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**Research Paper #276
September 2015**

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CPI Antitrust Chronicle (May 2015)

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CPI Antitrust Chronicle

May 2015 (2)

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Maurice E. Stucke & Allen P. Grunes

The Konkurrenz Group and
Data Competition Institute

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Maurice E. Stucke & Allen P. Grunes¹

I. INTRODUCTION

What are the implications of big data on competition policy? Some argue little, if any, and offer several reasons why big data is a passing fad.² We disagree. As we discuss here and elsewhere, competition law can play an important role in maximizing the benefits of a data-driven economy, while mitigating its risks.³ Our aim here is to first address the competitive significance of Big Data and, second, take on ten myths downplaying Big Data's antitrust significance.

II. THE COMPETITIVE SIGNIFICANCE OF BIG DATA

Big data and the rise of data-driven business models have been, for several years, a hot topic in the business literature. Several years ago, a *McKinsey Quarterly* article asked, "Are you ready for the era of 'big data'?"⁴ A *Harvard Business Review* article discussed how big data has the potential to transform traditional businesses: It "may offer them even greater opportunities for competitive advantage (online businesses have always known that they were competing on how well they understood their data)."⁵ Indeed, the literature identifies five themes regarding companies acquiring and using big data:

1. Companies are increasingly adopting business models that rely on personal data as a key input. Data-driven business models, for example, involve two-sided markets; companies offer consumers free services with the aim of acquiring valuable personal data to assist advertisers to better target them with behavioral ads.
2. As the four "V"s of data—volume, velocity, variety, and value—increase, companies will undertake data-driven strategies to obtain and sustain a competitive advantage. Companies will offer products and services to harvest data that is not otherwise publicly available since the value of data may come from its variety. Data's value can increase through data fusion, which "occurs when data from different sources are brought into contact and new facts emerge."⁶ Through data fusion, companies can identify and

¹ Maurice Stucke and Allen Grunes, both former attorneys with the U.S. Department of Justice Antitrust Division, are co-founders of The Konkurrenz Group and Data Competition Institute.

² See, e.g., Darren S. Tucker & Hill B. Wellford, *Big Mistakes Regarding Big Data*, ANTITRUST SOURCE (Dec. 2014), available at http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/dec14_tucker_12_16f.authcheckdam.pdf.

³ Allen P. Grunes & Maurice E. Stucke, *No Mistake About It: The Important Role of Antitrust in the Era of Big Data*, ANTITRUST SOURCE (Apr. 2015), available at <http://ssrn.com/abstract=2600051>.

⁴ Brad Brown et al., *Are You Ready for the Era of "Big Data"?*, MCKINSEY Q. (Oct. 2011).

⁵ Andrew McAfee & Erik Brynjolfsson, *Big Data: The Management Revolution*, HARVARD BUS. REV. (Oct. 2012), available at <https://hbr.org/2012/10/big-data-the-management-revolution/ar/1>.

⁶ EXECUTIVE OFFICE OF THE PRESIDENT, PRESIDENT'S COUNCIL OF ADVISORS ON SCIENCE AND TECHNOLOGY, REPORT TO THE PRESIDENT BIG DATA AND PRIVACY: A TECHNOLOGICAL PERSPECTIVE x (May 2014).

improve their profiles of individuals; better track their activities, preferences, and vulnerabilities; and better target them with behavioral advertising. Even for publicly available data, velocity can be critical—namely getting and analyzing the data in real-time or nearly real-time to outmaneuver rivals.⁷ Consequently, companies will strive to acquire a “data advantage” over rivals.

3. The battle over data will spread to acquisitions. Given that data’s value depends on its volume, variety, and how quickly the data is collected and analyzed, companies will increasingly focus on opportunities to acquire a data-advantage through mergers. According to one estimate, big-data related mergers doubled between 2008 and 2013—from 55 to 134.⁸
4. As data-driven mergers increase, one might expect—as in the TomTom/Tele Atlas merger⁹ and Microsoft/Yahoo! joint venture¹⁰—the merging parties to raise as a defense data-driven efficiencies.
5. Businesses—to maintain their competitive advantage—will undertake data-driven strategies. Some tech firms, to maintain their dominance, will have strong incentives to: (i) limit their competitors’ access to data, (ii) prevent others from sharing the data, and (iii) oppose data-portability policies that threaten their data-related competitive advantage. Companies will devise anticompetitive strategies to prevent rivals from accessing data (such as through exclusivity provisions with third-party providers) as well as to foreclose opportunities for rivals to procure similar data, such as making it harder for consumers to adopt other technologies or platforms.

