAL COMPETITION* (2019) [hereafter *Furman Report*].

Subsequently, a Congressional Committee issued a report consistent with this view, recommending major changes in U.S. antitrust law⁵, and several antitrust reform bills aimed at the major digital platforms are now under consideration in Congress.⁶

In this paper, we review the major criticisms of current antitrust policy, focusing principally on the drive to constrain the dominant “Big Tech” platforms. While these demands for stronger antitrust enforcement extend beyond the digital economy, it is undeniable that the rise of the digital giants has been formative in bringing antitrust to public attention.

We begin, however, with the concerns over rising industrial concentration throughout the economy. We then turn to the role of the large internet platforms in the current debate about the role of antitrust. Finally, we address how the complexity of using antitrust to police the digital sector has prompted renewed interest in industry-specific regulation, reprising policies implemented from the late 19th century through the 1930s, but which were discredited and then largely abandoned during the last half-century. Is there reason to believe that such regulation would be beneficial today?

II. IS CONCENTRATION INCREASING IN THE U.S. ECONOMY?

Renewed interest in antitrust policy may be partly attributed to a report issued by the President’s Council of Economic Advisers which showed an increase in the average *national* level of concentration across the U.S. economy between 1997 and 2012.⁷ This report stimulated further studies of concentration trends and their implications for competition policy.⁸

Regardless of the overall pattern in market concentration, the relevant question for antitrust policy is whether individual markets exhibit critical changes that are causally associated with anti-competitive outcomes. Changes in national concentration ratios are generally too highly aggregated to offer much direct evidence on the question. Further, even where the relevant markets,

⁵ STAFF OF H. COMM. ON THE JUDICIARY, 117TH CONG., INVESTIGATION OF COMPETITION IN DIGITAL MARKETS (Comm. Print 2022).

⁶ See Cecilia Kang & David McCabe, *House Lawmakers Are Considering 6 Bills Aimed at Big Tech*, N.Y. TIMES (June 23, 2021), <https://perma.cc/DF6S-QYHD>.

⁷ COUNCIL OF ECON. ADVISORS, ANNUAL REPORT 42 (2016).

⁸ See David Autor, David Dorn, Lawrence F. Katz, Christina Patterson, & John Van Reenen, *The Fall of the Labor Share and the Rise of Superstar Firms*, 135 Q. J. ECON. 645 (2020).

accurately delineated, exhibit increases in concentration, one cannot determine the effect of such increases on economic performance without understanding the causes of the increases. Are they the result of exclusionary power, or the result of competition from lower-cost firms that reduces the market shares of less-efficient rivals? Even when greater concentration is associated with higher firm profits, the distribution of company earnings may reflect an increase in productive efficiency rather than the exploitation of market power. If so, rising concentration and consumer surplus gains are likely to be positively correlated.⁹

A. Measuring Concentration

Shapiro and Froeb & Werden explain that increases in U.S. industrial concentration measured at the national level do not necessarily indicate increasing concentration in the *relevant markets* for the analysis of competition, which may be local, regional, or even global.¹⁰ The growth of retail store chains, for example, may lead to greater concentration of national market shares while increasing most consumers' choices and lowering concentration at the local level. This commonly happened a century ago when retail competition from Sears and Roebuck, J.C. Penny, A&P and Safeway gave shoppers competitive options to erstwhile local monopolies. The analogy to the modern emergence of e-commerce, bringing online markets into direct competition with "bricks and mortar" stores, is clear. On the other hand, measuring concentration at the national level for the aluminum, copper, steel, or automobile industries surely overstates the concentration of revenues or output in the relevant markets, which are global. Competitive forces are properly viewed as containing the opportunity for international rivalry, including imports into domestic markets.

Nevertheless, Shapiro finds a direct relationship between growing market concentration and rising profits, particularly in the financial, health-care, and information sectors.¹¹ Combined with recent evidence of a slowing in the rate of new-business

⁹ Harold Demsetz, *Industry Structure, Market Rivalry, and Public Policy*, 16 J. L. & ECON. 1 (1973); Dennis Carlton & Ken Heyer, *The Revolution in Antitrust: An Assessment*, 65 ANTITRUST BULL. 608 (2020).

¹⁰ Carl Shapiro, *Antitrust in a Time of Populism*, 61 INT'L J. INDUS. ORG. 714, 724 (2018); Greg Werden & Luke Froeb, *Don't Panic: A Guide to Claims of Increasing Concentration*, 33 ANTITRUST MAG. 74 (2018).

¹¹ Shapiro, *supra* note 10, at 734–35.

formation and the recent reduction in productivity growth,¹² the trends are potentially troubling. Other researchers find evidence of purportedly worsening economic performance. For example, Barkai estimates output shares of labor, required capital, and excess profits for the U.S. non-financial corporate sector for 1984–2014, finding that the returns to both labor and required capital have fallen substantially, resulting in a large increase in excess profits (rents).¹³ He then calibrates a general equilibrium model to estimate the effects of increasing mark-ups (price-cost ratios), concluding that a return to the 1984 level of mark-ups would lead to a 10 percent increase in output, a 24 percent increase in labor compensation, and a 21 percent increase in investment.¹⁴

The empirical issue is unsettled, however. Of primary interest: what is driving concentration changes, efficiency, or anti-competitive monopolization? The Structure-Conduct-Performance paradigm of the 1960s asserted that concentration caused output prices to rise and industry profits to expand, as output was restricted from more competitive levels.¹⁵ This implied that anti-trust measures to restrict mergers and firm growth were an unambiguous pro-competitive solution. But what if concentration levels were changing due to the growth of efficient firms? Harold Demsetz argued that “[o]ne possible source of some monopoly power was superior entrepreneurship.”¹⁶ More efficient firms would logically expand market shares, and in a number of industries this might account for observed (positive) concentration-profits correlation.¹⁷ Were the increases in concentration generating monopoly output restrictions, output prices would rise, generally hurting the industry’s consumers and generally helping *all* firms. Yet, Demsetz’s investigation found that the positive concentration-profits trend was generally associated with larger firms; smaller firms within the same industry did not enjoy higher prices or profits.¹⁸ The “Demsetz Critique” advanced

¹² See Ryan A. Decker, John Haltiwanger, Ron S. Jarmin, and Javier Miranda, *Declining Business Dynamism: What We Know and the Way Forward*, 106 AM. ECON. REV. PAPERS & PROC. 203, 203 (2016); Ryan A. Decker, John Haltiwanger, Ron S. Jarmin, and Javier Miranda, *Declining Dynamism, Allocative Efficiency, and the Productivity Slowdown*, 107 AM. ECON. REV. PAPERS & PROC. 322, 322 (2017).

¹³ Simcha Barkai, *Declining Labor and Capital Shares*, 75 J. FIN. 2421, 2421 (2020).

¹⁴ *Id.*, Internet App. at 8, <https://perma.cc/56PF-MSLK>.

¹⁵ JOE S. BAIN, INDUSTRIAL ORGANIZATION (2d ed. 1959).

¹⁶ Demsetz, *supra* note 9, at 3.

¹⁷ *Id.*

¹⁸ *Id.* at 6.

competitive superiority, not monopolistic restrictions, as the driver of increases in industrial concentration.¹⁹

Supporting evidence has emerged in contemporary markets. Ganapati examines the changes in concentration in six-digit North American Industry Classification System (NAICS) industries (and 4-digit Standard Industrial Classification (SIC) industries prior to 1997) over successive 5-year periods, 1972 to 2012, and estimates their correlation with changes in prices, output, labor productivity, and labor shares.²⁰ He finds that increases in concentration are directly associated with increases in productivity and output, but not in prices—except for the health-care sector.²¹ He also finds an inverse relationship between changes in concentration and labor shares, which he attributes to the sunk investments required to increase productivity (and which can achieve scale economies that tend to increase concentration).²²

Similar results have been obtained by Bessen and Peltzman.²³ Each finds a direct relationship of productivity growth and industry concentration, but little or no association of prices with concentration. Bessen shows that the growth in productivity due to the adoption of information technology (IT) in the overall economy has been strongly associated with increasing concentration because the largest firms are more likely to (efficiently) deploy it.²⁴ He also shows that rising profit margins are largely due to deployment of IT.²⁵ Peltzman focuses on manufacturing and similarly finds that productivity growth is associated with increasing concentration and rising profit margins, but not with price increases.²⁶ Other recent work suggesting similar conclusions includes Autor et al.; Werden and Froeb; and Muris and Nuechterlein.²⁷

Concentration, measured economy-wide, has also been increasing in recent years in European markets, where regulatory

¹⁹ *Id.* at 3.

²⁰ Sharat Ganapati, *Growing Oligopoly, Prices, Output, and Productivity*, 13 AM. ECON. J. MICROECONOMICS 309, 309 (2021).

²¹ *Id.* at 321.

²² *Id.* at 322.

²³ James E. Bessen, *Industry Concentration and Information Technology*, 63 J. L. & ECON. 531 (2020); Sam Peltzman, *Productivity, Prices, and Concentration in Manufacturing: A Demsetzian Perspective*, 65 J. L. & ECON. S121 (2022).

²⁴ Bessen, *supra* note 23, at 552–53.

²⁵ *Id.* at 550–51.

²⁶ Peltzman, *supra* note 23, at S133.

²⁷ Autor, *supra* note 8; Werden, *supra* note 10; Timothy J. Muris & Jonathan E. Nuechterlein, *Antitrust in the Internet Era: The Legacy of United States v. A&P*, 54 REV. INDUS. ORG. 651 (2019).

policies, including competition policy, are distinctly more interventionist than in the U.S.²⁸ This also suggests that recent increases in industry concentration may result from the growth of more efficient firms, as Demsetz suggested long ago.²⁹

B. Implications for Antitrust Policy

The increases in national market concentration captured in recent studies do not, by themselves, imply a failure of antitrust policy or a need to reform it. In many industries, an increase in concentration may simply reflect the growth of (price-lowering, quality-enhancing) national chains replacing local entities without any reduction of competition. Indeed, this transition would be expected to represent an improvement in shopping choices as customers are driving the transition via their patronage. The increase may also reflect the failure of many firms in markets that have been subject to intensifying global rivalry or the effect of disruptive digital innovators achieving competitive superiority.

Other issues appear to stem from misinterpretation of data. Shapiro notes that an *Economist* analysis of changes of national U.S. four-firm concentration ratios between 1997 and 2012 shows that the average concentration across all private, non-farm sectors of the economy rose from 26 percent to 32 percent.³⁰ These changes suggest to some the failure of antitrust policy, yet such increases are not alarming. As Shapiro observes, a 32 percent market share for the four leading firms reflects an unconcentrated market, given that at least nine more competitors exist, none with more than an 8 percent market share.³¹

A recent study reviews concentration trends in six sectors: Services, Manufacturing, Retailing, Wholesaling, Utilities and Finance, between 1982 and 2012.³² By far, the largest increase is in Retailing, where concentration rose 416%,³³ but retail choices

²⁸ A weighted average of country-level industrial concentration, using the Hirschman-Herfindahl Index (HHI), was shown to increase by 43% during the 2009-2016 period. Tommaso Bighelli et al., *European Firm Concentration and Aggregate Productivity 2* (IWH Halle Inst. For Econ. Rsch. Discussion Paper No. 5, 2021).

²⁹ See Demsetz, *supra* note 9, at 5.

³⁰ Shapiro, *supra* note 10, at 729 (quoting *Too much of a good thing*, THE ECONOMIST (Mar. 26, 2016), <https://perma.cc/EUQ3-C8UF>).

³¹ *Id.* at 727–28.

³² Jay Shambaugh et al., *The State of Competition and Dynamism: Facts about Concentration, Start-Ups, and Related Policies*, BROOKINGS 10 (June 2018), <https://perma.cc/HK8U-YPCL>.

