

# ANTITRUST REPORT

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# Existing U.S. Antitrust Laws Adequately Promote Competition Goals in High Technology Markets

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High technology markets, such as digital markets, are analyzed by the U.S. antitrust authorities using the same paradigm applied to traditional markets. Some advocates for stronger antitrust enforcement are focused on the largest high tech firms—Facebook, Amazon, Apple, Netflix, Google, and Microsoft (the “FANGs” or “FAANGs”)—which they view as having too much political and economic power.<sup>1</sup> Some would even call for the breaking up of these firms.<sup>2</sup> Proponents of a breakup argue for a shift from the principled “consumer welfare” focus to Progressive objectives, such as income equality and promotion of small businesses. For instance, as part of her Presidential initiatives, Senator Elizabeth Warren has advocated for the breakup of large tech companies and regulation of such companies as “platform utilities” in an effort to protect small businesses from what she considers to be anticompetitive business practices.<sup>3</sup> A September 2016 *Economist* article, titled “A delicate balance,” argues instead for using the existing antitrust paradigm to more aggressively enforce the antitrust laws.<sup>4</sup> As discussed further below, the existing U.S. antitrust laws already provide enough

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<sup>1</sup> CNBC’s Jim Cramer is attributed with introducing the “FANG” acronym originally for Facebook, Amazon, Netflix, and Google. The acronym “FAANG” is for Facebook, Amazon, Apple, Netflix, and Google. Sometimes, the high-tech companies are referred to as “FAMGAs” with Netflix left out of the mix. In any event, the top five high technology firms are often the focus of commentators. *See, e.g.,* Farhad Manjoo, *Tech’s “Frightful Five” Will Dominate Digital Life for Foreseeable Future*, N.Y. TIMES (Jan. 20, 2016), available at <https://www.nytimes.com/2016/01/21/technology/techs-frightful-5-will-dominate-digital-life-for-foreseeable-future.html>; Farhad Manjoo, *Tech’s Frightful Five: They’ve Got Us*, N.Y. TIMES (May 10, 2017), available at <https://www.nytimes.com/2017/05/10/technology/techs-frightful-five-theyve-got-us.html>; Farhad Manjoo, *How the Frightful Five Put Start-Ups in a Lose-Lose Situation*, N.Y. TIMES (Oct. 18, 2017), available at <https://www.nytimes.com/2017/10/18/technology/frightful-five-start-ups.html?rref=collection%2Fsectioncollection%2Fbusiness&action=click&contentCollection=business&region=rank&module=package&version=highlights&contentPlacement=1&pgtype=sectionfront>; Special Report, *A giant problem: The rise of the corporate colossus threatens both competition and the legitimacy of business*, ECONOMIST (Sept. 17, 2016), available at <https://www.economist.com/news/leaders/21707210-rise-corporate-colossus-threatens-both-competition-and-legitimacy-business>.

<sup>2</sup> Paula Dwyer, *Should America’s Tech Giants Be Broken Up?*, BLOOMBERG BUSINESSWEEK (July 20, 2017), available at <https://www.bloomberg.com/news/articles/2017-07-20/should-america-s-tech-giants-be-broken-up>; Jonathan Taplin, *Is It Time to Break Up Google?*, N.Y. TIMES (Apr. 22, 2017), available at <https://www.nytimes.com/2017/04/22/opinion/sunday/is-it-time-to-break-up-google.html>.

<sup>3</sup> Elizabeth Warren, *Here’s How We Can Break Up Big Tech*, MEDIUM (Mar. 8, 2019), available at <https://medium.com/@teamwarren/heres-how-we-can-break-up-big-tech-9ad9e0da324c>.

<sup>4</sup> Special Report, *A Delicate Balance: How to keep superstars on their toes without making them fall over*, ECONOMIST (Sept. 15, 2016), available at <https://www.economist.com/news/special-report/21707054-how-keep-superstars-their-toes-without-making-them-fall-over-delicate-balance> (“Antitrust authorities need to start setting the agenda by examining the ways that digital companies are using network effects to crowd out potential

adaptability to promote competition goals in high technology markets. The laws allow, for example, agencies to explore horizontal dimensions of vertical or conglomerate mergers and to intervene if a transaction is likely to raise costs or degrade quality or innovation. If there are monopsony concerns—for instance, in the acquisition of labor—the antitrust laws can address these concerns as they are not written. There is no need to change the standards applied generally, or as applied to the high technology sectors, specifically.

The Federal Trade Commission (“FTC” or “Commission”) held a series of public hearings beginning in the fall of 2018 (the “FTC Hearings”) to determine, among other things, whether increasing industrial concentration, technological advances, and other developments in the economy warrant changes in either the antitrust laws or enforcement policies.<sup>5</sup> Other topics that had implications for high technology markets include: (a) the economic and legal analysis of vertical and conglomerate mergers; (b) whether the doctrine of potential competition is sufficient to identify and analyze the competitive effects (if any) associated with the acquisition of a firm that may be a nascent competitive threat; (c) the analysis of acquisitions and holding of a non-controlling ownership interest in competing companies; (d) the identification and evaluation of the exercise of monopsony power and buyer power as arising from consolidation (including its impact on labor markets); (e) the identification and evaluation of differentiated but potentially competing technologies, and of disruptive or generational changes in technology, and how such technologies influence competitive effects analyses; (f) the intersection between privacy, big data, and competition; (g) the identification and measurement of market power and entry barriers, and the evaluation of collusive, exclusionary, or predatory conduct or conduct that violates the consumer protection statutes enforced by the FTC, in markets featuring “platform” businesses; (h) the role of intellectual property and competition policy in promoting innovation; and (i) the consumer welfare implications associated with the use of algorithmic decision tools, artificial intelligence, and predictive analytics.

Although the FTC Hearings may not result in a major shift in enforcement policies involving high technology markets, a number of policy and enforcement recommendations offered at the FTC Hearings may be pursued, such as the formal rejection or revision of the 1984 Non-Horizontal Merger Guidelines; and the commissioning of a merger retrospective to evaluate the effectiveness of remedies imposed and the effects of transactions cleared without agency intervention. In February 2019, prior to the completion of all of the hearings, the FTC implemented a proposal discussed at the FTC Hearings and announced the creation of a Technology Task Force—to include 17 attorneys and one Technology Fellow, all of whom have expertise in various aspects of the technology industry—with the responsibility of “examining industry practices and conducting law enforcement investigations” as well as “coordinat[ing] and consult[ing] with staff throughout the FTC on technology-related matters, including prospective merger reviews in the technology sector and reviews of consummated technology mergers.”<sup>6</sup> As observed by FTC Chairman Joseph Simons, “the enforcement community must remain willing to evaluate its own past enforcement policy decisions and to criticise past efforts

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competitors, or inventing new ways of extracting rents by repackaging other people’s content. But the regulators must also beware of trying to load too much onto the rules; the point of antitrust policy is to promote competition and hence economic efficiency, not to solve problems such as inequality.”).

<sup>5</sup> Fed. Trade Comm’n, *Hearings on Competition and Consumer Protection in the 21st Century* (June 20, 2018), available at <https://www.ftc.gov/policy/hearings-competition-consumer-protection>; Matthew Perlman, *Under New Chair, FTC Aims To Up Its Game For 21st Century*, LAW 360 (July 9, 2018), available at <https://www.crowell.com/files/20180709-Under-New-Chair-FTC-Aims-To-Up-Its-Game-For-21st-Century.pdf>.

<sup>6</sup> Press Release, FTC’s Bureau of Competition Launches Task Force to Monitor Technology Markets (Feb. 26, 2018), available at [https://www.ftc.gov/news-events/press-releases/2019/02/ftcs-bureau-competition-launches-task-force-monitor-technology?utm\\_source=govdelivery](https://www.ftc.gov/news-events/press-releases/2019/02/ftcs-bureau-competition-launches-task-force-monitor-technology?utm_source=govdelivery).

if the evidence requires it.”<sup>7</sup> This is particularly true for high technology companies, whose sheer size has inspired calls for antitrust enforcers to break up the companies, while others (taking a longer term view of trends in high technology markets) note that “[m]arket power does not exist if the technology is no longer state of the art.”<sup>8</sup> The FTC’s willingness to act on the very ideas discussed at the FTC Hearings is a positive sign, and suggests that tangible, direct responses to the ideas raised may be expected. That does not necessarily mean that antitrust enforcement action would not be contemplated, as there may be other theories of harm identified by those seeking to break up high technology companies, including those regarding innovation and nascent competition, and the result may differ based on the standard used to evaluate the perceived issue. As Chairman Simons also noted, the consumer welfare standard has recently come under intense scrutiny because of the “perceived failures of that standard to prevent anticompetitive consolidation and conduct.”<sup>9</sup> However, despite the alternatives to the consumer welfare standard discussed during the FTC Hearings, it seems unlikely that the FTC would replace the consumer welfare standard—even in just high technology markets—with a standard that is subjective, untested, and may actually harm consumers. Such a shift would be a shortsighted step backwards in time. Nonetheless, the FTC Hearings may help to inform the applicability of enforcement policy in high technology markets.

Moreover, if Congress desires to address other public interest concerns that may potentially harm consumers or public welfare objectives, it has the tools to do so without muddying the mission of the antitrust agencies and thereby reducing the predictability of the antitrust laws. There may be more effective fora involving economic policy that could supplement antitrust policy in addressing broader societal issues. As discussed in the August 25, 2018 *New York Times* article, *Are Superstar Firms and Amazon Effects Reshaping the Economy?*,<sup>10</sup> until recently, research has focused on questions of monopoly power without linking market concentration to the broader issues that animate economic policy outside of the antitrust context. For instance, Federal Reserve policy might factor in the impact of concentrated corporate power in suppressing wage growth in deciding whether to keep interest rates lower for longer without having undesired inflationary effects. Similarly, the low interest rate policies may not have fostered capital investment spending by corporations because of banking policy disfavoring counting intellectual property or other intangible items as collateral against loans. In addition, pricing algorithms used by online retailers may help to insulate retail prices from common nationwide shocks due to fuel prices, exchange-rate fluctuations or other forces that impact costs. Central banks—and other federal regulatory agencies—may choose to include in their toolkit the macroeconomic and industrial organization economic tools used by antitrust agencies in rendering their policy decisions. Adoption of a more holistic approach is clearly more likely to be successful than trying to use antitrust enforcement alone to address the broader societal issues and further obviates the desirability of altering the well-established consumer welfare standard.

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<sup>7</sup> Julie Jackson, *Simons Stresses Empirical Evidence for Antitrust Claims*, GCR (Mar. 11, 2019), [https://globalcompetitionreview.com/article/usa/1188636/simons-stresses-empirical-evidence-for-antitrust-claims?gator\\_td=%2bY9pBH%2bmYJmBOLJkNPF25J42f94qhuIcb0CQhi8E9u7n0rPqPmJCmRofGjQfTmIwDW9TXhpyM7uNHViJ01WSNHK](https://globalcompetitionreview.com/article/usa/1188636/simons-stresses-empirical-evidence-for-antitrust-claims?gator_td=%2bY9pBH%2bmYJmBOLJkNPF25J42f94qhuIcb0CQhi8E9u7n0rPqPmJCmRofGjQfTmIwDW9TXhpyM7uNHViJ01WSNHK) (quoting FTC Chairman Joseph Simons).

<sup>8</sup> *Id.* (citing Daniel Crane).

<sup>9</sup> *Id.*

<sup>10</sup> See Neil Irwin, *Are Superstar Firms and Amazon Effects Reshaping the Economy?*, N.Y. TIMES (Aug. 25, 2018), available at <https://www.nytimes.com/2018/08/25/upshot/big-corporations-influence-economy-central-bank.html>.

## 2-I. Merger Review Considerations

### A. Technology Markets Dynamics

As in non-technology mergers, the vast majority of high technology acquisitions are not likely to lessen competition. It is not unusual for incumbents to have high “market shares” in these sectors, by virtue of having been “first” to the market. It is extremely risky, though, to rely on “market shares” as a predictor of market power or market structure in the future in high technology sectors. No combination of economists, lawyers, and technologists has thus far demonstrated much competence in performing this task, and for good reason.<sup>11</sup> For illustrative purposes only, consider three examples: (1) *AOL/Time Warner*; (2) *AT&T/Media One*; and (3) *Blockbuster/Hollywood Video*.

The FTC justified the imposition of conditions in the 2000 *AOL/Time Warner* merger on the basis of its finding that AOL, as the “leading provider of narrowband internet access,” was “likely to become the leading provider of broadband internet access as well.”<sup>12</sup> As it turned out, AOL never became a significant, let alone a leading, broadband Internet Service Provider.

Similarly, in the 2000 *AT&T/MediaOne* transaction, the Antitrust Division of the U.S. Department of Justice (“DOJ”) expressed concern with the indirect ownership interests that AT&T would have had in both Excite@Home and Road Runner, two broadband Internet companies, and required AT&T to divest its Road Runner interest.<sup>13</sup> At the time of the acquisition, Excite@Home and Road Runner together served the vast majority of subscribers who received broadband Internet service over cable facilities. The DOJ was concerned that AT&T would be able, post-closing, to facilitate collusion and coordination between Excite@Home and Road Runner in ways that would result in a substantial lessening of competition in the market for aggregation, promotion, and distribution of residential broadband content. However, in 2001, Excite@Home declared bankruptcy.

Finally, in 2005, Blockbuster, the largest video rental chain in America, agreed to buy its closest rival, Hollywood Video. Both companies were losing money and downsizing stores, and the transaction was touted as a way to bolster each as some kind of transformation was required to survive in an era where online DVD rentals through video-on-demand services were being offered to cable and satellite customers. But the FTC was concerned that the combined firm would control more than 50% of the home video rental market, so it refused to grant clearance and Blockbuster abandoned the merger.<sup>14</sup> Today, neither Blockbuster nor Hollywood Video exists, and Netflix—the competitor that the FTC did not credit at the

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<sup>11</sup> See generally Ilene Knable Gotts & Richard T. Rapp, *Antitrust Treatment of Mergers Involving Future Goods*, 19 ANTITRUST 178 (2004).

<sup>12</sup> See Complaint, Fed. Trade Comm’n, *In the Matter of America Online, Inc. and Time Warner Inc.*, FTC Dkt. No. C-3989 (Dec. 14, 2000) at 3.

<sup>13</sup> See Press Release, U.S. Dep’t of Justice, *Justice Department Requires AT&T to Divest MediaOne’s Interest in Road Runner Broadband Internet Access Service* (May 25, 2000), available at [http://www.justice.gov/archive/atr/public/press\\_releases/2000/4829.pdf](http://www.justice.gov/archive/atr/public/press_releases/2000/4829.pdf).

<sup>14</sup> Tom Zeller, Jr., *Blockbuster Ends Bid for Rival*, N.Y. TIMES (Mar. 26, 2005), available at <https://www.nytimes.com/2005/03/26/business/media/blockbuster-ends-bid-for-rival.html>.

time—has grown into one of the largest companies in the world. It is an example of where not only the composition of the market participants has changed in a relatively compressed timeframe, but the very manner in which consumers procure and watch video content has changed.

Technology markets often have distinct economic characteristics that may deter the use of market power even by a firm with significant market shares. Success in these markets turns less on market shares and concentration and more on dynamic efficiency and innovation. As discussed further below, large market shares are less troubling in the “new economy” than traditional sectors, in part because competition from aspiring successor monopolists disciplines behavior. Snapchat, for example, could not charge even a fraction of a cent per message without losing a material number of users to Instagram or other upstart social messaging services. Facebook could not materially increase the quantity of advertisements it displays or degrade its reliability or features meaningfully without opening the door to new entrants.

The dynamic nature of these markets—the fact that they are characterized by rapid technological change—forces competition authorities and courts to pay greater heed to forecasts of future events than is often the case in more traditional markets, even up to the point of forecasting the impact of mergers and potentially anticompetitive conduct on the development of markets for products that do not yet exist. In the recent *AT&T/TimeWarner* merger, for instance, the court’s findings about the “dramatic changes that are transforming [the industry]” were key in its denial of the preliminary injunction.<sup>15</sup> While these industry changes were specific to the media sector, changing industry dynamics and trends are a factor in any antitrust analysis.

In fact, many high technology industries are dynamic and growing exponentially, which reduces certainty regarding future market developments and the wisdom of antitrust intervention. To the extent that customers are not locked in and can easily switch to other free products or services, barriers to entry and expansion are low. Developing and introducing a competing application may not be capital- or time-intensive and the underlying technology might be already available.

As Wharton School Professor Herbert Hovenkamp points out:

[I]nnovation often produces very sudden and quite unpredictable results. It can completely kill an industry in a few years, as electronic calculators did to slide rules in the 1960s. In the process, it can bring an entirely new industry into existence in an equally short time. It can produce results far different than researchers expected, such as the blockbuster drug Viagra, which was the culmination of a research project seeking a treatment for angina, not for erectile dysfunction. Innovation can produce sudden and dramatic shifts in prices or output and almost instantly expand the range of consumer choices. As a result, predicting and

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<sup>15</sup> *United States v. AT&T, Inc.*, 17-cv-2511 (RJL), 310 F. Supp 3d 161, 167, 197 (D.D.C. June 12, 2018). The court indicated that “tectonic changes” were occurring in the video distribution and content industry, including the increase of over-the-top, vertically integrated services (*e.g.*, Netflix and Amazon Prime), the decline in cable subscriptions, digital advertising and the proliferation of video content. *Id.* at 164. The Antitrust Division of the U.S. Department of Justice (“DOJ”) appealed the district court’s decision to the D.C. Circuit. Notice of Appeal, *United States v. AT&T, Inc.*, 17-cv-2511 (RJL), (D.D.C. July 12, 2018), ECF No. 153.

managing competitive processes in highly innovative industries is much more difficult than in markets where technology is very largely constant and most movements affect only the output and price of a set of unchanging products.<sup>16</sup>

Recently, Principal Deputy Assistant Attorney General Andrew Finch noted this tension in evaluating the effect a merger might have on innovation.<sup>17</sup> The DOJ assesses a variety of different factors, including measuring innovation by examining research and development spending; the number of patented inventions; and the strength of patent portfolios based on the number of patents held. However, analyzing this information is not without its challenges. Care must be exercised to distinguish which markets the companies are active in, as well as the stage of innovation. Finch indicates that an important question is whether any other innovation remains in the market after the transaction. The review of these issues is a highly fact-specific inquiry. For instance, both the DOJ and the EU analyzed possible effects on future innovation in crop protection in *Dow/DuPont*,<sup>18</sup> but ultimately reached different conclusions, with the EU requiring divestiture of almost all of DuPont's global R&D organization.

It is well understood that dynamism implies that existing monopoly power may be ephemeral,<sup>19</sup> but its implications for antitrust enforcement are in fact far more complex and multifaceted than that simple thesis suggests. For example, a merger might be defended on the grounds that the combination is necessary to advance the development of a new product—but only if the antitrust agency can be persuaded that the new product will be successful (and thus enhance consumer welfare).

A second implication of dynamism is its inextricable relationship with the economics of innovation—the cycle of investment, product differentiation, and pricing power (the return on risk and entrepreneurship)—that incentivizes innovation in the first place. Dynamic industries display strong economies of scale, tend to have high levels of concentration at any point in time, and are characterized by high profit margins. Not all concentrated industries with high profit margins and large firms are the result of poor competitive outcomes. As Professors Hovenkamp and Shapiro note, “high levels of concentration and high price-cost margins can result quite naturally in today's economy from competitive processes playing

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<sup>16</sup> See Herbert Hovenkamp, *Antitrust and the Movement of Technology*, 19 GEO. MASON L. REV. 1119, 1120–21 (2012).

<sup>17</sup> Andrew Finch, Principal Deputy Ass't Att'y General, Antitrust Div., Dep't of Justice, Remarks at the ABA Antitrust in Asia Conference in Seoul (May 31, 2018), available at <https://www.justice.gov/opa/speech/principal-deputy-assistant-attorney-general-andrew-finch-delivers-remarks-aba-antitrust>.

