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Maurice Stucke

Allen Grunes

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**Maurice E. Stucke
&
Allen P. Grunes**

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No Mistake About It: The Important Role of Antitrust in the Era of Big Data

Allen P. Grunes and Maurice E. Stucke

A few years ago, a *McKinsey Quarterly* article asked, “Are you ready for the era of ‘big data?’”¹ That era is now upon us. As FTC Chairwoman Edith Ramirez recently observed:

Thanks to smartphones and smart meters, wearable fitness devices, social media, connected cars, and retail loyalty cards, each of us is generating data at an unprecedented rate. In fact, in 2013 it was reported that an astonishing 90 percent of the world’s data was generated in the two preceding years. Today, the output of data is doubling every two years.²

With the Internet of Things, even more data will be collected about our everyday activities and habits through sensors on thermostats, light bulbs, refrigerators, watches, automobiles, and other everyday devices—even garbage cans.³

The business literature suggests that big data will play an increasingly important role in how companies compete. As the 2011 McKinsey Report noted, “Using big data will become a key basis of competition for existing companies,”⁴ and “[i]n a big data world, a competitor that fails to sufficiently develop its capabilities will be left behind.”⁵ Similarly, the Organisation for Economic Co-operation and Development (OECD) has observed that “[b]ig data now represents a core economic asset that can create significant competitive advantage for firms”⁶

■
Allen Grunes and Maurice Stucke are co-founders of The Konkurrenz Group and the Data Competition Institute. They are former attorneys with the U.S. Department of Justice Antitrust Division. The authors would like to thank the Media Democracy Fund for its financial support. The views expressed herein are the authors’ own.

¹ Brad Brown et al., *Are You Ready for the Era of “Big Data”?*, MCKINSEY Q., Oct. 2011, available at http://www.mckinsey.com/insights/strategy/are_you_ready_for_the_era_of_big_data.

² Edith Ramirez, Chairwoman, Fed. Trade Comm’n, *Big Data: A Tool for Inclusion or Exclusion 1* (Sept. 15, 2014), available at http://www.ftc.gov/system/files/documents/public_statements/582421/big_data_workshop_opening_remarks_ftc_chairwoman_edith_ramirez_9-15-14.pdf (footnote omitted).

³ See Gregory G. Wrobel, *Connecting Antitrust Standards to the Internet of Things*, ANTITRUST, Fall 2014, at 62; see also ORG. FOR ECON. CO-OPERATION & DEV. (OECD), SUPPORTING INVESTMENT IN KNOWLEDGE CAPITAL, GROWTH AND INNOVATION 322 (2013) (“More than 30 million interconnected sensors are now deployed worldwide, in areas such as security, health care, the environment, transport systems or energy control systems, and their numbers are growing by around 30% a year.”) (citation omitted); *id.* at 320 (“With the increasing deployment and interconnection of (real-world) sensors through mobile and fixed networks (i.e. sensor networks), more and more offline activities are also digitally recorded, resulting in an additional tidal wave of data.”).

⁴ JAMES MANIYIKA ET AL., MCKINSEY GLOBAL INST., *BIG DATA: THE NEXT FRONTIER FOR INNOVATION, COMPETITION, AND PRODUCTIVITY* 13 (2011) [hereinafter MCKINSEY REPORT], available at http://www.mckinsey.com/insights/business_technology/big_data_the_next_frontier_for_innovation. See also *id.* at 23 (“Companies including Tesco, Amazon, Wal-Mart, Harrah’s, Progressive Insurance, and Capital One, and Smart, a wireless player in the Philippines, have already wielded the use of big data as a competitive weapon—as have entire economies . . .”).

⁵ *Id.* at 6; see also *id.* at 111 (“The use of big data will become a key basis of competition across sectors, so it is imperative that organizational leaders begin to incorporate big data into their business plans.”).

⁶ OECD, *supra* note 3, at 319. See also OECD, *DATA-DRIVEN INNOVATION FOR GROWTH AND WELL-BEING: INTERIM SYNTHESIS REPORT* 10 (2014) [hereinafter OECD INTERIM SYNTHESIS REPORT], available at <http://www.oecd.org/sti/inno/data-driven-innovation-interim-synthesis.pdf> (“An analysis of their business models reveals that Internet firms share one major commonality besides relying on the Internet as the backbone of their business operation, namely the use of large streams of data that is now commonly referred to as ‘big data . . .’”).

[T]he European Commission's new antitrust chief, Margrethe Vestager, dubbed personal data as the "new currency of the Internet," and vowed to focus on how its large-scale collection entrenches the strength of big tech companies.

The collection and analysis of data by businesses is not limited to consumer data. For example, big data can allow an airline to better predict estimated times of arrival for planes in flight. But many aspects of big data are targeted at consumers and collect information about how we drive, how we read, how we shop, what we search for online, and where we are located. Computer scientists at Carnegie Mellon University recently did a study which showed that a dozen or so popular Android apps collect location information an average of 6,200 times on an individual over a two week period—an average of once every three minutes. “Does Groupon really need to know where you are every 20 minutes?” asked one of the researchers.⁷ The collection of more and more personal information also raises privacy issues. Ninety-one percent of Americans feel they have “lost control” over how their personal information is collected or used by companies.⁸

Competition authorities in Europe are now beginning to make data, its uses, and its implications for competition law, a key focus. In June 2014, policymakers, enforcers, and scholars met in Brussels to discuss the implications of a data-driven economy on competition policy, consumer protection, and privacy law. The European Data Protection Supervisor's (EDPS) preliminary opinion discussed these issues in depth for the first time, which helped spark the debate and research on how the three areas of law (antitrust, privacy, and consumer protection) intersect.⁹ Thereafter, the European Commission's new antitrust chief, Margrethe Vestager, dubbed personal data as the “new currency of the Internet,”¹⁰ and vowed to focus on how its large-scale collection entrenches the strength of big tech companies. Here in the United States, FTC Chairwoman Ramirez made a similar comment to the *New York Times* this past December: “Today's currency is data.”¹¹

In the December 2014 issue of *The Antitrust Source*, Darren Tucker and Hill Wellford published an article in which they argue that antitrust law has a limited role to play in the era of big data, going so far as to assert that “the acquisition and use of big data by online firms is not the type of conduct captured by the antitrust laws.”¹² We respectfully disagree. In our article we discuss why big data is not a passing antitrust fad and recommend some next steps for competition agencies.