³³ *Id.* at 9.

for U.S. customers appear to have clearly improved during the three-decade study period. Thanks to business innovation, “long tail” selections became widely accessible via eCommerce platforms, while myriad new buying options became accessible at low transaction cost via search engines.³⁴ In considering the evolution of competitiveness, Tyler Cowen writes that the “good news” starts with retailing.³⁵ “[M]y options as a book consumer have never been better.”³⁶ New scale efficiencies have allowed far more discounters to compete: “Dollar General and Dollar Tree . . . had 27,465 outlets . . . more than the total number of CVS, Rite Aid and Walgreens stores combined.”³⁷ In short, it is far from clear that the steep increase in measured national retail concentration raised prices for retail consumers. Indeed, the cause and effect suggested by the Brookings study—that “[c]oncentration is high in markets with large returns to scale and network effects”—implies that improvements in consumer welfare are likely driving the measured trend in concentration.³⁸

If concentration is increasing in relevant markets, this may be due to changes in antitrust enforcement, but there are again contrasting research results. Peltzman finds that concentration in U.S. manufacturing industries began to rise after U.S. merger policy became much less aggressive with the publication of the 1982 Merger Guidelines.³⁹ The average concentration rose for twenty years (1982–2002 and then 1987–2007⁴⁰) after being relatively stable for the previous two decades.⁴¹ The increases in concentration are significant even after adjusting for the decline in shipments that affected many industries due to declining demand

³⁴ The “long tail” is the theory that a business can succeed by selling many different niche products to many different customers, rather than selling a smaller number of mega-hit products to a larger number of customers. The technology journalist Chris Anderson popularized this term in 2004. See Chris Anderson, *The Long Tail*, WIRED (2004), <https://perma.cc/2GJE-TQX3>.

³⁵ TYLER COWEN, BIG BUSINESS: LOVE LETTER TO AN AMERICAN ANTI-HERO 84 (2019).

³⁶ *Id.* at 84–85.

³⁷ *Id.* at 86.

³⁸ Shambaugh et al., *supra* note 32, at 10.

³⁹ Sam Peltzman, *Industrial Concentration under the Rule of Reason*, 57 J. L. & ECON. S101, S117–18 (2014).

⁴⁰ These two different twenty-year periods result from the shift in the industrial classifications employed by the Census Bureau in 1987, a shift from SIC to NAICS classifications. *Id.* at S104.

⁴¹ *Id.* at S105.

or rising imports.⁴² However, Bessen finds that mergers and acquisitions are not associated with rising concentration.⁴³

In a widely cited study, Kwoka reviews evidence on the effects of mergers and merger policy on output prices by reviewing 49 horizontal transactions (42 mergers and seven agreements such as joint ventures), occurring from 1976 to 2006, for which retrospective studies exist in the scholarly literature.⁴⁴ He calculates that the authorities failed to challenge 62 percent of the mergers that resulted in price increases, concluding that merger enforcement was too lax.⁴⁵ Unfortunately, Kwoka's sample captures a tiny fraction of the thousands of horizontal mergers occurring among American firms during the time period he studies,⁴⁶ and it is biased due to errors.⁴⁷ When the merger cases are correctly interpreted, the average price increase is substantially reduced.⁴⁸ It is not possible to test whether the estimates are statistically different from zero given the lack of weighted averages (simple means are used) and missing standard errors for reported magnitudes.⁴⁹

Some recent literature suggests that increasing concentration is associated with lower payments to labor.⁵⁰ If labor's declining share is due to a rise in monopsony power created by mergers, as Prager and Schmitt find for recent hospital mergers,⁵¹ altering merger policy might well address the problem. But international evidence suggests some other pattern is at work, as strong "labor-saving" trends associated with the digital economy are observed

⁴² *Id.* at S116 ("[I]f we apply the cross-sectional growth elasticity of around -0.25 . . . to the time series, slower post-1982 growth would account for around one-third of the increased concentration.").

⁴³ Bessen, *supra* note 23, at 547–48.

⁴⁴ JOHN KWOKA, MERGERS, MERGER CONTROL, AND REMEDIES: A RETROSPECTIVE ANALYSIS OF U.S. POLICY 105–26 (2015).

⁴⁵ *See id.* at 113.

⁴⁶ Between 1976 and 2006 there were substantially more than 2,000 mergers reported per year in the U.S. Marina Martynova & Luc Renneboog, *A Century of Corporate Takeovers: What Have We Learned and Where Do We Stand?*, 32 J. BANKING & FIN. 2148, 2150 (2008).

⁴⁷ *See* Michael Vita & F. David Osinski, *John Kwoka's Mergers, Merger Control, and Remedies: A Critical Review*, 82 ANTITRUST L. J. 361 (2018).

⁴⁸ *Id.* at 369.

⁴⁹ *Id.* at 378–79.

⁵⁰ *See generally*, Barkai, *supra* note 13.

⁵¹ Elena Prager & Matt Schmitt, *Employer Consolidation and Wages: Evidence from Hospitals*, 111 AM. ECON. REV. 397 (2021).

across countries.⁵² The U.S. “wage bill” did fall from 61% of GDP in 1975 to 57% in 2015, but this is in line with the decline observed in many developed countries.⁵³ Indeed, it is much less of a decline than seen in some peer countries. “Over the same period,” writes World Bank economist Kaushik Basu, “the same ratio in Australia fell from 67% to 54%, in Canada from 61% to 55%, in Japan from 77% to 60%”⁵⁴ Across the EU (15 countries), the wage bill fell from 66% to 57% of GDP.⁵⁵

If wages are being impacted by technological change that substitutes capital for labor inputs, rather than by anticompetitive market structures, the implications for policy are distinct. Wage growth in high-income markets (like the U.S.) has slowed in recent decades while wages in developing countries supplying high-technology industries have risen rapidly.⁵⁶ International trade flows and technological shifts, not domestic levels of market concentration, would appear to be driving such trends.

III. REFORMING ANTITRUST POLICY

The saliency of the debate over competition policy derives in part from the changes wrought by the digital economy and a fear of the “curse of bigness” advanced by Justice Brandeis in the early 20th Century.⁵⁷ But criticisms of recent U.S. antitrust policy antedate the rise of the currently dominant digital platforms and apply to the overall economy. A 2003 paper by Crandall and Winston found antitrust to be generally ineffective and suggested that much more research was required to diagnose this failure of antitrust enforcement and remedy it.⁵⁸

More recently, criticisms have been directed at the changes in U.S. antitrust policy driven by the “Chicago School” in the 1970s and 1980s. Lawyers and economists at the University of Chicago, under the leadership of Aaron Director, George Stigler,

⁵² Kaushik Basu, *Globalization of Labor Markets and the Growth Prospects of Nations* (World Bank, Working Paper No. 7590, 2016), <https://perma.cc/3DNA-C95G>.

⁵³ *Id.* at 4.

⁵⁴ *Id.*

⁵⁵ *Id.* at 5.

⁵⁶ The case of China is discussed in Hongbin Li, Lei Li, Binzhen Wu and Yanyan Xiong, *The End of Cheap Chinese Labor*, 26 J. ECON. PERSPECTIVES 57 (2012).

⁵⁷ See LOUIS D. BRANDEIS, OTHER PEOPLE’S MONEY AND HOW THE BANKERS USE IT 162–188 (1914).

⁵⁸ Robert W. Crandall & Clifford Winston, *Does Antitrust Policy Improve Consumer Welfare? Assessing the Evidence*, 17 J. ECON. PERSPECTIVES 3 (2003); *contra* Jonathan B. Baker, *The Case for Antitrust Enforcement*, 17 J. ECON. PERSPECTIVES 27 (2012).

Richard Posner, Robert Bork, and others, found much to criticize in the antitrust policies of the post-World War II era, particularly successful government challenges to proposed mergers in relatively unconcentrated markets, such as grocery retailing or shoe production.⁵⁹ The Chicago School advocated for the use of modern price theory to determine whether mergers or other business practices actually resulted in consumer harm.⁶⁰ Expert opinion, due in some measure to the influence of the Chicago School, evolved to accept much of this thinking in antitrust policy.⁶¹ As a result, a “consumer welfare” standard became central to analyzing allegedly anticompetitive business practices in antitrust enforcement.⁶² This framework is now under attack.

A. General Reforms

The most debated aspects of antitrust policy involve predatory pricing, vertical restraints, exclusive dealing, refusals to deal, and mergers. In these areas, U.S. federal courts have increasingly required that the government or private plaintiffs demonstrate that any allegedly anticompetitive practices or mergers are likely to have an adverse effect on consumer welfare. In doing so, critics allege, the enforcement agencies and the courts have overweighted false positives relative to false negatives—more fearful of blocking potential efficiencies than of failing to safeguard against monopoly.⁶³ Suggested reforms, therefore, often recommend a shift towards a policy that rebalances these tradeoffs.

Consider, for example, predatory pricing, a strategy through which a dominant incumbent seeks to deter entry and/or induce exit so as to raise prices, ultimately harming consumers. The incumbent prices aggressively in an initial period, incurring losses that are more than offset by capturing monopoly prices in future periods when competition has been reduced. However, such price-cutting inarguably embeds a pro-consumer phase in the short run. Furthermore, price-cutting is often undertaken—without

⁵⁹ Robert Bork, *THE ANTITRUST PARADOX* (1978). See also George L. Priest, *The Abiding Influence of the Antitrust Paradox*, 31 *HARV. J. L. & PUB. POL'Y* 455 (2008).

⁶⁰ See Frank Easterbrook, *The Limits of Antitrust*, 63 *U. TEX. L. R.* 90 (1984).

⁶¹ William E. Kovacic, *The Chicago Obsession in the Interpretation of US Antitrust History*, 87 *U. CHI. L. R.* 459, 463–64 (2020).

⁶² For an analysis of the origins of this framework, see Kenneth Heyer, *Consumer Welfare and the Legacy of Robert Bork*, 57 *J. L. ECON.* S19 (2014).

⁶³ See, e.g., JONATHAN BAKER, *THE ANTITRUST PARADIGM: RESTORING A COMPETITIVE ECONOMY* 73–77 (2019).

long-run price increases—when network economies are in play. By growing the customer base, a firm may achieve the scale at which efficient platform development takes place. The creation of a large “installed base,” with “free introductory” offers and other “below cost” marketing inducements, may be profitable when economies of scale yield competitive superiority, even when retail prices fall and stay low (i.e., no monopoly price hikes materialize). Hence, it is not proof of predation to establish that competition between firms struggling to capture share results in the firms “losing money.” These operating losses may be (and frequently are) efficient start-up investments. It is common for large outlays to dominate the early stages of evolving market leaders, when entrepreneurs undertake the risks of innovation.⁶⁴

Errant predictions of predation are easily made—not just by academics or regulators but by businesses. The chief executive of the then-powerful incumbent Barnes & Noble threatened the upstart Amazon in the late 1990s, signaling that the dominant incumbent would bury the smaller firm if it did not agree to be cheaply acquired.⁶⁵ Amazon the upstart survived, to put it mildly, and in fact eventually toppled the dominant Barnes & Noble.⁶⁶ Blockbuster, an incumbent video rental provider with such apparent market power that the Federal Trade Commission blocked its acquisition of Hollywood Video in 2005, conducted a “price war” to drive Netflix from the video rental field, circa 2004.⁶⁷ Netflix survived, ventured into video streaming (and then video production), while Blockbuster declared bankruptcy in 2010.