As the Eleventh Circuit recently noted in *McWane*, a monopoly can violate section 2 of the Sherman Act when its exclusive dealing program deprives smaller rivals of “distribution sufficient to achieve efficient scale, thereby raising costs and slowing or preventing effective entry.”¹¹ So too a dominant data-driven company can use exclusionary tactics to prevent rivals from achieving the minimum efficient scale.

Scale can be especially important in data-driven industries. Scale, as the U.S. Department of Justice (“DOJ”) and European Commission (“EC”) found in their Microsoft/Yahoo investigations, is unusually important in search and search advertising.¹² The recently released

⁷ McAfee & Brynjolfsson, *supra* note 5.

⁸ European Data Protection Supervisor, Report of Workshop on Privacy, Consumers, Competition and Big Data 1 (July 11, 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.

⁹ Case COMP/M.4854—TomTom/Tele Atlas, Comm’n Decision, 2008 O.J. (C237) 53–54, ¶¶ 245–250.

¹⁰ 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); Case COMP/M. 5727—Microsoft/Yahoo! Search Business Regulation, Comm’n Decision, 2010 O.J. (C 020/08).

¹¹ *McWane, Inc. v. F.T.C.*, No. 14-11363, 2015 WL 1652200, at *19 (11th Cir. Apr. 15, 2015) (citing FTC findings).

¹² Maurice E. Stucke & Ariel Ezrachi, *When Competition Fails to Optimize Quality: A Look at Search Engines* (April 23, 2015), *available at* <http://ssrn.com/abstract=2598128> or <http://dx.doi.org/10.2139/ssrn.2598128>.

portions of the U.S. Federal Trade Commission (“FTC”) report by its Bureau of Competition staff in the Google investigation suggest the competitive significance of data. The report also alleged how Google used contractual restrictions to deny Microsoft critical scale, and thus impaired its ability to compete effectively in the markets for general search and search advertising.¹³

III. DEBUNKING THE MYTHS OF BIG DATA AND COMPETITION POLICY

The recent publication of the FTC Staff Report intensified the debate over the FTC’s closing its investigation after Google committed to change some of its business practices.¹⁴ When the EC recently issued its statement of objections over Google’s degrading the quality of its search results by systematically favoring its own comparison shopping products in its general search results page, some shouted protectionism (without knowing the facts and evidentiary record that supported the EC’s preliminary conclusion).

What is clear is that the EC’s statement of objections will not end the matter. The EC is actively investigating other activities by Google, including “whether Google has illegally hindered the development and market access of rival mobile applications or services by requiring or incentivising smartphone and tablet manufacturers to exclusively pre-install Google’s own applications or services.”¹⁵ The U.S. competition authorities, perhaps the DOJ,¹⁶ will also likely investigate (if they are not already).

¹³ Report from the FTC Bureau of Competition Staff to the Commission re Google Inc., at 94, 96, 98, 100, & 102. (Aug. 8, 2012), *available at* <http://graphics.wsj.com/google-ftc-report/> [hereinafter “FTC Staff Report”]. A few caveats about this report, which the FTC released (mistakenly) under the Freedom of Information Act to the *Wall Street Journal*. First, only the Report’s even pages were released, so the missing odd pages may have contained important qualifications. Second, other reports, including any prepared by the FTC economists and Google, were not released. Third, although the Competition Staff recommended the FTC to file a complaint, the Commissioners elected not to.