Implications of Big Data for Competition Policy

Big data is frequently characterized by four “Vs”: volume, velocity, variety, and value.¹³ In our view,

⁷ Elizabeth Dwoskin, *Apps Track Users—Once Every 3 Minutes*, WALL ST. J. (Mar. 24, 2015), <http://www.wsj.com/articles/apps-track-useronce-every-3-minutes-1427166955>.

⁸ MARY MADDEN, PEW RESEARCH CTR., PUBLIC PERCEPTIONS OF PRIVACY AND SECURITY IN THE POST-SNOWDEN ERA 3 (2014), available at http://www.pewinternet.org/files/2014/11/PI_PublicPerceptionsofPrivacy_111214.pdf.

⁹ EUR. DATA PROT. SUPERVISOR, Privacy and Competitiveness in the Age of Big Data: The Interplay Between Data Protection, Competition Law and Consumer Protection in the Digital Economy (preliminary opinion Mar. 2014) [hereinafter EDPS PRELIMINARY OPINION], available at https://secure.edps.europa.eu/EDPSWEB/webdav/shared/Documents/Consultation/Opinions/2014/14-03-26_competition_law_big_data_EN.pdf.

¹⁰ James Kanter, *Antitrust Nominee in Europe Promises Scrutiny of Big Tech Companies*, N.Y. TIMES BITS (Oct. 3, 2014, 4:20 AM), <http://bits.blogs.nytimes.com/2014/10/03/antitrust-nominee-in-europe-promises-eye-on-big-tech-companies/>.

¹¹ Edward Wyatt, *Raising the F.T.C.'s Voice, Softly*, N.Y. TIMES (Dec. 22, 2014), <http://www.nytimes.com/2014/12/22/business/federal-trade-commission-raises-its-voice-under-its-soft-spoken-chairwoman.html>.

¹² Darren S. Tucker & Hill B. Wellford, *Big Mistakes Regarding Big Data*, ANTITRUST SOURCE, Dec. 2014, at 1, http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/dec14_tucker_12_16f.authcheckdam.pdf.

¹³ See OECD, *supra* note 3, at 12 (“Value is a fourth V which is related to the increasing socioeconomic value to be obtained from the use of big data. It is the potential economic and social value that ultimately motivates the accumulation, processing and use of data.”); see also EXEC. OFFICE OF THE PRESIDENT, BIG DATA: SEIZING OPPORTUNITIES, PRESERVING VALUES 2 (2014), available at http://www.whitehouse.gov/sites/default/files/docs/big_data_privacy_report_may_1_2014.pdf [hereinafter WHITE HOUSE BIG DATA REPORT] (“Most definitions [of “big data”] reflect the growing technological ability to capture, aggregate, and process an ever-greater volume, velocity, and variety of data”).

these features of big data have several implications for competition policy, including raising barriers to entry and foreclosing access to essential inputs.

First, many online companies have adopted business models that rely on personal data as a key input. One common business model involves two-sided markets, where companies offer consumers free technologies, services, and products with the aim of acquiring more valuable data from these consumers to assist advertisers to target the right audience.

Second, companies undertake data-driven strategies to obtain and sustain competitive advantages. Companies increasingly strive to gain a “big data advantage” over their rivals. One MIT-led study showed that the more companies characterized themselves as data-driven, the better they performed on objective measures of financial and operational results. “[C]ompanies in the top third of their industry in the use of data-driven decision making were, on average, 5% more productive and 6% more profitable than their competitors.”¹⁴

Third, the battle over personal data has spread to strategic acquisitions. Because the value of data depends on volume, variety, and velocity, companies increasingly focus on opportunities to acquire a data-advantage through mergers. The OECD reported that the number of “big data related” mergers and acquisitions more than doubled between 2008 and 2012.¹⁵

Fourth, when data-driven businesses incur significant costs to obtain, store, and analyze data (as well as provide “free” services to collect data), they may have strong incentives to limit their competitors’ access to these datasets, prevent others from sharing the datasets, and could likely be averse to data-portability policies that threaten their data-related competitive advantage.

Fifth, companies, whose business model depends on securing a competitive advantage through big data, may also devise anticompetitive data-driven strategies. Such strategies may include preventing rivals from accessing the data (such as through exclusivity provisions with third-party providers) or foreclosing opportunities for rivals to procure similar data (such as making it harder for consumers to adopt other technologies or platforms).

Sixth, as companies undertake data-driven business strategies, one might expect them to raise data-driven efficiencies as a defense to justify potentially anticompetitive mergers. In closing its investigation of the agreement between Microsoft and Yahoo!, the DOJ found that the transaction would create a more viable competitive alternative to Google because of the importance of scale to competitive performance in search and search advertising, and suggested that the transaction would enable more rapid improvements in Microsoft’s search and search advertising technology.¹⁶ In *United States v. Bazaarvoice*, the government rejected the parties’ efficiencies claims. The trial court agreed, noting a lack of evidence that the consummated merger had led to an improved product fueled by more data, or to lower prices, or to more innovation.¹⁷ And in the TomTom/Tele Atlas merger, the parties argued to the European Commission that data in the form of feedback from TomTom’s large customer base would allow the merged firm to produce better maps faster.

¹⁴ See Andrew McAfee & Erik Brynjolfsson, *Big Data: The Management Revolution*, HARV. BUS. REV., Oct. 2012, at 60, 64, available at <https://hbr.org/2012/10/big-data-the-management-revolution/ar>.

¹⁵ See EUR. DATA PROT. SUPERVISOR, REPORT OF WORKSHOP ON PRIVACY, CONSUMERS, COMPETITION AND BIG DATA 1 (2014), available at https://secure.edps.europa.eu/EDPSWEB/webdav/site/mySite/shared/Documents/Consultation/Big%20data/14-07-11_EDPS_Report_Workshop_Big_data_EN.pdf.

¹⁶ 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, 2010), available at <http://www.justice.gov/opa/pr/statement-department-justice-antitrust-division-its-decision-close-its-investigation-internet>.

¹⁷ *United States v. Bazaarvoice, Inc.*, Case No. 13-cv-00133-WHO, 2014 WL 203966, at *62–64 (N.D. Cal. Jan. 8, 2014).