FTC Chair Lina Khan has accused Amazon of predation, criticizing the firm for charging prices that are too low (and for being

⁶⁴ A spectacular example is provided by Tesla, which incurred high losses in its first years of operation in order to establish the scale economies it sought in engineering a new sector of the economy. Jim Collins, *A Brief History of Tesla: \$19 Billion Raised And \$9 Billion Of Negative Cash Flow*, FORBES (Apr. 25, 2018), <https://perma.cc/366X-SKP5>.

⁶⁵ In 1996 the Barnes & Noble CEO, Len Riggio, told Amazon CEO Jeff Bezos and Board member Tom Alberg that “they were going to launch a website soon and crush Amazon.” BRAD STONE, *THE EVERYTHING STORE* 56 (2013). Undaunted, Amazon resisted entreaties to align with the far larger company. *Id.* Barnes & Noble did then create a website, which the CEO originally wanted to name, “Book Predator,” but failed spectacularly to foreclose the entrant. *Id.* at 56–57.

⁶⁶ After years of fading sales due to the popularity of Amazon, Barnes and Noble (a public company) was taken private at a value of \$638 million in a deal closing on August 7, 2019. Alexandra Alter & Tiffany Hsu, *Barnes & Noble Is Sold to Hedge Fund After a Tumultuous Year*, N.Y. TIMES (June 7, 2019), <https://perma.cc/3GDR-8PRC>. At that time, Amazon’s market capitalization was \$887 billion. Amazon.com Market Capitalization, YCHARTS, <https://perma.cc/PA64-6VBN> (last visited Jan. 26, 2023).

⁶⁷ GINA KEATING, *NETFLIXED: THE EPIC BATTLE FOR AMERICA’S EYEBALLS* (2013).

so patient to realize profits)⁶⁸—without establishing that monopoly pricing has resulted from Amazon’s actions.⁶⁹ Given that the firm has pursued an “everyday low prices”⁷⁰ policy for more than two decades, the window for executing a positive present-value strategy for long-run price increases might appear to have closed. Even if the price-cutting drives some players from the market, others may enter or threaten to enter, preventing the would-be predator from raising prices to recoup losses. Ignoring recoupment, as Khan and other antitrust reformers propose,⁷¹ focuses the law entirely on protecting competitors. This approach might preserve rivals in some instances, but at the cost of discouraging beneficial price reductions in those cases as well as in others.

Vertical restraints are a set of practices that involve downstream distribution or upstream purchases of inputs required in the firm’s operations. The most important of these for antitrust policy involve contractual restrictions on the prices that a firm’s distributors may charge, the size of these distributors’ territories, limits on distributors’ ability to sell competitors’ goods or services, and “tying” arrangements that require buyers to purchase other products only from the firm.⁷² Early antitrust policy was more aggressive in targeting these practices, often viewing them as *per se* violations of the antitrust laws.⁷³ In recent years, courts have moved away from that doctrine, switching to a “rule of reason” analysis, which considers costs and benefits generated by particular practices in the specific circumstances under scrutiny.⁷⁴ This

⁶⁸ Khan, *supra* note 3, at 756.

⁶⁹ Thomas W. Hazlett, *The Nirvana Fallacy in ‘Hipster Antitrust’*, 28 GEO. MASON U. L. REV. 1253, 1262–63 (2021).

⁷⁰ The strategy was borrowed by Amazon from Walmart and Costco. STONE, *supra* note 65, at 125.

⁷¹ Khan, *supra* note 3, at 756–57.

⁷² See *United States v. Paramount Pictures, Inc.*, 334 U.S. 131 (1948). *Paramount* was a classic application of antitrust law in this respect. See *id.* It yielded several divestitures (separating movie studios from theaters) and imposed rules limiting marketing practices such as “block booking.” *Id.* at 157–58, 165–75. The ruling has been widely criticized. *E.g.*, Roy W. Kenney & Benjamin Klein, *The Economics of Block Booking*, 26 J. L. ECON. 497 (1983); Arthur De Vany & Ross D. Eckert, *Motion Picture Antitrust: The Paramount Cases Revisited*, 14 RSCH. L. & ECON. 51 (1989); Arthur De Vany & Henry McMillan, *Was the Antitrust Action that Broke Up the Movie Studios Good for the Movies? Evidence from the Stock Market*, 6 AM. L. & ECON. REV. 135 (2004); F. Andrew Hanssen, *The Block Booking of Films Reexamined*, 43 J. L. ECON. 395 (2000); F. Andrew Hanssen, *Vertical Integration during the Hollywood Studio Era*, 53 J. L. ECON. 519 (2010); Ricard Gil, *Does Vertical Integration Decrease Prices? Evidence from the Paramount Antitrust Case of 1948*, 7 AM. ECON. J. ECON. POLI. 162 (2015).

⁷³ *E.g.*, *Dr. Miles Medical Co. v. John D. Park & Sons Co.*, 220 U.S. 373 (1911).

⁷⁴ *E.g.*, *Leegin Creative Leather Products, Inc. v. PSKS*, 551 U.S. 877 (2006).

requires plaintiffs, including enforcement agencies, to show that the harms to consumers outweigh the gains from concomitant efficiencies.

One result (out of many) of this legal shift regarding vertical restraints may be to facilitate price discrimination, such that buyers with price-inelastic demand pay more of the joint costs of production, while allowing relatively price-sensitive buyers (often of lower income) to pay less—something closer to marginal costs. Such pricing practices had once been assumed to reflect categorical inefficiency,⁷⁵ but it is now seen as potentially output-enhancing and thus pro-consumer.⁷⁶ Vertical restrictions are also commonly used as coordination mechanisms to remedy pricing conflicts, to prevent potential negative externalities,⁷⁷ or to encourage complementary sales efforts that might otherwise be under-supplied due to free rider problems.⁷⁸ On the other hand, the use of explicit agreements to limit price competition is problematic when horizontal collusion drives contractual terms.⁷⁹

Exclusive dealing and refusals to deal are a broad category of potentially anti-competitive practices that a firm may employ to deny sales of some of its products to its rivals, its suppliers or downstream distribution channels, or its customers. These practices may harm consumers by blocking their access to competitive goods. Yet they may, alternatively, be pro-consumer. For example, a manufacturer's decision to compensate downstream retailers for building facilities to showcase and service a firm's products may be accompanied by a requirement that such facilities offer only the manufacturer's products. This exclusivity may incentivize the investment made by the upstream producer, which might otherwise generate traffic for rivals who free ride on its outlays. Modern U.S. antitrust policy requires enforcement agencies or private litigants to provide evidence demonstrating that anti-competitive harms outweigh the benefits in pursuing antitrust

⁷⁵ See, e.g., Reuben Kessel, *Price Discrimination in Medicine*, 1 J. L. & ECON. 20 (1958).

⁷⁶ See William J. Baumol & Daniel G. Swanson, *The New Economy and Ubiquitous Competitive Price Discrimination: Identifying Defensible Criteria of Market Power*, 70 ANTITRUST L. J. 661 (2003).

⁷⁷ See Harold Demsetz, *The Problem of Social Cost: What Problem?*, 7 REV. L. & ECON. 1 (2011).

⁷⁸ See Margaret A. Dillenburg, *The Dr. Miles Doctrine and Vertical Per Se Rules: Business Electronics Corp. v. Sharp Electronics Corp.*, 11 GEO. MASON U. L. REV. 111 (1989).

⁷⁹ Howard P. Marvel & Stephen McCafferty, *The Welfare Effects of Resale Price Maintenance*, 28 J. L. & ECON. 363 (1985).

claims. Some critics now favor a return to the *per se* illegality of these practices.

B. “Structuralism” versus the Consumer Welfare Standard

Modern antitrust critics allege not only lax enforcement but often reject the use of consumer welfare as the basis for deciding antitrust cases. However, these scholars do not reject the consumer-welfare criterion altogether. Rather, in the tradition of Justice Brandeis, they prefer a structural approach, one that condemns bigness, even in its incipiency. For example, Khan emphasizes dangers in reliance on the consumer welfare criterion:

This approach is misguided because it is much easier to promote competition at the point when a market risks becoming less competitive than it is at the point when a market is no longer competitive. The antitrust laws reflect this recognition, requiring that enforcers arrest potential restraints to competition “in their incipiency.” But the Chicago School’s hostility to false positives—and insistence that market power and high concentration both reflect and generate efficiency—has undermined this incipiency standard and enfeebled enforcement as a whole.⁸⁰

Neo-Brandeisians tend to prefer a “structural” approach that returns to the Warren Court era, when the Supreme Court upheld the antitrust authorities’ decisions to block mergers involving very small market shares. *Brown Shoe* was prohibited from acquiring Kinney’s, a combination that would have produced a national retail sales share of 5.2 percent.⁸¹ Pabst was blocked from taking over Blatz, which would have given the post-merger firm 4.5 percent of the national beer market.⁸² The Von’s and Shopping Bag merger was nixed, despite the fact that the combination would have had only a 7.5 percent share of the Los Angeles grocery store market.⁸³ The idea of “incipiency” was invoked to argue that despite the lack of evidence of consumer harm in the deals before the court, the antitrust laws should nip emerging market concentration in the bud. Under this view, the risk, however small, of accepting a false negative (allowing an anti-competitive merger to go uncontested) outweighs the much larger probability

⁸⁰ Lina M. Khan, *Amazon’s Antitrust Paradox*, 126 *YALE L.J.* 710, 738 (2017).

⁸¹ *Brown Shoe Co. v. U.S.*, 370 U.S. 294 (1962).

⁸² *U.S. v. Pabst Brewing Co.*, 384 U.S. 546 (1966).

⁸³ *U.S. v. Von’s Grocery Co.*, 384 U.S. 270 (1966).

of a false positive (blocking a benign or pro-competitive combination). In this earlier era, the proclivity of the courts to allow antitrust authorities to block acquisitions was so pronounced that one Supreme Court justice was led to remark, “[t]he sole consistency that I can find is that in litigation under § 7 [of the Clayton Act, regulating mergers], the Government always wins.”⁸⁴ While such a policy might place a dent in the contribution of mergers to advancing market concentration, it could block many efficiency-enhancing transactions as well.⁸⁵

IV. ANTITRUST IN THE DIGITAL ECONOMY

U.S. antitrust policy is designed to address the exploitation of monopoly power to the detriment of consumers, but much if not most of the public concern about the dangers emanating from today’s large digital platforms does not stem from their predicted economic impact. Rather, it appears to derive from a fear that these companies are—collectively, if not individually—the dominant source of news, opinion, and other types of information in the modern economy; that they exhibit bias in providing access to such information; or that they pose a threat to their users’ privacy. These threats do not necessarily arise from firms which have monopoly power or engage in anti-competitive practices. Moreover, it is unlikely that these threats can be mitigated or reversed by using the antitrust laws, designed to combat monopoly and anti-competitive practices.⁸⁶

A. Competition and Antitrust in the Digital Economy.

There are two related sets of issues involving antitrust in the digital economy: (i) How can antitrust be modified to deal with economic forces that are shaping the new digital economy? and (ii) How can antitrust policies deal specifically with the “market dominance” of the leading platforms, such as Amazon, Apple, Facebook, and Google, that have already emerged?

The application of U.S. antitrust policy to the rapidly-changing U.S. digital economy is complicated by the fact that many digital services emanate from two-sided platforms. The most common of these platforms give consumers an array of services—

⁸⁴ *Id.* at 281 (Stewart, J., diss.).

⁸⁵ See Nancy L. Rose & Jonathan Sallet, *The Dichotomous Treatment of Efficiencies in Horizontal Mergers: Too Much? Too Little? Getting It Right*, 168 U. PA. L. REV. 1941 (2020) (questioning whether mergers contribute much to economic efficiency).