¹⁴ FTC Press Release, Google Agrees to Change Its Business Practices to Resolve FTC Competition Concerns in the Markets for Devices Like Smart Phones, Games and Tablets, and in Online Search: Landmark Agreements Will Give Competitors Access to Standard-Essential Patents; Advertisers Will Get More Flexibility to Use Rival Search Engines (Jan. 3, 2013), *available at* <https://www.ftc.gov/news-events/press-releases/2013/01/google-agrees-change-its-business-practices-resolve-ftc>. After portions of the FTC Staff Report were disclosed along with reports of meetings between White House and Google officials, the FTC Chair and two Commissioners responded, noting that the FTC conducted an “exhaustive” investigation of Google’s internet search practices during 2011 and 2012:

Based on a comprehensive review of the voluminous record and extensive internal analysis, of which the inadvertently disclosed memo is only a fraction, all five Commissioners (three Democrats and two Republicans) agreed that there was no legal basis for action with respect to the main focus of the investigation—search. As we stated when the investigation was closed, the Commission concluded that Google’s search practices were not, ‘on balance, demonstrably anticompetitive.’

Statement of Chairwoman Edith Ramirez, and Commissioners Julie Brill and Maureen K. Ohlhausen regarding the Google Investigation, March 25, 2015, <https://www.ftc.gov/news-events/press-releases/2015/03/statement-chairwoman-edith-ramirez-commissioners-julie-brill>. For Google’s response, see <http://graphics.wsj.com/google-ftc-report/>.

¹⁵ European Commission, Fact Sheet, Antitrust: Commission Opens Formal Investigation Against Google in Relation to Android Mobile Operating System, Apr. 15, 2015, *available at* http://europa.eu/rapid/press-release_MEMO-15-4782_en.htm.

¹⁶ Diane Bartz & Dan Levine, *Google’s Rivals Want the Justice Department to Probe Android*, REUTERS (Apr. 15, 2015).

As the recently disclosed portions of the FTC Staff Report and EC's investigation reflect, some members of the antitrust community are starting to appreciate the competitive benefits and risks of these data-driven strategies. Nonetheless, some are still propagating the following ten myths. For better antitrust enforcement, the debate must evolve beyond these myths:

A. Myth 1: Privacy Laws Serve Different Goals From Competition Law

Often privacy concerns do not implicate competition concerns. A landlord who secretly records a tenant's bedroom, for example, violates the common law privacy tort—intrusion upon seclusion—but not the competition laws. Likewise, some antitrust violations, like price-fixing cartels, generally do not raise privacy concerns.

But data-driven business strategies, at times, will raise both privacy and antitrust concerns. Data-driven mergers, like Facebook's acquisition of WhatsApp, for example, can potentially lessen non-price competition in terms of the array of privacy protections offered to consumers. Privacy, as a form of non-price competition, would arise if Google, the dominant search engine, were to acquire DuckDuckGo, which offers consumers greater privacy protection for their search queries.

Likewise, monopolies' data-driven exclusionary practices can hamper innovative alternatives that afford consumers greater privacy protection. Moreover, privacy competition—like other facets of non-price competition—already exists in other industries, but some dominant companies do not face the competitive pressure to improve quality along this dimension.

Thus one cannot quarantine privacy and competition concerns, unless one contorts the goals of competition policy to a narrow economic objective that few other antitrust practitioners and experts share.¹⁷

B. Myth 2: The Tools That Competition Officials Currently Use Fully Address All the Big Data Issues

The reality is that many of the current analytical economic tools do not address the Big Data issues. Competition authorities have good tools to assess price effects. But competition officials have less sophisticated tools to assess mergers' effects on non-price competition, including the impact on quality of free goods in two-sided markets and the degradation of privacy protection. The agencies' current tools can handle the egregious case, i.e., where the evidence is compelling that the companies are competing along non-price dimensions, such as privacy protection, and the merger is intended to substantially lessen this competition. But often the analysis of quality is less straightforward.¹⁸ For example, the 1996 Telecommunications Act

¹⁷ Scholars, as a 2013 symposium reveals, continue to debate over antitrust's goals, see Barak Orbach, *Foreword: Antitrust's Pursuit of Purpose*, 81 FORDHAM L. REV. 2151 (2013). At the symposium, even those who advocated an economic welfare objective disagreed whether welfare should reflect consumer welfare or total welfare, what those terms meant, and the extent to which it made any difference. Nor do the European scholars subscribe to a narrowly defined economic goal. See Ariel Ezrachi, *Sponge*, University of Oxford Centre for Competition Law and Policy Working Paper CCLP (L) 42; Oxford Legal Studies Research Paper No. 16/2015 (March 1, 2015), available at <http://ssrn.com/abstract=2572028> or <http://dx.doi.org/10.2139/ssrn.2572028>.