The EC ultimately did not estimate the likely data-driven efficiencies since it found the transaction not to be anticompetitive irrespective of efficiencies.¹⁸

As these matters reflect, the parties at times will use the scale of data as an efficiency defense. As a result, competition authorities must understand both the competitive benefits and risks of these data-driven strategies. At times, a data-driven merger may provide sufficient scale for smaller rivals to effectively compete. At other times, data may be used primarily as an entry barrier.

Debunking Some of the Myths of Big Data

Data-driven business models raise significant implications for privacy, consumer protection, and competition law. Our competition authorities are to some extent in the early stages of considering the antitrust implications of data and developing the appropriate tools and frameworks. On the one hand, this is not surprising, as it takes time for the agencies to come up the learning curve when dealing with new technological issues and business models. But there are also a number of myths in circulation, and these myths may be causing the agencies to be less active than they should be and are leading to too little enforcement. We can identify ten myths about big data and competition law:

1. Privacy laws serve different goals from competition law.
2. The current antitrust tools fully address the big data issues.
3. Markets currently solve any privacy issue.
4. Data-driven online industries are not subject to network effects.
5. Data-driven online industries have low entry barriers.
6. Data have little, if any, competitive significance, since data are ubiquitous, low cost, and widely available.
7. Data have little, if any, competitive significance, as companies cannot exclude smaller companies' access to key data or use data to gain a competitive advantage.
8. Competition officials should not concern themselves with data-driven industries because competition always comes from surprising sources. (Who would have predicted Google's or Facebook's success 15 years ago?)
9. Competition officials should not concern themselves with data-driven industries because consumers invariably benefit from free online services.
10. Consumers who use these free services do not have any reasonable expectation of privacy.

The reality is far more nuanced. We will focus on a few of the myths here.

Privacy as an Antitrust Concern. Privacy has been recognized as a non-price dimension of competition in the sense that firms can compete to offer greater or lesser degrees of privacy protection.¹⁹ Like other aspects of non-price competition, such as quality, variety, and innovation, privacy protection cannot be measured the same way as price. The issue is potentially compounded by the fact that different consumers have different privacy preferences. This has led some

¹⁸ Case COMP/M.4854—TomTom/Tele Atlas, Comm'n Decision, 2008 O.J. (C 237) 53–54, ¶¶ 245–250.

¹⁹ See, e.g., Maureen K. Ohlhausen & Alexander Okuliar, *Competition, Consumer Protection, and the Right [Approach] to Privacy*, 80 ANTITRUST L.J. (forthcoming 2015) (manuscript at 36) ("Privacy . . . increasingly represents a non-price dimension of competition."), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2561563.

authors to conclude that, except in a very narrow range of situations, privacy issues are better handled by consumer protection laws.²⁰

Additionally, privacy issues often arise in two-sided markets. Consumers are on one side of the market, and they receive services that are subsidized by advertisers on the other side. Both consumers and advertisers may feel welfare effects, but there has been a tendency at the agencies to focus on the “paying” side of the market and to assume that, in most cases, that focus will also address effects on the subsidized or “free” side. The agencies have been slow to develop a framework that takes both sides of the market into consideration.

Despite the challenges, there have been a number of attempts to articulate theories under which privacy could factor into the antitrust analysis of a merger or other conduct.

Peter Swire, for example, has argued that a loss of privacy may be viewed as a “reduction in the quality of a good or service,” especially to consumers who prefer more rather than less privacy.²¹ Writing in 2007, at the time of the Google/DoubleClick merger, he noted that the merger would combine Google’s “deep” information about users who are on Google sites with DoubleClick’s “broad” information about where a user goes after leaving Google. He concluded, “For the many millions of individuals with high privacy preferences, this may be a significant reduction in the quality of the search product”²²

The FTC’s closing statement in Google/DoubleClick took an ambiguous position on whether privacy degradation was an antitrust concern. On the one hand, the closing statement analogizes privacy to “concerns about environmental quality or impact on employees” that are “important policy questions for the Nation” but “unrelated to antitrust concerns” and therefore beyond the Commission’s “legal authority” in merger review.²³ On the other hand, the closing statement suggests that consumer privacy may be a “non-price attribute[] of competition” and states that the FTC had in fact “investigated the possibility that this transaction could adversely affect non-price attributes of competition, such as consumer privacy” but concluded that the evidence was not there.²⁴

Commissioner Pamela Jones Harbour dissented from the FTC’s decision to close its investigation of the Google/DoubleClick merger. She wrote that the standard antitrust analysis did not present the whole range of merger-related competitive effects, noting in particular that the majority’s analysis focused on online advertisers, while ignoring the potential impact of the transaction on consumers and consumer privacy.²⁵

Such ambiguity underscores that enforcement agencies are more comfortable assessing a merger’s effects on prices and less comfortable assessing its non-price effects, including qual-

²⁰ See, e.g., *id.* at 44 (“Although privacy can be (and is today) a dimension of competition, the more direct route to protecting privacy as a norm lies in the consumer protection laws.”).

²¹ Peter Swire, *Protecting Consumers: Privacy Matters in Antitrust Analysis*, CTR. FOR AM. PROGRESS (Oct. 19, 2007), <http://www.americanprogress.org/issues/regulation/news/2007/10/19/3564/protecting-consumers-privacy-matters-in-antitrust-analysis/>.

²² *Id.*

²³ Statement of the Fed. Trade Comm’n, Google/DoubleClick, FTC File No. 071-0170, at 2 (Dec. 20, 2007), available at https://www.ftc.gov/system/files/documents/public_statements/418081/071220googledc-commstmt.pdf.

²⁴ *Id.* at 2–3.

²⁵ Dissenting Statement of Commissioner Pamela Jones Harbour at 9–10, Google/DoubleClick, FTC File No. 071-0170, at 9–10 (Dec. 20, 2007), available at https://www.ftc.gov/sites/default/files/documents/public_statements/statement-matter-google/doubleclick/071220harbour_0.pdf.

ity.²⁶ Privacy is more complicated because, unlike significant increases in price, degradation in privacy protection may not be observable to consumers. But being difficult to observe is not a reason to disregard privacy degradation as a competitive harm. Moreover, privacy is not a social cost, such as air pollution or impact on employment, but, as we discuss below, part of the bargain when consumers use an online service.