⁸⁶ See Carl Shapiro, *Antitrust in a Time of Populism*, 61 INT’L J. INDUS. ORG. 714 (2018).

social networking, messaging, entertainment, internet search, shopping, navigation, or photo storage—on one side of their platforms, then sell access to the personal data collected in this process to businesses, generally to assist advertising and marketing of other products. With one side of the platform offering consumers services at a zero price, conventional antitrust analysis that focuses on the effects of monopoly on prices and output is altered. Even two-sided platforms that charge positive prices on both sides can generate substantial controversy in the application of modern antitrust policy.⁸⁷

1. Network Effects as a Competition Issue

The large digital platforms derive substantial benefits from “network effects” generated by their platforms.⁸⁸ Users find these platforms more attractive as they connect to an increasing array of services, businesses, or individuals. Positive feedback loops often enable such platforms to grow rapidly, scale efficiently, and become extremely valuable. Facebook, while not a first mover in social networking, became more important to subscribers as their friends, family members, and favorite organizations joined. The market tilted decisively away from Friendster and MySpace as Facebook surged. According to the Federal Trade Commission’s antitrust suit filed against Facebook (now known as Meta) in 2020, the platform achieved monopoly power by 2011.⁸⁹ While end users are not charged a fee to access Facebook, economists have estimated subscribers’ willingness-to-pay for access to Facebook. For example, experiments have been conducted in which subjects were offered payments to disengage from the service for one week. The revealed median price required by customers to drop Facebook was \$40 per week, or over \$2,000 per year, which yields a total consumer surplus valuation far higher than the market

⁸⁷ The decision of the Supreme Court in *Ohio v. Am. Express*, 138 S. Ct. 2274 (2018), is perhaps the best example of such a case.

⁸⁸ See Jeffrey Rohlfs, *A Theory of Interdependent Demand for a Communications Service*, 5 BELL J. ECON. & MGMT. SCI. 16 (1974); STAN J. LIEBOWITZ & STEPHEN E. MARGOLIS, WINNERS, LOSERS, AND MICROSOFT: COMPETITION AND ANTITRUST IN HIGH TECHNOLOGY (2001).

⁸⁹ *Fed. Trade Comm’n v. Facebook, Inc.*, 581 F. Supp. 3d 34 (D.D.C. 2022) (detailing FTC’s allegations that Facebook has maintained monopoly power in the market for “personal social networking services” since 2011, and concluding that the agency’s allegations were adequate to defeat Facebook’s motion to dismiss).

capitalization of the firm.⁹⁰ Other studies have estimated similarly impressive consumer-based benefit levels.⁹¹

Google's value proposition in search also gained as it grew, expanding the number of pages indexed and developing more sophisticated search algorithms, thus creating a substantial quality of service advantage over rivals such as Inktomi, Yahoo, Alta Vista, Overture and HotBot.⁹² Today, Google has about six times the number of pages indexed as Microsoft's Bing, its closest search engine competitor.⁹³

Amazon's initial success in selling books online led it to offer other products and to increasingly host independent vendors on its platform. By the second quarter of 2021, 56 percent of Amazon's e-commerce revenue was generated by these third-party sellers.⁹⁴ And in burgeoning mobile services, Apple and Google exploited the network effects generated by the vast subscriber bases of their respective wireless operating systems to offer "app" developers access to customers. Independent software creators responded by designing more than one million distinct applications for download in each ecosystem. These developments were not generally anticipated; as recently as 2004, the mobile space was mocked as moribund in terms of content selections by technologists who envisioned carriers providing few innovations beyond the sale of ringtones.⁹⁵

Start-ups must offer services sufficiently attractive to induce subscribers to switch from established platforms or to use different platforms at the same time. Once a Facebook or a Google becomes the standard for all online users, with virtually universal

⁹⁰ Roberto Mosquera et al., *The Economic Effects of Facebook*, 23 EXPERIMENTAL ECON. 575, 577 (2020).

⁹¹ See Jay R. Corrigan et al., *How Much is Social Media Worth? Estimating the Value of Facebook by Paying Users to Stop Using it*, PLOS ONE 8 (Dec. 19, 2018); Bodo Herzog, *Valuation of Digital Platforms: Experimental Evidence for Google and Facebook*, 6 INT'L J. FIN. STUD. 87, (Oct. 17, 2018); Erik Brynjolfsson et al., *Using Massive Online Choice Experiments to Measure Changes in Well-Being*, 116 PROC. NAT'L ACAD. SCI. U.S.A. 7250, 7252 (2019).

⁹² Danny Sullivan, *Where Are They Now? Search Engines We've Known & Loved*, SEARCH ENGINE WATCH (March 4, 2003), <https://perma.cc/Y9DT-XLZ5>.

⁹³ *The Size of the World Wide Web (The Internet)*, WORLDWIDEBESIZE, <https://perma.cc/K2AF-8KCQ> (last visited Feb. 2, 2023).

⁹⁴ Daniel Coppola, *Share of paid units sold by third-party sellers on Amazon platform from 2nd quarter 2007 to 3rd quarter 2022*, STATISTA (Nov. 25, 2022), <https://perma.cc/JXD7-3GYX>.

⁹⁵ In 2004, ringtones were a \$4 billion global business. Today they are essentially free, with a wide variety embedded in smartphones. Nick Fernandez, *#TBT The life and death of custom ringtones*, ANDROID AUTHORITY (Oct. 31, 2019), <https://perma.cc/97ER-948G>.

reach, potential entrants may have to replicate their vast coverage to compete.⁹⁶ There has been a fear that network effects could create “winner-take-all” markets where the first movers are difficult to displace. Yet, displacement happens. The VHS standard for video-cassette recordings was an example. Microsoft’s operating system for desktop personal computers was another. (Apple’s operating system, once a market share laggard, eventually conquered its handicap.) Qualcomm’s CDMA radio technology was yet another victorious upstart, displacing the 2G GSM standard, strongly backed by European governments, in 3G and 4G.

Pre-digital markets imbued with deep network effects often posed more serious competitive constraints due to high customer switching costs. Telephone services, video recording devices, and computer operating systems with complementary software generated first mover advantages, discouraging entrants because customers would have to replace devices, software, and human capital (knowledge of existing systems) to try a new product.⁹⁷

Today, with universal access to the internet, consumer switching costs are often modest. A subscriber can toggle between social networking platforms, search engines, or online shopping sites with a few clicks across a variety of devices. Nevertheless, substantial network effects exist, underscoring the continuing importance of scale economies. Attempts by antitrust authorities to structurally reduce an established platform’s subscriber base risk adjustments that will be unattractive to users and, thus, prove futile, barring further measures to effectively block the benefits of network effects. Competition is more likely to come from innovative expansions of rival platforms, just as the wireline telephone monopoly of the 20th Century was undercut by mobile and broadband networks.

⁹⁶ These challenges notwithstanding, a new entrant, Tik Tok, appears to be succeeding at challenging Facebook’s erstwhile dominant position in social networking. See Cal Newport, *TikTok and the Fall of the Social-Media Giants*, THE NEW YORKER (2022), <https://perma.cc/9WVE-7NKP>; Tik Tok’s success, and concerns about its relationship to the Chinese government have prompted legislative efforts by Western governments to ban the app. See Sapna Maheshwari and Amanda Holpuch, *Why Countries Are Trying to Ban Tik Tok*, N.Y. TIMES (Mar. 17, 2023).

⁹⁷ LIEBOWITZ & MARGOLIS, *supra* note 88, explain Microsoft’s successful efforts to overcome the first-mover advantages of AOL, Prodigy, and CompuServe in the early days of online services.

2. Subscriber Data as an “Essential Facility?”

The major digital platforms accumulate vast quantities of subscriber data. The rules governing such holdings are important not only for the protection of privacy,⁹⁸ but because these data support advertising services. Those services, in turn, enable large-scale investments in the creation and maintenance of platforms, applications, and networks, delivering (sometimes extremely large) value “free” to users. The key importance of databases as inputs into evolving ecosystems naturally gives rise to competitive issues, as entrants must overcome the advantages wielded by established platforms.

Yet recent research by Tucker and others finds little support for the proposition that there are large economies of scale or scope in assembling digital subscriber data for advertising markets.⁹⁹ She finds that the more important criterion for success is competitive superiority, specifically the development of algorithms finding and effectively utilizing the valuable information in the data.¹⁰⁰ Besen and Verveer proceed from the opposite assumption: “Why Asymmetries in Data Holdings May Be Important for Competition.”¹⁰¹ But they provide no empirical evidence to support this theoretical possibility.¹⁰²

Further, the competitive aspects of dynamic processes are often left unexplored, as the asserted advantages of incumbency automatically drive firms to aggressively pursue such positions. This delivers benefits to consumers (including, but beyond, zero-priced access for valuable services). Races for scale are widely seen in tech markets. One famous example is AOL’s “carpet bombing of America” with sign-up disks for dial-up network access subscriptions in the mid-1990s, establishing the world’s largest ISP, a momentous event instrumental in building the mass-market internet.¹⁰³ Another is Netflix’s prolific rise in streaming video from the late 2000s, achieving industry leadership despite early market positions established in home video content by the

⁹⁸ The “right to privacy” has evolved with the development of technology for hundreds of years. Samuel D. Warren & Louis D. Brandeis, *The Right to Privacy*, 4 HARV. L. REV. 193 (1890).

⁹⁹ Catherine Tucker, *Digital Data, Platforms and the Usual [Antitrust] Suspects: Network Effects, Switching Costs, Essential Facility*, 54 REV. INDUS. ORG. 683 (2019).

¹⁰⁰ *Id.* at 686.

¹⁰¹ Stanley M. Besen & Philip L. Verveer, *Competition and Data: Potential Remedies*, 21 WAKE FOREST J. BUS. & INTELL. PROP. L. 102, 119 (2021).

¹⁰² *See id.*

¹⁰³ KARA SWISHER, AOL.COM: HOW STEVE CASE BEAT BILL GATES, NAILED THE NETHEADS, AND MADE MILLIONS IN THE WAR FOR THE WEB (1998).

(then) far larger Blockbuster, Amazon Prime, Walmart, Google/YouTube and Apple.¹⁰⁴ Notably, this leadership in video streaming is now being challenged by a number of major media companies.

On the reverse side, it is also instructive that large firms often attempt to enter adjacent markets, yet fail, revealing the limits of scale and scope economies. Microsoft, with its dominant position in the personal computer software market in the early 2000s, was entirely unsuccessful in establishing its products in the cable set-top box market.¹⁰⁵ It then, after some early advances in wireless with Windows Mobile, was thoroughly routed by rivals Apple (iOS) and Google (Android), dragging Nokia's formerly formidable smartphone platform down with it.¹⁰⁶ NewsCorp, identified as one of the five gigantic media conglomerates asserting control over U.S. content markets,¹⁰⁷ used its scale to buy MySpace in 2005, but to no avail; it was soon buried by an upstart entrant organized in a dorm room.¹⁰⁸ Google also used its considerable size to enter social networking with Google+, which flopped when users rejected the platform.¹⁰⁹

3. One Side or Both Sides of the Platform?

In 2018, the Supreme Court ruled against the government in a case alleging that American Express's policy of penalizing merchants for steering customers to credit cards that charge lower merchant fees violated the Sherman Act.¹¹⁰ The Court ruled that:

The plaintiffs have not carried their burden to show anticompetitive effects. Their argument—that Amex's antisteering provisions increase merchant fees—wrongly focuses on just one side of the market. Evidence of a price increase on one side of a two-sided transaction platform cannot, by itself,

¹⁰⁴ See GINA KEATING, *NETFLIXED: THE EPIC BATTLE FOR AMERICA'S EYEBALLS* (2013).

¹⁰⁵ Mike Farrell, *Microsoft Sells Off Comcast*, MULTICHANNEL NEWS (Jan. 25, 2009), <https://perma.cc/N99T-4BDT>.