<sup>18</sup> Press Release, *European Comm'n, Mergers: Commission clears merger between Dow and DuPont, subject to conditions*, (Mar. 27, 2017), available at [http://europa.eu/rapid/press-release\\_IP-17-772\\_en.htm](http://europa.eu/rapid/press-release_IP-17-772_en.htm); Press Release, Fed. Trade Comm'n, *U.S. Dep't of Justice, Justice Department Requires divestitures of Certain Herbicides, Insecticides, and Plastics Businesses in Order to Proceed with Dow-Dupont Merger* (June 15, 2017), available at <https://www.justice.gov/opa/pr/justice-department-requires-divestiture-certain-herbicides-insecticides-and-plastics>.

<sup>19</sup> See, e.g., Douglas H. Ginsburg & Joshua D. Wright, *Dynamic Analysis and the Limits of Antitrust Institutions*, 78 ANTITRUST L.J. 1, 21 (2012); see also Ilene Knable Gotts & Joshua Hazan, *Merger Control in High-Tech Markets*, in 1 DOUGLAS H. GINSBURG: AN ANTITRUST PROFESSOR ON THE BENCH 257, 264 (Nicolas Charbit et al. eds., 2018).

out in ways that benefit consumers”<sup>20</sup> under two scenarios. First, in markets where there are substantial economies of scale, the process of competition can lead to high concentration levels. Thus, higher concentration levels and high price-cost margins do not in and of themselves reflect a competitive enforcement problem. Second, the competitive process itself can result in “winner-take-all” situations in which a few firms have large “market shares” due to their being more efficient than their rivals or having had innovative success. Consistent with modern, industrial organizational economics, “antitrust policy must always be careful not to discourage firms, even large firms, from competing on the merits to attract more customers [and thus grow].”<sup>21</sup> The implications are profound, calling into question the predictive power of the two most commonly used proxies for actionable market power: market concentration<sup>22</sup> and profit margins.<sup>23</sup> Moreover, the costs associated with Type II errors (imposition of remedies on the basis of falsely identified monopoly power) are especially high, as such remedies—often in the form of “sharing” requirements or barriers to consolidation—not only deprive existing firms of the returns on innovation, but signal to future entrepreneurs that the payoff for successful innovation may be subject to regulatory truncation.<sup>24</sup>

Nonetheless, as then-Acting Assistant Attorney General (“AAG”) Renata Hesse recognized, the protection of future innovation in high technology markets is a “decisive factor in . . . enforcement decisions.”<sup>25</sup> Similarly, then-FTC Commissioner Terrell McSweeney

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<sup>20</sup> See Herbert Hovenkamp & Carl Shapiro, *Horizontal Mergers, Market Structure, and Burdens of Proof*, 127 YALE L.J. 1996, 2005 (May 2018) (“Hovenkamp & Shapiro”), available at <https://www.yalelawjournal.org/feature/horizontal-mergers-market-structure-and-burdens-of-proof>.

<sup>21</sup> *Id.* at 2006.

<sup>22</sup> Dissenting Statement of Commissioner Joshua D. Wright, *In re Fidelity Nat’l Financial, Inc.*, F.T.C. File No.131-0159 (Dec. 23, 2013), available at [http://www.ftc.gov/sites/default/files/documents/public\\_statements/dissenting-statement-commissioner-joshua-d.wright-matter-fidelity-national-financial-inc.lender-processing-services-inc.december-2013/131224fidelitywrightstatement.pdf](http://www.ftc.gov/sites/default/files/documents/public_statements/dissenting-statement-commissioner-joshua-d.wright-matter-fidelity-national-financial-inc.lender-processing-services-inc.december-2013/131224fidelitywrightstatement.pdf); American Bar Association, Section of Antitrust Law, MARKET POWER HANDBOOK: COMPETITION LAW AND ECONOMIC FOUNDATIONS (2d ed. 2012); Ilene Knable Gotts, *Market Definition in the Merger Context: Hard Work Pays Off in the Long-Run*, FORDHAM COMPETITION LAW INSTITUTE, ANNUAL PROCEEDINGS, INTERNATIONAL ANTITRUST LAW & POLICY, Ch. 10 (B.E. Hawk ed., 2013).

<sup>23</sup> See Kenneth G. Elzinga & David E. Mills, *The Lerner Index of Monopoly Power: Origins and Uses*, AMERICAN ECONOMIC REVIEW: PAPERS & PROCEEDINGS 101:3 (2011).

<sup>24</sup> See Franklin M. Fisher, *Diagnosing Monopoly*, in INDUSTRIAL ORGANIZATION, ECONOMICS AND THE LAW: COLLECTED PAPERS OF FRANKLIN M. FISHER (MIT Press, 1991) at 3–32. See also *Novell, Inc. v. Microsoft Corp.*, 731 F.3d 1064, 1073 (10th Cir. 2013) (“If the law were to make a habit of forcing monopolists to help competitors by keeping prices high, sharing their property, or declining to expand their own operations, courts would paradoxically risk encouraging collusion between rivals and dampened price competition—themselves paradigmatic antitrust wrongs, injuries to consumers and the competitive process alike. Forcing the firms to help one another would also risk reducing the incentive both sides have to innovate, invest, and expand—again results inconsistent with the goals of antitrust. The monopolist might be deterred from investing, innovating, or expanding (or even entering a market in the first place) with the knowledge anything it creates it could be forced to share; the smaller company might be deterred, too, knowing it could just demand the right to piggyback on its larger rival.”).

<sup>25</sup> Renata B. Hesse, *At the Intersection of Antitrust & High-Tech: Opportunities for Constructive Engagement*: Remarks as Prepared for the Conference on Competition and IP Policy in High-Technology Industries 2 (Jan. 22,



defined the “task of 21st century competition enforcers” as ensuring “that hi-tech markets remain dynamic, fertile grounds for new products and ideas.”<sup>26</sup> For the reasons specified above, history tells us that one needs to be careful in concluding that such “first-mover advantage” or “winner-takes-all” in technology sectors creates an unsurmountable obstacle for new rivals. By way of example only, consider:

- *Personal Computers*—In 1981, IBM had a 1.9% share of personal computers with its ThinkPad.<sup>27</sup> By 1984, that share had increased to its zenith of 63%.<sup>28</sup> By 2003, IBM’s share had dropped to about 5%,<sup>29</sup> and in 2005, it sold its personal computer business to Lenovo.<sup>30</sup> In contrast, HP had achieved a 21% share in 2017, with Dell and Apple accounting for 15.2% and 7.4%, respectively.<sup>31</sup>
- *Internet Browsers*—In 1996—a year after Internet Explorer entered the marketplace—Netscape Navigator accounted for 89.36% of internet browser users.<sup>32</sup> Firefox entered the market in 2002, at which point Internet Explorer had captured over 95% of internet browser users, and Netscape had plummeted to only 3.39%.<sup>33</sup> When Google Chrome launched in September 2008, Internet Explorer had dropped its share to below 60%, followed by Firefox with 33.4%, Safari with 2.8%, Opera with 2.1%, and Chrome with 0.3%.<sup>34</sup> A decade later, Chrome has the highest web browser share with 62.2%, followed by Safari with 13.4%, Firefox with 7.1%, Internet Explorer & Edge with 6.3%, and Opera with 3.0%.<sup>35</sup>
- *Internet Access*—In 1993, AOL expanded its web platform to include email addresses, a Windows version, and access to the rest of the internet, but had fewer

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2014), available at <https://www.justice.gov/atr/file/517776/download>.

<sup>26</sup> Terrell McSweeney, Commissioner, Fed. Trade Comm’n, *The Role of Antitrust Enforcers In Dynamic High-Tech Markets*, Keynote Remarks at the Skadden Arps/Compass Lexecon Symposium 7 (Jan. 27, 2015), available at [https://www.ftc.gov/system/files/documents/public\\_statements/621071/mcsweeney\\_-\\_skadden\\_compass\\_speech\\_1-27-15.pdf](https://www.ftc.gov/system/files/documents/public_statements/621071/mcsweeney_-_skadden_compass_speech_1-27-15.pdf).

<sup>27</sup> Ken Polsson, *Chronology of IBM Personal Computers* (2017), available at <http://pctimeline.info/ibmpc/>.

<sup>28</sup> *Id.* at <http://pctimeline.info/ibmpc/ibm1983.htm>.

<sup>29</sup> *Id.* at <http://pctimeline.info/ibmpc/ibm1996.htm>.

<sup>30</sup> *Id.*; *Lenovo’s market share of personal computer (PC) unit shipments worldwide from 2009 to 2018, by quarter*, STATISTA (2018), available at <https://www.statista.com/statistics/255306/global-pc-market-share-held-by-lenovo-since-the-1st-quarter-2009/>.

<sup>31</sup> *Market share held by the leading personal computer vendors worldwide in 2017*, STATISTA (2008), available at <https://www.statista.com/statistics/267018/global-market-share-held-by-pc-vendors/>.

<sup>32</sup> *Browser Expected to Use in 12 Months*, COLLEGE OF COMPUTING, GEORGIA INSTITUTE OF TECHNOLOGY, available at [https://www.cc.gatech.edu/gvu/user\\_surveys/survey-04-1996/graphs/use/intend\\_browser.html](https://www.cc.gatech.edu/gvu/user_surveys/survey-04-1996/graphs/use/intend_browser.html).

<sup>33</sup> Press Release, *The Incredible Shrinking Browser—Netscape Share Less Than 4% Worldwide, According to WebSideStory’s StatMarket*, WEBSIDESTORY (2007), available at <https://web.archive.org/web/20070211143254/http://www.websidestory.com/company/news-events/press-releases/view-release.html?id=1044&year=2002>.

<sup>34</sup> *Browser & Platform Market Share*, W3 COUNTER, available at <https://www.w3counter.com/globalstats.php?year=2008&month=9>.

<sup>35</sup> *Id.* at <https://www.w3counter.com/globalstats.php?year=2018&month=9>.

than 200,000 users.<sup>36</sup> By 2000, when AOL acquired Time Warner, it was the largest internet provider in the United States.<sup>37</sup> But, the cable companies invested heavily in their networks and were able to provide faster, more robust service. By 2004, AOL had an approximately 25% share of internet customers, with MSN having 10%, and the largest cable company, Comcast, having 8%.<sup>38</sup> By 2009, Time Warner spun off AOL, and in 2015, Verizon acquired AOL. Following Verizon's acquisition of AOL in 2015, Verizon had only 9% of users, while Comcast had 23%, and Time Warner Cable approximately 13%.<sup>39</sup> Verizon continued to lose ground, and by 2017 had less than 7.5%.<sup>40</sup>

- *Search Engines*—AltaVista, Lycos, and Yahoo! were some of the earliest meta-search engines.<sup>41</sup> Lycos and Yahoo! search engines launched in 1994, and AltaVista launched in 1995. AltaVista was the first to offer unlimited bandwidth and natural language searching.<sup>42</sup> In 1997, Yahoo! had 14.8 million unique users, Lycos had 4.9 million, and AltaVista had 4.7 million. Google launched in 1998. By 1999, Yahoo! had 33 million unique users, while Lycos and AltaVista had 14.9 million and 9.2 million, respectively.<sup>43</sup> By 2005, Google had captured 35% of overall executed searches, with Yahoo!, MSN, AOL, and Ask each having almost 32%, 16%, 10% and 5%, respectively.<sup>44</sup> By July 2018, though, Google reportedly had achieved over 90% of executed searches, with Bing holding 3.13% and Yahoo! holding 2.21%.<sup>45</sup> These figures do not account for the searches undertaken on specialized vertical search engines such as Amazon, Yelp, eBay, Expedia, or Trip Advisor.
- *Cell Phones*—Palm, Nokia, and Motorola all had early leads in the cell phone industry, but were successfully challenged by BlackBerry's entrance, and later by

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<sup>36</sup> Lily Rothman, *A Brief Guide to the Tumultuous 30-Year History of AOL*, TIME (May 22, 2015), available at <http://time.com/3857628/aol-1985-history/>.

<sup>37</sup> *Id.*

<sup>38</sup> See Paul Gough, *Amid ISP Consolidation, the Two Biggest—AOL, MSN—Lose Market Share*, MEDIAPOST (Jan. 14, 2004), available at <https://www.mediapost.com/publications/article/6080/amid-isp-consolidation-the-two-biggest-aol-ms.html>.

<sup>39</sup> See FCC, *Internet Access Services as of 06/30/15*, available at <https://www.fcc.gov/internet-access-services-reports>.

<sup>40</sup> Sean Buckley, *From Comcast to Cincinnati Bell: Tracking the Top 15 Residential Broadband Service Providers*, FIERCETELECOM (Aug. 24, 2017), available at <https://www.fiercetelecom.com/telecom/from-comcast-to-cincinnati-bell-tracking-top-15-residential-broadband-service-providers>.

<sup>41</sup> *The History of Search Engines*, WORDSTREAM, available at <https://www.wordstream.com/articles/internet-search-engines-history>.

<sup>42</sup> *Id.*

<sup>43</sup> Neil Gandal, *The Dynamics of Competition in the Internet Search Engine Market* (Jan. 26, 2001), available at <https://escholarship.org/content/qt0h17g08v/qt0h17g08v.pdf>.

<sup>44</sup> *Search engine market shares in Jan 2006*, ZDNET (Mar. 1, 2006), available at <https://www.zdnet.com/article/search-engine-market-shares-in-jan-2006-google-41-4-yahoo-28-7-msn-13-7/>.

<sup>45</sup> *Search Engine Market Share Worldwide*, STATCOUNTER (2018), available at <http://gs.statcounter.com/search-engine-market-share>.

Samsung's BlackJack and Apple's iPhone.<sup>46</sup> In 2007, Nokia's share of cell phone unit sales was almost 38%,<sup>47</sup> with Motorola's share of cell phone unit sales at 14%, and Samsung closely following with 13%.<sup>48</sup> BlackBerry had about 16% around that time, and iPhone almost 13%.<sup>49</sup> In September 2016, BlackBerry announced that it would stop manufacturing phones and focus on running its OS software. Of the 431 million smartphones sold in the fourth quarter of 2016, 207,900 ran the Blackberry OS software, accounting for less than a half of a percent of smartphone software units.<sup>50</sup> In contrast, in July 2018, Apple had 52.2% of cell phone unit sales, with Samsung, LG, and Motorola<sup>51</sup> comprising 26%, 7%, and 3.5%, respectively.<sup>52</sup>

- *Social Media*—As the early leaders in social media, Friendster launched in 2002, and LinkedIn and MySpace launched in 2003. Friendster attracted over 3 million users in its first few months, making it one of the largest social media companies at the time.<sup>53</sup> Facebook entered the market in 2005, and Twitter in 2006, followed by newer social media outlets like Snapchat, Google+ (which is now exiting),<sup>54</sup> Instagram (now Facebook), and others. MySpace quickly gave way to Facebook's popularity.<sup>55</sup>

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<sup>46</sup> Sascha Segan, *Samsung's Smartphone History: From Zero to Galaxy S4*, PCMAG (Mar. 12, 2013), available at <https://www.pcmag.com/feature/309047/samsung-s-smartphone-history-from-zero-to-galaxy-s4>.

<sup>47</sup> See *Over a Billion Mobile Phones Sold in 2007*, TC (Feb. 27, 2008), available at <https://techcrunch.com/2008/02/27/over-a-billion-mobile-phones-sold-in-2007/>.

<sup>48</sup> *Id.*

<sup>49</sup> *Apple Jumps to third place in smartphone market as Nokia declines*, GUARDIAN (Dec. 4, 2008), available at <https://www.theguardian.com/technology/blog/2008/dec/04/gartner-smartphones>.

<sup>50</sup> Jake Swearingen, *BlackBerry Now Controls 0.0 Percent of the Smartphone Market*, NYMAG (Feb. 15, 2017), available at <http://nymag.com/selectall/2017/02/blackberrys-global-market-share-is-now-0-0.html>. Subsequently, TCL, a Chinese company, bought BlackBerry's mobile phone unit and resumed production. See <https://qz.com/1067578/palm-and-blackberry-are-getting-a-reboot-thanks-to-tcl-a-chinese-gadget-maker/>. BlackBerry remains a small supplier at present.

<sup>51</sup> Note that Google had purchased Motorola's cell phone business in 2011 and subsequently sold it to Lenovo in 2014.

<sup>52</sup> *Mobile Vendor Market Share United States of America*, STATCOUNTER (2018), available at <http://gs.statcounter.com/vendor-market-share/mobile/united-states-of-america>.

<sup>53</sup> Gary Rivlin, *Wallflower at the Web Party*, N.Y. TIMES (Oct. 15, 2006), available at [https://www.nytimes.com/2006/10/15/business/yourmoney/15friend.html?\\_r=1](https://www.nytimes.com/2006/10/15/business/yourmoney/15friend.html?_r=1).

<sup>54</sup> Google intends to close the consumer version of its Google+ social media product after the discovery of two bugs that exposed users' profile information. Douglas MacMillan & John D. McKinnon, *Google to Accelerate Closure of Google+ Social Network After Finding New Software Bug*, WALL ST. J. (Dec. 10, 2018), <https://www.wsj.com/articles/google-to-accelerate-closure-of-google-social-network-1544465975?mod=searchresults&page=1&pos=12>.

<sup>55</sup> See Alan Reynolds, *Antitrust for Fun and Profit: The Democrats' Better Deal* (Part 3), CATO INST: Cato at Liberty (Oct. 20, 2017). In 2005, New Corp. purchased MySpace for \$580 million. By 2007, it was valued at an estimated \$12 billion. In 2009, it remained the most visited social networking site in the world, with 75.9 million unique visitors per month. But, by 2011, MySpace's value had fallen to \$35 million and accounted for about five million unique monthly visitors. MySpace's loss was Facebook's gain. Today, Facebook receives over two billion monthly visitors and has a market capitalization of \$528.8 billion. Facebook, Inc., Annual Report on Form 10-K (Jan. 31, 2019).

Today, LinkedIn has over 467 million worldwide members.<sup>56</sup> In 2016, Microsoft acquired LinkedIn for approximately \$26.2 billion, Microsoft's most expensive acquisition.<sup>57</sup> Today, social media use is primarily on Facebook, with newer social media companies such as Twitter and Snapchat having also achieved sizable consumer adoption.<sup>58</sup>

- *Digital Maps*—MapQuest was the early digital map app leader. When Google Maps entered the scene in 2007, MapQuest had 57% of unique monthly users. Google Maps though, quickly overtook MapQuest. By 2008, MapQuest fell to 44.4% and Google achieved 32% of users. Smartphones changed the digital maps market, with Apple Maps and Waze taking a significant portion of the market share. As of April 2018, Google Maps had 154.4 million unique monthly users, Waze had 25.6 million, Apple Maps had 23.3 million, and MapQuest had 20.9 million.<sup>59</sup>
- *Satellite Radio*—Sirius and XM were the only two satellite radio providers in the United States when they merged in 2008. The DOJ cleared the merger despite significant public outcry. A significant rationale for the DOJ's determination was evidence of future technology change and innovation—which has since materialized. In that regard, the DOJ's closing statement noted:

Any inference of a competitive concern was further limited by the fact that a number of technology platforms are under development that are likely to offer new or improved alternatives to satellite radio. Most notable is the expected introduction within several years of next-generation wireless networks capable of streaming Internet radio to mobile devices. While it is difficult to predict which of these alternatives will be successful and the precise timing of their availability as an attractive alternative, a significant number of consumers in the future are likely to consider one or more of these platforms as an attractive alternative to satellite radio. The likely evolution of technology played an important role in the Division's assessment of competitive effects in the longer term because, for example, consumers are likely to have access to new alternatives, including mobile broadband Internet devices, by the time the current long-term contracts between the parties and car manufacturers expire.<sup>60</sup>

Consistent with the DOJ's evaluation of the future of satellite radio, new technology, namely streaming music services, such as Pandora (acquired by SiriusXM in 2018),<sup>61</sup>

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<sup>56</sup> *LinkedIn—Statistics & Facts*, STATISTA, available at <https://www.statista.com/topics/951/linkedin/>.