“Free” Products Require a Different Antitrust Framework. Standard economic tools need to be used more carefully in online markets because some of the tools of market definition and market power break down when the price to consumers is zero, as is often the case in these markets.²⁷ For example, one cannot use the “hypothetical monopolist” test, which considers whether a hypothetical monopolist could raise prices by a small but significant non-transitory amount, such as 5 or 10 percent because, as one commentator puts it, “5 percent of nothing is nothing, and because the nature of the product may be such that the hypothetical monopolist would still find it profit-maximizing to price at zero.”²⁸ A different framework is therefore needed to assess the contours of relevant markets and the potential for market power.

One way to think about the issue is to consider these online companies as advertising-supported media businesses, compare them to more “traditional” media (e.g., television, radio), and ask how they are similar and dissimilar. While not self-evident, Facebook, Google, Twitter, and many other online services in which user data are important (and user privacy may be an issue) are not just technology companies—they are media companies.²⁹ Moreover, as advertising-supported media, they, like much of the traditional media, are free to the user.³⁰ As with traditional media, advertisers subsidize the cost of producing and distributing the product—whether that product is a search engine, a social network, a platform for user-generated travel reviews, user-generated videos, or some other application—and advertising dollars account for most of the revenues.

But at least two important differences exist between online media and traditional media. First, online media businesses collect a significant volume of consumer personal data, often on a real-time basis.³¹ Second, to collect that information, online companies stand in a different relationship to the ultimate consumer—the viewers, readers, and listeners. With traditional media, the business

²⁶ Ariel Ezrachi & Maurice E. Stucke, *The Curious Case of Competition and Quality* (Univ. of Tenn. Legal Studies Research Paper No. 256, 2014; Oxford Legal Studies Research Paper No. 64, 2014), available at <http://ssrn.com/abstract=2494656>.

²⁷ See David S. Evans, *The Antitrust Economics of Free*, 7 COMPETITION POL’Y INT’L, Spring 2011, at 71, 81.

²⁸ *Id.* at 84.

²⁹ Nick Bilton, *Is Twitter a Media or Technology Company?*, N.Y. TIMES BITS (July 25, 2012, 10:02 AM), <http://bits.blogs.nytimes.com/2012/07/25/is-twitter-a-media-or-technology-company/>; Shel Israel, *Facebook Is a Media Company—And So Are You*, FORBES (May 17, 2012, 12:27 PM), <http://www.forbes.com/sites/shelisrael/2012/05/17/facebook-is-a-media-company-so-are-you-and-i/>. See Nat Ives, *Advertisers’ Top-Ranked Media Company Is . . . Google*, ADVERT. AGE (Jan. 30, 2013), <http://adage.com/article/media/advertisers-top-ranked-media-company-google/239481/>.

³⁰ See, e.g., David S. Evans, *Antitrust Issues Raised by the Emerging Global Internet Economy*, 102 NW. U. L. REV. 1987, 1992 (2008) (“Many Web businesses follow the traditional advertising-supported media model. Content is used to attract traffic. Access to that traffic is sold to advertisers. The content is usually made available for free so that advertising is the primary source of revenue and profits.”).

³¹ See, e.g., Craig Timberg, *Facebook Privacy Targeted by Austrian Law Student*, WASH. POST (Oct. 19, 2012), http://articles.washingtonpost.com/2012-10-19/business/35501337_1_facebook-privacy-facebook-headquarters-facebook-founder-mark-zuckerberg (discussing a 25-year old Austrian law student who requested his file from Facebook and discovered that the company had 1,222 pages of data relating to him); Alexis C. Madrigal, *I’m Being Followed: How Google—And 104 Other Companies—Are Tracking Me on the Web*, ATLANTIC (Feb. 29, 2012, 2:57 PM), <http://www.theatlantic.com/technology/archive/2012/02/im-being-followed-how-google-151-and-104-other-companies-151-are-tracking-me-on-the-web/253758/>.

relationship is exclusively between the advertiser and the media company. When consumers watch broadcast television, they are not subject to a contract with the network. Consumers are providing “eyeballs” that the broadcaster can sell to advertisers, but the advertiser has the contractual relationship with the broadcaster.

Online media companies, in contrast, often have a direct contractual relationship embodied in the “terms of service” with the consumer. Google’s terms of service, for example, state: “By using our Services, you are agreeing to these terms.”³² If users search on Google, sign up for Facebook, or check out a hotel on TripAdvisor, they agree to the “terms of service,” including the company’s privacy policy, which governs what it can and cannot do with users’ information.

Antitrust enforcers historically ignored the viewer’s or listener’s role in traditional radio and television media. This in itself may have been a mistake because there is some evidence, at least in broadcast radio, that listeners ended up with poorer quality radio and industry concentration led to higher advertising rates.³³ That incomplete analysis is more problematic in online markets, where platforms “bargain” with (or impose on) consumers terms for information use, where such information is a large part of the advertiser’s value proposition, and where business practices (including privacy policies as well as some targeting) on the “paid” side of the market can adversely affect consumers.

Online firms should not be able to trivialize the consumer relationship by asserting that the product is “free” and that most consumers are happy to agree to the terms of service and privacy policies. Often consumers do not even read such terms. In fact, if the business model is to work at all, the economic exchange taking place between consumer and online firm is critical. Without it, advertisers would likely not be willing to pay nearly as much for online advertising, nor would third parties pay nearly as much for consumer data.³⁴

The fact that online firms have been able to convince some courts that there is no product market for “free” services like search,³⁵ and convince agencies to treat online media as just another form of traditional media where the consumer can be ignored, paints a false picture.

Ubiquitous Data, Low Entry Barriers, No Switching Costs, and Other Similar Myths. One must be skeptical of claims that data are ubiquitous, low cost, and widely available. If personal data were as freely available as sunshine, companies would not spend a considerable amount of money offering free services to acquire and analyze data to maintain a data-related competitive advantage. Firms whose business models are built on securing a data advantage understand the need for the exclusivity of particular data streams (or accessing and exploiting the data more quickly than their rivals). Such actions ensure that independent data sources are not available to competitors through licensing, purchase, or collection. Some mergers undoubtedly are motivated by companies seeking to retain a data advantage over competitors.