¹⁰⁶ Liam Tung, *Here are the real reasons Windows Phone failed, reveals ex-Nokia engineer*, ZDNET (July 29, 2019), <https://perma.cc/ZH7D-SPV4>.

¹⁰⁷ BEN H. BAGDIKIAN, *THE NEW MEDIA MONOPOLY* (2004).

¹⁰⁸ *Fed. Trade Comm'n v. Facebook, Inc.*, 560 F. Supp. 3d 1, 5–6 (D.D.C. June 28, 2021) (recounting the beginnings of Facebook, first launched as “The Facebook” from Mark Zuckerberg's Harvard dorm room in 2004).

¹⁰⁹ According to a Google+ software engineer, “Google Plus didn't fail because Facebook is invulnerable. It failed because of deep flaws embedded in it from the very start.” Talin, *Why Google+ Failed*, MEDIUM (Apr. 3, 2019), <https://perma.cc/L4ZT-FAVX>.

¹¹⁰ *Ohio v. Am. Express*, 138 S. Ct. 2274 (2018).

demonstrate an anticompetitive exercise of market power. Instead, plaintiffs must prove that Amex's antisteering provisions increased the cost of credit-card transactions above a competitive level, reduced the number of credit-card transactions, or otherwise stifled competition in the two-sided credit-card market. They failed to do so.¹¹¹

This decision created a controversy among antitrust scholars that still rages.¹¹² Should antitrust scrutinize each side of a platform separately, or must plaintiffs prove that the price of the overall service does not rise? If, say, a search engine engages in practices that impede competition in the zero-price consumer side of its platform but lowers prices on the other side of its platform (benefiting, say, advertisers), with the latter gains estimated to be numerically superior to the former, should this practice be condoned or deemed an antitrust violation? Complicated issues also arise in proving competitive harm on the consumer side of the platform because such harm would not be registered in the form of higher prices or in lower quality of the consumer experience.¹¹³ It might be asserted that the alleged anticompetitive act was designed to impede entry by similar zero-priced services, the effect of which on the perpetrator's service could not easily be measured. But, as noted in *American Express*, even if the act reduces consumer welfare on one side of the platform, it might increase consumer welfare on the other side.

4. Mergers

One of the most salient targets for reform of antitrust in the digital era is merger policy. Many critics of current antitrust

¹¹¹ *Id.* at 2278.

¹¹² For opposing views, see Michael Katz & Jonathan Sallet, *Multisided Platforms and Antitrust Enforcement*, 127 *YALE L. J.* 2142 (2018) and Geoffrey A. Manne, *In Defence of the Supreme Court's 'Single Market' Definition in Ohio v. American Express*, 7 *J. ANTITRUST ENF'T* 104 (2019).

¹¹³ The U.S. Government, in *FTC v. Facebook*, alleges that Facebook effectively raised prices to users (who pay nothing to access the platform) by lowering the quality of the service. The reduction is claimed to derive from a decline in privacy protection. One issue that immediately emerges is that the alleged quality reduction stems from data provided to advertisers to improve ad targeting, which makes users more likely to click—presumably, because the ad is more relevant to them. This increase in relevance is surely a net increase in quality of service, perhaps fully or more than fully offsetting the decline that derives from less privacy. A federal court is hearing this case now. *Fed. Trade Comm'n v. Facebook, Inc.*, 581 F. Supp. 3d 34 (D.D.C. 2022). See also Cecilia Kang & Mike Isaac, *U.S. and States Say Facebook Illegally Crushed Competition*, *N.Y. TIMES* (Dec. 9, 2020), <https://perma.cc/5844-68DA>; see also David S. Evans, *The Antitrust Economics of Multi-Sided Platform Markets*, 20 *YALE J. ON REG.* 325 (2003).

policy view the current enforcement of Section 7 of the Clayton Act as misguided and a principal reason why Amazon, Facebook, and Google have achieved or have been able to maintain their prominent status in their respective markets.¹¹⁴ The argument is that blocking horizontal and vertical mergers in the manner of pre-Chicago antitrust policy would have prevented these companies from reaching their current size and allowed nascent competitive threats (that the acquired firms represented) to reach maturity.¹¹⁵ On the other hand, acquisitions by large, integrated firms enable platforms to innovate while simultaneously inducing investments in additional start-ups from funders who see a future “liquidity event” as an incentive to commit risky capital to highly specialized firms.¹¹⁶ It is difficult to test either hypothesis because counterfactuals are missing. How would Instagram or WhatsApp have developed if they had not been acquired by Facebook in 2012–14, and how would consumers have been impacted? Equally important, would Instagram or WhatsApp have even existed if their developers and seed funders had known that they could not be acquired by existing firms at any time in their development?

In previous work, we have examined the general level of merger and acquisition (M&A) activity by large tech platforms.¹¹⁷ The GAFAM enterprises account for about 19 percent of the value of the S&P 500.¹¹⁸ Yet, of the 99 largest mergers by market capitalization since 2000, the only ones involving major tech platforms are the Microsoft acquisition of LinkedIn in 2016 (ranked number 59 by value in 2019 dollars) and the Facebook merger with WhatsApp in 2014 (number 81 in terms of 2019 dollars).¹¹⁹

¹¹⁴ See the extensive discussion of Amazon’s growth in Khan, *supra* note 3, and in WU, *supra* note 3, 119–26.

¹¹⁵ See WU, *supra* note 3; JONATHAN B. BAKER, *THE ANTITRUST PARADIGM: RESTORING A COMPETITIVE ECONOMY* (2019).

¹¹⁶ “Acquisitions are broadly recognized as being key to Silicon Valley’s success. Buying startups is one of the fastest ways for companies to grow, enter a new market, acquire new technology and embrace disruption and innovation. Europe is often reported as far behind the USA in terms of startup acquisition, also an effective way to execute ‘open innovation’ strategies.” Alessia Pissoni & Alberto Onetti, *When Startups Exit: Comparing Strategies in Europe and the USA*, 39 *J. BUS. STRATEGY* 26, 26 (2018).

¹¹⁷ Robert W. Crandall & Thomas W. Hazlett, *Antitrust in the Information Economy: Digital Platform Mergers*, 65 *J. L. & ECON.* S499 (Nov. 2022).

¹¹⁸ Data available on YAHOO! FINANCE, <https://perma.cc/3LQP-BRLL> and *Total Market Value of the U.S. Stock Market*, SIBLIS RESEARCH, <https://perma.cc/EJU8-SUQR> as of March 31, 2022.

¹¹⁹ *List of largest mergers and acquisitions*, WIKIPEDIA, <https://perma.cc/7G8T-Z4WX> (last visited Feb. 7, 2023).

The growth of the Google, Amazon, Facebook, Apple, and Microsoft platforms overwhelmingly stems from internal expansion, not corporate takeovers. We calculated the share of the current enterprise value of the largest 25 U.S. technology firms accounted for by the value of all their acquisitions from 1998 through 2021.¹²⁰ These digital platforms evidence relatively modest reliance on mergers and acquisitions, holding five of the ten lowest ratios of the cumulative value of acquisitions to February 2022 enterprise value (about two percent or less) among the largest 25 tech companies. The GAFAM platforms' average (unweighted) ratio of acquisitions to February 2022 enterprise value was 0.088; the other 20 large tech firms averaged 0.804.¹²¹ In contrast the acquisitions by Oracle, Cisco, IBM, and AT&T, adjusted for the growth in the NASDAQ, actually accounted for more than their February 2022 enterprise value!¹²²

Analyzing the effects of individual, allegedly problematic mergers of “nascent” competitors by the large GAFAM platforms is difficult because the modelling of rapidly changing high tech markets “but for” the acquisition necessarily involves judgments about how the acquired company would have developed had it not been acquired. It has been suggested that a small acquisition, say Google’s purchase of Android (and its mobile device operating system) for \$50 million in 2005,¹²³ could be inexpensive for the purchaser but ultimately foreclose competition from a new start-up venture.¹²⁴ Such speculation presumes to know that Android would have been likely to achieve the enormous success that came post-merger without the complementary inputs supplied via Google’s ownership. Yet unique synergies and substantial investments by Google appear to have propelled the venture.

Contrast the Google-Android experience with the paths traveled by Nokia, the world leader in smartphones in 2006, and by RIM Blackberry, the initial innovator. Apple’s introduction of the iPhone in 2007 and the App Store in 2008 disrupted the market.

¹²⁰ The value of these acquisitions is allowed to grow at the rate of the NASDAQ ETF shares from the date of acquisition through 2021. Crandall & Hazlett, *supra* note 117, at S504–06, Table 2.

¹²¹ *Id.* at Table 2.

¹²² *Id.* at S504.

¹²³ John Callahan, *Google made its best acquisition nearly 17 years ago: Can you guess what it was?*, ANDROID AUTHORITY (May 13, 2022), <https://perma.cc/9228-ZF4N>.

¹²⁴ Lina M. Khan, *The Separation of Platforms and Commerce*, 119 COLUM. L. REV. 973, 1068 & n.566, 1069 (2019) (explaining the 2005 acquisition of Android by Google as an example of a “dominant platform that uses its supracompetitive profits to buy its way into other markets [which] can raise barriers to entry . . .”).

Google deployed considerable investments in a mobile platform, far beyond its Android software acquisition, to launch a rival ecosystem in 2008. The tumult gave Microsoft reason to use its resources to rescue the now distressed incumbent, Nokia, forming a partnership in 2011 and then acquiring Nokia's handset business in 2013. In 2016, Microsoft abandoned its mobile venture as a lost cause, writing off approximately \$8 billion in losses.¹²⁵

The idea that an independent Android operating system would have succeeded where two mobile technology incumbents and Microsoft failed is ambitious speculation. Such speculation implicitly suggests that one small investment by Google (in a software start-up that had not yet developed its first smartphone operating system) determined all that developed in a market that was about to experience explosive growth. It wholly discounts the far more expensive investments made by Google and by accomplished rivals Nokia-Microsoft and RIM, the maker of the hugely popular Blackberry:

Research in Motion [RIM] started the game, but did not master it. That job would be left to the world's two mightiest computing empires Apple and Google would go on to create iPhones and Androids, respectively, and thoroughly clobber the Canadians at their own game BlackBerry seemed to many invincible even with a mere 9 million subscribers in 2007, when the iPhone was first launched. By 2011, there would be 472 million smartphones sold worldwide in one year.¹²⁶

Clearly, whatever contributions the Android acquisition produced for Google went to further the development of the company's competing mobile platform, challenging Apple's newly emergent dominance. The resulting rivalry displaced less efficient—but very large—competitors and delivered a new, vibrant sector of the economy—Mobile Apps. Vast gains from innovation were generated.

In our previous work, we have also provided a retrospective judgment of 23 GAFAM acquisitions that feature prominently in current criticisms of current merger policy. We concluded that ten of these acquisitions likely were competitive and thirteen had

¹²⁵ Tom Warren, *Microsoft wasted at least \$8 billion on its failed Nokia Experiment*, THE VERGE (May 25, 2016), <https://perma.cc/KN6H-26VP>.

¹²⁶ TIMOTHY WU, THE ATTENTION MERCHANTS 310 (2017).

either benign or ambiguous effects.¹²⁷ These conclusions are necessarily somewhat conjectural because of the difficulties of projecting market outcomes “but for” these mergers. They are therefore an invitation to further research.