¹⁸ Ariel Ezrachi & Maurice E. Stucke, *The Curious Case of Competition and Quality*, J. ANTITRUST ENFORCEMENT (forthcoming 2015), draft available at <http://ssrn.com/abstract=2494656> or <http://dx.doi.org/10.2139/ssrn.2494656>.

unleashed a merger wave in the commercial radio industry. In its consent decrees, the DOJ focused only on the paid advertising side, ignoring—to the detriment of consumers—the free “content” side.¹⁹

These tools will not magically appear but require effort. Some economists are already undertaking the task of creating them.

C. Myth 3: Market Forces Currently Solve Privacy Issues

The reality is that market forces are not solving privacy issues. Policymakers today acknowledge that privacy’s notice-and-consent model is broken and ineffective. Consumers complain over their lack of control over their private data: “While Americans’ associations with the topic of privacy are varied,” a recent survey by the Pew Research Center found, the majority of adults “feel that their privacy is being challenged along such core dimensions as the security of their personal information and their ability to retain confidentiality.”²⁰ In the survey, 91 percent of adults “‘agree’ or ‘strongly agree’ that consumers have lost control over how personal information is collected and used by companies.”²¹

D. Myth 4: Data-Driven Online Industries are Not Subject to Network Effects

Some data-driven industries are subject to network effects. Network effects, of course, are not always bad for consumers—think of telephones, the benefit of which increases as others use them. But network effects, at times, enable big firms to become bigger until they dominate the industry. Data-driven industries can be subject to several network effects, including:

- Traditional network effects, such as social networks like Facebook;
- Network effects involving the scale of data;
- Network effects involving the scope of data; and
- Network effects where the scale and scope of data on one side of the market affect the other side of the market (such as advertising).²²

E. Myth 5: Data-Driven Online Markets Have Low Entry Barriers

As we discuss elsewhere, entry barriers for data-driven online industries are neither invariably low nor invariably high.²³ Each industry can differ. And entry barriers, once low, can increase due to network effects. One risk is that the economics of Big Data, as the OECD recently

¹⁹ See Maurice E. Stucke & Allen P. Grunes, *Why More Antitrust Immunity for the Media Is a Bad Idea*, 105 NORTHWESTERN 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).

²⁰ Mary Madden, Pew Research Ctr., *Public Perceptions of Privacy and Security in the Post-Snowden Era* 3 (2014), http://www.pewinternet.org/files/2014/11/PI_PublicPerceptionsofPrivacy_111214.pdf.

²¹ *Id.*

²² See Stucke & Ezrachi, *supra* note 13.

²³ Grunes & Stucke, *supra* note 3, at 18.

observed, “favours market concentration and dominance.”²⁴ Data-driven markets “can lead to a ‘winner takes all’ result where concentration is a likely outcome of market success.”²⁵

The fact that venture funds are investing in online startups does not mean entry barriers are necessarily low. An industry with high entry barriers can still have entrants. The Eleventh Circuit, for example, was unprepared to say that a competitor’s “entry and growth foreclose a finding that McWane possessed monopoly power in the relevant market,” especially given defendant’s “overwhelming market share (90%), the large capital outlays required to enter the domestic fittings market, and McWane’s undeniable continued power over domestic fittings prices.”²⁶

Moreover one has to examine in which particular markets the venture funds are investing. For example, few would likely fund a startup in the search market given Google’s market share and Microsoft’s reportedly investing in 2010 “more than \$4.5 billion into developing its algorithms and building the physical capacity necessary to operate Bing.”²⁷

F. Myth 6: Data Has Little—if Any—Competitive Significance, Since Data Is Ubiquitous, Low Cost, and Widely Available

Beware of those who say this. Some companies take the position that data are like facts and argue that all data should be open. Some mapping companies, for example, might believe that the data needed to develop a map should be accessible to others. Other companies, however, treat their mapping data as proprietary and will not share. TomTom’s arguments in the EC’s investigation of the TomTom/Tele Atlas merger are particularly illustrative.