³² Terms of Service, GOOGLE, <http://www.google.com/intl/us-en/policies/terms/> (last visited Apr. 1, 2015).

³³ Maurice E. Stucke & Allen P. Grunes, *Why More Antitrust Immunity for the Media Is a Bad Idea*, 105 NW. U. L. REV. 1399, 1411–12 (2011); Maurice E. Stucke & Allen P. Grunes, *Toward a Better Competition Policy for the Media: The Challenge of Developing Antitrust Policies that Support the Media Sector’s Unique Role in Our Democracy*, 42 CONN. L. REV. 101, 124–25 (2009).

³⁴ Fred B. Campbell, Jr., *The Slow Death of ‘Do Not Track,’* N.Y. TIMES, Dec. 27, 2014, <http://www.nytimes.com/2014/12/27/opinion/the-slow-death-of-do-not-track.html> (“Online companies typically make money by utilizing data gleaned from their users to sell targeted ads. If the flow of user data slows down, so does the money. A study commissioned by the Interactive Advertising Bureau with researchers from Harvard Business School underscores the point: at least half of the Internet’s economic value is based on the collection of individual user data, and nearly all commercial content on the Internet relies on advertising to some extent.”).

³⁵ See, e.g., *Kinderstart.com, LLC v. Google, Inc.*, No. C 06-2057 JF (RS), 2007 WL 831806, at *5 (N.D. Cal. Mar. 16, 2007) (“KinderStart cites no authority indicating that antitrust law concerns itself with competition in the provision of free services.”).

Moreover, entry barriers for data-driven online industries are not necessarily low. The DOJ's successful enforcement action against the merger of Bazaarvoice and its leading rival PowerReviews explicitly involved allegations and proof that data can serve as an entry barrier. *United States v. Bazaarvoice* involved the completed merger between the two largest providers of online ratings and reviews. In discussing the entry barrier documents, the court highlighted a document prepared by Bazaarvoice for the investor roadshow before its IPO. Among other things, this document talked about the company's ability to "leverage the data from its customer base" as "a key barrier [to] entry."³⁶ At trial, Bazaarvoice tried to walk away from these characterizations, saying it really was talking about the company's competitive advantages, and real economic barriers were minimal. The court disagreed: "Much of what Bazaarvoice refers to now as its 'competitive strengths' it used to call, accurately, significant barriers to entry."³⁷

Given that privacy

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In addition, online industries are frequently characterized by both switching costs and lock-in. As Carl Shapiro and Hal Varian observed, "Switching costs and lock-in are ubiquitous in information systems"³⁸ They further note, "First-mover advantages can be powerful and long-lasting in lock-in markets, especially those in information industries where scale economies are substantial."³⁹ The economics of big data, as the OECD recently noted, "[favors] market concentration and dominance."⁴⁰ Data-driven markets "can lead to a 'winner takes all' result where concentration is a likely outcome of market success."⁴¹

These considerations do not disappear with "free" products. Businesses develop strategies to exploit switching costs and lock-in, whether it is the investment of time needed to learn to use a platform, the number of complementary products such as apps that are available, or the fact that most of one's friends are on Facebook. Indeed, it may be more difficult to move a consumer away from a "free" good or service than one that he or she pays for. The fact that something is "free" may actually skew a consumer's evaluation of non-price dimensions of competition like product quality.⁴²

The Market Response to Privacy Concerns. Given that privacy trade-offs are so clearly a concern for the vast majority of Americans, it is noteworthy that there are no viable alternatives to the Internet giants that provide free services, but only at a heavy cost to user privacy. While some may argue the market supplies adequate privacy protection, in this section we explore some reasons why that may not be the case. Most significantly, the economic incentives run almost entirely in one direction—towards accumulating more personal data. As noted, online companies typically make money by utilizing data gleaned from their users to sell targeted ads; if the flow of user data slows down, so does the money. In other words, there is a competitive arms race, and the arms race is for more data.

In response, some have argued that online media offering privacy as a value to consumers have sprung up, such as DuckDuckGo, SnapChat, and Ghostery. However, these companies'

³⁶ *United States v. Bazaarvoice, Inc.*, Case No. 13-cv-00133-WHO, 2014 WL 203966, at *50 (N.D. Cal. Jan. 8, 2014) (internal quotation marks omitted).

³⁷ *Id.* at *3.

³⁸ CARL SHAPIRO & HAL R. VARIAN, *INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY* 104 (1999).

³⁹ *Id.* at 168.

⁴⁰ OECD INTERIM SYNTHESIS REPORT, *supra* note 6, at 7.

⁴¹ *Id.*

⁴² See, e.g., Henry C. Su, *Thinking, Fast, Free, and Fashionable: Competition and Consumer Protection in a Mobile Internet World*, ANTITRUST, Fall 2012, at 82, 83–84.

market shares tend to be small. For example, Google had more than 5 billion daily searches last year while DuckDuckGo was in the low millions.⁴³

From an economic standpoint, these privacy-enhancing services may be destined to remain niche players if, as appears likely, a “dysfunctional equilibrium” has developed in which firms and consumers do not have aligned incentives on privacy protection.⁴⁴ A small firm cannot simply decide to break out of the equilibrium by adopting more protective policies and clearer disclosures, because its demand won’t shift meaningfully; as a result, it will mostly be sacrificing revenue.

By contrast, a firm with market power may choose to use information in ways that do not benefit consumers but that benefit the firm. As Howard Shelanski has observed, one measure of a firm’s market power is the extent to which it can engage in behavior “without some benefit to consumers that offsets their reduced privacy and still retain users.”⁴⁵ The antitrust inquiry should focus on market power and competitive effects, as Shelanski suggests. Firms with market power may provide less privacy protection than firms in a competitive market.

Next Steps for Competition Officials

The myths about big data paint with a broad brush and tend to obscure some of the legitimate challenges big data presents to competition officials. First and foremost, it is necessary for the antitrust agencies to understand the tradeoffs in the big data era, and to ask the right questions and use the right tools. Thus, focusing solely on one side of the market can be a mistake, particularly when effects are likely to be felt on both sides. Treating online media the same as traditional advertising-supported media is also likely to be a mistake. Ignoring privacy or believing that it is only a consumer protection problem is incorrect. And assumptions based on the alleged ubiquity of data and low entry barriers are often theoretically and factually unsupported. Below are several suggestions.