A recent congressional subcommittee report has proposed an amendment to the antitrust laws that would ban the acquisition by incumbent digital firms of “potential or nascent competitors.”¹²⁸ Unfortunately, such proposals would likely reduce entry and incipient competition in the digital economy if less funding for start-ups ensues from a policy that closes one key avenue for start-ups to realize financial success. Given the recent slowdown in the formation of new firms in the United States, this is a serious concern, both for economic growth and for competition in the digital sector in particular.¹²⁹ A compelling historical observation is that blocking the Android acquisition in 2005 would presumably have increased the costs (and decreased the likelihood) of Google’s competitive response in mobile communications. Similarly, the Amazon acquisition of Whole Foods in 2017 (Amazon’s largest takeover), while criticized as anti-competitive,¹³⁰ has actually been followed by an increase in rivalry in grocery retailing. The Amazon-Whole Foods market share of grocery retailing declined post-merger, due to aggressive new offerings from Walmart, Kroger, Sprouts, Instacart, and others.¹³¹

B. Antitrust Challenges to the Current Major Digital Platforms

In 2020, major monopolization suits were filed against Google and Facebook. The Justice Department and eleven states charged

¹²⁷ Crandall and Hazlett, *supra* note 117, at Table 4.

¹²⁸ “To strengthen the law relating to potential rivals and nascent competitors, Subcommittee staff recommends strengthening the Clayton Act to prohibit acquisitions of potential rivals and nascent competitors.” And “[s]ince startups can be an important source of potential and nascent competition, the antitrust laws should also look unfavorably upon incumbents purchasing innovative startups. One way that Congress could do so is by codifying a presumption against acquisitions of startups by dominant firms . . .” STAFF OF H. SUBCOMM. ON ANTITRUST, COM. & ADMIN. LAW OF THE COMM. ON THE JUDICIARY, 116TH CONG., INVESTIGATION OF COMPETITION IN DIGITAL MARKETS 393 (Comm. Print 2020).

¹²⁹ Lauren Feiner, *Start-ups will suffer from antitrust bills meant to target Big Tech, VCs charge*, CNBC (July 24, 2021), <https://perma.cc/D5X3-XVWE>.

¹³⁰ Lina M. Khan, *Amazon Bites Off Even More Monopoly Power*, N.Y. TIMES (June 21, 2017), <https://perma.cc/UQQ5-H5ZZ>.

¹³¹ Greg Magana, *Amazon’s online grocery lead is shrinking*, BUSINESS INSIDER (Dec. 19, 2018), <https://perma.cc/Y38T-KKC2>; *Has Amazon spoiled Whole Foods?*, FREIGHTWAVES (Feb. 17, 2021), <https://perma.cc/5ZL3-4QE7>.

Google with violating Section 2 of the Sherman Act by “unlawfully maintaining monopolies in the markets for general search services, search advertising, and general search text advertising in the United States through anticompetitive and exclusionary practices.”¹³² Two months later, the Federal Trade Commission (FTC) filed a suit against Facebook, alleging that Facebook had violated Section 2 by “buying up companies that present competitive threats and by imposing restrictive policies that unjustifiably hinder actual or potential rivals” in the market for “personal social networking services.”¹³³

1. The Relevant Markets

Both Facebook and Google operate two-sided digital platforms. They derive their revenues—nearly 100 percent and 80 percent, respectively—from the sale of online advertising to businesses.¹³⁴ On the other side, they typically charge consumers nothing for access to their services; their customers’ revealed online behavior is the information the firms offer to advertisers. These two platforms’ share of total digital advertising, combined, was 52.4 percent in 2021, down from 55.2 percent in 2019.¹³⁵ This is considerably below what would be required under most circumstances to trigger a monopolization charge, even if they were one firm.¹³⁶ Amazon’s share of the digital advertising market grew from just 7.8 percent in 2019 to 11.6 percent in 2021¹³⁷, and

¹³² Complaint at 2, *U.S. v. Google LLC*, 2020 WL 6152114 (D.D.C. Oct. 20, 2020) (Doc. 1-1) (hereafter, the “DOJ Google Complaint”). Subsequently, the State of Texas and the State of Colorado (joined by other states) filed similar suits. *See* Complaint, *Texas v. Google LLC*, 2021 WL 7382404 (E.D. Tex. Dec 16, 2020) (Doc. 1); Complaint, *Colorado v. Google LLC*, 2020 WL 10963869 (D.D.C. Dec 17, 2020) (Doc. 3-2).

¹³³ Complaint at 1–2, *Fed. Trade Comm’n v. Facebook, Inc.*, 560 F.Supp.3d 1 (D.D.C. 2021) (Doc. 3-1), revised in August 2021. This case was brought under provisions in the Federal Trade Commission Act that allow the FTC to bring cases charging violations of the Sherman Act.

¹³⁴ Alphabet Inc., Annual Report (Form 10-K) (Feb. 2, 2021); Facebook, Inc., Annual Report (Form 10-K) (Jan. 27, 2021). *See also* Mike Isaac, *Facebook’s profit surges 101 percent on strong ad sales*, N.Y. TIMES (2021), <https://perma.cc/NZ4M-6DRA>.

¹³⁵ Sara Lebow, *Google, Facebook, and Amazon to account for 64% of US Digital ad spending this year*, INSIDER INTELLIGENCE (Nov. 3, 2021), <https://perma.cc/46CZ-BXM2>.

¹³⁶ Daniel Liberto, *Facebook, Google Digital Ad Market Share Drops as Amazon Climbs*, INVESTOPEDIA (Jun. 25, 2019), <https://perma.cc/AW79-F93V>; eMarketer Editors, *Amazon’s share of the US digital ad market surpassed 10% in 2020*, INSIDER INTELLIGENCE (Apr. 6, 2021), <https://perma.cc/532D-WCVR>.

¹³⁷ Lebow, *supra* note 135.

Apple's share is now growing.¹³⁸ While the three major digital media companies account for about 64 percent of total digital advertising, their position is now being threatened by Apple's aggressive approach to protecting users' privacy.¹³⁹ Ironically, Apple's growth (bringing it close to Amazon in ad sales) is so rapid as to be attracting regulatory scrutiny: "Apple is becoming a bigger player in digital advertising, risking antitrust action and its image; kneecapping Facebook and adtech companies in the name of privacy just happens to have tripled a key part of Apple's ad business."¹⁴⁰

Google or Facebook may exercise market power on the consumer side of their platforms in order to reap the benefits of the derived customer information base in online advertising markets. Google accounts for more than 90 percent of worldwide search¹⁴¹ and has faced charges that it has structured its search engine to favor its own services, such as shopping comparison apps.¹⁴² In 2018, the European Commission fined Google \$5 billion for tying arrangements, where Google's own applications (particularly Google Search) were embedded in its Android operating system for mobile phones. Google responded by unbundling the apps.¹⁴³

The Justice Department's antitrust suit against Google focuses on general search services and search advertising. It alleges that Google has used a variety of anticompetitive practices to expand its service revenues derived from both mobile devices and traditional desktop computers. In particular, it alleges that Google uses its ownership of the Android mobile operating system and contractual arrangements with Apple to exclude entry into the general search market.¹⁴⁴ Its acquisition of the Android operating system in 2005 and, to a much lesser extent, YouTube, acquired in 2006, are featured in the complaint. However, the

¹³⁸ Patience Haggin, *Apple's Privacy Changes Are Poised to Boost Its Ad Products*, WALL STREET JOURNAL (Apr. 27, 2021), <https://perma.cc/5TPU-DD8G>.

¹³⁹ Lucinda Southern, *As Apple stakes out an aggressive pro-privacy stance, Google occupies middle ground*, DIGIDAY (Nov. 13, 2019), <https://perma.cc/6269-LXRY>.

¹⁴⁰ Joshua Benton, *Apple is becoming a bigger player in digital advertising, risking antitrust action and its image*, NIEMANLAB (Oct. 18, 2021), <https://perma.cc/P74K-U9JY>.

¹⁴¹ *Search engine market share worldwide*, STATCOUNTER GLOBALSTATS, <https://perma.cc/BS99-EA7D> (last visited Jan 29, 2023).

¹⁴² Complaint for Declaratory Judgment and Injunctive Relief, *Ohio ex rel. Yost v. Google LLC*, 2021 WL 2333652 (Ohio Com.Pl. Jun. 8, 2021) (Doc. 1).

¹⁴³ Jillian D'Onfro, *Google will stop bundling its apps on Android phones in response to EU fine*, CNBC (Oct. 16, 2018), <https://perma.cc/GZ6P-8JNE>.

¹⁴⁴ See Lawrence J. White, *U.S. v. Google: A Tough Slog, But Also an Intriguing Possibility*, 44 REGUL. 18 (2021) provides a provocative analysis of the Google-Apple relationship.

Justice Department does not argue for the divestiture of either in its preliminary prayer for relief.¹⁴⁵

In May 2018, German antitrust authorities announced a “preliminary investigation” into Facebook’s requirement that its users allow it to collect their private data tabulated by third-party websites that the company would then use in its online advertising business.¹⁴⁶ The requirement is alleged to be an “abuse of dominant position” under EU competition law.¹⁴⁷

The FTC suit against Facebook, filed in 2020 and amended in 2021, alleges that Facebook has monopoly power in the online “personal social networking” market, which the Commission alleges is distinct from other social networking markets served by, say, LinkedIn, mobile messaging services, or “consumption-based” services, such as Spotify.¹⁴⁸ The FTC alleges that Facebook has acquired and maintained market power through the acquisition of Instagram and WhatsApp and by denying potential competitors interconnection.¹⁴⁹ These allegations, if proven, would provide the FTC with the opportunity to press for structural relief, including divestiture of Instagram and WhatsApp. However, Facebook’s recent loss of market share to TikTok and other platforms surely has made the FTC’s task more difficult.¹⁵⁰

It thus appears that whatever the expressed concerns over the power of the new internet giants, their position in some of the larger markets that they occupy—internet advertising, for example—would not make them vulnerable to monopolization charges under Section 2 of the Sherman Act, except perhaps in subsets of their businesses. Google may be vulnerable because of its position in online search, or because it has a dominant position in some of the tools that link advertisers with publishers or other on-line

¹⁴⁵ Complaint, *U.S. v. Google LLC*, 2020 WL 6152114 (D.D.C. Oct. 20, 2020).

¹⁴⁶ Nicholas Hirst, *Facebook’s data collection faces antitrust charge in Germany*, POLITICO (Dec. 19, 2017), <https://perma.cc/Q7X5-H3LZ>.

¹⁴⁷ *Competition Policy: Procedures in Article 102 Investigations*, EUROPEAN COMMISSION, <https://perma.cc/N3A3-BBPD>.

¹⁴⁸ *Fed. Trade Comm’n v. Facebook, Inc.*, 581 F. Supp. 3d 34, 45 (D.D.C. 2022).

¹⁴⁹ *Id.* at 40, 57–59.

¹⁵⁰ Facebook’s global monthly average users (MAUs) have barely grown since the end of 2020 and have even begun to decline in late 2022. See Simon Kemp, *Facebook Statistics and Trends*, DATAREPORTAL, <https://perma.cc/268S-AYDN> (last updated Aug. 15, 2022). In the interim, TikTok has been growing rapidly and is now the world’s most downloaded mobile app, surpassing Facebook, Instagram, and WhatsApp. See Adam Connell, *32 Latest TikTok Statistics For 2023: The Definitive List*, BLOGGINGWIZARD, <https://perma.cc/5ZU4-SXYH> (last updated Jan 1, 2023).

sites where ads are displayed.¹⁵¹ Facebook’s liability may depend on the definition of the relevant online social media market.¹⁵² But even if these suits are successful, it is unclear that antitrust authorities could prove that Google’s and Facebook’s alleged dominant positions derive from anticompetitive behavior that could be remedied via sanctions that improve outcomes for consumers.