One question was whether Google or Microsoft could quickly enter the navigable digital map database market and become a significant competitor. TomTom argued yes: Both Google and Microsoft were customers of Tele Atlas and NAVTEQ, and both Google and Microsoft provided map services over the Internet. Thus, both tech companies, argued TomTom, “could use their technical knowledge and financial capabilities to upgrade their map databases to navigable quality by using feedback from their user communities.”²⁸

TomTom also claimed entry barriers had decreased for, among other things, “improved aerial photography, improved quality of satellite images and the possibility to use feedback from end-user communities.”²⁹ The EC disagreed. Obtaining and processing this data, even for Google and Microsoft, would be costly and time-consuming.

TomTom raised another interesting argument, namely an entrant could avoid the cost of having to drive along every road to collect mapping data. Instead the entrant could rely on its subscribers to report this information as they drove along the roads. The EC again disagreed that entrants could lower the entry barriers through a positive feed-back loop with subscribers. Indeed, as the Office of Fair Trading (“OFT”) later found in a merger between Google and Waze,

²⁴ OECD, Data-driven Innovation for Growth and Well-being: Interim Synthesis Report 7 (Oct. 2014).

²⁵ *Id.*

²⁶ *McWane*, 2015 WL 1652200, at *12.

²⁷ FTC Staff Report, *supra* note 14, at 76.

²⁸ EC TomTom Decision, *supra* note 9, at 23.

²⁹ *Id.* at 24.

it was Waze's inability to achieve sufficient scale of data that hindered its competitive significance in mapping services in the United Kingdom.³⁰ The OFT agreed that the more users supplied Waze with data on traffic conditions, the better Waze's turn-by-turn application became, and the more likely Waze would attract additional users. But this presented a chicken-and-egg dilemma. Users would not be attracted to mapping sites unless the quality was good, and the quality won't be good absent a sufficient amount of data from users.

Thus, companies currently spend considerable money and effort to acquire and analyze data and to maintain a data-related competitive advantage. If any company propagates this myth, ask it if it would be willing to license its consumer data to its competitors, and if so, at what price.

G. Myth 7: Data Has Little, If Any, Competitive Significance, as Companies Cannot Exclude Smaller Companies' Access to Key Data or Use Data to Gain a Competitive Advantage

Unlike Microsoft in the 1990s, today's dominant firms can benefit from the velocity of data to quickly identify and squelch nascent competitive threats in a process called "nowcasting."³¹ Companies can use the velocity of data to discern trends well before others. In monitoring search queries, Google, for example, can predict flu outbreaks well before the government health agencies can. What then is there to prevent a dominant firm through similar nowcasting (such as watching for trends in its proprietary data from search queries, emails, etc.) from monitoring new business models in real time? The dominant firm can acquire these entrants before they become significant competitive threats or use other means to blunt their growth.

Thus, this use of big data would be as if the monopoly invented (or refined) a radar system to track competitive threats shortly after they take off from distant fields. The monopoly can intercept or shoot down the threats long before they become visible to regulators and others. Moreover, since the competitive threats are rather far away, the competition authorities, if they follow the OFT's logic in Google/Waze, will find the distant planes pose potential (yet speculative) threats, and will have insufficient evidence to prove that competition would likely be harmed. The monopolist, unlike the competition officials, is not concerned over the overall welfare effects of shooting down or intercepting the planes. It just intercepts or shoots them down.