Merger Retrospectives. One cannot fault the competition agencies for overlooking big data if their current approach accurately predicts most mergers’ competitive effects. So how often did the agencies get it right? That is the value of doing merger retrospectives.

The need for retrospective studies is highlighted by John Kwoka’s recent effort to systematically look back at how the agencies have fared with merger remedies.⁴⁶ His work shows that remedies short of blocking anticompetitive mergers have not been demonstrably effective in preventing post-merger price increases. Conduct remedies, in particular, have proven to be quite ineffective. Professor Kwoka was focused on price effects; if the agencies are having trouble crafting effective remedies even there, one needs to worry about such difficulties when something other than price is at stake.

We may ask what has happened in data-driven mergers. And the answer here also suggests there is a need to examine past decisions. In 2010, for example, the FTC closed its investigation of Google/AdMob, the two leading mobile advertising networks, on the basis that Apple’s (then) recent entry into mobile advertising meant that it would quickly “become a strong mobile adver-

⁴³ *Google Annual Search Statistics*, STATISTIC BRAIN (Jan. 9, 2015), <http://www.statisticbrain.com/google-searches/>; *DuckDuckGo Direct Queries per Day*, DUCKDUCKGO, <https://duckduckgo.com/traffic.html> (last visited Apr. 2, 2015).

⁴⁴ Joseph Farrell, *Can Privacy Be Just Another Good?*, 10 J. ON TELECOMM. & HIGH TECH. L. 251, 256–59 (2012).

⁴⁵ Howard A. Shelanski, *Information, Innovation, and Competition Policy for the Internet*, 161 U. PA. L. REV. 1663, 1689 (2013).

⁴⁶ See JOHN KWOKA, *MERGERS, MERGER CONTROL, AND REMEDIES: A RETROSPECTIVE ANALYSIS OF U.S. POLICY* (2015).

tising network competitor” on the iPhone platform.⁴⁷ At the end of 2014, however, despite the huge success of both the iPhone and iPad in the U.S. market, Apple’s share of mobile advertising revenue was about 2.5 percent.⁴⁸ The evidence ultimately showed that the FTC’s reliance on entry by a major company to resolve competitive concerns was mistaken.

The agencies should revisit significant data-driven mergers to see which ones turned out badly, to understand why their predictions failed, and to assess the adequacy of their analytical tools. There are a number of questions they should ask in the inquiry, including: Did the data-driven merger enable the tech giant to entrench or further increase its market power? Did the merger help shut out firms from entering the market? Were data combined in ways that adversely affected privacy? Were promises of innovation actually kept? Were entry barriers really low? In undertaking merger retrospectives, the competition agencies can assess whether their current tools are good at predicting the effects of data-driven mergers.

Identifying Data-Driven Exclusionary Conduct. A company whose business model is built fundamentally on big data will need to maintain a data advantage over its rivals. To maintain its competitive advantage, the company may be tempted to prevent smaller rivals and potential entrants from accessing such data, which might be exclusionary under the antitrust laws.

Thus, competition authorities need to be sensitive to data-driven business strategies, including strategies in which the purpose and effect are to exclude rivals. As the EDPS recognized, “Extracting value from big data has become a significant source of power for the biggest players in internet markets.”⁴⁹ The EDPS identified several issues for competition officials to consider (in coordination with privacy and consumer protection officials):

- how the control of personal information contributes to market power in the digital economy and the implications for data protection;
- the risks to the consumer posed by concentrations and the abuse of market dominance where firms process massive amounts of personal data; and
- how the growth of a vibrant market for privacy-enhancing services can be encouraged by strengthening informed consumer choice.⁵⁰

The recent inadvertently disclosed portions of the FTC staff’s recommendation in the Google investigation identify data-driven exclusionary strategies, including exclusionary agreements with websites for syndicated search and search advertising services.⁵¹ The Commission’s vote to close its investigation seems to reveal some uncertainty as to the antitrust significance of such strategies. There also appears to be uncertainty about the appropriate legal standard and the balancing required under Section 2 of the Sherman Act. Is it enough for a company to offer “plausible procompetitive justifications” for its decisions?⁵² Or is something more required?

⁴⁷ Statement of the Fed. Trade Comm’n, Google/AdMob, FTC File No. 101-0031, at 1 (May 21, 2010), available at https://www.ftc.gov/sites/default/files/documents/closing_letters/google-inc./admob-inc/100521google-admobstmt.pdf.

⁴⁸ Trefis Team, *How Apple Is Revamping Its iAd Platform*, FORBES (Dec. 18, 2014, 1:36 PM), <http://www.forbes.com/sites/greatspeculations/2014/12/18/how-apple-is-revamping-its-iad-platform/>.

⁴⁹ EDPS PRELIMINARY OPINION, *supra* note 9, at 6.

⁵⁰ *Id.* at 8.

⁵¹ Memorandum from the Fed. Trade Comm’n, Bureau of Competition Staff to the Comm’n iii (Aug. 8, 2012), available at <http://graphics.wsj.com/google-ftc-report/img/ftc-ocr-watermark.pdf>.

⁵² See Statement of the Fed. Trade Comm’n, Google Inc., FTC File No. 111-0163, at 3 (Jan. 3, 2013), available at https://www.ftc.gov/system/files/documents/public_statements/295971/130103googlesearchstmtofcomm.pdf.

In the merger context, the DOJ considered data-driven exclusionary conduct in its review of Google's acquisition of ITA.⁵³ Likewise, the European Commission provided a roadmap for analyzing exclusionary behavior in its discussion of the Facebook/WhatsApp merger.⁵⁴ The analysis of exclusionary strategies involving data needs to be further developed, as does the appropriate framework.

Assessing Data-Driven Efficiencies Claims. The four Vs of data, as we discuss, are neither invariably good, nor bad, nor neutral. Big data and big data analysis can yield significant efficiencies that promote citizen well-being. Although no company has prevailed in the United States on an efficiency defense in court when defending against a merger challenge, the courts and agencies do take account of efficiencies.⁵⁵ The competition authorities at times rely on efficiency claims to close a merger investigation.