<sup>57</sup> *Id.*

<sup>58</sup> As of March 14, 2019, Twitter had a market capitalization of \$21.1 billion, and Snapchat had a market capitalization of \$10.4 billion. SNAP US Equity, Historical Price Table, BLOOMBERG (last accessed Mar. 15, 2019); TWTR US Equity, Historical Price Table, BLOOMBERG (last accessed Mar. 15, 2019).

<sup>59</sup> *Most popular mapping apps in the United States as of April 2018*, STATISTA (2018), available at <https://www.statista.com/statistics/865413/most-popular-us-mapping-apps-ranked-by-audience/>.

<sup>60</sup> U.S. Dep't of Justice, *Statement of the Department of Justice Antitrust Division on its Decision to Close its Investigation of XM Satellite Radio Holdings Inc.'s Merger with Sirius Satellite Radio Inc.* (Mar. 24, 2008), available at [https://www.justice.gov/archive/opa/pr/2008/March/08\\_at\\_226.html](https://www.justice.gov/archive/opa/pr/2008/March/08_at_226.html).

<sup>61</sup> Anne Steele & Allison Prang, *Sirius XM to Buy Pandora in Bet on Streaming Music*, WALL ST. J. (Sept.

Apple Music, and Spotify, were developed, offering consumers an alternative means of enjoying digital music.<sup>62</sup> Today, Sirius XM Holdings Inc. has a market capitalization of \$31.1 billion, but only 32.7 million paid subscribers.<sup>63</sup> Meanwhile, Spotify, which entered the market at the end of 2008, had approximately 70 million paid subscribers (and many more non-paying users) by the end of 2017.<sup>64</sup>

The above examples illustrate how quasi-competitive “markets” have successive “winners” due to underlying technology changes. The prospect of rapid growth and profits encourages new companies to raise capital and enter. This is particularly true in sectors with low switching costs. As mentioned above, the existence of these dynamics, in turn, serves as a threat to incumbents. Such market conditions deter the exercise of market power, including providing incumbents with incentives to innovate.

A recent *Wall Street Journal* article by Christopher Mims, entitled “*Why Do the Biggest Companies Keep Getting Bigger? It’s How they Spend on Tech*,”<sup>65</sup> indicates that the secret of success for the FANGs and other high technology incumbents in “winner-take-all” markets is how much they invest in their *own* internet technology (referred to as “IT Intensity”). One of the benefits of such investment is increased productivity. But, as Mims indicates, just spending on technology does not always work (citing Sears’ investment in IT in the 1980s did not protect Sears from the expansion of Walmart, given Walmart’s more effective systems). Acquisitions can be one way in which firms position themselves to compete against larger firms’ IT Intensity. At the same time, Professor Daniel Sokol’s article, entitled “*Vertical Mergers and Entrepreneurial Exit*,” posits that the antitrust authorities should permit transactions of smaller rivals by larger firms in order to provide “entrepreneurial opportunities” for startups and to accelerate innovation. Such a global approach, however, is not likely to be adopted by the agencies, but nonetheless should be factored into the analysis.<sup>66</sup>

As mentioned above, the FTC Hearings featured discussions that specifically focused on new technologies and markets featuring “platform” businesses.<sup>67</sup> There are situations in

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24, 2018), available at <https://www.wsj.com/articles/sirius-xm-is-buying-pandora-1537788241>.

<sup>62</sup> Micah Singleton, *SiriusXM’s Pandora Acquisition Shows How Fast the Streaming Market Is Growing*, THE VERGE (Sept. 28, 2018), <https://www.theverge.com/2018/9/28/17911396/siriusxm-pandora-acquisition-streaming-market-growing>.

<sup>63</sup> *SiriusXM Beats 2017 Subscriber and Financial Guidance*, INSIDERADIO (Jan. 11, 2018), available at [http://www.insideradio.com/free/siriusxm-beats-subscriber-and-financial-guidance/article\\_a38d817c-f6af-11e7-9e50-ab44e71c3cb0.html](http://www.insideradio.com/free/siriusxm-beats-subscriber-and-financial-guidance/article_a38d817c-f6af-11e7-9e50-ab44e71c3cb0.html).

<sup>64</sup> *Numbers of paying Spotify subscribers worldwide from July 2010 to January 2018*, STATISTA (2018), available at <https://www.statista.com/statistics/244995/number-of-paying-spotify-subscribers/>.

<sup>65</sup> Christopher Mims, *Why Do the Biggest Companies Keep Getting Bigger? It’s How they Spend on Tech*, WSJ (July 26, 2018), available at <https://www.wsj.com/articles/why-do-the-biggest-companies-keep-getting-bigger-its-how-they-spend-on-tech-1532610001>; James Bessen, *The Policy Challenge of Artificial Intelligence*, CPI (June 2018), available at <https://www.competitionpolicyinternational.com/wp-content/uploads/2018/06/CPI-Bessen.pdf>.

<sup>66</sup> D. Daniel Sokol, *Vertical Mergers and Entrepreneurial Exits*, available at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3217095](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3217095).

<sup>67</sup> Press Release, Fed. Trade Comm’n, *FTC Announces Hearings On Competition and Consumer Protection*

which a transaction can raise concerns, particularly where the combination raises significant entry barriers. For instance, network effects may result in the anticompetitive exclusion of potential competitors. A “networked” industry is one in which the value of a good or service increases as it is more widely used by others. When networks compete, the larger network can offer consumers a cost or quality advantage, which, in turn, continues to attract additional consumers. This, in turn, may cause the larger network to grow, while smaller networks shrink. As this effect continues, the market may experience “tipping.”<sup>68</sup> Tipping occurs when a sufficient number of users choose a particular product such that other consumers also move towards the product, which results in that product receiving sufficient scale to obtain market power. Once consumers make their initial choices in technology markets, network effects can reinforce path dependency, thereby preventing actual or potential competitors from competing, even if those competitors provide a superior product. In some rare instances, the combination of two firms that had competing platforms may cause a tipping effect.

The FTC staff in 1996 issued its *Competition Policy in the New High-Tech, Global Marketplace* report, which discussed the competitive analysis of both unilateral and joint conduct in industries subject to network effects,<sup>69</sup> and in 2007 issued a separate report entitled *Broadband Connectivity Competition Policy*, which addressed similar issues in the broadband internet access service market.<sup>70</sup> The 1996 report indicated that a topic of fierce debate during the hearings was whether the existence of network effects was anti- or

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*in the 21st Century*, available at <https://www.ftc.gov/news-events/press-releases/2018/06/ftc-announces-hearings-competition-consumer-protection-21st>. Participants in the FTC Hearings offered varying definitions of a “platform” business. See Fed. Trade Comm’n, *Competition and Consumer Protection in the 21st Century* 151–52 (Oct. 15, 2018) (Ben Thompson) (distinguishing between a platform, which does not offer open access to its technology, but facilitates a connection between third parties and the user and allows third parties to build upon the closed technology, and an aggregator, which offers open source technology, acts as an intermediary between third parties and the user, attracts third parties by delivering a superior user experience, and derives market power from the network effects of having a larger number of users); *id.* at 27 (David Evans) (noting that platforms operate as an intermediary that connect two groups with indirect network effects in order to reduce transaction costs and facilitate exchange); *id.* at 56–57 (Marc Rysman) (describing two-sidedness as a continuum and observing that “in the perfect world, we would be talking about two-sided strategies, not two-sided markets” because firms choose whether to be a platform or to internalize one side of the two-sided market and become a reseller); Fed. Trade Comm’n, *Competition and Consumer Protection in the 21st Century* 6 (Oct. 17, 2018) (Richard Schmalensee) (defining a platform as a business that facilitates interactions between members of two distinct groups that creates indirect network effects and network externalities).

<sup>68</sup> Constance K. Robinson, Director of Operations and Merger Enforcement, Antitrust Div., U.S. Dep’t of Justice, *Network Effects In Telecommunications Mergers—MCI WorldCom Merger: Protecting The Future Of The Internet* (Aug. 23, 1999), available at <http://www.usdoj.gov/atr/public/speeches/3889.htm>.

<sup>69</sup> Fed. Trade Comm’n, *Anticipating the 21st Century: Competition Policy in the New High-Tech, Global Marketplace* (May 1996) (“FTC Competition Policy”), [https://www.ftc.gov/system/files/documents/reports/anticipating-21st-century-competition-policy-new-high-tech-global-marketplace/gc\\_v1.pdf](https://www.ftc.gov/system/files/documents/reports/anticipating-21st-century-competition-policy-new-high-tech-global-marketplace/gc_v1.pdf). The FTC also published a report on consumer protection policy following its October 1995 hearings. Fed. Trade Comm’n, *Anticipating the 21st Century: Consumer Protection Policy in the New High-Tech, Global Marketplace* (May 1996), [https://www.ftc.gov/system/files/documents/reports/anticipating-21st-century-competition-policy-new-high-tech-global-marketplace/gc\\_v2.pdf](https://www.ftc.gov/system/files/documents/reports/anticipating-21st-century-competition-policy-new-high-tech-global-marketplace/gc_v2.pdf).

<sup>70</sup> Fed. Trade Comm’n, *Broadband Connectivity Competition Policy* (June 2007) (“FTC Broadband Competition Policy”), <https://www.ftc.gov/sites/default/files/documents/reports/broadband-connectivity-competition-policy/v070000report.pdf>.

pro-competitive.<sup>71</sup> As the FTC explained, “[c]ompetition occurs both among networks and among individual suppliers within each network, but failure of the former can influence the latter significantly. When network effects pervade a large segment of the marketplace, one may thus witness an increase in the rapid disappearance of products and technologies that cannot sustain a parallel existence with the dominant system. To counteract this effect, standardization and interface controls may be employed to facilitate competition at the supplier level when competition at the network level fails.”<sup>72</sup> In certain technology industries, this standardization requires some degree of interoperability, or compatibility of hardware and software made by competing or complementary suppliers.<sup>73</sup> The FTC noted that “[a] combination of customer-side scale economies and consumer switching costs may cause dominance of a firm in control of an interface standard to be unusually enduring and give reason for careful scrutiny of possible anticompetitive practices.”<sup>74</sup> The FTC further noted that antitrust policy governing scrutiny of network effects must be careful to not decrease the incentives to generate new networks and, when necessary, to only impose remedies that decrease, rather than increase, competitive problems.<sup>75</sup> The FTC’s 2007 broadband report examined issues of competition and consumer protection in the context of the debate surrounding net neutrality. The broadband report focused on, among other things, the effects of vertical integration in broadband markets. The report acknowledged that vertical integration may be procompetitive if, for example, it facilitates network or content and applications development, and concluded that “notion that vertical integration tends generally to be anticompetitive has been widely rejected in antitrust law and economics for several decades.”<sup>76</sup>

The FTC Hearings examined whether contemporary industry practices in networked industries, and in particular, for multi-sided platforms, continue to present competition and consumer protection concerns like those discussed in the prior reports; and the welfare effects of regulatory intervention to promote standardization and interoperability.

Some of the potential competitive harms created by platforms include the quashing of competition outside of the platform, a reduction of competition from users of the platform, the creation of negative externalities for consumers outside of the platform, and the facilitation of collusion among platform participants.<sup>77</sup> As to vertically integrated platforms, potential harms identified included the platform giving preferential treatment to its own products and services at the expense of those of its rivals; and the act of vertical integration itself, whereby a platform business either implements an aggressive acquisition strategy to take out its rivals or engages in “copycat innovation” to squash actual or potential

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<sup>71</sup> FTC Competition Policy at 2.

<sup>72</sup> *Id.* at 14.

<sup>73</sup> *Id.*

<sup>74</sup> *Id.* at 6.

<sup>75</sup> *Id.*

<sup>76</sup> FTC Broadband Competition Policy, *supra* n.62, at 70.

<sup>77</sup> See Fed. Trade Comm’n, *Competition and Consumer Protection in the 21st Century* 151–52 (Oct. 17, 2018) (Judith Chevalier).

competitors.<sup>78</sup> In both respects, the extent to which consumers were harmed was debated, as participants weighed consumers' ability to be active on multiple networks against the costs of doing so and the technological feasibility of porting one's data from one platform to another.<sup>79</sup>

Following the FTC Hearings, the critical questions that remain are whether the network effects are permanent, whether consumers will be barred or benefitted as a result, and in the context of a merger in a networked industry, whether the combination will foster further innovation by third parties to bypass the barrier.<sup>80</sup> As recognized during the FTC Hearings, and consistent with traditional antitrust theory, network effects, including those that arise from multi-sided platforms, can benefit consumers. During the FTC Hearings, economist David Evans explained, "platforms connect two groups with indirect network effects, and they do that to reduce transaction costs and to facilitate exchange. So the platform operates as an intermediary between two sides. It does that in order to facilitate good exchangers or good interactions and to basically reduce transaction costs between those two groups."<sup>81</sup> The FTC Hearings' focus on both competition and consumer protection highlighted the fact that despite the benefits that accrue to consumers from network effects, the value of consumers' data—the "price" paid to participate in certain networked services—is infrequently taken into account. As multi-sided platforms continue to attract users, and users seek to protect their data or prevent it from being collected at all, the FTC and DOJ may need to evaluate the use and value of the data consumers contribute to the platforms, and whether the benefits of the network effects associated with technology platforms outweigh any perceived harms that may result from data breaches or reduced privacy.

The potential loss of rivalry between merging parties may be mitigated if there are other potential competitors or recent entrants that can ensure that the marketplace remains competitive. This is more likely to occur in nascent or internet applications that are rapidly evolving. For instance, in May 2010, after thoroughly reviewing the transaction, the FTC closed its investigation of Google's acquisition of AdMob based on, among other things, Apple's entry into the same mobile advertising network space.<sup>82</sup> Mobile ad networks sell

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<sup>78</sup> *Id.* at 108–09 (Nicolas Petit).

<sup>79</sup> Fed. Trade Comm'n, *Competition and Consumer Protection in the 21st Century* 48–53 (Oct. 15, 2018) (Catherine Tucker); *see also id.* at 83 (David S. Evans) (identifying as an area of concern the intersection between local network effects and the fixed cost of operating a platform at a national or global level); *id.* at 87 (Catherine Tucker) (suggesting that analyzing the fixed cost of operating a platform at a national or global level, rather than a local level, is a question of economies of scale, rather than one of network effects).

<sup>80</sup> As an example, Apple's iPhone uses a proprietary operating system to run its app store, which generates network effects as more app developers configure their apps for compatibility with Apple's operating system. This did not, however, prevent Google from competing on the Android operating system to develop its own app store. *See* Saidat Giwa-Osagie & Rachel Coster, *App Store vs Google Play*, FUELED (Aug. 30, 2017), *available at* <https://fueled.com/blog/app-store-vs-google-play/>.

<sup>81</sup> *See* Fed. Trade Comm'n, *Competition and Consumer Protection in the 21st Century* 27 (Oct. 15, 2018) (David S. Evans).

<sup>82</sup> Press Release, Fed. Trade Comm'n, *FTC Closes its Investigation of Google AdMob Deal* (May 21, 2010), *available at* <https://www.ftc.gov/news-events/press-releases/2010/05/ftc-closes-its-investigation-google-admob-deal>.



advertising space for mobile publishers, who create applications and content for websites configured for mobile devices, including Apple's iPhone. The FTC's investigation found that Google and AdMob had competed head-to-head, with a notable increase in intensity during the year preceding the deal's announcement. The FTC concluded that this competition had spurred innovation and allowed mobile publishers to keep a large share of the revenue from the sale of their ad space. The FTC's concerns, however, were outweighed by evidence that Apple, which had recently acquired Quattro Wireless (the third-largest mobile advertising network), had launched its own iAd service and was poised to become a strong competitor. Moreover, the FTC found that "[a]s a result of Apple's entry (into the market), AdMob's success to date on the iPhone platform is unlikely to be an accurate predictor of AdMob's competitive significance going forward, whether AdMob is owned by Google or not."<sup>83</sup> In fact, Apple had indicated that its ads would be more interactive than on the other advertising services.<sup>84</sup> Apple experienced some success with iAd, but as early as 2011, slashed the prices on iAd in response to price competition.<sup>85</sup> In December 2011, Google had an estimated 24% share of U.S. mobile display-ad revenue, followed by Millennial Media (17%), Apple (15%), Jumptap (10%), Yahoo (8%), and Microsoft (6%).<sup>86</sup> In 2016, Apple discontinued iAd. Today, Google and Facebook lead digital advertising, but increasingly face competition from a number of "advertising 'upstarts' " that are poised to break up the "digital duopoly."<sup>87</sup> These advertising competitors include Verizon Communication's Oath and Microsoft, popular apps, such as Snapchat and Twitter, and Amazon, which is poised to become a stronger player in the digital advertising space because of its ability to leverage its storehouse of consumer data to support its advertising operations.<sup>88</sup> Apple's iAd did not grow into the fierce competitor the FTC predicted. Google's acquisition of AdMob has been targeted as a transaction that

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<sup>83</sup> *Id.*

<sup>84</sup> Tom Krazit, *Apple strikes back at Google with iAd*, CNET (Apr. 8, 2010), available at <https://www.cnet.com/news/apple-strikes-back-at-google-with-iad/>. It is worth noting that Apple discontinued the iAd App network as of June 30, 2016, instead converting to an automated system that more closely competed against Google's AdSense digital ad network. Benjamin Mayo, *Apple announces it will discontinue iAd App Network for developers on June 30th* (Jan. 15, 2016), available at <https://9to5mac.com/2016/01/15/apple-will-discontinue-iad-app-network-for-developers-on-june-30th/>. Apple had reportedly only captured a 5.1% share of mobile display advertising revenues. Nick Statt, *Apple confirms it's backing away from iAd on June 30th* (Jan. 15, 2016), THE VERGE, available at <https://www.theverge.com/2016/1/15/10777496/apple-iad-app-shutdown-june-30th-confirmation>.

<sup>85</sup> See Logan M. Breed & Justin Bernick, *Apps, Ads, and Antitrust: A Retrospective on Google's Purchase of AdMob*, COMP. POL'Y INT'L 4-5 (2014), available at <https://competitionpolicyinternational.com/assets/Uploads/BreedBernickMay-142.pdf>; Anthony Ha, *Is Apple Struggling with Mobile Advertising?*, ADWEEK (July 7, 2011), <https://www.adweek.com/digital/apple-struggling-mobile-advertising-133249/>.

<sup>86</sup> Emily Steel & Jessica E. Vascellaro, *A Rare Apple Compromise*, WALL ST. J. (Dec. 13, 2011), [https://www.wsj.com/articles/SB10001424052970204336104577094872512502942?mod=article\\_inline](https://www.wsj.com/articles/SB10001424052970204336104577094872512502942?mod=article_inline).

<sup>87</sup> David Doty, *The Race to No. 3 In Digital Advertising*, FORBES (June 11, 2018), available at <https://www.forbes.com/sites/daviddoty/2018/06/11/the-race-to-no-3-in-digital-advertising/#2ae1be2b177a> (citing Alexandra Bruell, *Rivals Chip Away at Google's and Facebook's U.S. Digital Ad Dominance, Data Show*, WALL ST. J. (Mar. 19, 2018), available at <https://www.wsj.com/articles/rivals-chip-away-at-googles-and-facebooks-u-s-digital-ad-dominance-data-show-1521457321>).