H. Myth 8: Competition Officials Should Not Concern Themselves With Data-Driven Industries Because Competition Always Comes From Surprising Sources

In the long run, monopolists, like the rest of us, die. In the interim, dominant firms can stifle innovation. Consumers shouldn't suffer the harm from anticompetitive mergers and monopolistic abuses in the short-term because eventually a disruptive innovator will emerge.

³⁰ Office of Fair Trading, Completed Acquisition by Motorola Mobility (Google, Inc.) of Waze Mobile Ltd., ME/6167/13 (Dec. 17, 2013).

³¹ Economists have adopted this term, originally used for near-term weather forecasts, to indicate a process where by using a large volume and variety of data they can monitor the state of the economy or other business trends in real time.

And this harm from anticompetitive data-driven strategies can be significant. The harm can go beyond higher advertising rates; it can include the loss of innovation, consumer choice, privacy, individual autonomy and freedom, and the citizens' trust in a market economy.

Such harm, the OECD recognized, can strike “the core values of democratic market economies and the well-being of all citizens.”³²

I. Myth 9: Competition Officials Should Not Concern Themselves With Data-Driven Industries Because Consumers Generally Benefit From Free Goods and Services

Consumers do not invariably benefit when services are “free,” because these services are not actually free. Consumers often pay with their personal data and privacy. Because of the lack of transparency, consumers often don't realize how much they actually pay for these services. In fact economist Carl Shapiro, in a recent workshop, criticized the notion that because something is “free,” it must be good for consumers. Prices can be positive, zero, or negative (where consumers are subsidized).³³

In a January 2015 interview with MLex, European Competition Commissioner Margrethe Vestager discussed the linkages among data, privacy, and competition:

Very few people realize that, if you tick the box, your information can be exchanged with others. . . . Actually, you are paying a price, an extra price for the product that you are purchasing. You give away something that was valuable. I think that point is underestimated as a factor as to how competition works.³⁴

Vestager made a similar point during her confirmation hearings before the European Parliament, where she described data as “the new currency of the Internet.”³⁵ Vestager went on to note in the MLex interview:

The more data you can collect, the more you know, the better product you can provide, but also the more powerful will you be towards others. . . . It isn't solely a competition issue. . . . It's very important for us to be able to say what is competition-related and what is an issue of privacy, ownership, data, [and] how you can be as secure on the net as you can be in the physical world.³⁶

J. Myth 10: Consumers Who Use These Free Goods and Services Do Not Have Any Reasonable Expectation Of Privacy

Granted some people share a lot of personal details online. But generally we can infer consumers' privacy preferences from their choices only when:

³² OECD Interim Synthesis Report, *supra* note 25, at 7.

³³ Daniel Donegan, Summary of Committee Program on Antitrust and Zero Price Products, The Price Point, Newsletter of the ABA Section of Antitrust Law, Pricing Conduct Committee, Winter 2015, at 16.

³⁴ MLex Interview: Margrethe Vestager (Jan. 2015), <http://mlexmarketinsight.com/wp-content/uploads/2015/01/MLex-Interview-Vestager-22-01-151.pdf>.

³⁵ James Kanter, *Antitrust Nominee in Europe Promises Scrutiny of Big Tech Companies*, N.Y. TIMES (Oct. 3, 2014).

³⁶ MLex Interview, *supra* note 35.

1. consumers are fully informed about their choice's benefits and costs (including privacy risks), and
2. the marketplace offers a competitive array of options that match actual privacy preferences.

That often isn't the case today. In competitive markets, consumers reign supreme. They wouldn't face a Hobson's choice of either using email (and suffer the privacy invasion of having their emails scanned to better target them with behavioral advertising) or writing letters. Many in the United States are frustrated, feeling they have lost control over their personal data. They are unaware of (i) who has access to their personal information, (ii) what data is being used, (iii) how and when the data is being used, and (iv) the privacy implications of the data's use.

IV. CONCLUSION

To be clear, we do not argue that Big Data is bad. Big Data is neither inherently good, evil, nor neutral. Its social value depends, among other things, on the industry and the purpose and effect of the data-driven strategy. Ultimately competition policy can play a key role in ensuring that citizens get the benefits of a data-driven economy, and in minimizing its risks.