As companies undertake data-driven business strategies, one might expect them to claim data-driven efficiencies. As noted, efficiencies claims were made and considered in Microsoft/Yahoo!, *United States v. Bazaarvoice*, and TomTom/Tele Atlas. In each of these matters, the parties claimed that the merger would allow a company to produce better products faster because of data.

One question is whether, and the extent to which, consumers benefit from claimed product improvements. What about mergers that also result in some measure of harm on the consumer side? Peter Swire suggested that one way to logically include privacy harms to consumers in the antitrust analysis of mergers is to consider it as an offset to the claimed efficiencies.⁵⁶

The Horizontal Merger Guidelines state that the agencies will only credit efficiencies that “do not arise from anticompetitive reductions in output or service.”⁵⁷ If there is some negative welfare effect on the consumer side, and the alleged efficiency gain derives from that effect, the Guidelines’ analysis suggests that such efficiencies should not be credited.

Finally, there is reason to be skeptical of blanket claims that increased data enhances innovation. The agencies, in our view, have been too willing to uncritically accept claims that more data invariably results in product improvements that benefit consumers.⁵⁸ As Howard Shelanski observed, digital platforms “might use the [customer] information to improve offerings and make

[T]here is reason to be skeptical of blanket claims that increased data enhances innovation.

⁵³ Complaint at 3, 10–13, *United States v. Google Inc.*, No. 1:11-cv-00688 (D.D.C. Apr. 8, 2011), available at <http://www.justice.gov/atr/cases/f269600/269618.pdf>.

⁵⁴ See Case COMP/M.7217—Facebook/WhatsApp, Comm’n Decision, 2014 O.J. (C 7239) 24–25, ¶ 134 (asking whether the parties control any essential parts of the network or any mobile operating system; whether users of consumer communications apps are locked-in to any particular physical network, hardware solution or anything else that needs to be replaced in order to use competing products; whether the parties control and limit portability of data; whether the parties have any means to preclude competitors from recreating a user’s network on the parties’ applications; and whether the parties’ applications are pre-installed on a large base of mobile phones, tablets or PCs, and if so whether “status quo bias” potentially can affect consumers’ choices).

⁵⁵ See, e.g., *FTC v. H.J. Heinz Co.*, 246 F.3d 708, 720–22 (D.C. Cir. 2001).

⁵⁶ Swire, *supra* note 21.

⁵⁷ U.S. Dep’t of Justice & Federal Trade Comm’n, Horizontal Merger Guidelines § 10 (2010), available at <http://www.justice.gov/atr/public/guidelines/hmg-2010.pdf>.

⁵⁸ See, e.g., Statement of the Fed. Trade Comm’n, Google/DoubleClick, *supra* note 23, at 12 (“At bottom, the concerns raised by Google’s competitors regarding the integration of these two data sets—should privacy concerns not prevent such integration—really amount to a fear that the transaction will lead to Google offering a superior product to its customers.”). See also Statement of the Fed. Trade Comm’n, Google Inc., *supra* note 51, at 3 (“Challenging Google’s product design decisions in this case would require the Commission—or a court—to second-guess a firm’s product design decisions where plausible procompetitive justifications have been offered, and where those justifications are supported by ample evidence.”).

service faster and more individualized, or they might simply collect the data and hoard it for its option value or competitive advantage.”⁵⁹ The claim that a company will be able to offer better products or services with additional data, even if it cannot say what such offerings are, is a trap. Parties’ product improvement claims should be evaluated as cautiously and critically as other efficiency claims.

Coordinating with Privacy and Consumer Protection Officials. The consensus is that the current notice-and-consent framework is inadequate to safeguard privacy.⁶⁰ Consumers are generally unaware who has access to their personal information, what data are being used, how and when the data are being used, when the data are being sold, and the privacy implications of the data’s use.⁶¹ “Data fusion” (i.e., linking data of diverse types from disparate sources in support of unified search, query, and analysis) may yield potential uses that the consumer never envisioned.⁶² Some apps do not even publish a privacy policy.⁶³ Consumers have little inclination to read the lengthy, detailed, and often opaque privacy notices.⁶⁴ Even if they read the privacy notices, consumers generally cannot negotiate better terms.⁶⁵

The imbalance of power between consumers and data users is also a concern.⁶⁶ As the President’s Council of Advisors on Science and Technology recently concluded, “The provider offers a complex, take-it-or-leave-it set of terms, while the user, in practice, can allocate only a few seconds to evaluating the offer. This is a kind of market failure.”⁶⁷

Moreover, the law has not settled as to who owns the data.⁶⁸ The legal rights and protections over personal data can have competition policy implications. Increasing consumers’ control over

⁵⁹ Shelanski, *supra* note 45, at 1689.

⁶⁰ EXEC. OFFICE OF THE PRESIDENT, PRESIDENT’S COUNCIL OF ADVISORS ON SCIENCE AND TECHNOLOGY, BIG DATA AND PRIVACY: A TECHNOLOGICAL PERSPECTIVE xi (2014) [hereinafter PCAST REPORT], available at https://www.whitehouse.gov/sites/default/files/microsites/ostp/PCAST/pcast_big_data_and_privacy_-_may_2014.pdf (“The framework of notice and consent is . . . becoming unworkable as a useful foundation for policy.”); *id.* at 38 (“As a useful policy tool, notice and consent is . . . simply too complicated for the individual to make fine-grained choices for every new situation or app.”).

⁶¹ WHITE HOUSE BIG DATA REPORT, *supra* note 13, at 51; PCAST REPORT, *supra* note 60, at 38–39, 47.

⁶² EDPS PRELIMINARY OPINION, *supra* note 9, at 34; PCAST REPORT, *supra* note 60, at 21.

⁶³ EDPS PRELIMINARY OPINION, *supra* note 9, at 34 (“[O]nly 61% of most popular apps have a privacy policy”).

⁶⁴ *Id.* at 34 (“[A] study has calculated that it would take on average each internet user 244 hours per year to read the privacy policy belonging to each website they view, which is more than 50% of the time that average user spends on the internet. These privacy policies typically contain statements about the future use of data which are concealed in legal small print or which require decoding due to vague, elastic terms like ‘improving customer experience.’”); PCAST REPORT, *supra* note 60, at 38 (“In some fantasy world, users actually read these notices, understand their legal implications (consulting their attorneys if necessary), negotiate with other providers of similar services to get better privacy treatment, and only then click to indicate their consent. Reality is different.”).