<sup>88</sup> *Id.*; Julie Creswell, *Amazon Sets its Signs on the \$88 Billion Online Ad Market*, N.Y. TIMES (Sept. 3, 2018), available at <https://www.nytimes.com/2018/09/03/business/media/amazon-digital-ads.html>.

should be unwound, or at a minimum, the subject of a merger retrospective. Evaluating this particular transaction may allow the FTC to ascertain whether Google's whether the transaction eliminated a nascent competitor and paved the way for its current position in digital advertising. Importantly, a close review of this transaction may give the FTC insight into tech companies' use and monetization of consumers data. Indeed, some attribute Apple's failure to unseat AdMob's leading position to its refusal to monetize its users' data.<sup>89</sup>

"Big Data" can also raise interesting additional questions in a merger context. In May 2015, then-FTC Bureau of Competition Director Deborah Feinstein noted:

[M]arket definition must account both for the dynamic nature of data, which must be updated and verified to retain its value, as well as the way that firms use data to compete.<sup>90</sup>

Though a hot topic today, it remains debatable whether data itself should be considered a relevant product market in the merger context, or whether data is simply an input to other products that are sold or provided to consumers.<sup>91</sup> Data-rich companies, though, can be a source of innovation and benefit consumers with their improved and expanded offerings and/or pass-through cost savings. Geoffrey Manne and R. Ben Sperry suggest that:

The size of a database (*i.e.*, the number of consumers on whom data is collected) doesn't seem like a particularly relevant aspect of product quality in and of itself. . . . [T]o the extent that collection of data from more consumers is a function of increasing network efforts, such accumulations of data are almost certainly more likely to correlate with improvements in product quality rather than degradations.<sup>92</sup>

At the same time, in some instances, the accumulation of Big Data in a transaction could raise entry barriers. As Feinstein notes:

First, the data itself could be publicly available, but existing firms have sophisticated analytic techniques that make it difficult for new entrants to effectively make use of the data to compete. Second, the data itself is not publicly available, and the costs of matching existing competitors' data sets raise impossibly high barriers to entry.<sup>93</sup>

Makan Delrahim, who has stated that he is "wary of claims that 'big data' is *necessarily* a barrier to entry or that, *on its own*, it constitutes evidence of market power or an unfair advantage," cautions that "[a]ntitrust agencies need to appreciate differences in data and

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<sup>89</sup> David Raphael, *Apple's Monetization Dilemma*, MEDIUM (Feb. 17, 2019), [https://medium.com/@davidraphael\\_88276/apples-monetization-dilemma-a73d6243428a](https://medium.com/@davidraphael_88276/apples-monetization-dilemma-a73d6243428a).

<sup>90</sup> Deborah Feinstein, *Big Data in a Competition Environment*, CPI: ANTITRUST CHRONICLE (May 2015), available at <https://www.competitionpolicyinternational.com/assets/Uploads/FeinsteinMay-152.pdf>.

<sup>91</sup> Shepard Goldfein & James A. Keyte, *Antitrust and 'Big Data': New Terrain for Inquiry?*, N.Y.L.J. (Mar. 7, 2016), available at <https://www.law.com/newyorklawjournal/almID/1202751429490/> (citing FTC Commissioner Pamela Jones Harbour & Tara Isa Koslov, *Section 2 in a Web 2.0 World: An Expanded Vision of Relevant Product Markets*, 76 ANTITRUST L.J. 769, 773 (2010); Maurice E. Stucke & Allen P. Grunes, *Big Data and Competition Policy* (Oxford University Press 2016) 15–28 (treating Big Data as a unique factor of predictions).

<sup>92</sup> Geoffrey A. Manne & R. Ben Sperry, *The Problems and Perils of Bootstrapping Privacy and Data into An Antitrust Framework*, CPI: Antitrust Chronicle (May 2015), at 4–5.

<sup>93</sup> *Id.*; Goldfein & Keyte, *supra* note 85, at 5 (citing Feinstein, *Big Data in a Competition Environment*, at 3–4).

assess data issues on a case-by-case basis,”<sup>94</sup> and identified several ways that data may benefit consumers: (1) improving the quality of existing goods and services and creating new ones; (2) enhance competition by facilitating consumers’ ability to compare prices; and (3) offering zero price services to consumers in exchange for data that drives targeted advertising.<sup>95</sup> Delrahim also rejects the notion that data is necessarily a barrier to entry, noting that data: (1) is non-rivalrous; (2) is generally widely available and inexpensive to collect; (3) has a short shelf-life; (4) is typically an input, not the product itself, so different amounts or types of data may be sufficient for a new entrant.<sup>96</sup> During the FTC Hearings, participants likewise discussed whether Big Data constitutes a barrier to entry. Allen Grunes of The Konkurrenz Group raised the issue of whether the answer to that question turns on whether Big Data is a critical input.<sup>97</sup> As an example of an instance where Big Data constitute a critical input and, therefore, a barrier to entry, Grunes pointed to *Nielsen/Arbitron*.<sup>98</sup> Grunes observed that there may be situations where the data involved in a transaction is not considered to be a critical input, but that the scaling up of the data is what creates the high barrier to entry.<sup>99</sup> Similarly, where the data at issue feeds into a feature like algorithmic learning, a barrier to entry may exist. On the other side of the issue, however, are concerns that these concerns do not constitute an antitrust issue, particularly where the firm that has developed and scaled its Big Data spent considerable resources to do so.<sup>100</sup> And relatedly, many participants identified instances where a new entrant without Big Data has become competitive with or taken over an incumbent that did possess Big Data.<sup>101</sup> This

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<sup>94</sup> Makan Delrahim, Assistant Attorney General, Antitrust Div., U.S. Dep’t of Justice, Remarks as Prepared for Delivery at University of Haifa: “Start Me Up”: Start-Up Nations, Innovation, and Antitrust Policy 9 (Oct. 17, 2018), *available at* <https://www.justice.gov/opa/speech/file/1101506/download>.

<sup>95</sup> *Id.* at 10–11.

<sup>96</sup> *Id.* at 12–13.

<sup>97</sup> Fed. Trade Comm’n, *Competition and Consumer Protection in the 21st Century* 50–51 (Nov 7, 2018) (Allen Grunes).

<sup>98</sup> *Id.*; *see also* Analysis of Agreement Containing Consent Order to Aid Public Comment, *In the Matter of Nielsen Holdings N.V. and Arbitron Inc.*, File No. 1310058 (“Sufficient and timely entry or expansion into the market for national syndicated cross-platform audience measurement services is unlikely to deter or counteract the anticompetitive effects of the proposed acquisition. In order to offer national syndicated cross-platform audience measurements, a firm must have access to television audience data with individual-level demographic data. Establishing the infrastructure to recruit and maintain a representative panel of individuals needed to provide the television audience measurement component of a national syndicated cross-platform audience measurement service requires substantial upfront and ongoing investments. New entrants would also have to develop or license technology capable of collecting and generating the underlying data needed to provide a national syndicated cross-platform audience measurement service. Further, in order to attract customers, a new entrant must establish a strong reputation for quality and reliability in audience measurement. These significant barriers ensure that entry would not be timely, likely, or sufficient to counteract the anticompetitive effects of the proposed acquisition for several years at a minimum.”).

<sup>99</sup> Fed. Trade Comm’n, *Competition and Consumer Protection in the 21st Century* 51 (Nov 7, 2018) (Allen Grunes).

<sup>100</sup> *Id.* at 52–53 (Renata Hesse).

<sup>101</sup> Fed. Trade Comm’n, *Competition and Consumer Protection in the 21st Century* 99 (Nov. 6, 2018) (Ginger Zhe Jin) (identifying as such examples Google overcoming Yahoo and Facebook overcoming MySpace). Florian

perspective also raised the question of whether Big Data itself could constitute an essential facility, or a firm's failure to share it could constitute a refusal to deal.<sup>102</sup>

The focus on a company's compilation—and use—of data is not new. As pointed out by George Mason University Professor Timothy J. Muris and former FTC General Counsel Jonathan E. Nuechterlein:

More than 80 years ago, the A&P grocery chain was a vertically integrated retailer that made use of unprecedented scale and innovation to offer consumers a wider range of products than the competition and at lower prices . . . A&P also succeeded because it did what many tech companies do today, albeit amid much controversy: use data to create greater consumer value. For example, A&P used such data to meet previously unrecognized regional preferences: “Philadelphians, it found, liked their butter lightly salted, with a light straw color, whereas New Englanders preferred more salt and a deeper yellow coloration.” And the company's “mass of sales data allowed A&P's bakeries to forecast demand with a high degree of accuracy, minimizing returns of stale bread and doughnuts” and thus reducing costs and ultimately retail prices.<sup>103</sup>

Nor, as illustrated by A&P, is Big Data limited to higher technology markets. Merely possessing a large amount of data, however, does not automatically convey lasting market power.<sup>104</sup> Others have challenged the notion that Big Data necessarily erects entry barriers that cannot be surpassed. For example, during the FTC Hearings, Daniel Sokol described the rise of Tinder, a dating application, as it used innovation to overcome rival incumbents' possession of Big Data:

There were plenty of dating websites before that. They had tons of data. But do you know what they didn't have, a great idea, which is apparently, from what I understand from my students, it is not dating as I would imagine, it is dating in quotes. But this idea was a binary, do I like them, do I not like them? One is them is left; the other one is right swipe. I do not

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Zettelmeyer of Northwestern's Kellogg School of Management noted that in an attempt to address concerns about the advantage that may result from advances in artificial intelligence, industry players created the Open AI initiative, “which is precisely about trying to make sure that a lot of the advances in that area are in the public domain somehow in order to be able to be shared across everybody because of the fact that there is a concern that you might get too much of an advantage otherwise.” *Id.* at 102 (Zettelmeyer).

<sup>102</sup> See Fed. Trade Comm'n, *Competition and Consumer Protection in the 21st Century* 92 (Nov 7, 2018) (Daniel Sokol).

<sup>103</sup> Timothy J. Muris and Jonathan E. Nuechterlein, *Antitrust in the Internet Era: The Legacy of United States v. A&P*, George Mason University Law & Economics Research Paper Services 18-B, at 1, 8 (citations omitted), available at <https://ssrn.com/abstract=3186569>. Another high profile example mentioned during the FTC's hearings was Target's efforts in 2002 to develop a “pregnancy prediction score,” based on a set of products purchased by pregnant women, that would allow it to identify which of its customers who had not signed up for a baby registry were expecting a child and to convey certain advertisements to those customers to lure them into stores. Fed. Trade Comm'n, *Competition and Consumer Protection in the 21st Century* 159 (Nov. 7, 2018) (Allie Bohm); see also Charles Duhigg, *How Companies Learn Your Secrets*, N.Y. TIMES (Feb. 16, 2012), <https://www.nytimes.com/2012/02/19/magazine/shopping-habits.html>.

<sup>104</sup> Joe Kennedy, *The Myth of Data Monopoly: Why Antitrust Concerns About Data Are Overblown*, Information Technology & Innovation Foundation (Mar. 2017); see also Fed. Trade Comm'n, *Competition and Consumer Protection in the 21st Century* 36 (Nov. 7, 2018) (Alexander Okuliar) (explaining that the size of a data set does not necessarily “make for a unique competitive problem,” and that the commercial value of a data set varies by, among other attributes, its form, the amount of time before it becomes stale, and the intended use).

know which one and I do not want to know. The point is, all of a sudden, it did not matter that Match.com and eHarmony and all these sites had tons of data, they did not have that breakthrough idea. Tinder did.<sup>105</sup>

Precedent shows that the agencies are able to discern when data compilation is likely to be problematic—and are able to address this concern through remedies.<sup>106</sup> For instance, the DOJ’s review of the *Thomson/Reuters* transaction provides an interesting and potentially applicable precedent: in that matter, the DOJ found the need of a rival to collect the financial data that would be necessary to compete with the merged firm in the market for data terminals would create a significant barrier to entry and conditioned the approval of the transaction on the combined firm making copies of its database available for purchase by existing and new potential competitors.<sup>107</sup> Evaluating database mergers in the *Thomson/Reuters* tradition has continued into the digital era.

In CoreLogic, Inc.’s acquisition of DataQuick Information Systems, Inc., for instance, the FTC alleged CoreLogic and DataQuick were two of three providers of national assessor and recorder bulk data, and that the merger would have led to both coordinated and unilateral effects. As part of the remedy, the FTC required CoreLogic to license to Renwood RealtyTrac historical data and future developed data for up to seven years, as well as to give Renwood RealtyTrac access to certain ancillary data sets, customer information, and tech support. In CoStar’s acquisition of LoopNet, the FTC alleged that the acquisition would reduce competition for listing databases and information services. It ultimately conditioned its approval on LoopNet selling its ownership interest in Xceligent, another database competitor, and imposed various conduct restrictions to assure Xceligent’s continued viability.

Thus, the concerns surrounding the aggregation of data are not new, and precedent suggests that the existing antitrust laws can adequately address any concerns in future

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<sup>105</sup> Fed. Trade Comm’n, *Competition and Consumer Protection in the 21st Century* 300–301 (Oct. 17, 2018) (Daniel Sokol).

<sup>106</sup> See Fed. Trade Comm’n, *Competition and Consumer Protection in the 21st Century* 42–43 (Nov. 7, 2018) (Renata Hesse) (acknowledging that the concern about data does stem from the “bigness” of data and noting that whether data constitutes a relevant product market depends on the transaction, the parties, and their products and services).

<sup>107</sup> Complaint, *U.S. v. Thomson Corporation*, 1:08-cv-00262 (D.D.C. Feb. 19, 2008), available at <http://www.justice.gov/atr/case-document/complaint-222>. But see Press Release, U.S. Dep’t of Justice, *Statement of the Department of Justice Antitrust Division on Its Decision to Close Its Investigation of the Internet Search and Paid Search Advertising Agreement Between Microsoft Corporation and Yahoo! Inc.* (Feb. 18, 2018), available at <https://www.justice.gov/opa/pr/statement-department-justice-antitrust-division-its-decision-close-its-investigation-internet> (“The search and paid search advertising industry is characterized by an unusual relationship between scale and competitive performance. The transaction will enhance Microsoft’s competitive performance because it will have access to a larger set of queries, which should accelerate the automated learning of Microsoft’s search and paid search algorithms and enhance Microsoft’s ability to serve more relevant search results and paid search listings, particularly with respect to rare or ‘tail’ queries. The increased queries received by the combined operation will further provide Microsoft with a much larger pool of data than it currently has or is likely to obtain without this transaction. This larger data pool may enable more effective testing and thus more rapid innovation of potential new search-related products, changes in the presentation of search results and paid search listings, other changes in the user interface, and changes in the search or paid search algorithms. This enhanced performance, if realized, should exert correspondingly greater competitive pressure in the marketplace.”).

transactions. In fact, there have been several mergers reviewed over the past two decades involving high technology, online companies, and databases, some of which are discussed in the next two sections of this article for illustrative purposes.<sup>108</sup> Reviews of high technology mergers involving data aggregation may raise more specific questions about what data sources constitute the kind of “Big Data” that may present a competition concern, how the data are or could be used, and whether a company attempts to use the data to foreclose competition.<sup>109</sup>

### B. Horizontal Merger Review

The agencies have had extensive experience in evaluating horizontal mergers involving high technology markets, including databases. As with most other markets, market definition can be the core determinant of the outcome in the review of high technology industries. For instance, in *DraftKings/FanDuel*, the FTC’s decision to block the transaction was based on its conclusion that the relevant market was limited to paid daily fantasy sports contests (rejecting as a meaningful substitute season-long fantasy sports)—a market in which the parties combined had in excess of a 90% share. In *Red Ventures/Bankrate*, the FTC defined a separate market for third-party paid referral service for senior living facilities and required the divestiture of Caring.com (a wholly owned subsidiary of Bankrate) since Red Ventures was the largest shareholder of A Place For Mom.com.<sup>110</sup> Although in *Zillow/Trulia*, the parties operated the first and second largest consumer-pricing web portals for home buying that sold advertising space, there was evidence that real estate agents use numerous other methods to attract customers.<sup>111</sup> As a result, the FTC found “insufficient evidence . . . to conclude that real estate agents would face higher prices for advertising after the merger, or that the combined company would have a reduced incentive to innovate either on the consumer side or the advertiser side of its platform.”<sup>112</sup> Similarly, the DOJ closed its investigation of Expedia’s acquisition of Orbitz, finding the market to be broader than dedicated online travel booking sites.<sup>113</sup> Many independent hotel operators did not contract

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<sup>108</sup> See Jeffrey A. Eisenach & Ilene Knable Gotts, *In Search of a Competition Doctrine for Information Technology Markets: Recent Antitrust Developments in the Online Sector*, in COMMUNICATIONS AND COMPETITION LAW: KEY ISSUES IN THE TELECOMS, MEDIA AND TECHNOLOGY SECTORS 69, 76–88 (Cugia di Sant’Orsola et al., eds. 2014).

<sup>109</sup> Fed. Trade Comm’n, *Competition and Consumer Protection in the 21st Century* 164 (Oct. 17, 2018) (Susan Creighton).

<sup>110</sup> Press Release, Fed. Trade Comm’n, *Parties Agree to Divestiture of Senior Living Facilities Referral Service Caring.com as a Condition of Red Venture’s Acquiring Bankrate* (Nov. 3, 2017), available at <https://www.ftc.gov/news-events/press-releases/2017/11/parties-agree-divestiture-senior-living-facilities-referral-service>.

<sup>111</sup> Fed. Trade Comm’n, *Statement of Commissioners Ohlhausen, Wright, & McSweeney Concerning Zillow, Inc./Trulia, Inc.*, FTC File No. 141-0214 (Feb. 19, 2015), available at [https://www.ftc.gov/system/files/documents/public\\_statements/625671/150219zillowmko-jdw-tmstmt.pdf](https://www.ftc.gov/system/files/documents/public_statements/625671/150219zillowmko-jdw-tmstmt.pdf).

<sup>112</sup> *Id.*

<sup>113</sup> Press Release, U.S. Dep’t of Justice, *Justice Department will not Challenge Expedia’s Acquisition of Orbitz* (Sept. 16, 2015), available at <https://www.justice.gov/opa/pr/justice-department-will-not-challenge-expedias-acquisition-orbitz>.

with the parties, alternative ways existed to attract customers and obtain bookings (e.g., Priceline), and other services had entered the market to provide booking functionality.<sup>114</sup>

Within the typical antitrust paradigm, the agencies have looked at transactions involving databases. By way of illustration, in 2008, the FTC reviewed Reed Elsevier's acquisition of ChoicePoint. Both firms offered a subscription service to law enforcement agencies to access information on individuals and businesses. The FTC's concerns were not about the amount of data Reed Elsevier would have after the transaction, but instead, with the elimination of competition between the competing subscription services. The FTC conditioned clearance upon ChoicePoint divesting CLEAR, its electronic public records service designed for law enforcement customers, to Thomson Reuters, a competing information service provider.<sup>115</sup> Similarly, following Dun & Bradstreet's acquisition of Quality Education Data ("QED"), the FTC required the divestiture of an updated and augmented database as well as certain QED intellectual property to Mailings Clearing House, a small competitor, to preserve competition among suppliers of marketing data in K-12 education in the United States.<sup>116</sup>

More recently, "horizontal" merger concerns have extended to "future" markets. In *Nielsen/Arbitron*, for example, the FTC was concerned that the combination would make Nielsen a nationwide monopoly provider of cross-platform audience rating services, a "market" that did not yet exist in the United States, but which both Nielsen and Arbitron were each positioned to develop.<sup>117</sup> The FTC required a divestiture that would facilitate a second "innovator" in this space.

Perhaps the most important element of the analysis in high-tech mergers is the potential impact on innovation, including the risk of eliminating one of the parties as a "disrupter." The FTC recently challenged CDK Global's proposed acquisition of Auto/Mate. Both companies are providers<sup>118</sup> of Automobile Dealer Management System software in the United States. Auto/Mate, "an innovative, disruptive challenger to the two market leaders," had reportedly expanded its presence in the franchise dealer management software by, among other things,

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<sup>114</sup> *Id.*

<sup>115</sup> Fed. Trade Comm'n, *In the Matter of Reed Elsevier NV, et al.* (updated June 5, 2009), available at <https://www.ftc.gov/enforcement/cases-proceedings/081-0133/reed-elsevier-nv-et-al-matter>; Decision and Order, *In the matter of Reed Elsevier*, FTC Dkt. No. C-4257 (June 1, 2009).