2. Monopolization

The U.S. antitrust suits filed against Google and Facebook are the first “big cases” charging monopolization since *U.S. v. Microsoft* two decades ago. These charges, if proven, could result in more severe structural and behavioral remedies than those that were imposed in *Microsoft*. On the other hand, the major monopolization cases of the past did not have the salutary effects often attributed to them.¹⁵³ Judge Posner views monopolization cases skeptically, arguing that any attempt to use the antitrust laws to deconcentrate an industry “. . . would not be effective, and even if it were its social costs would exceed its benefits.”¹⁵⁴ Crandall concludes that monopolization cases that resulted in structural remedies, *i.e.*, divestitures, have been generally ineffective.¹⁵⁵ The arguable exception, *U.S. v. AT&T*, succeeded in lowering long-distance rates, but this result could have been obtained by rules available for implementation by the Federal Communications Commission long before the antitrust suit was filed in 1974, thereby obviating the need for the courts to mandate a costly breakup of this giant company.¹⁵⁶

¹⁵¹ *U.S., et.al. v Google*, 1:23-cv-00108 (D.E.D.Va. Jan. 23, 2023), alleges that Google uses online ad technologies and an auction platform to monopolize certain online markets. *Texas v. Google*, 2021 WL 7382404 (E.D. Tex. Dec 16, 2020) alleges that Google has monopolized the market for display ads and other “exchanges” and “networks” used by advertisers and publishers in online transactions.

¹⁵² A federal judge dismissed the first FTC complaint for failing to establish that personal social networking is a relevant antitrust market. *Fed. Trade Comm’n v. Facebook, Inc.*, 560 F.Supp.3d 1 (D.D.C. 2021). The FTC then amended its complaint, *First Amended Complaint for Injunctive and Other Equitable Relief*, *Fed. Trade Comm’n v. Facebook, Inc.*, 560 F.Supp.3d 1 (D.D.C. 2021) (Doc. 75-1), and the amended complaint survived Facebook’s motion to dismiss. *Fed. Trade Comm’n v. Facebook, Inc.*, 581 F.Supp.3d 34 (D.D.C. 2022).

¹⁵³ Robert W. Crandall & Clifford Winston, *Does Antitrust Policy Improve Consumer Welfare? Assessing the Evidence*, 17 J. ECON. PERSP. 3 (2003).

¹⁵⁴ RICHARD A. POSNER, *ANTITRUST LAW* (2d ed. 2002).

¹⁵⁵ Robert W. Crandall, *The Failure of Structural Remedies in Sherman Act Monopolization Cases*, 80 OR. L. REV. 109 (2001).

¹⁵⁶ This outcome, promoting long-distance competition without a divestiture order, was the path undertaken by regulators in Canada. Robert W. Crandall & Thomas W.

Regardless of their effect in past decades, major monopolization suits look even more difficult to press in the digital era. The rapid and unpredictable changes in technology can undermine a dominant market position very quickly. Recall the fear of the combination of AOL and Time Warner (in a 2001 merger that is still the largest in U.S. history), or of IBM's System/360 hegemony in computing, that motivated earlier antitrust actions. In the modern digital era, however, successful entry often requires a substantial period of time for building a platform and achieving necessary scale. For example, Facebook was not profitable until its 5th year of operation; Amazon until its 9th year; and Tesla until its 17th year.¹⁵⁷ To consider Facebook's current market position as an indication of its market power in the forthcoming months or years ignores the enormously rapid growth of TikTok as it extends the reach of its platform.

Equally important is the difficulty in proving an effect on consumer welfare from high-tech mergers or allegedly anti-competitive practices. How does one prove that an acquisition by Facebook, Google, or other platforms of a complementary or even rival platform had a deleterious impact on consumers, particularly when such a merger enhances the value of the platform's service at a continuing price of zero? The government must establish that the acquisition eliminated a likely successful competitor that would have provided even more valuable offerings for consumers than those offered by the acquiring firm, post-merger. This is a difficult evidentiary task.¹⁵⁸ Indeed, current advocates of a structuralist antitrust policy prefer a more straightforward attack on market concentration and a merger policy that either bans mergers or reverses the burden of proof for acquisitions by large digital platforms.

3. Antitrust Remedies in the Digital Era

Antitrust is challenged in today's digital markets for at least two reasons. First, any judicial decree that results from a verdict that a digital platform illegally monopolized its market(s) must

Hazlett, *Telecommunications Policy Reform in the United States and Canada* (AEI-Brookings Joint Center for Regul. Stud., Working Paper No. 00-09, 2000).

¹⁵⁷ *The Fastest Time to Profit*, TIPALTI APPROVE (last visited March 21, 2023), <https://perma.cc/9SDV-TMZH>.

¹⁵⁸ The argument is likely to be attempted in the *FTC v. Facebook* suit now being litigated, however. See Thomas W. Hazlett, *Populist Antitrust: The Case of FTC v. Facebook*, 68 ANTITRUST BULLETIN (forthcoming June 2023).

address the purportedly illegal practices that generated the monopoly. As the trial court in the *Microsoft* case discovered, the court may not simply impose structural changes that it believes will result in a more competitive market unless this relief addresses the practices that generated the monopoly power.¹⁵⁹ Second, antitrust authorities may be swimming upstream to attempt to constrain digital platforms even via structural decrees. Relentless network effects drive platforms. To meet consumer expectations, competition would presumably have to derive from multiple Google-like search engines or Facebook-like social media platforms with broad coverage, not from fragmented versions of each.

A number of recent expert studies have addressed the problems posed by the dominant digital platforms for antitrust enforcement: the Stigler Committee on Digital Platforms, the Furman Report prepared for the United Kingdom, and the European Commission's Vestager Report.¹⁶⁰ All three recommend more aggressive policies¹⁶¹ and would weaken the burden of proof demanded of antitrust authorities. Each recommends similar remedies for multi-sided digital platforms with strong network effects: (i) data portability, (ii) data sharing, (iii) interoperability, (iv) non-discrimination mandates, and (v) imposed limits on platform integration into complementary products or services.

Any antitrust suit that seeks to mandate data portability, data sharing, or interoperability across platforms would argue that a platform's failure to provide such access is anticompetitive.¹⁶² A defendant firm would respond that its decisions were driven by a desire to build an efficient, secure platform, capturing network effects. Should the government prevail, constructing remedies for data sharing, data portability, or interoperability would be extremely complicated; the *AT&T* and *Microsoft* cases are a guide. In both instances, interoperability provisions were difficult to execute and required several years to implement. In

¹⁵⁹ *United States v. Microsoft Corp.*, 253 F.3d 34 (D.C. Cir. 2001).

¹⁶⁰ STIGLER COMM. ON DIGITAL PLATFORMS, *supra* note 4; DIGITAL COMPETITION EXPERT PANEL, *supra* note 4; CRÉMER ET AL., *supra* note 4.

¹⁶¹ For instance, the Stigler Report offers: "Much US antitrust law is driven by a judgment, embraced by the Chicago School, that avoiding false positives (good conduct judged to be bad) is more beneficial to society than avoiding false negatives (anticompetitive conduct judged to be good). This judgment rests on the beliefs that false positives are difficult to correct but that false negatives will be quickly corrected by market forces. These beliefs seemed plausible in 1975 in a Chicago School framework, but they have never been empirically demonstrated and have fallen into disrepute." STIGLER COMM. ON DIGITAL PLATFORMS, STIGLER CTR. FOR STUDY ECON. & STATE, FINAL REPORT 94 (2019).

¹⁶² See *Verizon Commc'ns Inc. v. L. Offs. of Curtis V. Trinko, LLP*, 540 U.S. 398 (2004), for a discussion of this issue.

neither case did these requirements contribute to an increase in competition.¹⁶³ Knotty technical and pricing issues arose.¹⁶⁴ The time required, even if the courts grant relief, might well render the remedy obsolete before implementation.¹⁶⁵

The proposals to require non-discrimination or to ban vertical integration into downstream markets are based on a concern that these platforms can impede entry into their home markets or into downstream markets by favoring their own services or products, short-circuiting competition. These concerns have focused on shopping and search services, and they have a long history.¹⁶⁶ A ban on dominant platforms' entry into complementary markets might enhance the financial viability of entrants. Yet, enforcing such a ban as a remedy in monopolization suits brought against the current dominant platforms would be problematic. This is due to the difficulty of defining the range of complements in the rapidly changing digital economy and showing that such integration is harmful to competition even as it directly rewards customers by increasing the utility of existing platforms. Moreover, such a ban may be unlikely to provide a remedy for the alleged market power of the platform itself.

As difficult as it is to identify the allegedly anti-competitive actions that may have led to the rapid growth of today's large digital platforms, it may be even more difficult to design remedies that do more good than harm. Launching into years or even decades of court supervision of a decree in a dynamically evolving marketplace is not a prescription for success, as discovered when Congress was forced to shift the administration of major aspects of the *AT&T* decree to the Federal Communications Commission

¹⁶³ ROBERT W. CRANDALL, COMPETITION AND CHAOS: U.S. TELECOMMUNICATIONS SINCE THE 1996 TELECOM ACT 31–58 (2005); William H. Page & Seldon J. Childers, *Software Development as an Antitrust Remedy: Lessons from the Enforcement of the Microsoft Communications Protocol Licensing Requirement*, 14 MICH. TELECOMM. & TECH. L. REV. 77 (2007).

¹⁶⁴ Could these remedies be designed without providing that the platform has a right to a fee for making its platform or data available to competitors? And, if so, must the fee include a charge for the real option granted to the competitor for delaying or avoiding the required investment in its own data or functionality? On regulators grappling with such complexities, see Robert S. Pindyck, *Mandatory Unbundling and Irreversible Investment in Telecom Networks* (Nat'l Bureau of Econ. Rsch., Working Paper 10287, 2004).

¹⁶⁵ The implementation of network sharing under the 1996 Telecommunications Act was essentially abandoned in 2005 after numerous court cases and even more numerous bankruptcies of entrants who relied on such sharing.

¹⁶⁶ Steven C. Salop & David T. Scheffman, *Raising Rivals' Costs* (Fed. Trade Comm'n, Working Paper No. 81, 1983).

fourteen years after the decree was entered.¹⁶⁷ Many of the critics of the concentration in digital markets therefore propose a supplement, or perhaps an outright replacement, for antitrust: a new regulatory body.

V. DIGITAL ANTITRUST LEGISLATION OR A NEW REGULATORY AUTHORITY?

Critics of the last fifty years of antitrust jurisprudence generally focus on the inadequacy of enforcement—“Antitrust has fallen into hibernation”—or the centrality of the consumer welfare standard.¹⁶⁸ But the trends cited as justifying such beliefs are misinterpreted in many instances, as well as found to be generally representative of economic conditions in international markets. Even where authorities might define specific anticompetitive actions, countering them in existing law with solutions that avoid wholly offsetting collateral damage is a significant hurdle. Proposed solutions to this problem fall into two categories: (1) new antitrust legislation targeting large digital platforms and (2) establishment of a digital regulatory authority.

A. Current Legislative Proposals

Continuing the debate over U.S. antitrust policy and adjusting antitrust to address new challenges in our increasingly digital world would seem to be less of a risk than the establishment of a new regulator with wide-ranging authority over the digital economy. This approach is now underway: Four tech antitrust bills were reported out of the House Judiciary Committee in the 117th Congress.¹⁶⁹ These bills, which address a number of alleged anti-competitive acts by the largest digital platforms, including “self-preferencing,” acquisitions of “nascent” competitors, and refusal to interconnect with actual or potential competitors, have not advanced to the House floor as of this writing.

Two pieces of legislation in the 117th Congress that appear to have had the widest support are The American Innovation and Choice Online Act¹⁷⁰ and The Open App Markets Act,¹⁷¹ directed

¹⁶⁷ CRANDALL, *supra* note 163.

¹⁶⁸ TIMOTHY WU, *THE CURSE OF BIGNESS: ANTITRUST IN THE NEW GILDED AGE* 18 (2018).