⁶⁵ EDPS PRELIMINARY OPINION, *supra* note 9, at 35 (“Customers have limited room, if any, to negotiate the terms and conditions of use, representing a ‘significant imbalance’ between provider and user. . . .”).

⁶⁶ *Id.* at 8 (“The digital economy is marked by strong, dynamic growth, a high turnover of new services, market concentration involving a few overwhelmingly dominant players, and an ever greater imbalance between big companies on the one side, and SMEs and individual users on the other side.”).

⁶⁷ PCAST REPORT, *supra* note 60, at xii.

⁶⁸ MCKINSEY REPORT, *supra* note 4, at 95 (“Laws are generally unclear on which constituency—from mobile operators, platform owners, application developers, and handset manufacturers, to actual users—owns the right to collect, aggregate, disseminate, and use personal location data for commercial purposes. . . . A framework that clearly describes the permissible and prohibited use of these data would be beneficial for all stakeholders.”). See also WHITE HOUSE BIG DATA REPORT, *supra* note 13, at 9 (“The technological trajectory . . . is clear: more and more data will be generated about individuals and will persist under the control of others.”).

their data can increase data portability, thus potentially reducing future barriers to entry.⁶⁹ A similar concept involves personal “data lockers,” “which allow users to contribute and edit the data they are willing to share with third parties in exchange for a portion of the proceeds when their data is sold.”⁷⁰

In empowering consumers to easily select their privacy preferences and choose providers that match their privacy preferences,⁷¹ these privacy safeguards could lower consumers’ search, transaction, and switching costs, and increase the incentive of companies to enter the market. As the EDPS wrote, data portability could release synergies between competition law and data protection law in at least two ways. First, it could help avoid consumer lock-in problems, similar to the benefits of number portability provided for in telecommunications law. Second, it could empower consumers to take advantage of third-party value-added services while facilitating competitors’ access to the market, for example, through the use of product comparison sites or of companies offering energy advice based on smart metering data.⁷²

As a result, competition officials should coordinate with privacy and consumer protection officials in several areas:

1. Identify and understand the potential consumer harms arising from a data-driven economy, including the harms that arise due to insufficient competition;
2. Update the analytical tools for free services to better predict and assess how mergers and restraints can cause these harms;
3. Understand firms’ current incentives (and disincentives) to compete on and invest in privacy enhancing and enhanced technologies and services;
4. Develop a framework that fosters a range of business models, so that informed consumers have a competitive array of choices that better match the privacy trade-offs involved; and
5. Consider synergies (and potential inefficiencies) in the privacy, consumer protection, and

⁶⁹ EDPS PRELIMINARY OPINION, *supra* note 9, at 32 (“Options [for remedies in competition decisions involving personal information] might include: offering users a paid service which minimized collection and retention of personal information; applying a proportionate limit to the retention of customer data, for example along the lines of the ‘compare and forget’ method recommended by the Dutch data protection authority; implementing data portability by giving the user options to withdraw their personal information and to port it to another service provider . . . ; this would potentially empower individuals while also promoting competitive market structures; and placing strict controls on information processing across different parts of the business for incompatible purposes.” (footnotes omitted)).

⁷⁰ OECD, EXPLORING THE ECONOMICS OF PERSONAL DATA: A SURVEY OF METHODOLOGIES FOR MEASURING MONETARY VALUE 34 (2013); *id.* at 6 (“New ‘data lockers’ allow users to contribute and control data sharing with third parties in exchange for a portion of the proceeds from the use of their data. These data exchanges could provide new market-based estimates of monetary values, and potentially improve transparency about how data is collected, sold and used.”).

⁷¹ PCAST REPORT, *supra* note 60, at xii (“A consumer might choose one of several ‘privacy protection profiles’ offered by the intermediary, which in turn would vet apps against these profiles.”).

⁷² EDPS PRELIMINARY OPINION, *supra* note 9, at 36 (footnotes omitted); PCAST REPORT, *supra* note 60, at 41 (“Simply by vetting apps, the third-party organizations would automatically create a marketplace for the negotiation of community standards for privacy. To attract market share, providers (especially smaller ones) could seek to qualify their offerings in as many privacy-preference profiles, offered by as many different third parties, as they deem feasible. The Federal government (e.g., through the National Institute of Standards and Technology) could encourage the development of standard, machine-readable interfaces for the communication of privacy implications and settings between providers and assessors.”).

competition laws to promote competition, consumers' privacy interests and ultimately citizens' well-being.⁷³

Conclusion

Competition law will play an integral role to ensure that we capture the benefits of a data-driven economy while mitigating its associated risks. When the European Parliament suggested the possibility of breaking up Google, the U.S. mission to the EU and various commenters reacted by saying that such a step would be to "politicize" antitrust.⁷⁴ Whatever the merits of a proposed Google break-up, the United States cannot chastise the EU for "politicizing" antitrust while it turns a blind eye to data's competitive risks. The U.S. competition authorities should take the lead in recognizing data's importance and the implications of a few firms' unparalleled system of harvesting and monetizing their data trove. ●

⁷³ OECD INTERIM SYNTHESIS REPORT, *supra* note 6, at 8. The FTC took a step in this direction in connection with the acquisition of WhatsApp by Facebook. The Director of the Bureau of Consumer Protection sent a letter emphasizing that WhatsApp had made a number of promises to users about the limited nature of the data it collected, maintained, and shared. The letter made clear that those promises had to be honored after the acquisition by Facebook, which did not offer the same degree of protection. Letter from Jessica L. Rich, Dir., Bureau of Consumer Protection, Fed. Trade Comm'n, to Erin Egan, Chief Privacy Officer, Facebook, Inc. & Anne Hoge, Gen. Counsel, WhatsApp Inc. (Apr. 10, 2014), available at https://www.ftc.gov/system/files/documents/public_statements/297701/140410facebookwhatapltr.pdf.

⁷⁴ Tom Fairless, *U.S. Expresses Concern over EU Antitrust Debate on Google*, WALL ST. J. (Nov. 25, 2014, 2:23 PM), <http://www.wsj.com/articles/u-s-expresses-concern-over-google-antitrust-debate-in-europe-1416943414>.