<sup>116</sup> Press Release, Fed. Trade Comm'n, *Dun & Bradstreet Settles FTC Charge that 2009 Acquisition was Anticompetitive* (Sept. 10, 2010), available at <https://www.ftc.gov/news-events/press-releases/2010/09/dun-bradstreet-settles-ftc-charges-2009-acquisition-was>.

<sup>117</sup> See Fed. Trade Comm'n, *Competition and Consumer Protection in the 21st Century* 206 (Oct. 17, 2018) (Lina Khan) ("Some would argue that aggregation of data does not pose a competition problem because data are nonrivalous, but I think in practice, data that is significant for competition purposes might be costly and difficult to obtain, so there's going to be little incentive to share. This is not new to the FTC. The FTC recognized that data can serve as a significant entry barrier, so in the Nielsen-Arbitron case, it determined that proprietary data held by the firms would be key inputs for downstream services that were still nascent, and the consent order included divestiture of certain data assets.").

<sup>118</sup> Press Release, Fed. Trade Comm'n, *FTC Challenges CDK Global, Inc.'s Proposed Acquisition of Competitor Auto/Mate, Inc.* (Mar. 20, 2018), available at <https://www.ftc.gov/news-events/press-releases/2018/03/ftc-challenges-cdk-global-incs-proposed-acquisition-competitor> (quoting Bruce Hoffman, Acting Director of the Bureau of Competition).

“adapting is differentiated product to match the preferences of many franchise dealers” and “develop[ing] features attractive to larger franchise dealerships.”<sup>119</sup> The FTC considered the proposed acquisition to be CDK’s attempt to eliminate Auto/Mate as an innovative competitor because Auto/Mate’s creation of “feature innovations” in response to customer demand (at no cost and almost always made available to Auto/Mate’s entire customer base) threatened to erode CDK Global’s market share.<sup>120</sup> The FTC ultimately concluded that the proposed acquisition “would eliminate head-to-head price and quality competition between CDK and Auto/Mate” and challenged the transaction to prohibit CDK Global’s attempt to eliminate Auto/Mate as a competitive alternative.<sup>121</sup> Shortly after the FTC filed its complaint, the parties abandoned the transaction.<sup>122</sup>

Similarly, the FTC challenged in administrative court Otto Bock’s acquisition of FIH Group Holdings (owner of Freedom Innovations).<sup>123</sup> The FTC alleged that the consummated merger harmed competition in the U.S. market for microprocessor prosthetic knees by, among other things, removing a significant and disruptive competitor, thereby entrenching Otto Bock’s position as the dominant supplier.<sup>124</sup>

However, there can be times where access to the data raises issues, typically in its impact on downstream rivals (*i.e.*, vertical dimensions to the transaction). Former White House Office of Information and Regulatory Affairs Administrator Howard Shelanski authored a 2012 article that points out that when evaluating a transfer of customer information as part of a seemingly vertical merger, there may in fact be a horizontal effect.<sup>125</sup> Dr. Shelanski cites as an example a social networking platform acquiring a photo-sharing business to integrate into its existing service. Since the platform is combining “databases of valuable customer information,” it will have a horizontal impact on competition among social networking platforms.<sup>126</sup> As a result, Dr. Shelanski suggests that “in digital industries . . . a focus on customer information can reveal horizontal dimensions of facially vertical conduct and transactions.”<sup>127</sup>

As discussed above, there is abundant precedent to establish that the U.S. antitrust agencies effectively apply the traditional antitrust paradigm to mergers involving high

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<sup>119</sup> Compl. at 2, In the Matter of CDK Global, Inc. et al., Docket No. 9382 (F.T.C. Mar. 20, 2018).

<sup>120</sup> *Id.* at 8–9.

<sup>121</sup> *Id.* at 11.

<sup>122</sup> Order Dismissing Compl., In the Matter of CDK Global, Inc. et al., Docket No. 9382 (F.T.C. Mar. 26, 2018).

<sup>123</sup> Press Release, Fed. Trade Comm’n, *FTC Challenges Consummated Merger of Companies that Make Microprocessor Prosthetic Knees* (Dec. 20, 2017), available at <https://www.ftc.gov/news-events/press-releases/2017/12/ftc-challenges-consummated-merger-companies-make-microprocessor>.

<sup>124</sup> Complaint, *In the Matter of Otto Bock HealthCare North America, Inc.*, FTC Dkt. No. 9378 (Dec. 20, 2017).

<sup>125</sup> Howard A. Shelanski, *Information, Innovation, and Competition Policy for the Internet*, 161 U. PA. L. REV. 1663 (2013) (“Shelanski Article”), available at <https://www.pennlawreview.com/print/Shelanski-161-U-Pa-L-Rev-1663.pdf>.

<sup>126</sup> *Id.* at 1687–88.

<sup>127</sup> *Id.* at 1688.



technology rivals, and, where appropriate, take enforcement action. The two areas that have been identified thus far as areas of possible lax enforcement are vertical mergers and the elimination of potential competition.<sup>128</sup> Each of these areas is discussed below.

### C. Vertical Merger Review

The antitrust treatment of vertical mergers has evolved. One reason for the reluctance to challenge non-horizontal mergers is that the economic thinking and empirical data on non-horizontal mergers has been less developed. Instead, the Chicago School of Economics literature on vertical mergers has created strong presumptions in the United States against challenging vertical mergers on the premise that vertical integration creates efficiencies, including the elimination of double marginalization.<sup>129</sup> Vertical mergers are seen as creating efficiencies by eliminating the need for inter-firm contracting, improving communication, and harmonizing the incentives of the merging firm. These benefits may result in cost reduction and improved product design that can lower prices, improve quality, and increase investment and innovation.

Perhaps the greatest area of increased enforcement focus during the Obama Administration included vertical mergers—*i.e.*, ownership of some combination of inputs, production, and distribution. Modern theories of vertical harm relate to the potential for the merged firm to raise rivals' costs (input foreclosure), reduce rivals' revenues (customer foreclosure), and create barriers to entry by forcing potential entrants to enter both the upstream and downstream markets simultaneously.<sup>130</sup> Under the traditional Chicago School doctrine, vertical mergers have been typically viewed favorably because of their efficiency-enhancing potential through the reduction of double marginalization.<sup>131</sup> During the entire George W. Bush Administration, only a few transactions raising vertical concerns required relief. Enforcement activity involving vertical merger concerns during the Obama Administration increased somewhat. For instance, in the combination of Comcast and NBC Universal ("NBCU"), the DOJ was concerned that Comcast could disadvantage its rivals in the provision of cable, as well as handicap its nascent online competitors, by withholding or raising the price of NBCU content, so it required Comcast to agree to license the content on similar or better terms than distributors had negotiated with NBCU's competitors, to refrain from unduly limiting NBCU content owners' ability to negotiate creative arrangements with Comcast's competitors, and to refrain from retaliating against any broadcast network,

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<sup>128</sup> Carl Shapiro, *Antitrust in a Time of Populism*, 61 INT'L J. INDUS. ORG. 714 (2018), available at <http://faculty.haas.berkeley.edu/shapiro/antitrustpopulism.pdf>.

<sup>129</sup> See, e.g., Robert H. Bork, *THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF* (1978) at 225–45.

<sup>130</sup> See James Langenfeld, *Non-Horizontal Merger Guidelines in the United States and the European Commission: Time for the United States to Catch Up?*, 16 GEO. MASON L. REV. 851, 857–61 (2009), available at [http://www.georgemasonlawreview.org/wp-content/uploads/2014/03/16-4\\_Langenfeld.pdf](http://www.georgemasonlawreview.org/wp-content/uploads/2014/03/16-4_Langenfeld.pdf).

<sup>131</sup> *Id.* (noting that "[d]ouble marginalization occurs when an upstream monopolist increases price and restricts output compared to the competitive level, and the downstream monopolist raises prices further and restricts output because of higher input costs."); see also Fed. Trade Comm'n, *Competition and Consumer Protection in the 21st Century* 15 (Nov. 1, 2018) (Steven Salop) (stating that the elimination of double marginalization is "neither inevitable nor necessarily merger-specific" and can often "be achieved by conduct short of merger").

affiliate, cable programmer, production studio, or content provider for licensing content to Comcast competitors.<sup>132</sup> The consent decree also required Comcast to adhere to the Federal Communications Commission's Open Internet provisions, even though such provisions no longer have the effect of law.

Similarly, when Google acquired ITA Software, an aggregator and provider of airline flight information used by travel companies, the DOJ was concerned that Google would withhold the critical input from rivals like Orbitz. To address those concerns, the DOJ required the merged firm to (1) continue to license the software to other flight search companies on fair, reasonable, and nondiscriminatory ("FRAND") terms; (2) to make any upgrades available to other flight search services; and (3) to refrain from entering into any agreements with airlines that would inappropriately restrict the airlines' right to share information with competing flight search companies.<sup>133</sup>

The current DOJ leadership challenged the proposed merger between AT&T/DirecTV ("AT&T") and Time Warner ("TWC").<sup>134</sup> The concerns expressed by the DOJ were purely vertical in nature: the transaction parties do not compete; AT&T is a distributor of subscription television service, and TWC is an owner of content, including television networks like TNT and CNN. The DOJ was concerned that AT&T will be empowered to hinder its rival distributors by raising the prices of TWC's content portfolio or by withholding such content entirely. The combined firm's overlap (and therefore ability and incentive to harm rivals) is much larger than the Comcast-NBCU combination that the Obama Administration considered.

On June 12, 2018, the Court denied the DOJ's request for a preliminary injunction.<sup>135</sup> The Court's decision marked an unequivocal victory for the defendants. The Court applied the traditional antitrust burden-shifting framework under which: (i) the DOJ must first show that the merger is likely to substantially lessen competition in the relevant market; (ii) the defendants then must rebut that burden by providing evidence of efficiencies that outweigh the merger's anticompetitive effects; and (iii) the DOJ replies with additional evidence of anticompetitive effects. The Court emphasized the dramatic changes that the video distribution and video programming industries were experiencing. It found ordinary course documents unpersuasive in light of these developments. Moreover, the Court rejected the DOJ's economic experts' use of an economic bargaining model that predicted content prices would increase because it rested on assumptions and critical inputs that the Court found were contradicted by the evidence. The Court found more persuasive the natural experiments supported by defendants' expert testimony that showed that prior vertical integration had not led to higher content prices.

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<sup>132</sup> Final Judgment, *United States v. Comcast Corp.*, 1:11-CV-00106-RJL (D.D.C. Sept. 1, 2011), available at <https://www.justice.gov/atr/case-document/file/492196/download>.

<sup>133</sup> See Final Judgment, *United States v. Google Inc. and ITA Software, Inc.*, 1:11-cv-00688-RLW (D.D.C. Oct. 5, 2011), available at <https://www.justice.gov/atr/case-document/file/497636/download>.

<sup>134</sup> Complaint, U.S. Dep't of Justice, *United States v. AT&T Inc.*, 17-cv-02511 (D.D.C. Nov. 20, 2017), available at <https://www.justice.gov/opa/press-release/file/1012896/download>.

<sup>135</sup> Memorandum Opinion, *US v. AT&T, Inc.*, 1:17-cv-02511 (D.D.C. June 12, 2018), ECF No. 146.

On July 12, 2018, the DOJ filed its notice of appeal with the U.S. Court of Appeals for the D.C. Circuit. On August 6, 2018, the DOJ filed its brief: the Government argued that the district court committed clear error when it misapplied economic principles, used inconsistent logic to evaluate industry evidence, and rejected the economic model of the DOJ's expert, resulting in "fundamental errors of economic logic and reasoning" underlying the denial of the preliminary injunction.<sup>136</sup> In addition, the DOJ alleges that the district court had substantially constrained the government's presentation of evidence showing that the merged firm would have greater bargaining leverage, including AT&T's own documents of the potential competitive effects of vertical mergers.

On February 26, 2019, the D.C. Circuit issued its opinion upholding the district court's order denying a permanent injunction of the merger.<sup>137</sup> In affirming, the Court found that the district court did not commit clear error: it did not misapply the economic principles of Nash bargaining and corporate-wide profit maximization, improperly evaluate testimony offered by Comcast-NBCU executives as compared to that of other third-party competitors, or improperly decline to give weight to the economic model of the DOJ's expert. Although the D.C. Circuit acknowledged that the district court opinion could have been clearer in some respects, it ultimately found the district court's opinion to be free of clear error, in part because of the shortcomings of the economic model used by the DOJ expert, which did not account for real world circumstances, including certain irrevocable arbitration agreements AT&T offered distributors shortly after the merger was announced, seemingly modeled after the consent decree governing the Comcast/NBCU transaction.

The D.C. Circuit, aware of the dearth of jurisprudence addressing vertical mergers, did not opine generally on the economics of vertical mergers; rather, it limited its opinion to the specific facts of the case before it—namely, the video programming and distribution industry. That said, the D.C. Circuit did offer some insight into vertical mergers that may generally apply to other such transactions, including those in a different industry. For example, the D.C. Circuit cited to the 1984 Non-Horizontal Merger Guidelines. It also stated that quantitative evidence of a price increase is not necessarily required for the DOJ to prevail on a Section 7 challenge, as the harms arising from a vertical merger may be something other than an increase in price—such as a decrease in quality or innovation. And because neither party challenged it, the D.C. Circuit also followed the burden-shifting framework of *Baker Hughes*.

Against the backdrop of the *ATT/Time Warner* case, the FTC Hearings included a discussion of the economic and legal analysis of vertical mergers that considered, among other topics, whether vertical mergers should carry a presumption of efficiency, the utility and wisdom of the FTC and DOJ updating the 1984 Non-Horizontal Merger Guidelines, and the existence of competition concerns that may be specific to vertical transactions involving high tech startups pose. The robust debate surrounding these economic questions illustrates why some advocate for the issuance of revised non-horizontal merger guidelines: to offer

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<sup>136</sup> Notice of Appeal, *US v. AT&T Inc.*, 17-cv-02511 (D.D.C. July 12, 2018), ECF No. 153; Proof Brief of Appellant United States of America, *US v. AT&T Inc.*, 18-5214 (D.C. Cir. Aug. 6, 2018), available at <https://www.justice.gov/atr/case-document/file/1085516/download>.

<sup>137</sup> *United States v. AT&T, Inc.*, No. 18-5214 (D.C. Cir. Feb. 26, 2019).

transaction parties and their advisors insight into the kinds of efficiencies that may be considered, clarify whether efficiencies in vertical transactions are evaluated using the same standards as efficiencies under the Horizontal Merger Guidelines, and identify the presumptions that may attach to vertical mergers are afforded any presumption of pro-competitiveness.<sup>138</sup> In a recent speech, AAG Delrahim did offer guidance on the Antitrust Division's approach to evaluating the elimination of double marginalization raised as an affirmative defense in a vertical merger:

Our approach at the Antitrust Division is this: as the law requires for the advancement of any affirmative defense, the burden is on the parties in a vertical merger to put forward evidence to support and quantify EDM as a defense.

In particular, we are looking for three types of evidence.

First, we require evidence that the characteristics of the relevant markets caused both parties to mark up price pre-merger.

Second, the parties should show they were unable to reach the joint profit-maximizing arrangement through contract and, therefore, would be unlikely to do so in the future absent a merger.

Third, we need evidence of how much the elimination of double marginalization is likely to effect the downstream price to the consumer—that is, the profit-maximizing reduction in price given the shape of the downstream demand curve.<sup>139</sup>

Although this kind of guidance is helpful in offering parties the kind of insight needed to evaluate a potential transaction, the call for revised non-vertical merger guidelines is likely to continue, especially because both the district court and the D.C. Circuit cited to them in *AT&T/Time Warner*. Although it is too early to tell if there will be concerns, the DOJ is likely considering vertical theories in its investigation of the proposed combination of CVS and Aetna, and other pending healthcare transactions.<sup>140</sup> Thus, the development of precedent and policy involving vertical mergers is likely to be a focus of the agencies over the next couple of years.

As mentioned above, some assert that there has been lax enforcement of vertical mergers. However, in reality, those assertions are based on the efficacy of the remedies imposed. Part of the DOJ's objections to the *ATT/Time Warner* transaction was the belief that conduct remedies should not be accepted, even in vertical mergers. Conduct remedies have been used frequently to resolve concerns in vertical mergers. As Obama Administration Deputy AAG Jon Sallet explained, however:

In vertical transactions, observers sometimes assume that conduct remedies will always be

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<sup>138</sup> *Id.* at 125–27 (Jonathan Sallet); *id.* at 16–18 (Steven Salop); *id.* at 56–68 (Carl Shapiro).

<sup>139</sup> Makan Delrahim, Assistant Attorney General, Antitrust Div., U.S. Dep't of Justice, Remarks as Prepared for Delivery at George Mason Law Review 22nd Annual Antitrust Symposium: "Harder Better Faster Stronger": Evaluating EDM as a Defense in Vertical Mergers (Feb. 15, 2019), available at <https://www.justice.gov/opa/speech/file/1132831/download>.

<sup>140</sup> Randy Gordon, *What to Make of CVS-Aetna And Other Megadeals*, LAW 360 (Dec. 12, 2017), available at <https://www.law360.com/articles/993803/what-to-make-of-cvs-aetna-and-other-megadeals>; see also U.S. Dep't of Justice, Antitrust Div., *Congressional Submission FY 2019 Performance Budget 2*, available at <https://www.justice.gov/jmd/page/file/1034371/download>.

available and sufficient. But that is not the current practice of the division—if it ever was. . . . Some vertical transactions may present sufficiently serious risks of foreclosing rivals’ access to critical inputs or customers, or otherwise threaten competitive harm, that they require some form of structural relief or even require that the transaction be blocked.<sup>141</sup>

The current DOJ leadership has indicated that although it has not ruled out behavioral remedies entirely, the standard for proving that any such remedy will cure the anticompetitive harm is high. However, the DOJ historically has typically required structural relief—rather than behavioral remedies—to remedy antitrust concerns. In a keynote speech at the ABA Fall Forum on November 16, 2017, AAG Delrahim explained that behavioral remedies are “fundamentally regulatory, imposing ongoing government oversight on what should preferably be a free market.”<sup>142</sup> Such regulatory schemes “require centralized decisions instead of a free market process. They also set static rules devoid of the dynamic realities of the market.”<sup>143</sup> In addition, such remedies are challenging to enforce, presuming “that the Justice Department should serve as a roving ombudsman of the affairs of business; even if we wanted to do that, we often don’t have the skills or the tools to do so effectively.”<sup>144</sup> Finally, AAG Delrahim indicated that “as 11 Senators wrote to the Attorney General earlier this year, the ‘lack of enforceability and reliability of such conditions [can] render them insufficient’ to protect consumers. As we reduce regulation across the government, I expect to cut back on the number of long-term consent decrees we have in place and to return to the preferred focus on structural relief to remedy mergers that violate the law and harm the American consumer.”<sup>145</sup> Despite this position, AAG Delrahim acknowledged that behavioral remedies may be accepted under certain circumstances:

That is not to say we would never accept behavioral remedies. In certain instances where an unlawful vertical transaction generates significant efficiencies that cannot be achieved without the merger or through a structural remedy, then there’s a place for considering a behavioral remedy if it will completely cure the anticompetitive harms. It’s a high standard to meet. To be crystal clear, that cuts both ways—if a merger is illegal, we should only accept a clean and complete solution, but if the merger is legal we should *not* impose behavioral conditions just because we can do so to expand our power and because the merging parties

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<sup>141</sup> Jon Sallet, Deputy Assistant Attorney General, Antitrust Div., U.S. Dep’t of Justice, *The Interesting Case of the Vertical Merger*, Remarks at the American Bar Association Fall Forum, (Nov. 17, 2016), available at <https://www.justice.gov/opa/speech/deputy-assistant-attorney-general-jon-sallet-antitrust-division-delivers-remarks-american>.