¹⁶⁹ For a full discussion of these bills, see JAY B. SYKES, *THE BIG TECH ANTITRUST BILLS*, CONGRESSIONAL RESEARCH SERVICE (2021).

¹⁷⁰ S. 2992, 117th Cong. (2021).

¹⁷¹ S. 2710, 117th Cong. (2021).

solely at the largest digital platforms. The former would prohibit large platforms—those with a market capitalization of more than \$600 billion and 50 million or more active monthly users (Amazon, Apple, Google, Microsoft, and (perhaps) Facebook¹⁷²)—from discriminating in favor of their own complementary products or services. The latter would ban the large “app” platforms, currently Apple and Google (Android), from requiring app developers to consummate their customer transactions on their platforms and from requiring that these apps not be sold at lower prices on other platforms. The American Innovation and Choice Online Act is the more ambitious of the two proposals. It would prohibit the largest platforms from overtly or implicitly discriminating in favor of their own products and services in any of a variety of ways. It also would require these platforms to allow other businesses to interconnect with them by using their own software, and it would ban any subsequent uninstallation of such software. The covered platforms would also be banned from using the non-public data of these interconnected users in support of their own products or services.¹⁷³ This legislation has been criticized for limiting successful large platforms’ ability to exploit opportunities to provide their users with valuable new products and services and for potentially allowing other businesses to interconnect with the platforms in a risky manner. Some even suggest that the interoperability provisions enable foreign companies to create a national security risk through such connections.¹⁷⁴

The Open App Markets Act is directed principally at Apple and Google, which maintain large app stores for iPhone and Android wireless devices, respectively. These app stores require businesses that use them to conform to various requirements, including consummating all transactions over the app stores’ platforms. In practice, this means that revenues derived from an app are subject to the fees charged by the app platforms, a requirement that is particularly troublesome to businesses that market video games over the platforms—games that often derive substantial revenues from consumers as they play these games. The Act

¹⁷² See Tom Romanoff, *The American Innovation and Choice Online Act: What it Does and What it Means*, BIPARTISAN POLICY CENTER (Jan. 20, 2022), <https://perma.cc/G3NC-WJCS>. Facebook’s market share fell below \$600 billion in 2022 after the social media site lost market share to TikTok, and hovered around the \$550 billion mark in early 2023.

¹⁷³ See *id.*

¹⁷⁴ Mark Jamison, *Congress Could Weaken U.S. Competitiveness with These Two Bills*, AMERICAN ENTERPRISE INSTITUTE (Aug. 21, 2022), <https://perma.cc/7P7Q-TAKA>.

requires that these two app stores allow app developers to use an outside payment system and forbids the imposition of a rule that the app developers not offer their apps on other platforms at a lower price.¹⁷⁵

It is notable that neither of these latter proposals attempts to attack the sources of the dominance of the large digital platforms; the legislation simply constrains the platforms' ability to extract value from their businesses. It is very difficult to design antitrust tools that can combat the network effects that have driven firms such as Amazon, Google, and Apple to the positions they currently enjoy. Any attempt to limit these network effects is likely to have adverse effects on consumer welfare, denying consumers the benefits of economies of scale and scope. It seems inevitable that competition authorities will have to focus on how to increase competition *for* the relevant digital markets rather than competition *within* these markets.

B. A New Regulatory Authority

To some critics, trial-and-error adjustments to the inexorable progression in digital markets demand constant oversight. As a result, the Stigler Center report recommends the establishment of a new Digital Authority:

Regulation offers a valuable addition to antitrust enforcement. It can help design the digital landscape and align the interests and incentives of platforms and key providers with those of consumers and society Moreover, some of the problems discussed above may have only one structural solution: breakup of the platform. An enforcer might not want to choose that option because it is very disruptive. But less disruptive ex post remedies require ongoing monitoring, which antitrust enforcers are not well-positioned to do. Handing that job off to a regulator might better serve consumers.¹⁷⁶

The Furman Report offers a similar recommendation.¹⁷⁷

¹⁷⁵ See Open App Markets Act, S. 2710, 117th Cong. (2021).

¹⁷⁶ STIGLER COMM., *supra* note 4, at 100–01.

¹⁷⁷ “Solely relying on merger and antitrust enforcement can create delays and uncertainty that can be bad for large incumbents and small entrants alike. Neither is well designed for the intensive and ongoing work that needs to be done to facilitate competition and entry through making it easier for consumers to move and control their data, and for new digital businesses to interoperate with established platforms . . . This is why the Panel is recommending the establishment of a digital markets unit, given a remit to use tools and frameworks that will support greater competition and consumer choice in digital

Thus, we seem to have come full circle on the antitrust debate in the last half century. The Chicago School, notably, Stigler and Peltzman, advanced theories of regulation that stressed the importance of political and economic forces that capture regulatory decisions and compromise efficient outcomes.¹⁷⁸ The deregulation movement, heavily influenced by theoretical and empirical research on this relationship, was persuasive for decades.¹⁷⁹ If monopoly problems arose in deregulated sectors, surely antitrust would be a better solution than the discredited regulatory commissions of the late 19th and early 20th centuries. Now, despite no new theory that would suggest that earlier research was in error, nor new evidence that distinguishes economic regulation to be a more far-reaching success, expert opinion may be turning against antitrust and in favor of regulation.

Calls for a new regulatory body derive in part from a concern that antitrust authorities and the courts have insufficient expertise to design and enforce rules for competition in the digital sector. But amassing such expertise is the mission of the existing antitrust agencies—the Justice Department and/or the Federal Trade Commission, in the case of the United States. The argument for the creation of a new Digital Authority appears to presume that each generation of technology requires its own regulatory agency. That experiment has been conducted. “When it was created in 1887, the Interstate Commerce Commission seemed essential to proper management of railroads,” wrote Peter Huber. “But when it was abolished in early 1996, hardly anyone noticed. We never did create a Federal Computer Commission. The computer industry has nonetheless developed interconnection rules and open systems, set reasonable prices, and delivered more

markets, and backed by new powers in legislation to ensure they are effective.” DIGITAL COMPETITION EXPERT PANEL, *supra* note 4, at 5.

¹⁷⁸ George J. Stigler, *The Theory of Economic Regulation*, 2 BELL J. ECON. AND MGMT. SCI. 3 (1971); Sam Peltzman, *Toward a More General Theory of Regulation*, 19 J. L. & ECON. 211 (1976).

¹⁷⁹ See Clifford Winston, *Economic Deregulation: Days of Reckoning for Microeconomists*, 31 J. ECON LITERATURE 126 (1993); CLIFFORD WINSTON, AEI-BROOKINGS JOINT CENTER FOR REGULATORY STUDIES, GOVERNMENT FAILURE VERSUS MARKET FAILURE: MICROECONOMICS POLICY RESEARCH AND GOVERNMENT PERFORMANCE (2006); DANIEL YERGIN & JOSEPH STANISLAW, THE COMMANDING HEIGHTS: THE BATTLE FOR THE WORLD ECONOMY (1998); ALFRED KAHN, AEI-BROOKINGS JOINT CENTER FOR REGULATORY STUDIES, LESSONS FROM DEREGULATION: TELECOMMUNICATIONS AND AIRLINES AFTER THE CRUNCH (2004); JOHN MICKLETHWAIT & ADRIAN WOOLDRIDGE, THE FOURTH REVOLUTION: THE GLOBAL RACE TO REINVENT THE STATE (2014).

hardware and more service to more people faster than any other industry in history.”¹⁸⁰

Scant analysis has been undertaken to justify current proposals to upend the conventional wisdom that Huber conveys. Agency capture is still widely seen as problematic, and a particular threat when government creates an industry-specific regulator. In fact, the Stigler Report suggests placing the new Authority in the Federal Trade Commission to reduce influence exercised by digital incumbents.¹⁸¹ This follows the observation that the FTC, operating as an economy-wide regulator of business, is less prone to capture than industry-specific regulators.¹⁸² The search for walls to protect regulators concedes the need for defenses, but promotes an unproven methodology. Meanwhile, Lina Khan, perhaps the leading critic of the antitrust status quo, has been appointed Chair of the FTC. This has led to legal challenge by at least one of the digital giants,¹⁸³ but so far seems to prove another point: the existing antitrust structure can accommodate strategic changes in the direction of policy and undertake hearings, studies and enforcement initiatives designed to modify antitrust jurisprudence.

The economic rents available for potential regulatory distribution are enormous. In mid-2022, Amazon, Apple, Facebook, and Google had a combined market capitalization of nearly \$7 trillion. By comparison, the monopoly owned by AT&T had a market capitalization of just \$47 billion (or \$270 billion in mid-2022 dollars¹⁸⁴) when it was sued by the DOJ in 1974.¹⁸⁵ Given the potential rewards available, political coalitions will form to pressure any new Digital Authority in a manner described by Peltzman.¹⁸⁶ Past experience with industry-specific regulators suggests that it is unlikely that the new regulatory authority would single-mindedly pursue the maximization of consumer welfare. Continuing

¹⁸⁰ PETER HUBER, *LAW AND DISORDER IN CYBERSPACE: ABOLISH THE FCC AND LET COMMON LAW RULE THE TELECOM* 9 (1997).

¹⁸¹ STIGLER COMM., *supra* note 4, at 18.

¹⁸² Randal C. Picker & Dennis W. Carlton, *Antitrust and Regulation* 21 (John M. Olin Program L. and Econ., Working Paper No. 312, 2006).

¹⁸³ *Facebook Asks for Recusal of FTC Chair Lina Khan, Claiming Bias*, CBS NEWS (Jul. 14, 2021), <https://perma.cc/APT5-JRQK>.

¹⁸⁴ See *Consumer Price Index, 1913-*, FEDERAL RESRV. BANK MINNEAPOLIS, <https://perma.cc/XS2D-G27W> (last visited Feb. 15, 2023). Adjusted by the CPI-U, average annual index value (estimated for 2021), from the Federal Reserve Bank of Minneapolis.

¹⁸⁵ PETER C. OPPENHEIMER, *THE LONG GOOD BUY: ANALYSING CYCLES IN MARKETS* (2020).

¹⁸⁶ Sam Peltzman, *Toward a More General Theory of Regulation*, 19 J. L. ECON. 211 (1976).

the debate over U.S. antitrust policy and adjusting antitrust to address new challenges in our increasingly digital world would seem to be less of a risk than the establishment of a new regulator with wide-ranging authority over the digital economy.

VI. CONCLUSION

The impetus for revising U.S. antitrust policy clearly derives from the rapid growth of a small number of large digital platforms that now account for a substantial share of the U.S. equity market. It is buttressed by an understandable concern that economic concentration is rising in much of the economy. Both trends are in large part driven by the inexorable economies of scale and scope provided by the internet; the increase in concentration is also present in other developed economies.

Some would abandon the consumer welfare standard that has driven antitrust policy for the last 40 years, while others would strengthen merger policy by lightening the burden of proof required to reject mergers, particularly by the largest tech companies. However the evidence shows that these platforms have not grown through merger but due to internal growth unambiguously suggestive of efficiencies. Others would establish a new regulator to oversee competition policy in the digital sector despite substantial historical evidence demonstrating that industry-specific regulatory agencies are highly vulnerable to capture by producers. In comparison, deregulatory reforms of the 1970s and 1980s have been shown to remove barriers to competition, producing widely beneficial effects for consumers.

Heightened measures to grapple with the threat of monopoly power in the digital sector are necessarily constrained by important economies of scale and scope. Moreover, blocking acquisitions of “nascent” competitors by the large digital platforms puts funding sources for start-ups at risk, potentially undermining technological innovation. Antitrust reform must be careful to avoid these threats to consumer welfare.