<sup>142</sup> Makan Delrahim, Assistant Attorney General, Antitrust Div., U.S. Dep’t of Justice, Keynote Address at American Bar Association’s Antitrust Fall Forum (Nov. 16, 2017), available at <https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-keynote-address-american-bar>; see also Makan Delrahim, Assistant Attorney General, Antitrust Div., U.S. Dep’t of Justice, *Improving the Antitrust Consensus*, Remarks Delivered at the New York State Bar Association (Jan. 25, 2018), available at <https://www.justice.gov/opa/speech/remarks-assistant-attorney-general-makan-delrahim-delivered-new-york-state-bar>.

<sup>143</sup> *Id.*

<sup>144</sup> *Id.*

<sup>145</sup> *Id.* (citing Letter from Senators Franken, Markey, Warren, Wyden, Blumenthal, Merkley, Sanders, Cantwell, Brown, Baldwin, and Booker, to Attorney General Sessions, June 21, 2017, at 6, available at [https://www.franken.senate.gov/files/letter/170621\\_ATTMergerLetter.pdf](https://www.franken.senate.gov/files/letter/170621_ATTMergerLetter.pdf)).

are willing to agree to get their merger through.<sup>146</sup>

It is unclear to what extent the FTC will diverge from the DOJ by accepting conduct remedies in the future.<sup>147</sup> FTC Competition Bureau Director Bruce Hoffman indicated:

[T]he FTC prefers structural remedies to structural problems, even with vertical mergers.<sup>148</sup> . . . But in some cases [the FTC] believe[s] that a behavioral or conduct remedy can prevent competitive harm while allowing the benefits of integration. . . . [I]f the FTC looks closely at a vertical merger that raises . . . concerns . . . no one should be surprised if the FTC requires structural relief. . . . If [structural remedies] can't be achieved without sacrificing the efficiencies that motivate the merger, then [the FTC] can look at conduct remedies. If those won't work—or will be too difficult and problematic for [the FTC] to be confident that they will work without an excessive commitment of FTC resources where [the FTC is] effectively turned into a regulator—then there should be no surprise if [the FTC were to] seek to block the merger.<sup>149</sup>

Moreover, in *Northrop Grumman/Orbital ATK*, the FTC recently accepted behavioral—rather than structural—remedies, noting that it “typically disfavors behavioral remedies,” but permitted it “given the special characteristics of the defense industry.”<sup>150</sup> And in *Corpus Christi Polymers*, the FTC’s proposed consent order governing Corpus Christi Polymers’ proposed acquisition of a chemicals facility included a number of behavioral remedies for a period of twenty years.<sup>151</sup>

Participants in the FTC Hearings acknowledged the complexity involved with the decision to challenge a transaction where there is high litigation risk, or pursue a behavioral remedy that may not address the precise competitive harm identified and creates uncertainty for other firms in the relevant industry, as well as for consumers.<sup>152</sup>

At this juncture, however, at least, there is no indication that remedies in vertical mergers are more likely to be of concern for mergers involving high-tech sectors than other sectors.

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<sup>146</sup> *Id.* at 7–8.

<sup>147</sup> D. Bruce Hoffman, Acting Director, Bureau of Competition, Fed. Trade Comm’n, *Vertical Merger Enforcement at the FTC*, Remarks at Credit Suisse 2018 Washington Perspectives Conference, (Jan. 10, 2018), available at [https://www.ftc.gov/system/files/documents/public\\_statements/1304213/hoffman\\_vertical\\_merger\\_speech\\_final.pdf](https://www.ftc.gov/system/files/documents/public_statements/1304213/hoffman_vertical_merger_speech_final.pdf).

<sup>148</sup> *Id.* at 7.

<sup>149</sup> *Id.* at 8–9.

<sup>150</sup> Press Release, Fed. Trade Comm’n, *FTC Imposes Conditions on Northrop Grumman’s Acquisition of Solid Rocket Motor Supplier Orbital ATK, Inc.* (June 5, 2018), available at <https://www.ftc.gov/news-events/press-releases/2018/06/ftc-imposes-conditions-northrop-grummans-acquisition-solid-rocket>.

<sup>151</sup> Analysis of Agreement Containing Consent Order to Aid Public Comment, In the Matter of Corpus Christi Polymers LLC, Alfa, S.A.B. de C.V., Indorama Ventures Plc Aloke Lohia and Suchitra Lohia, and Far Eastern New Century Corporation, FTC File No. 181-0300 (Dec. 21, 2018) (limiting each joint venture member’s ownership in CCP, establishing safeguards to prevent the improper sharing of competitively sensitive information, requiring the submission of periodic communication logs, and requiring advance approval before making substantive governance or operating changes to the joint venture agreement).

<sup>152</sup> Fed. Trade Comm’n, *Competition and Consumer Protection in the 21st Century* 153–55 (Nov. 1, 2018) (Gene Kimmelman).

#### D. Conglomerate Mergers and Potential Competition Concerns

Conglomerate mergers involving complementary and related products typically do not raise concerns unless those products can be seen as potentially having a horizontal effect. For instance, Amazon’s acquisition of Whole Foods cleared antitrust review because the two transaction parties did not compete against each other or in vertically aligned markets.<sup>153</sup> The reticence to intervene is consistent with the overarching objectives of consumer welfare to preserve competition—not competitors—and to maximize output and innovations. As AAG Makan Delrahim recently indicated, “ ‘great efficiencies’ ” can result from large technology groups acquiring smaller rivals.<sup>154</sup> Moreover, University of Florida Professor Daniel Sokol argues that permitting technology companies to acquire nascent startups is important to foster entrepreneurial investment and innovation.<sup>155</sup> Some participants at the FTC Hearings similarly also expressed concern that these particular kinds of acquisitions, exemplified by Diapers.com, Bearbones Workwear, and BeautyBridge (in the Amazon orbit), Foundem.com, TripAdvisor, and Shopping.com (in the Google orbit), and Snapchat, Timehop, and Grubhub (in the Facebook orbit),<sup>156</sup> are made possible by the exploitation of user data that identifies the products and ideas that are the best performing, and reduce innovation. For example, Sally Hubbard, a Senior Editor at the Capitol Forum and former Assistant Attorney General in the New York State Attorney General’s Antitrust Bureau, argued that the FTC and DOJ should more carefully scrutinize acquisitions by technology companies, rejecting the notion that technology platform acquisitions should not escape antitrust scrutiny simply because they promise consumer welfare benefits.<sup>157</sup> Hubbard further argues that because Section 7 “prohibits acquisitions where the effect may be to tend to create a monopoly . . . enforcers should scrutinize acquisitions by dominant platforms more heavily than acquisitions by firms that lack market power.”<sup>158</sup>

In criticizing the current investigation regime, Hubbard points out that “the product definition markets can lead enforcers astray because the biggest competitive threat to platform incumbents are likely to come from firms that are in seemingly different product markets altogether. Why is that? Well, because startups that want to challenge tech giants and

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<sup>153</sup> Press Release, Fed. Trade Comm’n, *Statement of Federal Trade Commission’s Acting Director of the Bureau of Competition on the Agency’s Review of Amazon.com, Inc.’s Acquisition of Whole Foods Market Inc.* (Aug. 23, 2017), available at <https://www.ftc.gov/news-events/press-releases/2017/08/statement-federal-trade-commissions-acting-director-bureau>.

<sup>154</sup> Kadhim Shubber, *US Antitrust Chief Signals Comfort with Tech Deals*, FIN. TIMES (July 12, 2018), available at <https://www.ft.com/content/2e6e1f90-8558-11e8-a29d-73e3d454535d>.

<sup>155</sup> Sokol, *supra* note 65.

<sup>156</sup> Fed. Trade Comm’n, *Competition and Consumer Protection in the 21st Century* 153–55 (Oct. 17, 2018) (Hal Singer) (citing *Into the Danger Zone: American Tech Giants Are Making Life Tough for Startups*, THE ECONOMIST (June 2, 2018), available at <https://www.economist.com/business/2018/06/02/american-tech-giants-are-making-life-tough-for-startups>); see also Hal Singer, *How to Stop Amazon From Swallowing the Internet*, FORBES (Jan. 28, 2019), available at <https://www.forbes.com/sites/washingtonbytes/2019/01/28/how-to-stop-amazon-from-swallowing-the-internet/#f3620c436645>.

<sup>157</sup> Fed. Trade Comm’n, *Competition and Consumer Protection in the 21st Century* 265 (Oct. 17, 2018) (Sally Hubbard).

<sup>158</sup> *Id.* at 266.

their core competencies cannot actually get funded.”<sup>159</sup> Hubbard suggests that the agencies can proceed to address this issue in four ways: (1) pursue the difficult cases that will change the legal doctrine and current standards; (2) pursue a legislative solution, which may be difficult given the lobbying efforts of large technology companies; (3) use the FTC’s rulemaking authority, including for related issues such as privacy and interoperability, or automatically issue a second request for an acquisition by a large technology platform; or (4) “allow tech platforms to eliminate competitive threats into perpetuity.”<sup>160</sup>

Some of the participants in the FTC Hearings suggested that certain elements of a transaction may evidence an attempt by an incumbent to squash a nascent competitor, such as: (1) a large purchase price; (2) internal documents that assess the likelihood that the nascent competitor will take off and whether it will have a substantial effect on the incumbent; (3) the patent portfolio of each of the transaction parties (and the combined firm) to determine whether the target is actually pursuing something unique; (4) the potential monopsony effects of the proposed transaction (related to equipment or technical staff); and (5) expert testimony regarding whether the target is developing a something novel.<sup>161</sup>

These very concerns appear to underlie the plan set forth by Senator Elizabeth Warren, who announced her entry in the 2020 presidential race in February 2019,<sup>162</sup> regarding the “big, structural changes to the tech sector” her presidential administration would make “to promote more competition—including breaking up Amazon, Facebook, and Google.”<sup>163</sup> Senator Warren identified two practices by which “tech companies have achieved their level of dominance”: (1) acquiring potential competitors and (2) using a “proprietary marketplace” to limit competition.<sup>164</sup> As to the first strategy, Senator Warren would “appoint regulators who are committed to using existing tools to unwind anti-competitive mergers,” including Amazon’s acquisition of Whole Foods, Facebook’s acquisitions of WhatsApp and Instagram, and Google’s acquisitions of Waze, Nest, and DoubleClick.<sup>165</sup> As to the second strategy, Senator Warren would pass legislation designating large tech platforms “Platform Utilities,” prohibiting tech companies with more than \$25 billion in annual global revenue from owning both a platform and participants on the platform, requiring all companies with global annual revenue between \$90 million and \$25 billion to meet a standard of fair, reasonable, and nondiscriminatory dealing with users, and prohibiting platform utilities from transferring or sharing data with third parties.<sup>166</sup> Senator Warren’s plan has been met with some

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<sup>159</sup> *Id.* at 266–67.

<sup>160</sup> *Id.* at 267–68.

<sup>161</sup> *Id.* at 352–54 (Richard Parker).

<sup>162</sup> Joshua Jamerson, *Sen. Elizabeth Warren Officially Enters 2020 Presidential Race*, WALL ST. J. (Feb. 9, 2019), available at <https://www.wsj.com/articles/sen-elizabeth-warren-officially-enters-2020-presidential-race-11549731946>.

<sup>163</sup> Warren, *supra* note 3.

<sup>164</sup> *Id.*

<sup>165</sup> *Id.*

<sup>166</sup> *Id.*



skepticism.<sup>167</sup> A panel of government-appointed experts, led by Jason Furman, concluded that Senator Warren’s plan is a last-resort approach. In lieu of such an extreme measure, the panel proposes the appointment of a regulator to identify companies that have “strategic market status,” collaborate with those companies on a code of conduct that prevents companies from advantaging their own products over competitors, and require the companies to adopt a standardized approach to user data.<sup>168</sup> This approach would permit the retention of the consumer welfare standard, rather than adopting a standard that regulates on the basis of size.<sup>169</sup>

Calls for the unwinding of certain mergers of the largest tech companies—and the merger retrospective studies possibly underlying such decision—are often met with a view expressing the practical concern underpinning calls for merger retrospectives and post-transaction enforcement actions. As Scott Sher explained at the FTC Hearings, it is difficult to determine whether an up-and-coming venture is now a fierce competitor because it offered a good product (and was destined to become a good competitor), or because of an acquisition by a larger technology company:

[R]etrospective studies are interesting and sometimes they’re important, but if you were to conclude, for example, well, Instagram has become popular so now let’s bring the case, you have to ask yourself what’s the reason that Instagram has become so good. Has Instagram

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<sup>167</sup> See, e.g., Christine S. Wilson, Comm’r, Fed. Trade Comm’n, All (Industries) in the Same Boat: Staying the Course on the High Seas of High Tech: Address at CCA Conference on Competition, Data, and Innovation in the Digital Economy 10–12 (Mar. 28, 2019), available at [https://www.ftc.gov/system/files/documents/public\\_statements/1512148/wilson\\_remarks\\_ccia\\_3-28-19.pdf](https://www.ftc.gov/system/files/documents/public_statements/1512148/wilson_remarks_ccia_3-28-19.pdf) (explaining that “structural remedies – which is to say, forced divestitures – frequently fail to increase consumer welfare” and that “[t]he U.S. antitrust agencies have proven ill-equipped to engage in the kind of industrial engineering that large-scale break-ups would require”); Noah Joshua Phillips, Comm’r, Fed. Trade Comm’n, We Need To Talk: Toward A Serious Conversation about Breakups, Prepared Remarks at the Hudson Institute (Apr. 30, 2019), available at [https://www.ftc.gov/system/files/documents/public\\_statements/1517972/phillips\\_-\\_we\\_need\\_to\\_talk\\_0519.pdf](https://www.ftc.gov/system/files/documents/public_statements/1517972/phillips_-_we_need_to_talk_0519.pdf) (arguing that breakups should be a remedy of last resort in non-merger cases because of the uncertainty of the outcome, the risk of the entities resulting from the break up will not be successful, and the administrative costs, possible loss of efficiency, and possible reduction in entry and innovation). FTC Chairman Simons has taken a measured stance but, as aforementioned, has assembled a Technology Task Force to shed light on the issues surrounding technology firms. See Joseph Simons, Chairman, Fed. Trade Comm’n, Prepared Remarks at the Georgetown Law Global Antitrust Enforcement Symposium 5 (Sept. 25, 2018), available at [https://www.ftc.gov/system/files/documents/public\\_statements/1413340/simons\\_georgetown\\_lunch\\_address\\_9-25-18.pdf](https://www.ftc.gov/system/files/documents/public_statements/1413340/simons_georgetown_lunch_address_9-25-18.pdf) (“Many antitrusters would agree that the most likely places to find anticompetitive conduct are with firms that have market power. This is not to say that big is bad. Firms may get big because they provide good products at good prices, and antitrust should not try to get in the way of that. But firms should not be allowed get big or stay big by engaging in anticompetitive conduct. So it makes sense for the antitrust authorities to look in places where there might be significant market power, to ensure that such firms compete on the merits – and that might include some of the significant high-tech platforms.”).

<sup>168</sup> Greg Ip, *In Britain, a Middle Way for Reigning in Big Tech*, WALL ST. J. (Mar. 12, 2019), <https://www.wsj.com/articles/in-britain-a-middle-way-for-reining-in-big-tech-11552435261?mod=searchresults&page=1&apos=1>. A recently issued report commissioned by the EU has proposed sweeping changes to the application of existing antitrust laws and regulations to technology firms. See Jacques Cr mer, Yves-Alexandre de Montjoye, & Heike Schweitzer, Competition Policy for the Digital Era, Eur. Comm’n (Apr. 4, 2019), available at <http://ec.europa.eu/competition/publications/reports/kd0419345enn.pdf>.

<sup>169</sup> *Id.*

become so good because inherently it was a really good product at the time it was acquired by Facebook and was actually going to become a large competitor? Or did it become a large competitor because Facebook made it a large competitor or a large presence in the market? And market events, you know, superseded what happened as result of the transaction and you can't really attribute the deal to the reason for Instagram success. So you can say today, oh, YouTube is huge. And maybe we should bring a case to block the Google-YouTube deal. But that doesn't answer the question as to why YouTube is great today. Is YouTube great today because it was going to be great absent the acquisition by Google? I don't know if people remember this, but back in 2005, that website was actually still funded by credit card debt by two people who were running it out of their garage. I mean, was that company likely to become really large as a result of—you know, if it wasn't acquired by Google, or did it become large because it had access to the resources of a Google to make it large.

So I think going back and doing that sort of retrospective is very problematic. You can draw very erroneous conclusions as a result of it. I'm not suggesting that retrospectives are bad, but I think in technology markets where things change very rapidly, where there are a lot of reasons why something might become successful or might fail, you have to be really careful to attribute the deal to the reason of the success of the competitor that was acquired. You can't just say, well, the company became big, therefore, we should probably have challenged the deal in the first place. I think you would get a tremendous number of false positives.<sup>170</sup>

The only likely basis, however, for investigating—and possibly challenging—such a transaction would be if one of the parties would, “but for” the merger, potentially enter to compete with the other party in its market—a “potential competition” concern. A challenge on the basis of “potential competition” should be rare. Former FTC Bureau of Competition Director Deborah Feinstein made clear that “[b]ecause Section 7 requires forward-looking analysis, the agencies must assess whether firms not currently selling products or services should be included as ‘market participants’ for purposes of the competitive analysis.”<sup>171</sup> Salop and Culley further explain that a “vertical merger can eliminate one of the merging firms as a potential entrant or facilitator [or sponsor] of entry into the other firm’s market.”<sup>172</sup> For example, the DOJ’s concerns in *Live Nation/Ticketmaster* included that, “but for” the merger, Live Nation was a potential entrant into ticketing and Ticketmaster was a potential entrant into promotion and venues.<sup>173</sup> And although the FTC lost the *Steris* case, its merger challenge alleged that, “but for” the merger, the target would have entered the market for

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<sup>170</sup> Fed. Trade Comm’n, *Competition and Consumer Protection in the 21st Century* 364–65 (Oct. 17, 2018) (Scott Sher).

<sup>171</sup> Deborah L. Feinstein, Fed. Trade Comm’n, *The Forward-Looking Nature of Merger Analysis* (2014), available at [https://www.ftc.gov/system/files/documents/public\\_statements/forward-looking-nature-merger-analysis/140206mergeranalysis-dlf.pdf](https://www.ftc.gov/system/files/documents/public_statements/forward-looking-nature-merger-analysis/140206mergeranalysis-dlf.pdf).

<sup>172</sup> Steven C. Salop & Daniel P. Culley, *Potential Competitive Effects of Vertical Mergers: A How-To Guide for Practitioners*, Georgetown Univ. L. Ctr. (Dec. 8, 2014), available at <https://scholarship.law.georgetown.edu/cgi/viewcontent.cgi?article=2404&context=facpub>.

<sup>173</sup> See also Opinion of the Commission, *In the Matter of Polypore Int’l, Inc.*, FTC Dkt. No. 9327, at 38 (Dec. 13, 2010), available at <http://www.ftc.gov/sites/default/files/documents/cases/2010/12/101213polyporeopinion.pdf> (firm had a competitive impact even though it did not have sales because it had obtained the ability to make additional sales).

sterilization of products using radiation. In that particular case, the target had decided for reasons other than the merger to abandon its entry plans.<sup>174</sup>

As mentioned above, the FTC Hearings covered some of the other areas that have been identified as suffering from lax enforcement. These include the review of conglomerate mergers and non-controlling ownership interests in competing companies and the question of whether the doctrine of potential competition is sufficient to identify and analyze the competitive effects associated with the acquisition of a firm that may be a nascent competitive effect. The hearings will not only cover substantive issues, but also the analytical tools used to evaluate acquisitions and mergers.

### E. Privacy as a Merger Concern

Another topic that generated substantial interest and debate at the FTC Hearings was whether the FTC's enforcement of competition and consumer protection laws needs to be adapted to the changing business environment, including whether violations of consumers' online privacy could potentially be considered an antitrust violation. It is not clear, however, that this is always the case. The Shelanski Article sets out what is a sound theory of how privacy can be impacted by competition. Dr. Shelanski points out that reducing privacy protections effectively reduces the marginal cost of providing the online service, and should thus lead to a reduced "cost" of the service for the consumer.<sup>175</sup> One of the problems in ensuring that consumer data is adequately protected is that, since most online services are free, consumers cannot pay, in the traditional sense, for those privacy protections. Additionally, since privacy protection is a good that consumers cannot easily observe, online companies do not have natural incentives to protect consumers' privacy. In Dr. Shelanski's view, competition can alleviate some of the incentive problems for privacy protection. While he points out that there are market failures—the fact that consumers typically do not read privacy policies or that experience alone may not reveal much about a company's privacy policy—Dr. Shelanski believes that "competition can at least help introduce better privacy and data security practices into the marketplace."<sup>176</sup> Under the current legal precedent, Dr. Shelanski's assertion seems to be the correct one.

The FTC Hearings took place as firms implemented the EU's General Data Protection Regulation ("GDPR"), resulting in some discussion of the effect of the GDPR on consumer welfare, innovation, and competition. Initial observations of the effect of GDPR focused on the high cost of compliance, particularly for smaller firms, which may result in the concentration of innovation in established firms.<sup>177</sup> Although it is too early to assess the effects of GDPR and fines imposed thereunder,<sup>178</sup> privacy advocates may look to the GDPR

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<sup>174</sup> See Opinion and Order, *Fed. Trade Comm'n v. Steris Corp.*, 1:15-CV-1080 (N.D. Ohio Sept. 24, 2015).

<sup>175</sup> Shelanski Article, *supra* note 80 at 1689–90.

<sup>176</sup> *Id.* at 1691. A number of participants in the FTC Hearings observed that some companies, such as Duck Duck Go and Apple, even compete on privacy terms by marketing privacy as a feature. See, e.g., Fed. Trade Comm'n, *Competition and Consumer Protection in the 21st Century* 96 (Nov. 6, 2018) (Liad Wegman).

<sup>177</sup> See, e.g., Fed. Trade Comm'n, *Competition and Consumer Protection in the 21st Century* 54–55, 195–198 (Nov. 6, 2018) (Liad Wegman).

<sup>178</sup> Adam Satariano, *Google Is Fined \$57 Million Under Europe's Data Privacy Law*, N.Y. TIMES (Jan. 21,

when considering the utility of a comprehensive privacy law, especially as companies operating in the United States begin to more actively engage in self-policing and self-regulation of consumer privacy.<sup>179</sup>

It remains to be seen whether in practice privacy can amount to a competition issue in situations where a lack of competition fails to ensure that owners of the data provide adequate privacy protections. The issue arose in the FTC's review of the *Google/DoubleClick* merger. Google and DoubleClick were not competitors in any markets for online advertising. DoubleClick did not have the ability to exclude rivals from combining its service with AdSense. DoubleClick's contracts prohibited sharing data in order to target advertisements and Google committed to not combine the data post-merger. Moreover, the FTC concluded that even if Google breached this commitment, DoubleClick's data were not unique. Although it recognized that privacy can be a dimension of competition, the FTC concluded that *antitrust* laws do not allow it to block mergers based on privacy concerns standing alone.

This seems to be the right approach. To the extent reduced competition is likely to degrade privacy protections, the antitrust agencies are empowered to intervene in the same way they can based on degradation of quality or any other product feature. But if the agency determines that users typically do not read privacy policies, let alone use such policies to differentiate between digital competitors, then privacy should not play a role in intervention decisions because, quite simply, it does not play a role in competition between the firms.

Regardless of whether the antitrust agencies take privacy considerations into account in merger review as a standalone harm, lawmakers may. Both Democrats and Republicans in the Senate, for example, have called upon the Senate Judiciary Committee to hold hearings with CEOs of technology companies regarding how data are stored.<sup>180</sup>

The FTC Hearings focused, in part, on privacy concerns, including specifically the intersection between privacy, big data, and competition and the FTC's remedial authority to deter unfair and deceptive conduct in privacy and data security matters. Proposals for how the FTC might protect consumers' privacy included the FTC conducting a 6(b) study of how platforms use data and how that use of data affects competition (for example, by allowing firms to determine how much they can raise prices without alienating consumers); examining data as a barrier to entry in the merger context; and ultimately, calling on Congress to enact a comprehensive data privacy law.<sup>181</sup>

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2019), <https://www.nytimes.com/2019/01/21/technology/google-europe-gdpr-fine.html> (noting that Google was fined €50 million (approximately \$57 million) for failing to properly disclose to users how data is collected across its services to present personalized advertisements).

<sup>179</sup> See Tripp Mickle, *Apple Exerts Power as Privacy Protector*, WALL ST. J. (Jan. 31, 2019), available at <https://www.wsj.com/articles/apple-exerts-power-as-privacy-protector-11548982840>.

<sup>180</sup> Press Release, *Klobuchar, Kennedy Call on Chairman Grassley to Hold Judiciary Hearing with Tech Company CEOs*, U.S. Senator Amy Klobuchar: Working for the People of Minnesota (Mar. 19, 2018), available at <https://www.klobuchar.senate.gov/public/index.cfm/news-releases?ID=DBDCF05C-5F9A-4DAE-96D3-8EE5E89A61FA>.

<sup>181</sup> See generally Fed. Trade Comm'n, *Competition and Consumer Protection in the 21st Century* (Nov. 8, 2018).

## 2-II. Non-Merger Considerations

### A. Market Power/Inequality Concerns

Prime targets of the so-called “Progressive”<sup>182</sup> “antitrust hipsters”<sup>183</sup>—those who believe that U.S. antitrust officials have for the past four decades viewed the question of anticompetitive M&A and industries too narrowly—are the largest high technology companies referred to as the “FAANGs” or “FAMGAs.” The value of the five largest tech companies—Apple, Alphabet (Google’s parent company), Amazon, Facebook, and Microsoft—has doubled in the last three years, to more than \$3 trillion, and Apple, Alphabet, Microsoft, and Facebook are the top four most valuable companies in the world. On August 2, 2018, Apple became the first company to have a capitalization of \$1 trillion.<sup>184</sup> On January 7, 2019, Amazon became the world’s largest company by market capitalization.<sup>185</sup>

As indicated in the introduction, the sheer size of the FAMGAs has raised concerns among certain academics and critics as fostering income and political inequality.<sup>186</sup> A September 2017 *Economist* article notes:

[T]he superstars are admirable in many ways. They churn out products that improve consumers’ lives, from smarter smartphones to sharper televisions. They provide Americans and Europeans with an estimated \$280 billion-worth of “free” services—such as search or directions—a year. But they have two big faults. They are squashing competition, and they are using the darker arts of management to stay ahead. Neither is easy to solve. But failing to do so risks a backlash which will be bad for everyone.<sup>187</sup>

An earlier *Economist* article posed the question of “[w]hy [the world’s best-known tech company] giants thrive,” and concluded that it is based on having achieved vast scale.<sup>188</sup> The article further warns about the shift from the supply side (production efficiencies) to the demand side (network effects). Apple’s achievement of the \$1 trillion market cap has added fuel to the fire of the Progressives. The surrounding press accounts have expanded the

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<sup>182</sup> Professor Hovenkamp uses the term “Progressivism” to describe claims that lax antitrust enforcement is the cause of the ills of society on the basis that “markets are fragile and in need of repair, that certain interest groups require greater protection, or in some cases, that antitrust policy is an extended arm of regulation.” Herbert J. Hovenkamp, *Progressive Antitrust*, ILE Research Paper (Jan. 25, 2018), available at [https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=2766&context=faculty\\_scholarship](https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=2766&context=faculty_scholarship) (“Hovenkamp, Progressive Paper”).

<sup>183</sup> Josh Wright is among the critics who have referred to the advocates to change the applicable antitrust standard from consumer welfare to broader public interest objectives as “antitrust hipsters.” See Joshua D. Wright et al., *Requiem for a Paradox: The Dubious Rise and Inevitable Fall of Hipster Antitrust*, George Mason Law & Economics Research Paper No. 18-29 (Sept. 14, 2018), available at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3249524](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3249524).

<sup>184</sup> Matt Phillips, *Apple’s \$1 Trillion Milestone Reflects Rise of Powerful Megacompanies*, N.Y. TIMES (Aug. 2, 2018), available at <https://www.nytimes.com/2018/08/02/business/apple-trillion.html> (“Phillips”).

<sup>185</sup> Jason Zweig, *Don’t Get Too Comfy At the Top, Amazon*, WALL ST. J., Jan. 12–13, 2019, at B5.

<sup>186</sup> See, e.g., Jonathan Taplin, *MOVE FAST AND BREAK THINGS: HOW FACEBOOK, GOOGLE, AND AMAZON CORNERED CULTURE AND UNDERMINED DEMOCRACY* (2017).

<sup>187</sup> *A giant problem*, ECONOMIST, *supra* note 1.

<sup>188</sup> Special Report, *Why Giants Thrive*, ECONOMIST (Sept. 15, 2016), available at <https://www.economist.com/news/special-report/21707049-power-technology-globalisation-and-regulation-why-giants-thrive>.

discussion beyond Apple, to a focus on “how a group of enormous companies has come to dominate the United States economy . . . a small cluster of American companies commands a larger share of total corporate profits than since at least the 1970s.”<sup>189</sup> *New York Times* reporter Matt Phillips concludes that “[t]he consolidation [of corporate concentration] is especially pronounced in the technology sector, where a group of large, efficient companies now lord over the fastest-growing and most dynamic parts of the United States economy.”<sup>190</sup>

But it does not necessarily follow that because consumers choose to use these firms, that each of the FAMGAs has market power in the respective markets in which it participates. *Washington Post* columnist Steven Pearlstein (based on an article by a Yale Law student)<sup>191</sup> posited “*Is Amazon getting too big?*,” premised on market power fear potentially posing a threat to consumers and competition.<sup>192</sup> And he is not the only one. “Big” has become the boogeyman of the early 21st century. As DOJ economist Greg Werden and Vanderbilt University Economics Professor Luke Froeb point out, none of the Progressive advocates have demonstrated increased concentration of antitrust cognizable markets, but instead, make these claims based on data that are far too aggregated.<sup>193</sup> In addition, Werden and Froeb indicate that, even where market concentration has increased, that does not mean that there has been a failure of antitrust law or its enforcement; market concentration naturally increases when the most innovative and efficient firms grow and correlates with the conclusions on concentration, as well as whether such an increase in concentration necessarily proves a decline in competition.<sup>194</sup>

Does the largeness of a company, in and of itself, violate the U.S. antitrust laws or grant market power? As FTC economist Patrick DeGraba (who served as the FCC’s Chief Economist at the Wireless Bureau prior to joining the FTC) indicated in a recent speech, “just because Google is many people’s go-to online search engine does not mean that the company has market power—and that the same applies for Amazon in online shopping.”<sup>195</sup> Consumers

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<sup>189</sup> Phillips, *supra* note 114.

<sup>190</sup> *Id.*

<sup>191</sup> Lina M. Khan, *Amazon’s Antitrust Paradox*, 126 *YALE L.J.* 710 (2017).

<sup>192</sup> Steven Pearlstein, *Is Amazon getting too big?*, *WASH. POST* (July 28, 2017), available at [https://www.washingtonpost.com/business/is-amazon-getting-too-big/2017/07/28/ff38b9ca-722e-11e7-9eac-d56bd5568db8\\_story.html?utm\\_term=.b07869ae7602](https://www.washingtonpost.com/business/is-amazon-getting-too-big/2017/07/28/ff38b9ca-722e-11e7-9eac-d56bd5568db8_story.html?utm_term=.b07869ae7602).

<sup>193</sup> Gregory J. Werden & Luke M. Froeb, *Don’t Panic: A Guide to Claims of Increasing Concentration*, 33 *ANTITRUST* 74 (2018).

<sup>194</sup> *Id.*; Carl Shapiro, *Antitrust in a Time of Populism*, at 3–4, *INT’L J. INDUS. ORG.* (Oct. 24, 2017), available at <http://faculty.haas.berkeley.edu/shapiro/antitrustpopulism.pdf>. See also Jacob S. Hacker & Paul Pierson, *WINNER-TAKE-ALL POLITICS: HOW WASHINGTON MADE THE RICH RICHER—AND TURNED ITS BACK ON THE MIDDLE CLASS* (2010); Joseph E. Stiglitz, *THE PRICE OF INEQUALITY* (2012); Lawrence H. Summers, *The Inequality Puzzle*, 2014 *DEMOCRACY J.* 91 (reviewing Thomas Piketty’s *CAPITAL IN THE TWENTY-FIRST CENTURY*), available at <https://democracyjournal.org/magazine/33/the-inequality-puzzle/>; Bill Gates, *Why Inequality Matters*, *Gates Notes* (Oct. 13, 2014), available at <http://www.gatesnotes.com/Books/Why-Inequality-Matters-Capital-in-21st-Century-review>.

<sup>195</sup> Charles McConnell, *Google and Amazon lack market power, says FTC economist*, *GCR* (Jan. 26, 2018), available at [https://globalcompetitionreview.com/article/usa/1153117/google-and-amazon-lack-market-power-says-ftc-economist?utm\\_source=Law%20Business%5bneed](https://globalcompetitionreview.com/article/usa/1153117/google-and-amazon-lack-market-power-says-ftc-economist?utm_source=Law%20Business%5bneed).

are not locked in, and can switch the next day. Similarly, nothing stops consumers from shopping at, for instance, Walmart instead of Amazon, unless such consumers believe that Amazon offers something better, such as better prices, service, or selection. Moreover, the “harm” from these technology companies’ “size” and “market share” is not that it will cause higher prices for buyers, but rather lower prices for sellers, which will allegedly make it harder for small businesses to compete.<sup>196</sup> A return to the older *Von’s Grocery*<sup>197</sup> days, where even incremental increases in market share led to challenges?

As mentioned above, some of the Progressives believe the merger-size of these high-technology firms imparts democracy.<sup>198</sup> Christoffer Hernaes further stated that “[t]he disparity between the rich and everyone else is larger than ever in the United States, and few places is this skewed wealth distribution more visible than in and around Silicon Valley. The chasm between tech multi-billionaires and the rest of the population in Northern California—where an estimated 31 percent of jobs pay \$16 per hour or less and the median income in the U.S. today is about the same as it was in 1995—has led to the conclusion that the tech sector is greatly contributing to increased inequality.”<sup>199</sup> Hernaes blames the “winner-takes-all dynamics” for creating monopolistic markets, which enables wealth creation. He advocates that initiatives be taken to ensure that everyone shares the benefits gained from productivity. Even the other end of the political spectrum, the *American Conservative*, advocates a “bipartisan war” against “modern-day robber barons.”<sup>200</sup>

Potentially supportive of the broader mandate are statements such as one by Renata Hesse, while Acting AAG in September 2016, that “[t]he legislative history of the Sherman Act makes it clear that the antitrust laws were intended to benefit participants in the American economy broadly—not just in their capacity as consumers of goods and services.”<sup>201</sup>

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<sup>196</sup> Lina Khan, *Amazon’s Antitrust Paradox*, 126 YALE L.J. 710 (2016); Steven Pearlstein, *Is Amazon Getting Too Big?*, WASH. POST (July 28, 2017), available at [https://www.washingtonpost.com/business/is-amazon-getting-too-big/2017/07/28/ff38b9ca-722e-11e7-9eac-d56bd5568db8\\_story.html?utm\\_term=.b07869ae7602](https://www.washingtonpost.com/business/is-amazon-getting-too-big/2017/07/28/ff38b9ca-722e-11e7-9eac-d56bd5568db8_story.html?utm_term=.b07869ae7602).

<sup>197</sup> *United States v. Von’s Grocery Co.*, 384 U.S. 270 (1966).

<sup>198</sup> For instance, Professors Ariel Ezrachi and Maurice Stucke believe that “[the] lack of online competition between the leading platforms affects online welfare and democracy.” *Our New Economy Enables the Winners to Capture Much More of the Welfare*, PRO MARKET (Apr. 4, 2017), available at <https://promarket.org/new-economy-enables-winners-capture-much-welfare/>.

<sup>199</sup> Christoffer Hernaes, *Is technology contributing to increased inequality?*, TECHCRUNCH (Mar. 29, 2017), available at <https://techcrunch.com/2017/03/29/is-technology-contributing-to-increased-inequality/>; see also David Rotman, *Technology and Inequality*, MIT TECH. REV. (Oct. 21, 2014), available at <https://www.technologyreview.com/s/531726/technology-and-inequality/>; Katie Allen, *Big Tech’s big problem—its role in rising inequality*, THE GUARDIAN (Aug. 2, 2015), available at <https://www.theguardian.com/business/economics-blog/2015/aug/02/big-techs-big-problem-rising-inequality>.

<sup>200</sup> Daniel Kishi, *Time for a Conservative Anti-Monopoly Movement*, THE AM. CONSERVATIVE (Sept. 19, 2017), available at <https://www.theamericanconservative.com/articles/amazon-facebook-google-conservative-anti-monopoly-movement/>; see also Robert VerBruggen, *Google, Facebook, Amazon: Our Digital Overlords*, NAT’L REV. (Dec. 12, 2017), available at <https://www.nationalreview.com/2017/12/google-facebook-amazon-big-tech-becoming-problem/>.

<sup>201</sup> Renata Hesse, Acting Ass’t Att’y Gen., Antitrust Div., U.S. Dep’t of Justice, *And Never the Twain Shall Meet?: Connecting Popular and Professional Visions for Antitrust Enforcement*, Opening Remarks at the 2016 Global Antitrust Enforcement Symposium (Sept. 20, 2016), available at <https://www.justice.gov/opa/speech/>

Professor Herbert Hovenkamp, however, points out that an antitrust policy that focuses on wealth inequality could actually harm consumers.<sup>202</sup> For instance, a policy that condemned firms that produce lower prices or high quality than rivals might “improve” distribution of wealth, but at what cost to consumers? Or, for that matter, to the creation of new jobs?

The question of whether markets have become more concentrated received a great deal of attention at the FTC Hearings. As Jonathan Baker of American University, explained:

[A] large and profitable firm’s size and success alone does not mean antitrust has failed. Firms can and do grow large and become successful by providing customers with valuable products and services, and that includes large technology companies. We want to encourage firms to grow successful and profitable by offering better and cheaper products and services. But we should also be concerned if firms, including large and successful ones, exercise market power, and some of their major markets are threatened to do that through exclusionary conduct or collusive conduct or merger.<sup>203</sup>

This does not necessarily rule out the possibility that technology platforms have increasing market power for reasons other than their organic growth and success.

## B. Unilateral Conduct

In a February 21, 2018 speech, AAG Delrahim provided some guidance on his views of unilateral conduct by the “dominant” market players, particularly in digital markets. In contrast to European competition law, which:

imposes a ‘special duty’ on dominant market players, . . . we in the U.S. do not believe any such duty exists.

With respect to unilateral conduct, we have particular concerns in digital markets. We continue to advocate for an evidence-based approach based on existing theories, which are sufficiently flexible to apply to new forms of doing business in the digital economy. Where there is no demonstrable harm to competition and consumers, we are reluctant to impose special duties on digital platforms, out of our concern that special duties might stifle the very innovation that has created dynamic competition for the benefit of consumers.<sup>204</sup>

The September 2017 *Economist* article notes that high-tech firms may create competitive concerns when they take steps to prevent consumers from moving their data from one company to another and “unfairly privileg[e] their own services on platforms they control.”<sup>205</sup> Similarly, Professors Stucke and Ezechai argue that, in the world of “big data and artificial intelligence, network effects can raise barriers to entry, enabling big platforms to engage in behaviors such as collusion, tacit collusion, and price discrimination, to the

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<sup>202</sup> Hovenkamp Progressive Paper, *supra* note 112; Herbert Hovenkamp, *Antitrust Policy and Inequality of Wealth*, ILE Research Paper No. 17-26 (Oct. 2017) (“Hovenkamp Inequality Paper”), available at <https://pdfs.semanticscholar.org/74b2/42c7847f104cbfd20a6e7dc035a9627abdbe.pdf>.

<sup>203</sup> Fed. Trade Comm’n, *Competition and Consumer Protection in the 21st Century* 136 (Sept. 13, 2018).

<sup>204</sup> Makan Delrahim, Assistant Attorney General, Antitrust Div., U.S. Dep’t of Justice, *Good Times, Bad Times, Trust Will Take Us Far: Competition Enforcement and the Relationship Between Washington and Brussels*, Remarks at the College of Europe in Brussels, (Feb. 21, 2018), available at <https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-remarks-college-europe-brussels>.

<sup>205</sup> *A giant problem*, *ECONOMIST*, *supra* note 1.



detriment of consumers.”<sup>206</sup> At the same time, they recognize that “[t]he Internet, big data and big analytics, provide us with extremely valuable benefits that often promote a competitive online environment. This is achieved through the increase in number of sellers, the availability of information, improved market transparency, reduced barriers to entry, etc. However, we cannot uncritically assume that we will always benefit.”<sup>207</sup>

Some advocate that, to the extent that Big Data presents a significant entry barrier for online services, the companies should face antitrust liability for refusing to provide user data in their possession to rivals.<sup>208</sup> Others indicate, however, that the acquisition and use of Big Data by online firms is not the type of conduct that should be captured by the antitrust laws and it would be “inconsistent with longstanding precedent” to find that a relevant market consisted of internally used data.<sup>209</sup> One of the topics expressly listed for discussion at the FTC hearings is the welfare effects of regulatory intervention to promote standardization and interoperability of technology networks.

The use of algorithms is receiving significant attention. Professors Stucke and Ezrachi also argue that Big Data and analytics can foster both price discrimination and behavioral discrimination, which they describe as follows:

In the online environment, it is easier to track your behavior, gather information about you, and therefore tailor different promotions or pricing to your needs—what is often described as dynamic, differential pricing in the literature. From a competition perspective, we are moving from price discrimination, which at times can be welfare enhancing, to behavioral discrimination.

Online behavioral discrimination, as we explore, will likely differ from the price discrimination we have seen in the brick-and-mortar retail world in several important respects: First is the shift from third-degree, imperfect price discrimination to near perfect price discrimination; second is the overall increase in consumption as the demand curve shifts to the right; and third is the durability of behavioral discrimination. So we explore how online sellers, in tracking us, collecting data about us, and segmenting us into smaller groups can better identify our reservation price. We also explore how sellers can use Big Data to target us with the right emotional pitch to increase overall consumption.

For the customer the online market might seem competitive, where they have multiple options, a lot of sellers, and different products—and yet it is possible when you take the full ecosystem into account the customers are getting a lot less.

. . . Some might argue that this isn’t really any different from the advertising and couponing of the past—commercials to promote a certain brand of cereal and coupons in the newspaper

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<sup>206</sup> Guy Rolnick & Asher Schechter, *Is the Digital Economy Much Less Competitive Than We Think It Is?*, ProMarket Stigler Center, U. Chicago Booth School of Business Blog (Sept. 23, 2016), available at <https://promarket.org/digital-economy-much-less-competitive-think/>.

<sup>207</sup> *Id.*

<sup>208</sup> See generally D. Daniel Sokol & Roisin E. Comerford, *Does Antitrust Have a Role to Play in Regulating Big Data?* (Jan. 27, 2016), available at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2723693](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2723693).

<sup>209</sup> Darren S. Tucker & Hill B. Wellford, *Big Mistakes Regarding Big Data*, THE ANTITRUST SOURCE (Dec. 2014), available at [https://www.americanbar.org/content/dam/aba/publishing/antitrust\\_source/dec14\\_tucker\\_12\\_16f.authcheckdam.pdf](https://www.americanbar.org/content/dam/aba/publishing/antitrust_source/dec14_tucker_12_16f.authcheckdam.pdf).

or direct mail to induce you to purchase the product. . . . As online firms increasingly track you, the better they can personalize pricing and product offerings, and the harder it might become for consumers to discover a general market price and to assess their outside options. Personalization and data-driven network effects can make behavioral discrimination more durable. So with the rise of behavioral discrimination, we may not be as free as we believe we are.<sup>210</sup>

Some real-world examples of algorithm-based price discrimination identified during the FTC Hearings include: development of a credit score model that uses new sources of information and new data sources to assign a credit score to a substantial portion of the population that could not be scored by traditional credit scores; using data to identify students prone to dropping out and creating personalized learning to target students according to their learning style and deliver to them the best available learning techniques; personalized website content; personalized advertising and marketing tactics; and improved business risk management services.<sup>211</sup>

Whether one company's accumulation, access, and use of Big Data or algorithms should raise antitrust issues is at most debatable.<sup>212</sup> There can be substantial procompetitive benefits from a company's use of Big Data to provide consumers free (or low-price) services that are higher in quality. Dynamic pricing may benefit consumers by providing lower prices in response to changes in the marketplace. Companies may use Big Data as a means to compete with another company, for instance, to be able to provide consumers with better (*i.e.*, more

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<sup>210</sup> Rolnik & Schechter, *supra* n. 134; see also Ariel Ezrachi & Maurice E. Stucke, *The Rise of Behavioural Discrimination*, 37 EUROPEAN COMPETITION LAW REV. 485 (2016).

<sup>211</sup> Fed. Trade Comm'n, *Competition and Consumer Protection in the 21st Century* 153–58 (Nov. 6, 2018) (Mark MacCarthy).

<sup>212</sup> The use of algorithms is also being targeted as the cause of other economic issues. Irwin's August 25, 2018 New York Times article, referenced above, discusses, among other things, "whether there is an 'Amazon Effect' in which fast-changing pricing algorithms by the online retailer and its rivals mean bigger swings in inflation." Harvard economist Alberto Cavallo presented a research paper at the Federal Reserve Bank's annual symposium that demonstrated the algorithms "used by Amazon and other online retailers, with their constantly adjusting prices, may mean greater fluctuations in overall inflation in the event of swings in currency values or other shocks. Physical retailers tend to be slow to change prices because of some temporary disturbance, like a spike in the value of the dollar or a fall in gasoline prices. But online retailers are able to reflect changing prices almost instantly. 'The implication is that retail prices are becoming less "insulated" from these common nationwide shocks. . . . Fuel prices, exchange-rate fluctuations or any other force affecting costs that may enter the pricing algorithms used by these firms are more likely to have a faster and larger impact on retail prices than in the past.' " Neil Irwin, *Are Superstar Firms and Amazon Effects Reshaping the Economy?*, N.Y. TIMES (Aug. 25, 2018), available at <https://www.nytimes.com/2018/08/25/upshot/big-corporations-influence-economy-central-bank.html>; see Alberto Cavallo, *More Amazon Effects: Online Competition and Pricing Behaviors*, Harvard Bus. School & NBER (Aug. 10, 2018), available at [http://www.ilssole24ore.com/pdf2010/Editrice/ILSOLE24ORE/ILSOLE24ORE/Online/\\_Oggetti\\_Embedded/Documenti/2018/08/25/Jackson-Cavallo-.pdf](http://www.ilssole24ore.com/pdf2010/Editrice/ILSOLE24ORE/ILSOLE24ORE/Online/_Oggetti_Embedded/Documenti/2018/08/25/Jackson-Cavallo-.pdf). Moreover, brick and mortar retailer locations are now responding to such competition from Amazon by more frequently making price changes. Michael Sykes, *Amazon's low pricing may be to blame for cause of inflation*, AXIOS (Aug. 25, 2018), available at <https://www.axios.com/amazon-pricing-inflation-brick-and-mortar-stores-2acf7212-0db1-49b4-bd02-bb3184b252c5.html>. The purported impact on inflation can in turn impact the efficacy of central bank policy. These issues should clearly not be considered as part of the antitrust enforcement mandate but instead exemplify that many of the broader societal issues are better addressed in other fora.

responsive) choices on a faster and easier basis. Consumers value personalized and responsive products.<sup>213</sup>

The FTC Hearings expressly indicated as a topic “the consumer welfare implications associated with the use of algorithmic decision tools, artificial intelligence, and predictive analytics. Of particular interest to the Commission: (a) the welfare effects and privacy implications associated with the application of these technologies to consumer advertising and marketing campaigns; (b) the welfare implications associated with use of these technologies in the determination of a firm’s pricing and output decisions; and (c) whether restrictions on the use of computer and machine learning and data analytics affect innovation or consumer rights and opportunities in existing or future markets, or in the development of new business models.” One view presented at the FTC Hearings that was particularly representative of the range of views on this topic was that of Professor Alessandro Acquisti, who argued that neither the use nor the protection of consumer data are inherently welfare-increasing or welfare-decreasing, pointing to research demonstrating that “consumers may rationally want marketers to know their preference so they get offers which are of interest to them. But they also may rationally not want marketers to know their willingness to pay in order to avoid being price-discriminated. The first desire is welfare-increasing for the consumer; the second is to avoid a situation which is welfare-decreasing.”<sup>214</sup>

### C. Coordinated Conduct

Recently, there has been increased interest in the potential use of algorithms to collude.<sup>215</sup> Professor Ezrachi describes the concern as follows:

[C]ollusion . . . [concern] includes both express or tacit collusion through algorithms. As pricing shifts from humans to computers, so too will the types of collusion in which companies may engage. Take for example the possibility that as part of dynamic pricing, smart algorithms with artificial intelligence are used to monitor the market and stabilize price competition. Under certain market conditions, each algorithm can adopt a strategy which fosters interdependence between operators—following price increases by competitors and punishing deviations from the new equilibrium.

Another collusive example concerns the possible use of a single algorithm by numerous competitors to establish a hub-and-spoke alignment of price. To illustrate, consider the use of a single pricing algorithm by Uber and other similar ride providers. To clarify, we have nothing against Uber.

But we use Uber to illustrate how a hub-and-spoke cartel can develop over time. Here you have independent drivers, all of whom rely on a single algorithm to determine the fare. Moreover when Uber’s algorithm decides, perhaps because it’s raining, that there is a lack of supply, it then determines to raise prices for a specific time period and area. The Uber drivers cannot discount from this algorithm-determined price. As Uber’s market power increases,

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<sup>213</sup> See Goldfein & Keyte, *supra* note 85.

<sup>214</sup> Fed. Trade Comm’n, *Competition and Consumer Protection in the 21st Century* 32–33 (Nov. 6, 2018) (Alessandro Acquisti).

<sup>215</sup> See also Ai Deng, *What Do We Know About Algorithmic Tacit Collusion?*, 33 ANTITRUST 88 (2018).

and as more drivers in the market use the same algorithm, you're likely to witness an alignment of pricing across the industry.<sup>216</sup>

The use of algorithms, however, is not *per se* illegal. As recently noted in an article reporting on comments by DOJ Deputy AAG Barry Nigro:

[The] concerns about price fixing through algorithms stem from a lack of understanding of the technology, and that tacit collusion through such mechanisms is not illegal without an agreement among participants. When analysing whether conduct constitutes collusion, an observer should “take out” the fact that an algorithm was involved and also disregard the effect on prices. . . . Conscious parallelism and interdependent pricing are not illegal under US antitrust law, and both criminal and civil enforcement require an agreement among the cartelists.<sup>217</sup>

Nor should it be condemned as *per se* illegal. Parallel pricing on its own is equally consistent with perfect competition in the market as it is with collusion, which is why the Supreme Court closes the courthouse doors to antitrust plaintiffs who fail to assert more.<sup>218</sup> In a perfectly competitive market, one would expect each firm closely to monitor its competitors to ensure it is not undercut on price, thereby costing the firm customers. Use of algorithms in such a market would merely allow firms to match their competitors' prices in real time, which can benefit customers. Users of Lyft, for example, could see reductions in their own fares if Lyft's algorithm detects discounting by Uber.

To be sure, sharing of competitively sensitive price, cost, output and forecasting data can raise concerns of price coordination among competitors, which the FTC has recognized in the trade association context.<sup>219</sup> European Commissioner Margrethe Vestager, however, has provided some general insights on ways to limit potential concerns in data pooling.<sup>220</sup> One

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<sup>216</sup> U. Chicago Booth School of Business Blog, SUPRA note 134. Professors Stucke and Ezrachi have also written articles about the possibility of computers tacitly colluding through artificial intelligence due consumer reliance on super-platforms and the use of personal digital devices, such as Siri and Alexa. Ariel Ezrachi & Maurice E. Stucke, *Artificial Intelligence & Collusion: When Computers Inhibit Competition*, Oxford Legal Studies Research Paper No. 18 (last revised Apr. 30, 2018), available at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2591874](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2591874); Ariel Ezrachi & Maurice E. Stucke, *Is Your Digital Assistant Devious?*, Oxford Legal Studies Research Paper No. 52 (2016), available at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2828117](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2828117). See also Joseph E. Harrington, Jr. & Patrick T. Harker, *Developing Competition Law for Collusion by Autonomous Price-Setting Agents*, available at <https://ssrn.com/abstract=3037818>.

<sup>217</sup> Pallavi Guniganti, *US DOJ deputy: algorithmic cartel requires agreement*, GCR (Feb. 5, 2018), available at <https://globalcompetitionreview.com/article/1153380/us-doj-deputy-algorithmic-cartel-requires-agreement>.

<sup>218</sup> See *Bell Atlantic Corp. v. Twombly*, 550 U.S. 544, 554 (2007) (“The inadequacy of showing parallel conduct or interdependence, without more, mirrors the ambiguity of the behavior: consistent with conspiracy, but just as much in line with a wide swath of rational and competitive business strategy unilaterally prompted by common perceptions of the market.”).

<sup>219</sup> See Fed. Trade Comm'n, *Spotlight on Trade Associations*, available at <https://www.ftc.gov/tips-advice/competition-guidance/guide-antitrust-laws/dealings-competitors/spotlight-trade>; see also U.S. Dep't of Justice and Fed. Trade Comm'n, *Statements of Antitrust Enforcement Policy in Health Care* (Aug. 1996), available at [https://www.ftc.gov/sites/default/files/attachments/competition-policy-guidance/statements\\_of\\_antitrust\\_enforcement\\_policy\\_in\\_health\\_care\\_august\\_1996.pdf](https://www.ftc.gov/sites/default/files/attachments/competition-policy-guidance/statements_of_antitrust_enforcement_policy_in_health_care_august_1996.pdf).

<sup>220</sup> Margrethe Vestager, European Commissioner for Competition, *Big Data and Competition*, Speech at the EDPS-BEUC Conference on Big Data (Sept. 29, 2016), available at <https://ec.europa.eu/commission/commissioners/>

way potentially to mitigate collusion concerns when data are pooled by independent firms is to share the information anonymously. Companies would be able to send their data to a platform and get back aggregated data. Or the sharing of the information might exclude actual transactional information regarding what products were purchased and at what price. These suggestions would be applicable under U.S. antitrust law as well.

#### **D. Other Alleged Digital Company Harms**

Professors Stucke and Ezrachi raise two other theories of harm from algorithms—neither of which fit neatly into any competition precedent:

Our second theory of harm concerns behavioral discrimination, which differs from price discrimination in several important respects. The strategy involves firms harvesting our personal data to identify which emotion (or bias) will prompt us to buy a product, and what's the most we are willing to pay. Here sellers track us and collect data about us in order to tailor their advertising and marketing to target us at critical moments with the right price and emotional pitch. So behavioral discrimination increases profits by increasing overall consumption (by shifting the demand curve to the right and price discriminating) and reducing consumer surplus.

Our third theory of harm concerns the unique “frenemy” dynamic between the “super-platforms” and independent apps. A relationship of both competition and cooperation exists between the super-platforms and independent apps. One example involves the operating systems for mobile phones. Two super-platforms—Apple's iOS and Google's Android mobile software platforms—dominate. Each super-platform, like a coral reef, attracts to its ecosystem software developers, apps, and accessory makers.

One anticompetitive risk is when the frenemies cooperate to extract data from individuals and promote asymmetrical information flows to foster behavioral exploitation, while simultaneously competing among themselves over the consumer surplus. Another risk is when the super-platforms, as the gatekeepers, can exclude or hinder the independent apps. When the super-platform vertically integrates, its incentives can change. It can engage in unfair practices to favor its own app over rival apps. We see these issues currently in Europe, where there are already three Statements of Objections against Google.

Within that dynamic, perhaps the next frontier will be how those super-platforms will actually control the interface. As internet search is changing and with the rise of digital personal assistants, we are distancing ourselves from the junctions of decision-making and basically putting our trust in those platforms.<sup>221</sup>

Some even advocate expanding antitrust rules to address purported long-term potential harms that fall outside of the traditional antitrust paradigm. The following is a summary of some of the concerns expressed in a May 2017 University of Chicago Booth School of Business panel:

The business model at the heart of the digital economy is a simple one: Internet giants such as Google and Facebook provide consumers with “free” services—free email, free GPS, free instant messaging, free search—and in return consumers consent to hand over vast amounts

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<sup>221</sup> U. Chicago Booth School of Business Blog, *supra* n. 134; *see also* Ariel Ezrachi & Maurice E. Stucke, VIRTUAL COMPETITION: THE PROMISE AND PERILS OF THE ALGORITHM-DRIVEN ECONOMY (2016).

of their own data, which the companies then use to target advertisers.

This exchange helped to make data the “new” oil,<sup>222</sup> creating “new infrastructure, new businesses, new monopolies, new politics and—crucially—new economics,” according to *The Economist*. To a large degree, it has also benefited consumers, though as antitrust lawyer Gary Reback noted<sup>223</sup> . . . the services provided by digital platforms are far from free: “You tell your search engine stuff you wouldn’t tell your spouse.”

. . . Nor is it an absolute certainty that consumers will always benefit from this arrangement. . . .

Despite the promise of competition . . . “many of us, in many markets, [are] actually being lured to purchase things that we don’t necessarily need at prices that are higher.” . . .

Both Taplin and Ezrachi went on to discuss the deep impact of digital platforms’ economic power in regards to the marketplace of ideas, as 62 percent of Americans now get their news from social media.<sup>224</sup>

Again, it is by no means clear that these additional concerns would be appropriate to include within an antitrust enforcement policy. In any event, as indicated above, these topics will be part of the FTC’s upcoming hearings.

### E. Conclusion

Some commentators have called for a new paradigm for antitrust enforcement in the digital age, specifically out of concern that certain tech giants, by the nature of their businesses, are uniquely positioned to exercise power in a way that historical monopolists could not. But the antitrust laws do not need to be replaced; they are flexible enough already to equip the agencies to intervene when harm to the competitive process threatens consumer welfare, even when such threats come from new technologies or unfamiliar practices. Meanwhile, it would be misguided to load other policy objectives, such as the reduction of income inequality, onto the antitrust laws. Such an endeavor would reduce predictability for transacting parties and could well undermine the laws’ core purpose—to promote competition and protect consumers. Finally, there is nothing in the public record to suggest that the U.S. antitrust enforcement in the merger context has been too lax in the past decade in transactions involving high tech mergers and that consumers have been harmed as a result. Before any changes are made to the current enforcement policy, careful study by the agencies is warranted.

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<sup>222</sup> See *Regulating the internet giants: The world’s most valuable resource is no longer oil, but data*, *ECONOMIST* (May 6, 2017), available at <https://www.economist.com/news/leaders/21721656-data-economy-demands-new-approach-antitrust-rules-worlds-most-valuable-resource>.

<sup>223</sup> See also Asher Schechter, “Why Argue With the Government When You Can Buy the Government?”: Q&A with Gary Reback, U. Chicago Booth School of Business Blog (July 27, 2016), available at <https://promarket.org/argue-government-can-buy-government-qa-gary-reback/>; Asher Schechter, *Markets Today Are Radically Different Than What We Believe—We Have the Façade of Competition*, U. Chicago Booth School of Business Blog (May 26, 2017), available at <https://promarket.org/big-data-competition/>.

<sup>224</sup> *Id.*